

APPENDIX 10

WETLANDS ASSESSMENT

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A10-1 ABSTRACT

The following reports assessment data for wetland resources in the Mississippi River Valley located adjacent to proposed Work Items associated with levee improvement efforts under evaluation by the U.S. Army Corps of Engineers (USACE) Memphis, Vicksburg, and New Orleans Districts. The assessment was conducted using two certified model approaches; the wetlands value assessment (WVA) was used in the State of Louisiana and the hydrogeomorphic approach (HGM) was applied in all other areas. The wetlands assessment documented the habitat suitability (WVA) or functional value (HGM) of 143 proposed levee Work Items occurring across seven States, supporting determinations of anticipated unavoidable impacts from each specific levee improvement project. These results aggregate anticipated impacts across the region, within State boundaries, by land cover type, and within each district's area of responsibility. The wetland conditions in the project area reflect the historic alterations within the Mississippi River floodplain, including removal of dominant hardwood tree species, conversion of forested wetlands to agriculture, and disruption of natural flood regimes by established flood control projects. Despite these impacts, the forested wetlands in the region continue to provide valuable habitat and ecological functions. The wetland assessment also details the calculation of compensatory mitigation acreages required to offset the unavoidable impacts to wetland resources quantified herein and compares Alternative 2, Traditional Construction, with Alternative 3, Avoid and Minimize, which decreases impacts to wetland resources.

A10-2 PURPOSE

The purpose of this study is to document wetland conditions associated with 143 levee Work Items located adjacent to the mainline of the Mississippi River and Tributaries (MR&T) flood control project. The assessment includes the following: 1) data on current wetland functions/habitat suitability under a without project scenario, 2) anticipated conditions under a future with project scenario, and 3) the amount of compensatory mitigation required to offset unavoidable impacts to wetland resources following project implementation. Two alternatives are compared, including Alternative 2, Traditional Construction, which does not consider natural resources, and Alternative 3, Avoid and Minimize, which was designed to reduce impacts to natural resources.

A10-3 BACKGROUND

Wetlands provide a variety of functions (e.g., water storage; floral and faunal habitat) and values (e.g., flood risk reduction; recreation) within the Mississippi River Valley (Smith and Klimas 2002). However, historic landscape alteration has resulted in significant (>70 percent) declines in forested wetland acreage, and associated losses of wetland functional capacities in the region (King et al., 2006). Wetland disturbances resulted from a combination of factors, including conversion of forested wetlands to agriculture, implementation of drainage networks, and alteration of hydrology at large spatial scales through the development of over 2,000 miles of levees (Hefner and Brown 1995). Recent efforts to assess and restore wetlands have been implemented, resulting in the development of technical approaches to evaluate wetland

conditions under a variety of management scenarios. The current report applies those methodologies to assess potential unavoidable impacts to wetland resources associated with proposed improvements to the levee network.

The study area includes portions of the existing mainline levee system and several setback levees located in IL, MO, KY, TN, AR, MS, and LA, including project locations within the USACE Memphis, Vicksburg, and New Orleans Districts. The report provides information supporting completion of a supplemental environmental impact statement (SEIS) evaluating potential natural resource impacts associated with levee system improvements in accordance with the National Environmental Policy Act (NEPA). The current study updates documentation provided in the initial EIS in 1976

(www.mvk.usace.army.mil/Portals/58/docs/PP/MRL_SEIS/1976_Final_EIS.pdf) and a previous SEIS completed in 1998

(www.mvk.usace.army.mil/Portals/58/docs/PP/MRL_SEIS/1998_MRL_SEIS_Volume1.pdf).

The USACE has identified sections (reaches) of the mainline levee system that require additional improvements, including efforts to control seepage, raise and stabilize deficient levee sections, and maintain the structural integrity of the levee system. These improvement projects generally involve seepage control measures, installation of relief wells, installation or expansion of floodwalls, levee enlargement, and other construction activities to address deficiencies or improve flood risk reduction features. The infrastructure improvements have the potential to impact wetland resources, including the placement of fill material in wetlands, excavation of wetlands during borrow pit construction, and alteration of wetlands (i.e., removal of trees) during project implementation.

The proposed project activities target 143 specific levee reaches, identified herein as levee Work Items. The selected approach provides a quantitative assessment and analysis of wetland resources at each potential levee Work Item location, resulting in the most accurate accounting of wetland resources possible while supporting flexibility and adaptive management throughout the design, construction, and mitigation phases of project implementation. For context, the previous SEIS included a semi-quantitative assessment of wetland resources that evaluated the following suite of wetland functions: short-term water storage, long-term water storage, water velocity reduction, sediment detention, onsite erosion control, nutrient and dissolved substance removal, and organic carbon export. One criticism of the 1998 SEIS was the lack of data supporting the underlying wetland functional assessment metrics, variable subindex scores, and assessment models. In other words, the scaling of assessment variables and associated assessment scores were not clearly linked with data.

Following publication of the 1998 SEIS document, substantial improvements to the assessment of wetland functions have been made, including implementation of the HGM approach within the lower Mississippi River Valley (Murray and Klimas 2013) and extensive research demonstrating the utility and validity of wetland rapid assessment tools (Berkowitz and White 2013; Berkowitz 2019). As a result, the current analysis improves upon the initial EIS and the 1998 SEIS by applying more quantitative and data-rich methodologies to determine potential impacts to wetland resources associated with levee improvement project implementation and the compensatory mitigation required to offset those impacts.

A10-4 APPROACH

A10-4.1 Levee Work Item locations and land cover mapping

Levee Work Item locations were identified by USACE Memphis, Vicksburg, and New Orleans District staff, who also coordinated right of entry agreements with managing entities (e.g., levee boards, landowners). Figure A10-1 and Table A10-1 provide information on the distribution of levee Work Item locations within the project area. The wetland assessment area was defined by a one-half mile buffer extending from the levee on both the river and land sides (Figure A10-2). This allows for the documentation of conditions in areas where project implementation (e.g., levee expansion) is expected to occur while accounting for differences in wetland structure and function on the landside and riverside of the levee. This approach provides users with the flexibility required when applying assessment results, conducting alternatives analysis, and the potential for alteration of individual project features prior to or during project implementation. All evaluations were conducted to encapsulate a 50 year period of analysis.

Table A10-1. Distribution of levee Work Items across State and USACE District. LWI# = Levee Work Item number; MVK = Vicksburg District; MVM = Memphis District; MVN = New Orleans District.

LWI#	State	District	LWI#	State	District	LWI#	State	District	LWI#	State	District
22-R	MO	MVM	100.4-R	LA	MVN	180-R	LA	MVN	620-R	AR	MVM
29-R	MO	MVM	102.1-R	LA	MVN	181-L	LA	MVN	682-R	AR	MVM
37-R	LA	MVN	107-R	LA	MVN	189-L	LA	MVN	693-R	AR	MVM
47.5-R	LA	MVN	108.3-R	LA	MVN	189-R	LA	MVN	697-R	AR	MVM
49-R	MO	MVM	109.6-R	LA	MVN	194.5-R	LA	MVN	705-R	AR	MVM
51-L	LA	MVN	110.4-R	LA	MVN	199-L	LA	MVN	723-R	AR	MVM
52.5-R	LA	MVN	113.5-R	LA	MVN	206.7-R	LA	MVN	726-R	AR	MVM
58-R	LA	MVN	115-L	LA	MVN	208-L	LA	MVN	741-R	AR	MVM
61.5-R	LA	MVN	115.5-R	LA	MVN	216-R	LA	MVN	747-R	AR	MVM
67-L	LA	MVN	117.3-R	LA	MVN	217.6-L	LA	MVN	754-R	AR	MVM
67-R	LA	MVN	118.5-R	LA	MVN	223-R	LA	MVN	762-R	AR	MVM
84.3-R	LA	MVN	119.2-R	LA	MVN	228-R	LA	MVN	766-R	AR	MVM
86.1-L	LA	MVN	124-L	LA	MVN	231-R	LA	MVN	807-R	AR	MVM
88-R	LA	MVN	124.3-R	LA	MVN	240.3-R	LA	MVN	832-L	TN	MVM
88.5-L	LA	MVN	130-L	LA	MVN	242.5-R	LA	MVN	848-L	TN	MVM
90-L	LA	MVN	131.7-R	LA	MVN	246-R	LA	MVN	877-R	MO	MVM
90.6-R	LA	MVN	133-L	LA	MVN	253-R	LA	MVN	882-R	MO	MVM
90.8-L	LA	MVN	135.7-R	LA	MVN	268-R	LA	MVN	889-R	MO	MVM
91-L	LA	MVN	136-L	LA	MVN	293.5-R	LA	MVN	902-L	TN	MVM
91.2-L	LA	MVN	142-R	LA	MVN	304-R	LA	MVN	915-R	MO	MVM
92-L	LA	MVN	143.7-R	LA	MVN	312.5-R	LA	MVN	918-L	KY	MVM
92.6-L	LA	MVN	144-L	LA	MVN	320-R	LA	MVK	920-R	MO	MVM
93-L	LA	MVN	147.3-R	LA	MVN	326-R	LA	MVK	921-L	KY	MVM
93.6-L	LA	MVN	148-L	LA	MVN	330-R	LA	MVK	922-L	KY	MVM
94.1-L	LA	MVN	149-R	LA	MVN	333-R	LA	MVK	947-R	MO	MVM
94.5-L	LA	MVN	152-L	LA	MVN	337-R	LA	MVK	955-R	IL	MVM
94.6-R	LA	MVN	154-L	LA	MVN	340-R	LA	MVK	956-R	IL	MVM
94.8-L	LA	MVN	156-R	LA	MVN	341-R	LA	MVK	958-R	IL	MVM
95-L	LA	MVN	156.8-L	LA	MVN	345-R	LA	MVK	961-R	IL	MVM
95.3-L	LA	MVN	158-R	LA	MVN	348-R	LA	MVK	962.3-R	IL	MVM
96.5-L	LA	MVN	159.7-R	LA	MVN	351-R	LA	MVK	962.5-R	IL	MVM
97.4-R	LA	MVN	163-L	LA	MVN	355-R	LA	MVK	965-R	IL	MVM
98.1-L	LA	MVN	163.5-R	LA	MVN	443-L	MS	MVK			
98.3-R	LA	MVN	165-R	LA	MVN	577-L	MS	MVK			
98.7-L	LA	MVN	172.6-R	LA	MVN	587-L	MS	MVK			
99.5-R	LA	MVN	173.9-R	LA	MVN	611-L	MS	MVK			
100-L	LA	MVN	178-R	LA	MVN	615-L	MS	MVK			

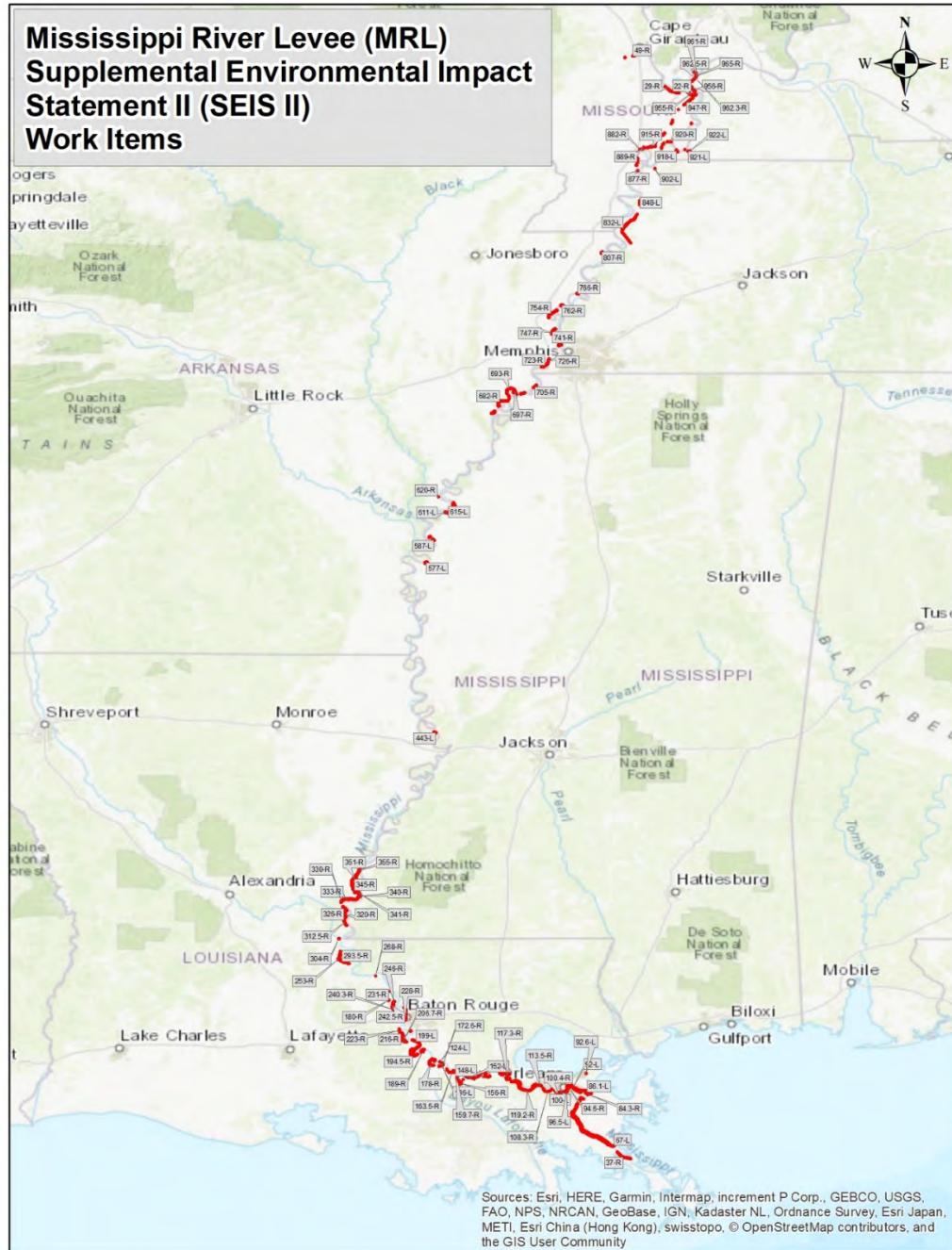


Figure A10-1. Levee Work Item distribution within the lower Mississippi River Valley. Detailed information regarding the location and description of individual levee Work Items are provided in other sections of the SEIS.

Within each wetland assessment area, land cover classification was conducted using a combination of 1) 5-meter satellite false color infrared imagery and other available digital imagery covering the river, levee system, and floodplain; 2) evaluation of aerial imagery in ArcGIS, and 3) ground truthing conducted during initial surveys of the project areas. Land cover classifications were further refined during on-site data collection efforts. Land cover classes were aggregated into the following cover classifications to facilitate the assessment: 1) agricultural croplands, 2) pasture, 3) open water, 4) forests, 5) marsh, and 6) urban areas (Figure A10-2).

The agricultural cropland cover type included all areas under row crop production and recently fallowed fields. The pasture land cover class included managed areas mapped as pastures, old fields, and bare soil due to evidence ongoing disturbance that would preclude the development of forested conditions during the period of analysis. The open water land cover class included all areas with water depths >6.6 feet in accordance with Cowardin et al (1979). The forested land cover class included areas mapped as forested, tree plantations, shrub/scrub wetlands, sandbars, and non-forested wetlands. This selection was made to reflect the potential that these unmanaged areas may mature into forested wetlands via forest succession within the 50 year period of analysis. Because forested wetlands receive the highest scores with the assessment approach, this also represents the most conservative possible tactic for evaluating impacts to wetland resources. Marshes were further classified by salinity regime (i.e., intermediate, brackish, saline) using data from Visser et al. (2000) and the Louisiana Coastal Marsh Vegetative Type Map (USGS 2013). The urban land cover class included all areas with impervious surfaces, including buildings, roads, neighborhoods, and other infrastructure that preclude the presence of wetlands.

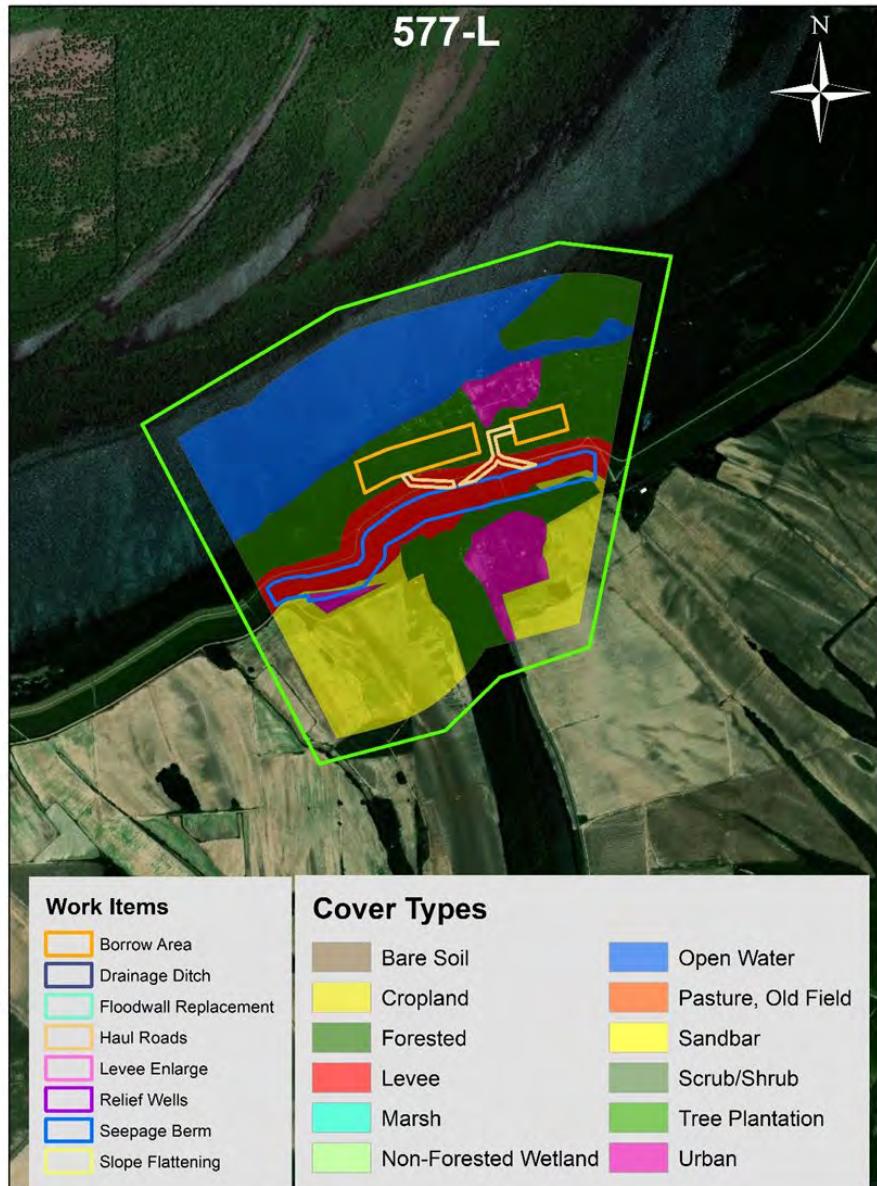


Figure A10-2. Example of the wetland assessment area at Work Item location 577-L. Note that the assessment area extends one-half mile on both the land and river sides of the levee. The various colors correspond to land cover classes and the type of project that will be implemented (i.e., seepage berm, borrow area).

For the purposes of the assessment, all land cover conversions induced by project implementation (e.g., change from forested to open water) are considered permanent impacts, including features that may be temporary. For example, some levee Work Items include the

development of haul roads that are used during construction and subsequently removed. Areas impacted by haul roads have the potential to revert to the pre-construction land cover following removal of the access roads. However, we considered the use of haul roads a permanent conversion to pasture. As a result of these haul roads, some levee Work Items exhibit an increase in the spatial extent of pasture under the with-project scenario. This represents the most conservative approach possible, since the timing of haul road construction and removal had not been determined prior to development of the wetlands assessment.

Similarly, some activities may not alter the full extent of the polygons used to analyze changes in land cover classes under the with-project scenarios used in the wetland assessment. For example, the installation of relief wells has a relatively small physical footprint compared with other activities (e.g., levee enlargement). However, for the purpose of the wetland assessment, we included all areas within the polygons where relief wells will be installed to be permanently incorporated into the levee footprint. This represents the most conservative approach possible because it assumes that the physical footprint of relief wells or other features, as well as all areas located within the land cover polygon, will be permanently incorporated into the levee (i.e., non-wetlands with a habitat suitability/functional capacity index value = 0.0).

A10-4.2 Wetland assessment models

The wetlands assessment used two modeling approaches and three certified models. The WVA methodology was used in all areas within Louisiana. The WVA Bottomland Hardwoods Community Model for Civil Works (Version 1.2) was used in all WVA assessments that contained forested areas (USACE 2018). The WVA Coastal Marsh Community Models for Civil Works (Version 2.0) was used in locations dominated by marsh vegetation (USACE 2017). All project Work Items located outside of Louisiana were assessed using the Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Functions of Forested Wetlands in the Mississippi Alluvial Valley (Murray and Klimas 2013). Each of the assessment models was developed by interagency working groups and has been certified and approved for use by the USACE National Ecosystem Restoration Planning Center of Expertise. Model certification information and documentation is available upon request.

The majority of project Work Items in Louisiana were assessed using the WVA models for bottomland hardwood forests, as only eight levee Work Items contained marshes. The WVA models for forested areas incorporates seven variables into the wetlands assessment including: V1 - tree species composition, V2 - stand maturity, V3 - understory/midstory, V4 – hydrology, V5 - size of contiguous forested area, V6 - suitability of surrounding lands, and V7 – disturbance (Table A10-2). A variable metric score was determined for each of the variables and converted to suitability index (SI) values, which are subsequently combined using empirical equations to develop a habitat suitability index (HSI) for each project Work Item location. Note that all forested areas exhibited ages >7 years old and/or diameter at breast height values >5 inches. As a result, the HSI equation for mature stands was applied in all WVA forested wetland assessments using equation [1]. The HSI values reflect habitat suitability on a scale of 0.0 (i.e., no habitat value) to 1.0 (highest possible habitat suitability). The HSI values were converted to habitat units (HUs) by accounting for the spatial extent of each land cover type.

Period of analysis calculations determined HU values under current conditions, and at target years 5, 10, 20, 35, and 50. This approach accounts for projected changes in assessment variables

such as tree basal area, which is expected to increase over time. Equations [2] and [3] were used to interpolate between target years and generate average annual habitat units (AAHUs). This procedure was conducted under without project and with-project scenarios, documenting changes in wetland habitat resulting from project implementation and supporting determinations of mitigation requirements.

Table A10-2: Summary of WVA forested wetland assessment variables, description, and sampling technique applied in the study (adapted from USACE 2018).

Wetland assessment variable	Description	Sampling technique (units)
1. Tree species composition (V_1)	Percent of hard and soft mast producing trees	Measured onsite via plant cramping within 41' radius plot (%)
2. Stand maturity (V_2)	Average diameter at breast height of dominant & co-dominant canopy trees	Measured onsite via calipers within 41' radius plot (inches)
3. Understory/midstory (V_3)	Percent cover of understory and mid story vegetation	Measured onsite via plant cramping within 1/5 acre plots (%)
4. Hydrology (V_4)	Flood duration (e.g., seasonal) and flow/exchange pattern (e.g., high, low)	Onsite observations & using GIS (ordinal)
5. Forested area (V_5)	Size class of the contiguous forest area	Measured using GIS (ordinal)
6. Suitability (V_6)	Suitability of the surrounding landscape within a 1/2 mile buffer	Weighted average of surrounding land use (%)
7. Disturbance (V_7)	Disturbance distance and type classes	Onsite observations & using GIS (ordinal)

$$\text{Mature stand HSI} = (\text{SIV}_1^4 \times \text{SIV}_2^4 \times \text{SIV}_3^2 \times \text{SIV}_4^2 \times \text{SIV}_5 \times \text{SIV}_6 \times \text{SIV}_7)^{1/15} [1]$$

$$\text{Cumulative HUs} = \sum (\text{Target}_2 - \text{Target}_1) [((\text{Area}_1 \text{HSI}_1 + \text{Area}_2 \text{HSI}_2) / 3) + ((\text{Area}_2 \text{HSI}_1 + \text{Area}_1 \text{HSI}_2) / 6)] [2]$$

$$\text{AAHUs} = \sum (\text{Cumulative HUs between all target years}) / 50 \text{ years} [3]$$

The WVA method for assessing marsh landscape features incorporates the variables described in Table A10-3. Variable scores are then converted to SI values and combined to generate a HSI using empirical formulas. All of the marshes encountered during the wetland evaluation occurred in the intermediate, brackish, and saline subclasses (Visser et al., 2000), and were assessed using equations [4] – [9]. Note that the separate HSI scores are determined for open water and marsh landscape components, then integrated into a single composite HSI using equations [10] – [12]. The HU and AAHUs calculations accounting for the marsh habitat impacts over a 50 year period of analysis were completed as described above.

Table A10-3: Summary of WVA marsh assessment variables, description, and sampling technique applied in the study (adapted from USACE 2017).

Wetland assessment variable	Description	Sampling technique (units)
1. Emergent vegetation (V_1)	Percent cover of emergent plants	Measured onsite and using GIS (%)
2. Open water (V_2)	Percent cover of open water	Measured onsite and using GIS (%)
3. Marsh edge interspersion (V_3)	Relative ratio of marsh and open water using interspersion classes	Comparison with established interspersion classes (ordinal)
4. Open water <1.5 ft (V_4)	Percent cover of shallow water	Measured onsite and using GIS (%)
5. Salinity (V_5)	Salinity regime (e.g., intermediate, brackish, and saline)	Mapped using Visser et al., (2000) (categorical)
6. Organism access (V_6)	Percent of wetland area accessible by estuarine organisms (P) multiplied by the structure rating (R)	Onsite and GIS assessment (P = %; R = ordinal)

$$\text{Intermediate marsh HSI} = [\{3.5 \times (\text{SIV1}^5 \times \text{SIV6})^{1/6}\} + (\text{SIV3} + \text{SIV5})/2] / 4.5 [4]$$

$$\text{Intermediate open water HSI} = [\{3.5 \times (\text{SIV2}^3 \times \text{SIV6})^{1/4}\} + (\text{SIV3} + \text{SIV4} + \text{SIV5})/3] / 4.5 [5]$$

$$\text{Brackish marsh HSI} = [\{3.5 \times (\text{SIV1}^3 \times \text{SIV6}^{1.5})^{1/6.5}\} + (\text{SIV3} + \text{SIV5})/2] / 4.5 [6]$$

$$\text{Brackish open water HSI} = [\{3.5 \times (\text{SIV2}^3 \times \text{SIV6}^2)^{1/5}\} + (\text{SIV3} + \text{SIV4} + \text{SIV5})/3] / 4.5 [7]$$

$$\text{Saline marsh HSI} = [\{3.5 \times (\text{SIV1}^3 \times \text{SIV6})^{1/4}\} + (\text{SIV3} + \text{SIV5})/2] / 4.5 [8]$$

$$\text{Saline open water HSI} = [\{3.5 \times (\text{SIV2} \times \text{SIV6}^{2.5})^{1/3.5}\} + (\text{SIV3} + \text{SIV4} + \text{SIV5})/3] / 4.5 [9]$$

$$\text{Intermediate marsh composite HSI} = [2.1(\text{marsh AAHUs}) + \text{open water AAHUs}] / 3.1 [10]$$

$$\text{Brackish marsh composite HSI} = [2.6(\text{marsh AAHUs}) + \text{open water AAHUs}] / 3.6 [11]$$

$$\text{Saline marsh composite HSI} = [3.5(\text{marsh AAHUs}) + \text{open water AAHUs}] / 4.5 [12]$$

The HGM method approved for use in the region addresses several wetland subclasses. The current assessment used the riverine overbank subclass in all areas on the riverside (i.e., batture) of the levee and the riverine backwater subclass on the landward side of the levee (Murray and Klimas 2013). The HGM method for both subclasses includes evaluation of a combination of 13

off-site and onsite variables (Table A10-4). Variable metric data was transformed into variable subindex scores ranging from 0.0 to 1.0, and wetland functional capacity index (FCI) scores were calculated using empirical equations (Table A10-5). Note that the scaling of some variable subindex scores differ between the riverine overbank and riverine backwater subclasses, but the same FCI equations apply to both subclasses as described in Murray and Klimas (2013).

The FCI scores are then converted to functional capacity units (FCUs) by accounting for the spatial extent of each land cover type. Average annual functional capacity units (AAFCUs) are then evaluated over a 50 year period of analysis to determine mitigation requirements in similar approach applied to the AAHUs described above. The average of the six functional scores was selected to determine impacts and mitigation requirements based on recommendation in Smith et al. (2013). This approach yields similar results to the total FCUs method (Smith et al. 2013) and simplifies the wetland resources assessment process by 1) providing a single output for each levee Work Item (as opposed to six wetland functional scores) and 2) providing an analysis that corresponds to the WVA assessment results, which yields a single HSI value.

Table A10-4: Summary of HGM assessment variables, description, and sampling technique applied in the study (adapted from Murray and Klimas 2013).

Wetland assessment variable	Description	Sampling technique (units)
1. Wetland tract (V_{TRACT})	Size of contiguous wetland area	Measured using GIS (ha)
2. Core area (V_{CORE})	Portion of wetland within 100m buffer	Measured using GIS (ha)
3. Habitat connectivity ($V_{CONNECT}$)	Proportion of the wetland perimeter connected to suitable forested habitat	Measured using GIS (%)
4. Flood frequency (V_{FREQ})	Change in wetland flood frequency due to recent activity	Measured using flood frequency map/stream gauge data (ordinal)
5. Flood duration (V_{DUR})	Change in wetland flood duration due to recent activity	Measured using flood duration map/stream gauge data (ordinal)
6. Soil integrity (V_{SOIL})	Proportion of the wetland exhibiting altered soils from recent activity	Onsite and GIS assessment of soil disturbance, excavation, fill (%)
7. Micro-depressional ponding (V_{POND})	Areas exhibiting small topographic depressions and vernal pool features	Visual estimate of areas capable of ponding water (%)
8. Tree basal area (V_{TBA})	Basal area per hectare; proportional to tree biomass	Trees identified using a 10 factor prism (count)
9. Litter Cover (V_{LITTER})	Abundance of leaf litter (i.e., detritus)	Visual estimate of litter cover (%)
10. Strata Present (V_{STRATA})	Number and type of vegetation layers present	Presence of trees, shrubs, saplings, and herbaceous vegetation (count)
11. Tree composition (V_{COMP})	Species composition of the tallest stratum	Floristic quality of dominant species (USACE 2010) (weighted average)
12. Downed woody debris biomass and snags ($V_{DWD\&S}$)	Abundance of woody debris and snag biomass	Visual assessment of woody debris cover and snags (ordinal)
13. Tree Size Classes ($V_{TREESIZE}$)	Number of tree size classes present	Visual inspection for presence of each size class with $\geq 10\%$ cover (count)

Table A10-5: Wetland functions assessed at each site using the HGM approach (Murray and Klimas 2013).

Wetland function	Description	Assessment equation for generating functional capacity index (FCI)
1. Detain Floodwater	Ability to store, convey, and slow floodwaters	$= V_{FREQ} \times \left[\frac{(V_{DWD\&S} + V_{STRATA} + V_{TBA})}{3} \right]$
2. Detain Precipitation	Capacity to prevent or slow runoff to streams	$FCI = \frac{\left[V_{POND} + \frac{(V_{SOIL} + V_{LITTER})}{2} \right]}{2}$
3. Cycle Nutrients	Ability to convert nutrients between organic and inorganic pools	$= \frac{\left[\frac{(V_{TBA} + V_{STRATA} + V_{TREESIZE})}{3} + \frac{(V_{SOIL} + V_{DWD\&S})}{2} \right]}{2}$
4. Export Organic Carbon	Capacity to export dissolved organic carbon downstream	$= V_{FREQ} \times \frac{\left[\frac{(V_{TBA} + V_{STRATA})}{2} + \frac{(V_{LITTER} + V_{DWD\&S})}{2} \right]}{2}$
5. Maintain plant communities	Capacity to develop and maintain characteristic plant communities	$= \left[\left\{ \frac{\left[\frac{(V_{TBA} + V_{TREESIZE})}{2} + V_{COMP} \right]}{2} \right\} \times \frac{(V_{SOIL} + V_{DUR} + V_{POND})}{3} \right]^1$
6. Provide fish and wildlife habitat	Ability to support fish and wildlife species during some portion of their life cycle.	$= \left[\left[\frac{(V_{FREQ} + V_{DUR} + V_{POND})}{3} \times \left[\frac{(V_{COMP} + V_{STRATA} + V_{DWD\&S} + V_{TBA})}{4} \right] \right]^{1/3} \times \frac{(V_{TRACT} + V_{CONNECT} + V_{CORE})}{3} \right]$

A10-4.3 Wetland extent

For the purposes of the assessment, all lands, excluding developed/urban areas and open water within the one-half mile buffer assessment area, were assumed to be wetlands and assigned corresponding functional scores accordingly. This approach was selected to provide the most conservative estimate of potential impacts possible due to the fact that many forested, agriculture, pasture, and other areas would not meet the hydrophytic vegetation, hydric soils, and/or wetland hydrology criteria outlined in Environmental Laboratory (1987) and the delineation procedures detailed in USACE (2010). Urban and developed areas were assigned a wetland assessment score of zero because they fail to meet any of the wetland criteria used for wetland identification and do not provide a measurable level of wetland function. Similarly, open water areas are not wetlands and the assessment of open water landscape features is included in the aquatic resources portion of the SEIS.

The WVA Bottomland Hardwoods Community Model yields stand maturity (V2) values of zero for all non-forested areas, and as a result, all managed areas, including agricultural and pasture land cover types within the WVA area of application (i.e., State of Louisiana), were assigned a HSI of zero (Equation [10]). As noted above, non-managed areas without tree cover (excluding

marshes, which are assessed using the WVA marsh model), including scrub/shrub, non-forested wetlands, and other features, were assessed as forested wetlands based on the assumption that they have the capacity to develop forested wetland conditions during the period of analysis.

A10-4.4 Determining baseline (without project) conditions and with-project conditions

The appropriate model (WVA marsh, WVA forested wetland, HGM) was applied at each individual levee Work Item. This required acquisition of the off-site variables described in Tables A10-2 through A10-4. The analysis also required on-site data collection, which was conducted at 321 sample plots within the study area. In cases where site access limited the ability to conduct onsite sampling, data from the nearest accessible levee Work Item was extrapolated and applied. In cases where multiple data collection points occurred within a single levee Work Item, the highest assessment score observed within that levee Work Item was applied across the entire Work Item extent. For example, if three forested sample plots were installed within a single Work Item yielding HSI/FCI scores of 0.70, 0.80, and 0.90; the entire forested portion of the levee Work Item was assigned an HSI/FCI score of 0.90. This approach was undertaken to provide the most conservative assessment approach possible.

Previous studies classified wetland assessment variables within the study region as stable variables (i.e., those unlikely to shift within project time frames), response variables (i.e., variables that shift a decadal time frames) and rapid response variables (i.e., those that shift more readily) (Berkowitz and White 2013). That analysis supports an evaluation of how wetland assessment scores are expected to shift over the period of analysis. In general, landscape scale variables (land use, degree of disturbance, hydropattern) are assumed to remain stable over time. Other factors reflect equilibrium conditions established by environmental processes, ecosystem drivers, and site conditions. For example, the tree species distribution in the study area is determined by seed sources, flood frequency and duration, historic logging activities, and other factors. Conversely, tree basal area is anticipated to increase over time regardless of site conditions, increasing HSI and FCI values during the period of analysis. As a result, tree basal area scores were increased incrementally at each target year, until the maximum assessment variable metric score was achieved. The rate of tree basal area increase was based upon 1) basal area measurements for stands 0-20 years old collected at established USACE mitigation sites within the region (values reported in Berkowitz et al., 2018), 2) trajectory curves developed for stands >20 years old (Smith and Klimas 2002), and 3) line formulas presented in the WVA models (USACE 2018). This approach ensured that all forested areas achieved the maximum possible basal area assessment variable subindex score at target years ≤ 35 years.

The approach described above was used to determine baseline (i.e., without-project) conditions using the land cover mapping and HSI/FCI scores for each levee Work Item location.

Anticipated future with project conditions were determined by analyzing the land cover changes associated with project implementation. The associated changes in land cover were then used to determine shifts in wetland habitat suitability/functional capacity by subtracting the with-project AAHUs/AAFCUs from the without project AAHUs/AAFCUs at each levee Work Item location over the 50 year period of analysis. That difference represents the potential project impact to wetland resources.

A10-4.5 Determining mitigation requirements

Mitigation requirements were determined for each individual levee Work Item location. To compensate for potential decreases in habitat suitability or wetland functional capacity, a mitigation plan will be instituted. Mitigation within the Mississippi River and Tributaries (MR&T) program has generally consisted of re-establishing forested wetlands on agricultural lands with hydric soils. These efforts have proven successful for offsetting unavoidable impact to wetland resources, and published research tracks the trajectory of habitat, hydrology, and biogeochemical functional improvements within the USACE mitigation lands (Berkowitz and White 2013; Berkowitz 2019). The current report assumes that similar mitigation approaches will be applied for the projects described herein.

Mitigation projects reclaim bottomland hardwood forests previously converted to agriculture, many of which exhibited marginal production due to seasonal high water tables and/or the need for extensive drainage. Mitigation activities include planting desirable forested wetland tree species selected for their capacity to thrive on hydric soils and subject to wetland hydrology. Characteristic species used for mitigation include *Fraxinus pennsylvanica*, *Quercus texana*, *Quercus lyrata*, *Carya aquatica*, and other flood-tolerant hydrophytes associated with high wetland habitat values (Smith and Klimas 2002).

Afforestation typically occurs via row planting at typical seedling spacing of 3-4 m. Data from those existing mitigation lands, information within the WVA/HGM guidebooks, and previously published literature were used to determine HSI/FCI values at target years 0, 5, 10, 20, 35, and 50 (Figure A10-3 through A10-4). Using the target year analysis, the acreage of mitigation lands required to generate sufficient AAHUs/AAFCUs to offset the calculated habitat suitability/wetland functional loss is determined for each individual levee Work Item location. The results of the without project, with project future conditions, and mitigation determination analysis are reflected in fact sheets outlining all land cover extents, habitat suitability/functional capacities, and mitigation calculations for each of the 143 levee Work Item locations (example Figure A10-5; section A10-8 ATTACHMENT 1). The values from these fact sheets are then aggregated to report land cover changes, changes in wetland functions/habitat suitability, and mitigation requirement summary statistics provided in the results sections of this document.

Variable	Age	Metric value	SI	Rationale/source
Tree species composition (V1)				
	0	Unused	Unused	Unused
	5	Unused	Unused	Unused
	10	Class 5	1.00	Planted with appropriate species
	20	Class 5	1.00	Planted with appropriate species
	35	Class 5	1.00	Planted with appropriate species
	50	Class 5	1.00	Planted with appropriate species
Stand maturity (V2)				
	0	0	0.00	WVA model line formulas
	5	5	0.03	WVA model line formulas
	10	10	0.10	WVA model line formulas
	20	20	0.30	WVA model line formulas
	35	35	0.70	WVA model line formulas
	50	50	1.00	WVA model line formulas
Understory (V3a)				
	0	Unused	Unused	Unused
	5	Unused	Unused	Unused
	10	75	0.85	Berkowitz (2013; 2018) reports understory cover data for mitigation sites at various ages; Smith and Klimas (2002) provide trajectories >20 years.
	20	55	1.00	
	35	40	1.00	
	50	30	1.00	
Midstory (V3b)				
	0	Unused	Unused	Unused
	5	Unused	Unused	Unused
	10	19	0.95	Berkowitz (2013; 2018) reports understory cover data for mitigation sites at various ages; Smith and Klimas (2002) provide trajectories >20 years.
	20	15	0.78	
	35	19	0.95	
	50	50	1.00	
Hydrology (V4)				
	0	Seasonal/Moderate	0.75	Berkowitz (2019) reports hydrology data for mitigation wetlands displaying seasonal inundation patterns and moderate connectivity.
	5	Seasonal/Moderate	0.75	
	10	Seasonal/Moderate	0.75	
	20	Seasonal/Moderate	0.75	
	35	Seasonal/Moderate	0.75	
	50	Seasonal/Moderate	0.75	
Forest area (V5)				
	0	Unused	Unused	Unused
	5	Unused	Unused	Unused
	10	5	1.00	Established USACE mitigation sites associated with the MRL program display a mean tract size of 987 ac.
	20	5	1.00	
	35	5	1.00	
	50	5	1.00	
Suitability (V6)				
	0	50% forest; 0% non-habitat	0.76	Established USACE mitigation sites display a average land use distribution of 50% forest interspersed with abandoned agriculture, pasture, and active agriculture.
	5	50% forest; 0% non-habitat	0.76	
	10	50% forest; 0% non-habitat	0.76	
	20	50% forest; 0% non-habitat	0.76	
	35	50% forest; 0% non-habitat	0.76	
	50	50% forest; 0% non-habitat	0.76	
Disturbance (V7)				
	0	Distance 3; Type 3	1.00	Established USACE mitigation sites display a average land use distribution of 50% forest interspersed with abandoned agriculture, pasture, and active agriculture.
	5	Distance 3; Type 3	1.00	
	10	Distance 3; Type 3	1.00	
	20	Distance 3; Type 3	1.00	
	35	Distance 3; Type 3	1.00	
	50	Distance 3; Type 3	1.00	
Habitat Suitability Index				
	0		0.00	WVA model output
	5		0.15	WVA model output
	10		0.33	WVA model output
	20		0.67	WVA model output
	35		0.85	WVA model output
	50		0.94	WVA model output

Figure A10-3. WVA model inputs used to determine mitigation requirements.

Variable	Age	Metric value	Sunbindex	Rationale/source	Variable	Age	Metric value	Sunbindex	Rationale/source
V _{POND}	0	45	0.70	Average microdepressional ponding (%) in completed mitigation sites	V _{STRATA}	0	1	0.25	Number of strata
	5	45	0.70			5	2	0.55	observed in completed
	10	45	0.70			10	3	1.00	mitigation sites,
	20	45	0.70			20	3	1.00	increases with stand age
	35	45	0.70			35	3	1.00	
	50	45	0.70			50	3	1.00	
V _{DWD&S}	Age	Metric value	Sunbindex	Rationale/source	V _{COMP}	Age	Metric value	Sunbindex	Rationale/source
	0	Severe impact	0.10	Woody debris cover (%) observed in completed mitigation sites (0-20 years). Values for >20 years predicted by Smith and Klimas (2002)		0	0	0	Tree composition
	5	Severe impact	0.10			5	0	0	observed at established
	10	Impacted	0.50			10	46	0.46	mitigation sites.
	20	Impacted	0.50			20	82	0.82	Results from selective planting
	35	Natural	1.00			35	93	0.93	
	50	Natural	1.00			50	93	0.93	
V _{SOIL}	Age	Metric value	Sunbindex	Rationale/source	V _{TRACT}	Age	Metric value	Sunbindex	Rationale/source
	0	50	0.70	Soil disturbance (%) in completed mitigation sites. Agricultural activities (i.e., furrows) impact 50% of the soil surface during years 0-10 then dissipate		0	987	0.40	Average tract size
	5	50	0.70			5	987	0.40	observed in completed mitigation sites
	10	50	0.70			10	987	0.40	
	20	0	1.00			20	987	0.40	
	35	0	1.00			35	987	0.40	
	50	0	1.00			50	987	0.40	
V _{LITTER}	Age	Metric value	Sunbindex	Rationale/source	V _{CONNECT}	Age	Metric value	Sunbindex	Rationale/source
	0	0	0.10	Average litter cover (%) observed in completed mitigation sites (0-20 years). Values for >20 years predicted by Smith and Klimas (2002)		0	50	1.00	Average connectivity
	5	65	1.00			5	50	1.00	observed in completed mitigation sites
	10	75	1.00			10	50	1.00	
	20	55	1.00			20	50	1.00	
	35	20	1.00			35	50	1.00	
	50	20	1.00			50	50	1.00	
V _{TBA}	Age	Metric value	Sunbindex	Rationale/source	V _{CORE}	Age	Metric value	Sunbindex	Rationale/source
	0	0	0.10	Average tree basal area in completed mitigation sites, (0-20 years). Values for >20 years predicted by Smith and Klimas (2002)		0	49	1.00	Minimum core area observed in completed mitigation sites
	5	0	0.10			5	49	1.00	
	10	5	0.40			10	49	1.00	
	20	9	0.70			20	49	1.00	
	35	15	1.00			35	49	1.00	
	50	20	1.00			50	49	1.00	
V _{DUR}	Age	Metric value	Sunbindex	Rationale/source	V _{FREQ}	Age	Metric value	Sunbindex	Rationale/source
	0	0	1.00	Established mitigation sites do not deviate from baseline flood duration conditions		0	0	1.00	Established mitigation sites do not deviate from baseline flood frequency conditions
	5	0	1.00			5	0	1.00	
	10	0	1.00			10	0	1.00	
	20	0	1.00			20	0	1.00	
	35	0	1.00			35	0	1.00	
	50	0	1.00			50	0	1.00	
V _{TREESIZE}	Age	Metric value	Sunbindex	Rationale/source	Function	Age	FCI		
	0	0/0	0.00	Tree diameter size class (0-4) and number of classes (0-20 years). Values for >20 years predicted by Smith and Klimas (2002)	Detain floodwater	0	0.07		
	5	0/0	0.00			5	0.15		
	10	1/1	0.30			10	0.48		
	20	2/2	0.55			20	0.73		
	35	3/3	0.80			35	1.00		
	50	4/4	1.00			50	1.00		
Function	Age	FCI	Function	Age	FCI	Function	Age	FCI	
Detain precipitation	0	0.55	Cycle nutrients	0	0.22	Export organic C	0	0.08	
	5	0.78		5	0.26		5	0.36	
	10	0.78		10	0.46		10	0.61	
	20	0.85		20	0.71		20	0.80	
	35	0.70		35	0.97		35	0.85	
	50	0.70		50	1.00		50	0.85	
Function	Age	FCI	Function	Age	FCI	Function	Age	FCI	
Plant community hab	0	0.14	Fish & wildlife habitat	0	0.00	Average FCI	0	0.17	
	5	0.14		5	0.00		5	0.28	
	10	0.52		10	0.70		10	0.59	
	20	0.79		20	0.82		20	0.78	
	35	0.91		35	0.89		35	0.89	
	50	0.93		50	0.89		50	0.90	

Figure A10-4. HGM model inputs and outputs used to determine mitigation requirements.

577L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		186	0.88	164		Forest		59	0.97	58	
Levee		26	0.00	0		Levee		73	0.00	0	
Open water		222	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		167	0.15	25	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		18	0.00	0		Urban		39	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.90	167		830	Target year - 5		0.97	83	413
Target year - 10			0.92	171		845	Target year - 10		0.97	83	413
Target year - 20			0.93	174		1720	Target year - 20		0.97	83	826
Target year - 35			0.93	174		2603	Target year - 35		0.97	83	1239
Target year - 50			0.93	174		2603	Target year - 50		0.97	83	1239
Sum of FCUs						8601	Sum of FCUs				4132
Pre-project AAFCUs over 50 years				172			Pre-project AAFCUs over 50 years			83	
Land cover change							Land cover change				
Forest		-30.9					Forest		-1.8		
Levee		0.0					Levee		7.2		
Open water		29.1					Open water		0.0		
Cropland		0.0					Cropland		-3.9		
Pasture/old field		1.8					Pasture/old field		0.0		
Urban		0.0					Urban		-1.5		
Post-project land cover							Post-project land cover				
Forest		155	0.88	137			Forest		58	0.97	56
Levee		26	0.00	0			Levee		80	0.00	0
Open water		251	0.00	0			Open water		0	0.00	0
Cropland		0	0.20	0			Cropland		164	0.15	25
Pasture/old field		2	0.20	0			Pasture/old field		0	0.15	0
Urban		18	0.00	0			Urban		37	0.00	0
Post-project future conditions							Post-project future conditions				
Target year - 5			0.90	140		694	Target year - 5		0.97	80	402
Target year - 10			0.92	143		706	Target year - 10		0.97	80	402
Target year - 20			0.93	145		1438	Target year - 20		0.97	80	803
Target year - 35			0.93	145		2176	Target year - 35		0.97	80	1205
Target year - 50			0.93	145		2176	Target year - 50		0.97	80	1205
Sum of FCUs						7191	Sum of FCUs				4015
Post-project AAFCUs over 50 years				144			Post-project AAFCUs over 50 years			80	
Change in AAFCUs over 50 years				-28.2			Change in AAFCUs over 50 years			-2.3	
Mitigation							Mitigation				
Target year - 0		39.1	0.17	6.84			Target year - 0		3.2	0.17	0.57
Target year - 5		39.1	0.28	11.00		45	Target year - 5		3.2	0.28	0.91
Target year - 10		39.1	0.59	23.14		85	Target year - 10		3.2	0.59	1.91
Target year - 20		39.1	0.78	30.65		269	Target year - 20		3.2	0.78	2.53
Target year - 35		39.1	0.89	34.65		490	Target year - 35		3.2	0.89	2.86
Target year - 50		39.1	0.90	35.03		523	Target year - 50		3.2	0.90	2.90
Sum of FCUs						1411	Sum of FCUs				117
Mitigation AAFCUs over 50 years						28.2	Mitigation AAFCUs over 50 years				2.3

Figure A10-5. Example fact sheet displaying the land cover values, land use changes, HSI/FCI values, anticipated future conditions under with- and without-project scenarios, and mitigation requirements for a single levee Work Item.

A10-4.6 Comparison of project alternatives

The analysis described above was conducted under two alternative scenarios, including 1) Alternative 2, Traditional Construction and 2) Alternative 3, Avoid and Minimize. The Alternative 2, Traditional Construction, consists of traditional construction methods to raise and stabilize the deficient sections of the levees and floodwalls and to control seepage. Borrow area placement under Alternative 2, Traditional Construction, would normally be located riverside of the levee at the nearest sites with suitable soil materials. This plan would require no special criteria for citing the location of BAs other than for engineering provisions. No provisions would be made for environmental enhancement features for the BAs. Alternative 3, Avoid and Minimize, incorporates elements designed to decrease environmental impacts to the extent possible. Alternative 3, Avoid and Minimize, procedures consider the location of borrow sites, loss of forested areas and associated wetland impacts, and landowner input. This alternative seeks to avoid and minimize impacts by placing BAs in less environmentally sensitive areas when practicable. Additional environmental features (e.g., irregular shorelines, islands, variable depths, etc.) that could be incorporated into BA designs to increase habitat value will be explored with willing landowners and non-Federal sponsors during project design.

The two project alternatives were compared by determining the changes in land cover, FCUs/HUs, and mitigation requirements under both Alternative 2, Traditional Construction, and Alternative 3, Avoid and Minimize, scenarios. The differences between alternatives are presented in the results section, along with supporting data and summary tables located in sections A10-8 ATTACHMENT 1 and A10-9 ATTACHMENT 2. Note that both alternatives used the same assessment inputs (i.e., metric values, variable subindex scores) and mitigation trajectories, while the distribution of project land covers varied between alternatives. For example some borrow pits located in forested areas under Alternative 2, Traditional Construction, were shifted into agricultural lands under Alternative 3, Avoid and Minimize. This decreased the loss of forested habitat and decreased potential impacts to wetland resources.

A10-4.7 Potential flood effects

The 2018-2019 flood inundated many of the wetlands in the study area for an extended period, exceeding 150 days in some locations. To address potential flood impacts to the current assessment, a repeated measures analysis was conducted at 35 sample locations within the study area prior to the flood (October 2018), immediately post-flood (August 2019) and one year after initial data collection (October 2019). Results of this analysis are reported in Price and Berkowitz (In Press). The flood had no significant impact on 11 of 13 HGM assessment variables, but significantly altered the abundance of woody debris and forest floor litter. Immediately after the flood, these changes decreased the functional capacity of wetlands to 1) detain floodwater (mean -9.7 percent reduction) and 2) precipitation (-17.3 percent); 3) cycle nutrients (-7.5 percent); and export organic carbon (-23.8 percent). Subsequent sampling documented the detain precipitation function returning to pre-flood conditions. The export organic carbon function significantly improved despite remaining below pre-flood levels. As a result of these analyses, wetland assessment variables related to woody debris and forest floor litter were adjusted to reflect the highest possible variable subindex score (1.0). This represents the most conservative approach possible, ensuring that the 2019 flood did not decrease the HSI/FCI scores used for the wetlands assessment.

A10-5 RESULTS

A10-5.1 Land cover changes and wetland extent

The following presents the results of Alternative 3, Avoid and Minimize; a comparison with Alternative 2, Traditional Construction, is included in section A10-5.4. Project implementation will alter land cover at a 135 of the 143 levee Work Item locations. Tables A10-6 through A10-9 provide summary data on the number of levee Work Items inducing a change across land cover classes and the vector of the land cover change (i.e., increase or decrease) organized by State and USACE district. Tables A10-10 through A10-17 provide land cover class acreage changes under both without project and with project scenarios, as well as land cover class change information for the entire project area organized by State, USACE district, and assessment methodology (i.e., HGM or WVA). Fact sheets provide visual representations of each levee Work Item location, identify the assessment area, display without project land covers, and describe the type of proposed action(s) (e.g., levee enlargement, floodwall replacement). Fact sheets also contain land cover value changes, land cover changes, wetland assessment scores, and mitigation requirements associated with each individual levee Work Item under both without project and with project scenarios (section A10-8 ATTACHMENT 1).

Land use changes will result in the conversion of potential wetland areas associated with cropland, forests, and pasture to non-wetland areas, including construction of open water borrow pits or expansion of the physical levee footprint. The extent of pasture will increase in some areas due to temporary conversion of croplands, forests and other features to haul roads that will be removed following project construction. The development of temporary haul roads represents a change in wetland cover class (i.e., conversion of cropland or forest to pasture) and does not increase or decrease the overall potential wetland acreage. The extent of non-wetland urban and developed areas will decrease following project implementation as a result of levee footprint expansion. In total, the extent of levees will increase by an estimated 1525 acres.

No changes in the land cover of saline or intermediate marshes will occur, and 4.8 acres of brackish marsh will convert to a non-wetland land cover class. The extent of forested area will decrease by 1,005 acres, croplands will decrease by 1717 acres, and pasturelands will see a small increase of 70 acres.

Land cover changes vary across the assessment area due to existing land uses. For example, land cover changes in the rural areas of Arkansas and other States are predominantly in forested, cropland, and pasture classes, while more urban land cover will be altered in Louisiana (-267 acres); mostly associated with the City of New Orleans and the surrounding area. Additionally, the type of proposed action(s) has implications for the alteration of wetlands, since some features (e.g., flood walls) have a smaller physical footprint and are less likely to impact wetland resources than other activities (e.g., levee enlargement, development of borrow areas).

Table A10-6. Summary of land cover changes (count of levee Work Items displaying a change) under Alternative 3.

	Riverside	Landside
Brackish marsh		
No change	143	142
Decrease	0	1
Increase	0	0
Cropland		
No change	100	71
Decrease	43	72
Increase	0	0
Forest		
No change	93	94
Decrease	50	49
Increase	0	0
Intermediate marsh		
No change	143	143
Decrease	0	0
Increase	0	0
Levee		
No change	106	52
Decrease	0	1
Increase	37	90
Open water		
No change	89	83
Decrease	1	3
Increase	53	57
Pasture		
No change	127	112
Decrease	4	17
Increase	12	14
Urban		
No change	126	79
Decrease	17	64
Increase	0	0

Table A10-7. Summary of riverside land cover changes in each State (count of Work Items displaying a change) under Alternative 3.

	Arkansas	Illinois	Kentucky	Louisiana	Mississippi	Missouri	Tennessee
Brackish marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Cropland							
Decrease	9	5	0	21	0	5	3
Increase	0	0	0	0	0	0	0
Forest							
Decrease	9	5	0	24	4	6	2
Increase	0	0	0	0	0	0	0
Intermediate marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Levee							
Decrease	0	0	0	0	0	0	0
Increase	8	5	1	15	0	5	3
Open water							
Decrease	0	0	0	1	0	0	0
Increase	9	5	1	28	4	5	1
Pasture							
Decrease	2	0	0	0	1	0	1
Increase	1	0	0	8	3	0	0
Saline Marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Urban							
Decrease		2	2	11		1	1
Increase	0	0	0	0	0	0	0

Table A10-8. Summary of landside land cover changes in each State (count of Work Items displaying a change) under Alternative 3.

	Arkansas	Illinois	Kentucky	Louisiana	Mississippi	Missouri	Tennessee
Brackish marsh							
Decrease	0	0	0	1	0	0	0
Increase	0	0	0	0	0	0	0
Cropland							
Decrease	4	1	1	56	4	4	2
Increase	0	0	0	0	0	0	0
Forest							
Decrease	2	1	0	38	4	2	2
Increase	0	0	0	0	0	0	0
Intermediate marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Levee							
Decrease	0	0	0	1	0	0	0
Increase	0	3	1	77	4	4	1
Open water							
Decrease	2	0	0	1	0	0	0
Increase	0	0	0	50	1	4	2
Pasture							
Decrease	0	0	0	16	1	0	0
Increase	4	0	0	8	2	0	0
Saline Marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Urban							
Decrease	0	2	1	58	2	1	0
Increase	0	0	0	0	0	0	0

Table A10-9. Summary of land cover changes in each USACE District (count of Work Items displaying a change). MVK = Vicksburg District; MVM = Memphis District; MVN = New Orleans District under Alternative 3.

	Riverside			MVK	MVM	MVN
	MVK	MVM	MVN	MVK	MVM	MVN
Brackish marsh						
Decrease	0	0	0	0	0	1
Increase	0	0	0	0	0	0
Cropland						
Decrease	3	22	18	13	12	47
Increase	0	0	0	0	0	0
Forest						
Decrease	12	22	16	10	7	32
Increase	0	0	0	0	0	0
Intermediate marsh						
Decrease	0	0	0	0	0	0
Increase	0	0	0	0	0	0
Levee						
Decrease	0	0	0	0	0	1
Increase	1	22	14	11	9	70
Open water						
Decrease	0	0	1	0	2	1
Increase	12	21	20	3	6	48
Pasture						
Decrease	1	3	0	2	0	15
Increase	11	1	0	10	4	0
Saline Marsh						
Decrease	0	0	0	0	0	0
Increase	0	0	0	0	0	0
Urban						
Decrease	0	6	11	2	4	58
Increase	0	0	0	0	0	0

Table A10-10. Summary of land cover classes within the assessment areas (acres) under Alternative 3.

Land cover	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Brackish marsh	0	491	0	486
Cropland	11127	50130	10682	48858
Forest	25528	17750	24873	17399
Intermediate marsh	0	320	0	320
Levee	4856	6919	5308	7991
Open water	58192	1016	58853	1757
Pasture	1122	6640	1177	6655
Saline marsh	0	211	0	211
Urban	1802	28615	1737	28413

Table A10-11. Summary of land cover changes within the assessment areas (acres) under Alternative 3.

Land cover	Riverside	Landside	Total
Brackish marsh	0	-5	-5
Cropland	-445	-1272	-1717
Forest	-655	-351	-1005
Intermediate marsh	0	0	0
Levee	453	1072	1525
Open water	660	742	1402
Pasture	55	15	70
Saline marsh	0	0	0
Urban	-65	-202	-267

Table A10-12. Land cover classes assessed within each State (acres) under Alternative 3 under Alternative 3. R = Riverside; L = Landside.

	Without-project		With-project		Mississippi	Without-project		With-project	
	R	L	R	L		R	L	R	L
Arkansas					Cropland	43	1537	43	1418
Cropland	3675	8431	3586	8090	Forest	1485	442	1370	391
Forest	4458	1023	4380	945	Levee	189	341	189	459
Levee	717	1408	791	1833	Open water	727	0	849	55
Open water	2322	92	2416	87	Pasture	55	49	54	52
Pasture	139	174	137	174	Urban	18	158	18	152
Urban	13	130	13	130	Total	2517	2526	2522	2526
Total	11324	11258	11323	11258					
Illinois					Missouri				
Cropland	551	643	540	641	Cropland	1821	7649	1751	7591
Forest	555	187	547	186	Forest	693	1321	641	1298
Levee	102	102	139	124	Levee	160	539	241	583
Open water	1884	7	1894	7	Open water	1079	133	1123	176
Pasture	0	0	0	0	Pasture	43	64	43	64
Urban	127	1310	99	1291	Urban	30	575	25	569
Total	3219	2249	3219	2249	Total	3824	10281	3824	10281
Kentucky					Tennessee				
Cropland	29	231	29	192	Cropland	4046	4675	3888	4357
Forest	87	16	87	16	Forest	766	1199	748	1152
Levee	15	13	15	52	Levee	230	277	458	278
Open water	162	9	163	9	Open water	170	108	170	472
Pasture	1	0	1	0	Pasture	819	29	767	29
Urban	29	38	29	37	Urban	4	10	2	10
Total	323	306	323	305	Total	6033	6297	6033	6297
Louisiana									
Brackish marsh	0	491	0	486					
Cropland	963	26965	845	26571					
Forest	17485	13562	17100	13411					
Intermediate marsh	0	320	0	320					
Levee	3444	4240	3475	4663					
Open water	51848	668	52239	952					
Pasture/old field	65	6323	176	6335					
Saline Marsh	0	211	0	211					
Urban	1583	26396	1553	26225					
Total	75388	79175	75388	79174					

Table A10-13. Land cover changes assessed within each State (acres) under Alternative 3.

Arkansas	Riverside	Landside	Mississippi	Riverside	Landside
Cropland	-88	-342	Cropland	0	-119
Forest	-78	-77	Forest	-115	-51
Levee	74	425	Levee	0	119
Open water	93	-6	Open water	121	55
Pasture	-2	0	Pasture	-1	3
Urban	0	0	Urban	0	-6
Illinois			Missouri		
Cropland	-11	-2	Cropland	-70	-58
Forest	-8	-1	Forest	-51	-23
Levee	37	22	Levee	81	44
Open water	10	0	Open water	45	43
Pasture	0	0	Pasture	0	0
Urban	-28	-19	Urban	-5	-6
Kentucky			Tennessee		
Cropland	0	-39	Cropland	-158	-318
Forest	0	0	Forest	-18	-47
Levee	0	39	Levee	228	1
Open water	0	0	Open water	0	365
Pasture	0	0	Pasture	-51	0
Urban	0	-1	Urban	-2	0
Louisiana					
Brackish marsh	0	-5			
Cropland	-118	-394			
Forest	-385	-151			
Intermediate marsh	0	0			
Levee	32	423			
Open water	391	284			
Pasture	110	12			
Saline Marsh	0	0			
Urban	-30	-171			

Table A10-14. Land cover classes assessed in each USACE District (acres) under Alternative 3 under Alternative 3.

Vicksburg	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Cropland	526	8574	435	8229
Forest	8593	2954	8121	2856
Levee	1043	1575	1043	1791
Open water	3711	41	4170	174
Pasture	67	420	176	520
Urban	18	158	18	152
Total	13957	13722	13962	13722
Memphis				
Cropland	10121	21629	9794	20870
Forest	6558	3746	6403	3598
Levee	1223	2339	1644	2869
Open water	5617	348	5765	750
Pasture	1002	268	948	268
Urban	202	2062	167	2036
Total	24722	30391	24720	30390
New Orleans				
Brackish marsh	0	491	0	486
Cropland	480	19927	453	19760
Forest	10377	11049	10349	10946
Intermediate marsh	0	320	0	320
Levee	2590	3006	2621	3331
Open water	48864	627	48918	833
Pasture/old field	54	5952	54	5867
Saline Marsh	0	211	0	211
Urban	1583	26396	1553	26225
Total	63947	67979	63947	67979

Table A10-15. Land cover class changes assessed within each USACE District (acres) under Alternative 3.

	Riverside	Landside
Vicksburg		
Cropland	-90	-345
Forest	-472	-99
Levee	0	216
Open water	458	133
Pasture	109	100
Urban	0	-6
Memphis		
Cropland	-327	-759
Forest	-155	-149
Levee	421	530
Open water	148	402
Pasture	-54	0
Urban	-35	-26
New Orleans		
Brackish marsh	0	-5
Cropland	-28	-168
Forest	-28	-103
Intermediate marsh	0	0
Levee	32	325
Open water	54	206
Pasture	0	-85
Saline marsh	0	0
Urban	-30	-171

Table A10-16. Land cover classes assessed using each methodology (acres) under Alternative 3.

HGM	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Cropland	10163	23165	9837	22287
Forest	8043	4188	7773	3988
Levee	1412	2679	1833	3328
Open water	6344	348	6614	805
Pasture	1057	317	1002	320
Urban	220	2219	185	2188
Total	27238	32917	27242	32916
WVA				
Brackish marsh	0	491	0	486
Cropland	963	26965	845	26571
Forest	17485	13562	17100	13411
Intermediate marsh	0	320	0	320
Levee	3444	4240	3475	4663
Open water	51848	668	52239	952
Pasture/old field	65	6323	176	6335
Saline Marsh	0	211	0	211
Urban	1583	26396	1553	26225
Total	75388	79175	75388	79174

Table A10-17. Land cover class changes assessed using each methodology (acres) under Alternative 3.

HGM	Riverside	Landside
Cropland	-327	-878
Forest	-270	-200
Levee	421	649
Open water	270	457
Pasture	-55	3
Urban	-35	-32
WVA		
Brackish marsh	0	-5
Cropland	-118	-394
Forest	-385	-151
Intermediate marsh	0	0
Levee	32	423
Open water	391	284
Pasture	110	12
Saline Marsh	0	0
Urban	-30	-171

A10-5.2 Wetland assessment results

Summary statistics for each wetland assessment input, variable subindex scores, and model outputs are presented in Tables 10.18-10.25. The assessment results reflect the effects of landscape position (i.e., riverside, landside), disturbance history, and current conditions associated with the lower Mississippi River Valley. Additionally, results differ by methodology (i.e., WVA, HGM). For example, the WVA method yields higher HSI values on the riverside of the levee than on the landside of the levee. In the WVA assessment, this decrease (corresponding to ~0.02 HSI units) resulted from shift of V4 – hydrology from the seasonally flooded-high flow/exchange class on the riverside to the seasonally flooded-low flow/exchange class on the landside of the levee. Conversely, forested areas evaluated using HGM exhibit higher FCI values on the landside. The difference (corresponding to ~0.01 FCI units in forested wetlands) resulted from the variable subindex scoring mechanisms applied to the riverine overbank subclass (i.e., riverside) and the riverine backwater subclass (i.e., landside). The different treatment of wetland subclasses in the HGM approach also yields a 0.05 higher FCI unit values in riverside non-forested wetlands than non-forested wetlands located on the landside of the levee; the difference results from the variable subindex score for VPOND.

The forested WVA HSI values ranged from 0.26 – 0.79 (mean HSI = 0.55). The HSIs remain limited by landscape position and surrounding land use, disturbance regime, and species distribution/successional stage. Notably, most study locations within the WVA area of application are adjacent to active agriculture and/or non-habitat land cover classes. This results in low scores for V6 – suitability and traversability of surrounding land uses. Additionally, V7 – disturbance scores are constrained by the location of the levee Work Items which exhibit a frequently/moderately used roads and waterways within 500 ft. of the assessment area. Some HSI values are also limited with respect to V5 - size of the contiguous forest, especially in locations adjacent to urban development.

Forested wetland species composition and maturity also limit the WVA HSI values under existing conditions at the majority of levee Work Item locations. The overstory species composition within forested areas are dominated by *Celtis laevigata* (sugarberry), *Populus deltoides* (cottonwood), *Salix nigra* (willow), and other non-mast/soft-mast producing species. Species composition is not expected to improve since landscape position, flood frequency and duration, disturbance, and other factors dictate patterns of forest succession which limit the extent of *Quercus spp.* (oak) and *Carya spp.* (hickory) trees within the assessment area. Stand maturity subindex scores are anticipated to increase over the 50 year period of analysis as indicated in Figure 10.2 and Table 10.20, providing for increases in HSI values over the period of analysis at levee Work Item locations that do not currently exhibit maturity variable subindex scores of 1.0.

The WVA results for marshes are provided in Table 10.21. Across the assessment area, eight levee Work Items included marshes (67-L, 52.5-R, 58-R, 61.5-R, 51-L, 47.5-R, and 37-R). Only one levee Work Item (67-L) is projected to have any change in the distribution of marsh acreages (a 4.8 acre decrease in the extent of brackish marsh). Marshes exhibited mean WVA values of 0.78 HSI units (range = 0.6-0.96 HSI units). For the purposes of the wetland assessment, the WVA marsh HSI values are considered constant and do not increase or decrease over time. Where marsh assessment metrics diverged from the optimum range, HSI values remain limited

by the amount of SAV observed in open water areas (V2), interspersion class (V3), and the distribution of open water <0.5 ft. (V4). Notably, the levee work where impacts to marshes are anticipated to occur (67-L), exhibited a WVA HSI values of 0.96 HSI units.

Table A10-18. Summary of WVA forested wetland assessment inputs and outputs - riverside.

Assessment metric	unit	Mean	Minimum	Maximum
Hardwood trees	%	20	0	80
Softwood trees	%	24	0	65
Diameter at breast height	inches	13	7	34
Understory vegetation	%	51	10	100
Midstory vegetation	%	29	0	70
Contiguous forest area	acres	5685	17	38199
Forested buffer	%	9	2	39
Abandoned agriculture buffer	%	1	0	4
Pasture buffer	%	8	4	25
Active agriculture buffer	%	57	38	78
Non-habitat buffer	%	24	0	55
Variable subindex scores				
Tree species composition (V1)	unitless	0.60	0.20	1.00
Stand maturity (V2)	unitless	0.46	0.08	1.00
Understory/midstory (V3)	unitless	0.89	0.35	1.00
Hydrology (V4)	unitless	0.85	0.85	0.85
Forested area (V5)	unitless	0.78	0.40	1.00
Suitability (V6)	unitless	0.25	0.12	0.53
Disturbance (V7)	unitless	0.50	0.50	0.50
Habitat suitability model outputs				
HSI	unitless	0.55	0.27	0.79

Table A10-19. Summary of WVA forested wetland assessment inputs and results - landside.

Assessment metric	unit	Mean	Minimum	Maximum
Hardwood trees	%	20	0	80
Softwood trees	%	24	0	65
Diameter at breast height	inches	13	7	34
Understory vegetation	%	51	10	100
Midstory vegetation	%	29	0	70
Contiguous forest area	acres	5685	17	38199
Forested buffer	%	9	2	39
Abandoned ag buffer	%	1	0	4
Pasture buffer	%	8	4	25
Active ag buffer	%	57	38	78
Non-habitat buffer	%	24	0	55
Variable subindex scores				
Tree species composition (V1)	unitless	0.60	0.20	1.00
Stand maturity (V2)	unitless	0.46	0.08	1.00
Understory/midstory (V3)	unitless	0.89	0.35	1.00
Hydrology (V4)	unitless	0.65	0.65	0.65
Forested area (V5)	unitless	0.78	0.40	1.00
Suitability (V6)	unitless	0.25	0.12	0.53
Disturbance (V7)	unitless	0.50	0.50	0.50
Habitat suitability model outputs				
HSI	unitless	0.53	0.26	0.76

Table A10-20. Summary of forested WVA HSI values across target years.

Riverside	Mean	Minimum	Maximum
Target year - 0	0.54	0.27	0.76
Target year - 5	0.57	0.28	0.83
Target year - 10	0.65	0.38	0.86
Target year - 20	0.68	0.47	0.90
Target year - 35	0.69	0.49	0.90
Target year - 50	0.69	0.49	0.90
Landside			
Target year - 0	0.52	0.26	0.74
Target year - 5	0.55	0.27	0.80
Target year - 10	0.63	0.36	0.83
Target year - 20	0.66	0.46	0.86
Target year - 35	0.66	0.48	0.86
Target year - 50	0.66	0.48	0.86

Table A10-21. WVA marsh wetland assessment inputs and results.

Assessment metric	unit	Mean	Minimum	Maximum
Emergent vegetation	%	51	30	70
Open water	%	35	20	50
Marsh edge interspersion	ordinal	2	1	3
Open water <1.5 ft.	%	45	20	70
Salinity	ppt	3	1	5
Organism access	ordinal	1	1	1
Variable subindex scores				
Emergent vegetation (V1)	unitless	0.80	0.55	1.00
Open water (V2)	unitless	0.53	0.32	0.79
Marsh edge interspersion (V3)	unitless	0.63	0.50	0.75
Open water <1.5 ft. (V4)	unitless	0.64	0.33	1.00
Salinity (V5)	unitless	1.00	1.00	1.00
Organism access (V6)	unitless	1.00	1.00	1.00
Habitat suitability model outputs				
Marsh HSI	unitless	0.81	0.62	0.97
Open water HSI	unitless	0.70	0.53	0.93
HSI	unitless	0.78	0.60	0.96

The HGM assessment method yielded higher outputs than the WVA models, resulting in average values of 0.94 and 0.95 FCI units in riverside and landside locations, respectively (Tables 10.21-10.22). The higher scores are a result of multiple factors, including the intent of the assessment approach (i.e., functional assessment vs. habitat suitability) and the development of individual variable subindex scores. Notably, these results do not suggest that one method provides more accurate representations of habitat condition/functional capacity. However the observed differences warrant some discussion. To begin, the HGM approach considers a range of hydrologic, biogeochemical, and habitat functions while the WVA method remains focused on habitat. The inclusion of physical processes (e.g., detention of floodwater) and functions related to biogeochemical transformation (e.g., nutrient cycling) contribute to the higher model outputs observed in the HGM data.

The differences between methods occur across both onsite and offsite variables. For example, the approaches differ with regard to the assessment of dominant canopy tree species composition. Within the riverine overbank wetland subclass the HGM approach includes cottonwood and willow species as top tier species in addition to oaks and other hard mast species. Conversely, the presence of these species reduces the HSI values when applying the WVA method relative to the distribution of oaks and hickories. This contributes to higher variable subindex scores for the V_{COMP} HGM variable (mean = 0.84; range = 0.50-1.0) than reported in WVA V1 – tree species composition (mean = 0.60; range = 0.20-1.0).

Landscape variables also contribute to the higher model outputs observed in the HGM. Many of the levee Work Items assessed using HGM are located in rural areas with few non-habitat land

cover types, are larger than levee Work Items evaluated using WVA, and occupy areas where the active river floodplain is larger and less constrained than in the southern portions of the assessment area in Louisiana. These factors result in higher assessment variable subindex scores for landscape scale metrics related to forest area, suitability, and disturbance. Examining all landscape variable subindex score together illustrates this effect. The average HGM subindex value for landscape variables is 0.88 (range = 0.0-1.0), while the average WVA landscape variable subindex score is 0.51 (range = 0.11-1.0).

The HGM forested wetland assessment results indicate moderate to high levels of wetland functional capacity. Where less than optimal conditions occurred, the assessment scores are limited by a combination of landscape and onsite factors. Some forested areas are small, surrounded by active agricultural lands, and/or occur in narrow bands; reducing the variable subindex scores for V_{TRACT} , V_{CORE} , and $V_{CONNECT}$. Additionally, some areas exhibit limited microdepressional ponding potential (V_{POND}), tree basal area (V_{TBA}), and tree size ($V_{TREESIZE}$). Table 10.24 displays the increase at target years 5-50 as tree basal area and size increase to the optimum values (i.e., variable subindex score = 1.0). Note that levee Work Items located on the landside do not increase FCI values, because they currently exhibit the optimum basal area prescribed for the riverine backwater wetland subclass.

Non-forested wetland areas (i.e., agriculture and pasture cover types) yielded FCI values of 0.20 and 0.15 in riverside and landside positions, respectively (Table 10.25). The absence of trees and other strata results in low functional capacities for most functions, although riverside non-forested wetlands continue to provide a moderate capacity to detain precipitation (FCI = 0.54). The FCI values for non-forested wetlands are not adjusted across target years based on the assumption that management activities precluding the establishment and succession of forested wetlands will continue over the period of analysis.

Table A10-22. HGM forested wetland assessment inputs and results - riverside. *Variable subindex scores for V_{LITTER}* and V_{DWD&S}* were prescribed values of 1.0 to account for potential flood effects.

Assessment metric	unit	Mean	Minimum	Maximum
Wetland tract	ha	5486	27	20709
Core area	ha	42	1	78
Habitat connectivity	%	38	6	100
Flood frequency	ordinal	normal	normal	normal
Flood duration	ordinal	normal	normal	normal
Soil integrity	%	100	100	100
Micro-depressional ponding	%	44	3	85
Tree basal area	count	15	9	24
Litter cover	%	76	2	100
Strata present	count	2.95	2.00	3.00
Tree composition	weighted average	0.84	0.50	1.00
Downed woody debris/snags	ordinal	normal	normal	normal
Tree size classes	count	3.88	1.00	4.00
Variable subindex scores				
V _{TRACT}	unitless	0.57	0.10	1.00
V _{CORE}	unitless	0.92	0.00	1.00
V _{CONNECT}	unitless	0.93	0.40	1.00
V _{FREQ}	unitless	1.00	1.00	1.00
V _{DUR}	unitless	1.00	1.00	1.00
V _{SOIL}	unitless	1.00	1.00	1.00
V _{POND}	unitless	0.79	0.40	1.00
V _{TBA}	unitless	0.86	0.70	1.00
V _{LITTER} *	unitless	1.00	1.00	1.00
V _{STRATA}	unitless	0.99	0.85	1.00
V _{COMP}	unitless	0.84	0.50	1.00
V _{DWD&S} *	unitless	1.00	1.00	1.00
V _{TREE_SIZE}	unitless	0.98	0.30	1.00
Wetland functional capacity model outputs				
Detain Floodwater	unitless	0.95	0.85	1.00
Detain Precipitation	unitless	0.90	0.70	1.00
Cycle Nutrients	unitless	0.97	0.86	1.00
Export Organic Carbon	unitless	0.96	0.89	1.00
Maintain plant communities	unitless	0.90	0.78	1.00
Provide fish and wildlife habitat	unitless	0.88	0.54	1.00
Average functional capacity	unitless	0.94	0.83	1.00

Table A10-23. HGM forested wetland assessment inputs and results - landside. *Variable subindex scores for V_{LITTER} * and $V_{DWD\&S}$ * were prescribed values of 1.0 to account for potential flood effects.

Assessment metric	unit	Mean	Minimum	Maximum
Wetland tract	ha	5486	27	20709
Core area	ha	42	1	78
Habitat connectivity	%	38	6	100
Flood frequency	ordinal	normal	normal	normal
Flood duration	ordinal	normal	normal	normal
Soil integrity	%	100	100	100
Micro-depressional ponding	%	44	3	85
Tree basal area	count	15	9	24
Litter cover	%	76	2	100
Strata present	count	2.95	2.00	3.00
Tree composition	weighted average	0.84	0.50	1.00
Downed woody debris and snags	ordinal	normal	normal	normal
Tree size classes	count	3.88	1.00	4.00
Variable subindex scores				
V_{TRACT}	unitless	0.57	0.10	1.00
V_{CORE}	unitless	0.92	0.00	1.00
$V_{CONNECT}$	unitless	0.93	0.40	1.00
V_{FREQ}	unitless	1.00	1.00	1.00
V_{DUR}	unitless	1.00	1.00	1.00
V_{SOIL}	unitless	1.00	1.00	1.00
V_{POND}	unitless	0.94	0.10	1.00
V_{TBA}	unitless	0.98	0.70	1.00
V_{LITTER}	unitless	0.86	0.10	1.00
V_{STRATA}	unitless	0.99	0.85	1.00
V_{COMP}	unitless	0.84	0.50	1.00
$V_{DWD\&S}$	unitless	1.00	1.00	1.00
$V_{TREESIZE}$	unitless	0.98	0.30	1.00
Wetland functional capacity model outputs				
Detain Floodwater	unitless	0.99	0.85	1.00
Detain Precipitation	unitless	0.93	0.55	1.00
Cycle Nutrients	unitless	0.99	0.86	1.00
Export Organic Carbon	unitless	0.96	0.66	1.00
Maintain plant communities	unitless	0.94	0.72	1.00
Provide fish and wildlife habitat	unitless	0.90	0.54	1.00
Average functional capacity	unitless	0.95	0.78	1.00

Table A10-24. Summary of HGM FCI values across target years.

Riverside	Mean	Minimum	Maximum
Target year - 0	0.93	0.84	1.00
Target year - 5	0.93	0.86	1.00
Target year - 10	0.94	0.87	1.00
Target year - 20	0.95	0.89	1.00
Target year - 35	0.95	0.89	1.00
Target year - 50	0.95	0.89	1.00
Landside			
Target year - 0	0.96	0.78	1.00
Target year - 5	0.96	0.78	1.00
Target year - 10	0.96	0.78	1.00
Target year - 20	0.96	0.78	1.00
Target year - 35	0.96	0.78	1.00
Target year - 50	0.96	0.78	1.00

Table A10-25. HGM non-forested wetland assessment inputs and results.

Assessment metric	unit	Riverside	Landside
Wetland tract	ha	0	0
Core area	ha	0	0
Habitat connectivity	%	0	0
Flood frequency	ordinal	normal	normal
Flood duration	ordinal	normal	normal
Soil integrity	%	0	0
Micro-depressional ponding	%	15	15
Tree basal area	count	0	0
Litter cover	%	0	0
Strata present	count	1.00	1.00
Tree composition	weighted average	0	0
Downed woody debris and snags	ordinal	absent	absent
Tree size classes	count	0.00	1.00
Variable subindex scores			
VTRACT	unitless	0.10	0.10
VCORE	unitless	0.10	0.10
VCONNECT	unitless	0.00	0.00
VFREQ	unitless	1.00	1.00
VDUR	unitless	1.00	1.00
VSOIL	unitless	0.00	0.00
VPOND	unitless	1	0.4
VTBA	unitless	0.10	0.10
VLITTER	unitless	0.10	0.10
VSTRATA	unitless	0.25	0.25
VCOMP	unitless	0.00	0.00
VDWD&S	unitless	0.1	0.1
VTREESIZE	unitless	0.00	0.00
Wetland functional capacity model outputs			
Detain Floodwater	unitless	0.15	0.15
Detain Precipitation	unitless	0.53	0.23
Cycle Nutrients	unitless	0.08	0.08
Export Organic Carbon	unitless	0.14	0.14
Maintain plant communities	unitless	0.13	0.11
Provide fish and wildlife habitat	unitless	0.20	0.18
Average functional capacity	unitless	0.20	0.15

A10-5.3 Mitigation requirement results

Project implementation will decrease the number of HUs and FCUs, and require wetland mitigation to offset those impacts. Tables 10.26-10.31 report the results of the HU/FCU determinations, the calculated changes in HUs/FCUs, and associated mitigation required to offset those impacts. Results are presented by State, USACE District and assessment methodology. Table 10.32 reports the impacts and required mitigation associated with forested and non-forested wetlands (e.g., croplands, pastures) in each State and USACE District. Table 10.33 reports the mitigation requirements associated with each levee Work Item feature types (e.g., levee enlargement, seepage berm). In total, an estimated 1446 acres of mitigation wetlands must be established to offset project impact to wetland habitat/function under Alternative 3 - Avoid and Minimize.

Notably, mitigation requirements are determined based upon changes in wetland functional capacity/habitat suitability, not the net shift in wetland acres. This results in an effective forested wetland mitigation ratio between 1.3:1.0 and 1.9:1.0 under the WVA approach and an effective forested wetland mitigation ratio between 1.4:1.0 and 1.5:1.0 using the HGM approach. These mitigation ratios reflect the habitat suitability/functional capacity derived from AAHUs over the 50 year period of analysis as presented in the levee Work Item fact sheets located in Supplement 10.1. The effective mitigation ratio is lower using the HGM approach because wetland mitigation sites maintain some wetland functions (e.g., detain precipitation) at target year zero, while the WVA models yield no habitat suitability at target year zero.

Evaluating the mitigation requirements on a gross acre-per-acre basis, which does not account for the habitat suitability or functional capacity yields mitigation ratios between 0.7:1.0 and 1.4:1.0 for the WVA approach (mean ratio = 1.0:1.0). The ratio values <1.0 reflect the limitation in HSI values discussed above (i.e., species composition; landscape variable limitation) that are not anticipated to improve during the target years evaluated. These include wetlands with HSI values below 0.52 HSI units (range = 0.26 – 0.52). As a result of these limited HSI values, mitigation wetlands planted with the appropriate tree species and located in a favorable landscape position (e.g., large tracts, far from disturbance) will surpass the annualized HUs observed in some portions of the assessment area. Forested areas analyzed using HGM display gross mitigation ratios between 1.2:1.0 and 1.5:1.0; and non-forested areas received a mitigation ratio of 0.3:1.0.

Table A10-26 Summary of wetland FCU/HU results in each State under Alternative 3.

State	Without-project FCU/HU		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
Arkansas	255292	115026	250613	108615
Illinois	31194	13092	30706	13034
Kentucky	1101	79	1101	73
Louisiana	603106	485009	591939	479570
Mississippi	71622	33466	66268	30056
Missouri	51175	123230	48055	121659
Tennessee	84243	93429	81335	88745
Total	1097732	863330	1070018	841751

Table A10-27. Summary of wetland FCU/HU changes and mitigation requirements in each State under Alternative 3.

State	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
Arkansas	-4678	-6411	130	178
Illinois	-488	-58	13	2
Kentucky	0	-6	0	8
Louisiana	-11166	-5439	357	174
Mississippi	-5354	-3410	148	95
Missouri	-3120	-1571	87	44
Tennessee	-2907	-4685	81	130
Total	-27714	-21579	816	630

Table A10-28. Summary of wetland FCU/HU results in each USACE District under Alternative 3.

District	Without-project		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
Vicksburg	296895	105642	281372	100780
Memphis	423004	344855	411810	332125
New Orleans	377833	412832	376836	408846
Total	1097732	863330	1070018	841751

Table A10-29. Summary of wetland FCI/FCU changes and mitigation requirements in each State under Alternative 3.

District	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
Vicksburg	-15523	-4863	474	141
Memphis	-11194	-12731	311	361
New Orleans	-997	-3986	32	128
Total	-27714	-21579	816	630

Table A10-30. Summary of wetland FCU/HU results by assessment methodology under Alternative 3.

Method	Without-project FCU/HU		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
HGM	494627	378321	478079	362181
WVA	603106	485009	591939	479570
Total	1097732	863330	1070018	841751

Table A10-31. Summary of wetland FCI/FCU changes and mitigation requirements by assessment method under Alternative 3.

Method	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
HGM	-16548	-16140	459	456
WVA	-11166	-5439	357	174
Total	-27714	-21579	816	630

Table A10-32. Distribution of forested and non-forested mitigation acres in each State and USACE district under Alternative 3.

State	Forested mitigation	Non-forested mitigation
Arkansas	211	97
Illinois	12	3
Kentucky	0	8
Louisiana	525	6
Mississippi	217	26
Missouri	99	32
Tennessee	87	124
District		
Vicksburg	589	26
Memphis	408	264
New Orleans	153	6
Total	1146	300

Table A10-33. Summary of mitigation acres associated with each levee Work Item feature type (e.g., borrow area, levee enlargement) under Alternative 3.

Levee Work Item type	Riverside mitigation	Landside mitigation
Borrow area	440	241
Drainage ditch	0	38
Floodwall replacement	4	2
Haul road	118	6
Levee enlargement	137	69
Relief wells	9	200
Seepage berm	0	72
Slope flattening	108	2
Total	816	630

A10-5.4 Comparison with Alternative 2 - Traditional Construction

Implementation of Alternative 2 - Traditional Construction would result in an estimated loss of 48707 FCUs and 20826 HUs over the period of analysis, requiring the establishment of 1776 acres of wetland mitigation. Supplement 10.2 contains summary tables reporting the changes in land cover, FCU/HU, and mitigation requirements under Alternative 2 - Traditional Construction (Tables 10.2.1 – 10.2.18). Alternative 3 - Avoid and Minimize decreased the impacts to wetland resources by shifting the location of some borrow pits and other features from forested areas adjacent to the levee to agricultural lands and other cover types. Additionally, some features were moved from the riverside of the levee to the landside (Figure 10.6) These changes in project design decreased the impacts to wetlands by 20240 FCU/HUs over the period of analysis using Alternative 3 - Avoid and Minimize, requiring 330 fewer acres of mitigation (1776 – 1446 acres) than Alternative 2 - Traditional Construction (Tables 10.34 – 10.36). Note that the anticipated impacts to wetlands on the riverside of the levee decreases or remains constant, while impacts increase in some landside locations. This results from the shift in borrow pit locations away from forested areas, which are more extensive on the riverside of the levee.

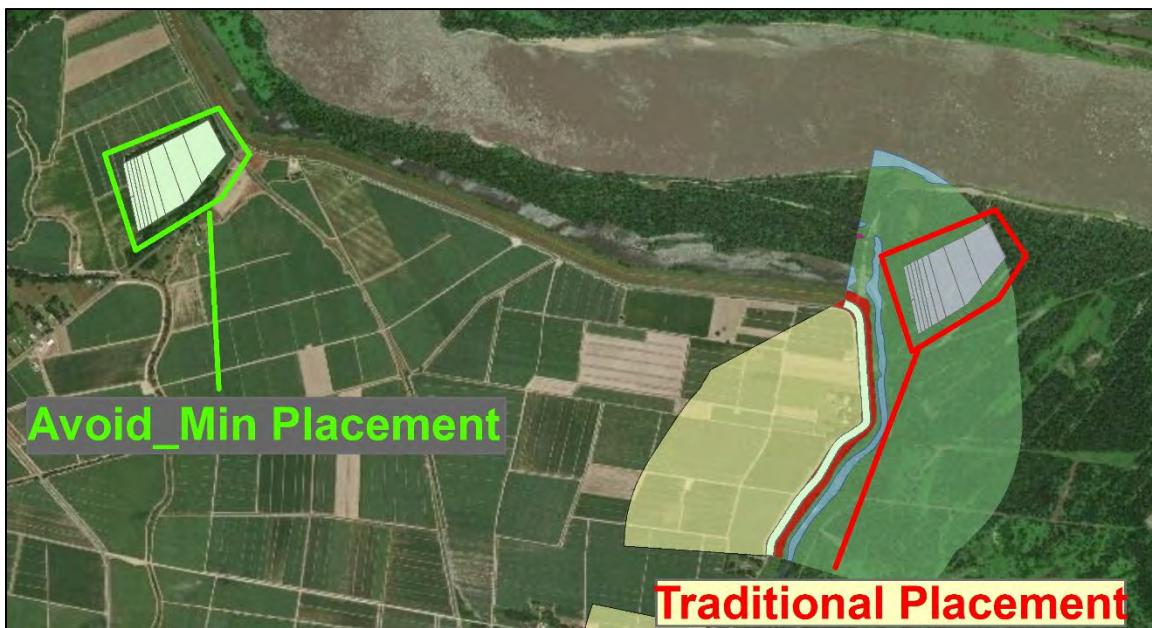
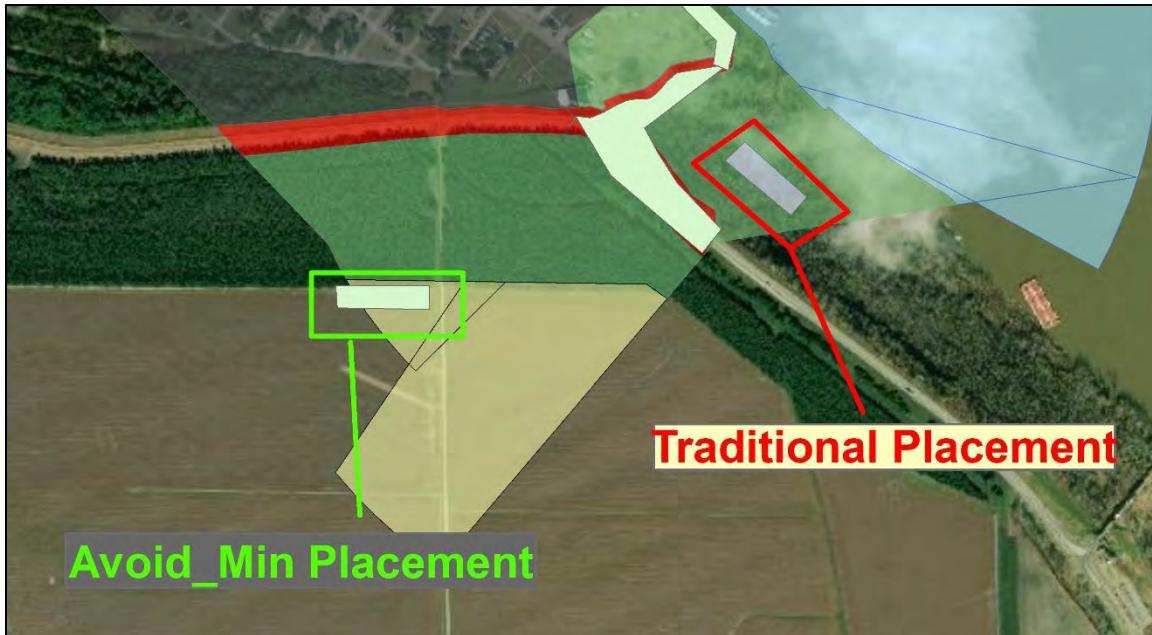


Figure A10-6. Examples comparing Alternative 2 - Traditional Construction with Alternative 3 - Avoid and Minimize at two levee Work Item locations. Note that in both cases, the location of borrow pits were shifted from forested areas on the riverside of the levee to agricultural areas on the landside of the levee. This shift resulted in a decrease in impacts to wetland resources.

Table A10-34. Summary of wetland FCU/HU changes and mitigation requirements in each State comparing Alternative 2 - Traditional Construction with Alternative 3 - Avoid and Minimize

State	Alternative 2 - Traditional Construction				Alternative 3 - Avoid and Minimize			
	Change in FCUs/HUs		Mitigation requirement (ac)		Change in FCUs/HUs		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside	Riverside	Landside	Riverside	Landside
Arkansas	-7030	-6411	195	178	-4678	-6411	130	178
Illinois	-811	-58	22	2	-488	-58	13	2
Kentucky	0	-295	0	8	0	-6	0	8
Louisiana	-16652	-4174	532	134	-11166	-5439	357	174
Mississippi	-8424	-2945	234	82	-5354	-3410	148	95
Missouri	-9490	-4382	100	44	-3120	-1571	87	44
Tennessee	-4482	-4380	124	121	-2907	-4685	81	130
Total	-46889	-22644	1207	569	-27714	-21579	816	630

Table A10-35. Summary of wetland FCU/HU changes and mitigation requirements in each USACE District comparing Alternative 2 - Traditional Construction with Alternative 3 - Avoid and Minimize

District	Alternative 2 - Traditional Construction				Alternative 3 - Avoid and Minimize			
	Change in FCUs/HUs		Mitigation requirement (ac)		Change in FCUs/HUs		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside	Riverside	Landside	Riverside	Landside
Vicksburg	-19743	-4398	596	128	-15523	-4863	474	141
Memphis	-21813	-15525	441	354	-11194	-12731	311	361
New Orleans	-5334	-2721	170	87	-997	-3986	32	128
Total	-46889	-22644	1207	569	-27714	-21579	816	630

Table A10-36. Summary of wetland FCU/HU changes and mitigation requirements assessed using each methodology comparing Alternative 2 - Traditional Construction with Alternative 3 - Avoid and Minimize

District	Alternative 2 - Traditional Construction				Alternative 3 - Avoid and Minimize			
	Change in FCUs/HUs		Mitigation requirement (ac)		Change in FCUs/HUs		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside	Riverside	Landside	Riverside	Landside
HGM	-30237	-18471	675	435	-16548	-16140	459	456
WVA	-16652	-4174	532	134	-11166	-5439	357	174
Total	-46889	-22644	1207	569	-27714	-21579	816	630

A10-6 SUMMARY

The assessment of potential impacts to wetland resources related to the development of levee improvement projects within the MR&T evaluated 143 individual levee Work Items. The analysis identified impacts to wetlands at 87 levee Work Item locations, including the conversion of forested wetlands, agricultural lands, and pastures to other land cover types (e.g., open water, levee footprint). These impacts will require the establishment of 1446 acres of forested mitigation wetlands to account for habitat suitability/functional capacity losses over the 50 year period of analysis. Compared with Alternative 2 - Traditional Construction, Alternative 3 - Avoid and Minimize reduced project impacts to wetlands by 20240 FCU/HUs over the period of analysis through shifting borrow pit locations from forested areas to agricultural lands and other areas with less valuable wetland resources. The data presented herein can be used to establish mitigation trajectories and monitoring milestones to ensure that mitigation objectives are being achieved and develop adaptive management strategies to remedy shortcomings within the MR&T mitigation program.

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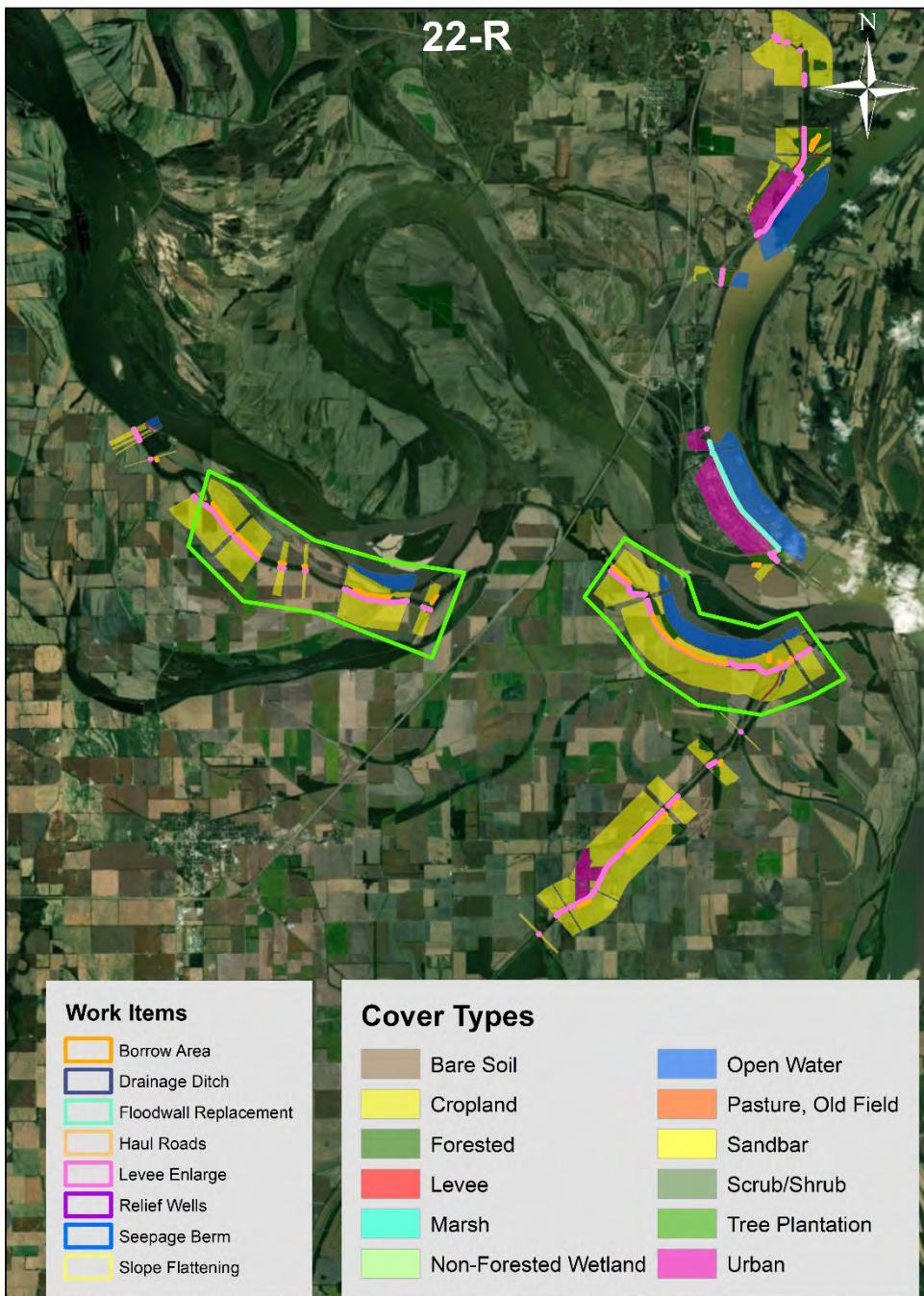
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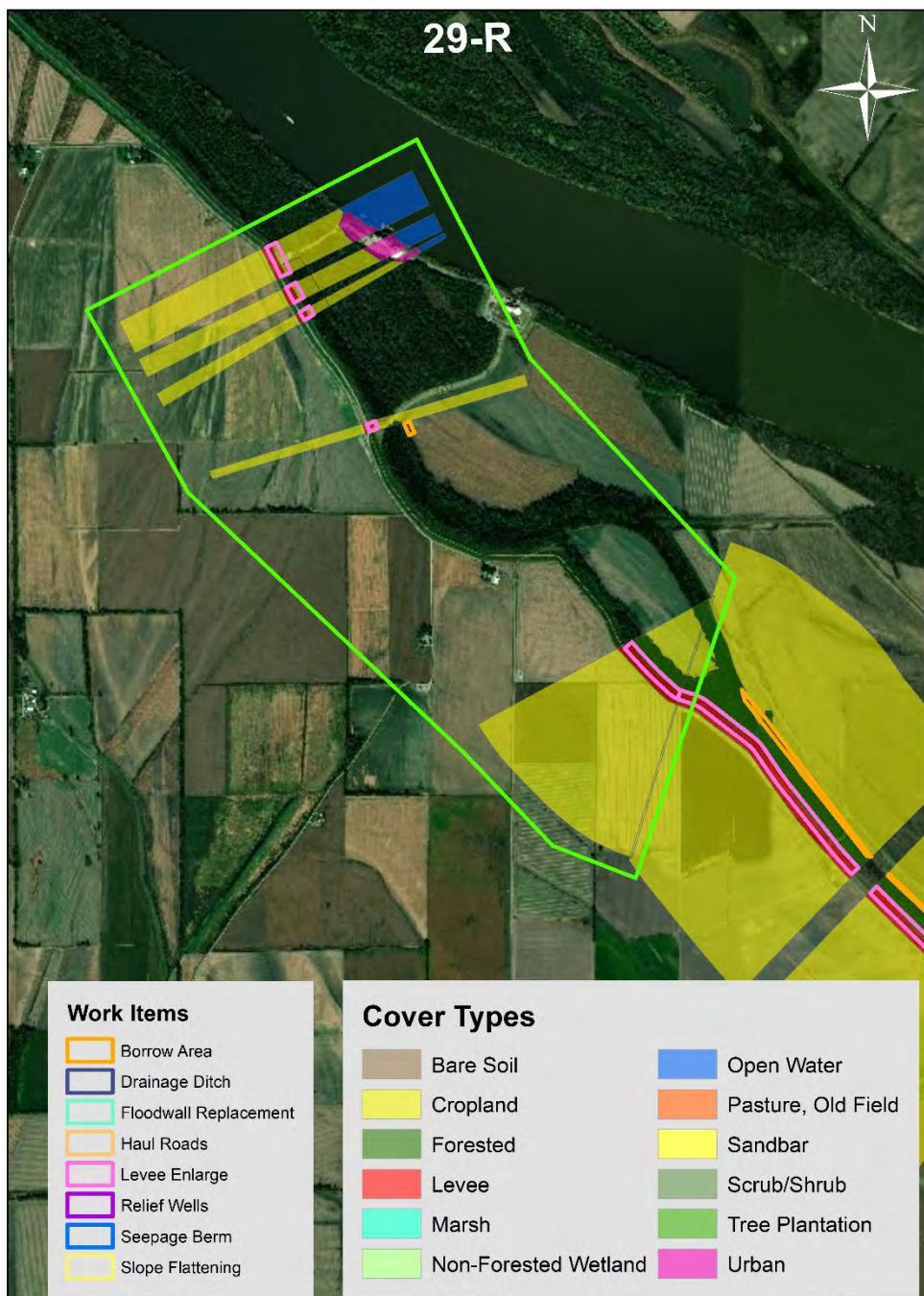
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A10-8 ATTACHMENT 1: Levee Work Item fact sheets detailing assessment results, land cover changes, and mitigation requirements for each levee Work Item.



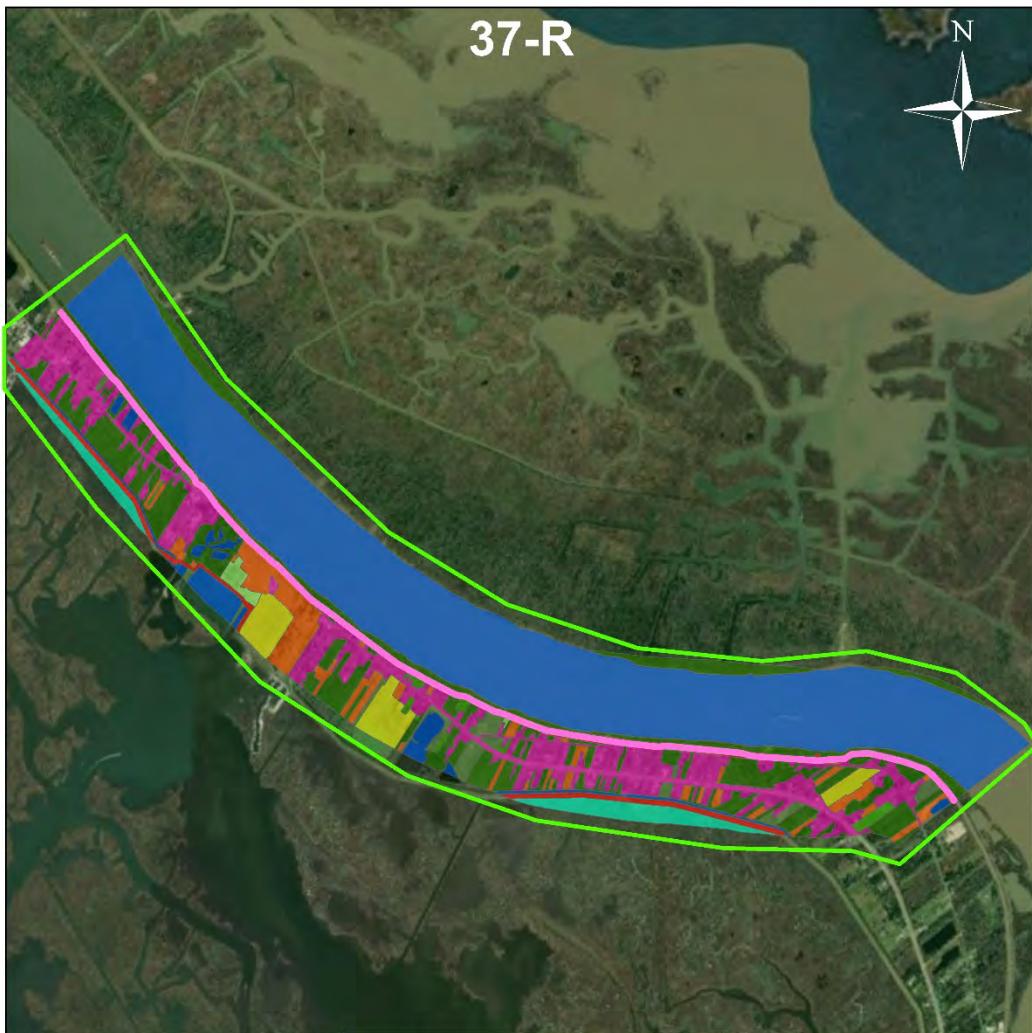
Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	276	0.90	249		Forest	0	0.99	0	
Levee	86	0.00	0		Levee	139	0.00	0	
Open water	660	0.00	0		Open water	7	0.00	0	
Cropland	1275	0.20	255		Cropland	2243	0.15	336	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.92	509	2532	Target year - 5		0.99	336	1682
Target year - 10		0.93	513	2554	Target year - 10		0.99	336	1682
Target year - 20		0.95	517	5152	Target year - 20		0.99	336	3365
Target year - 35		0.95	517	7760	Target year - 35		0.99	336	5047
Target year - 50		0.95	517	7760	Target year - 50		0.99	336	5047
Sum of FCUs				25758	Sum of FCUs				16824
Pre-project AAFCUs over 50 years			515		Pre-project AAFCUs over 50 years			336	
Land cover change					Land cover change				
Forest	-31.4				Forest	0.0			
Levee	55.5				Levee	0.0			
Open water	30.0				Open water	0.0			
Cropland	-54.1				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	245	0.90	221		Forest	0	0.99	0	
Levee	142	0.00	0		Levee	139	0.00	0	
Open water	690	0.00	0		Open water	7	0.00	0	
Cropland	1221	0.20	244		Cropland	2243	0.15	336	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.92	469	2335	Target year - 5		0.99	336	1682
Target year - 10		0.93	473	2355	Target year - 10		0.99	336	1682
Target year - 20		0.95	477	4748	Target year - 20		0.99	336	3365
Target year - 35		0.95	477	7151	Target year - 35		0.99	336	5047
Target year - 50		0.95	477	7151	Target year - 50		0.99	336	5047
Sum of FCUs				23739	Sum of FCUs				16824
Post-project AAFCUs over 50 years			475		Post-project AAFCUs over 50 years			336	
Change in AAFCUs over 50 years			-40.4		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	56.0	0.17	9.80		Target year - 0	0.0	0.17	0.00	
Target year - 5	56.0	0.28	15.75	64	Target year - 5	0.0	0.28	0.00	0
Target year - 10	56.0	0.59	33.12	122	Target year - 10	0.0	0.59	0.00	0
Target year - 20	56.0	0.78	43.88	385	Target year - 20	0.0	0.78	0.00	0
Target year - 35	56.0	0.89	49.61	701	Target year - 35	0.0	0.89	0.00	0
Target year - 50	56.0	0.90	50.15	748	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				2020	Sum of FCUs				0
Mitigation AAFCUs over 50 years				40.4	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.1 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 22-R, Commerce to Birds Point, MO (17/49+00 to 32/0+00), Item 22-R AC, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -46.4 FCUs/AAHUs, requiring 64.3 acres of mitigation.



29R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	9	0.98	9		Forest	0	0.98	0	
Levee	5	0.00	0		Levee	5	0.00	0	
Open water	21	0.00	0		Open water	0	0.00	0	
Cropland	52	0.20	10		Cropland	205	0.15	31	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	8	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.98	19	96	Target year - 5		0.98	31	153
Target year - 10		0.98	19	96	Target year - 10		0.98	31	153
Target year - 20		0.98	19	193	Target year - 20		0.98	31	307
Target year - 35		0.98	19	289	Target year - 35		0.98	31	460
Target year - 50		0.98	19	289	Target year - 50		0.98	31	460
Sum of FCUs				964	Sum of FCUs				1535
Pre-project AAFCUs over 50 years			19		Pre-project AAFCUs over 50 years			31	
Land cover change					Land cover change				
Forest	-1.2				Forest	0.0			
Levee	3.3				Levee	0.0			
Open water	0.5				Open water	0.0			
Cropland	-2.6				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	8	0.98	8		Forest	0	0.98	0	
Levee	8	0.00	0		Levee	5	0.00	0	
Open water	21	0.00	0		Open water	0	0.00	0	
Cropland	50	0.20	10		Cropland	205	0.15	31	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	8	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.98	18	88	Target year - 5		0.98	31	153
Target year - 10		0.98	18	88	Target year - 10		0.98	31	153
Target year - 20		0.98	18	176	Target year - 20		0.98	31	307
Target year - 35		0.98	18	264	Target year - 35		0.98	31	460
Target year - 50		0.98	18	264	Target year - 50		0.98	31	460
Sum of FCUs				879	Sum of FCUs				1535
Post-project AAFCUs over 50 years			18		Post-project AAFCUs over 50 years			31	
Change in AAFCUs over 50 years			-1.7		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	2.4	0.17	0.41		Target year - 0	0.0	0.17	0.00	
Target year - 5	2.4	0.28	0.66	3	Target year - 5	0.0	0.28	0.00	0
Target year - 10	2.4	0.59	1.40	5	Target year - 10	0.0	0.59	0.00	0
Target year - 20	2.4	0.78	1.85	16	Target year - 20	0.0	0.78	0.00	0
Target year - 35	2.4	0.89	2.09	30	Target year - 35	0.0	0.89	0.00	0
Target year - 50	2.4	0.90	2.11	32	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				85	Sum of FCUs				0
Mitigation AAFCUs over 50 years				1.7	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.2 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 29-R, Commerce to Birds Point, MO (15/0+00 to 17/49+00), Item 29-R AC, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.6 FCUs/AAHUs, requiring 2.2 acres of mitigation.



Work Items

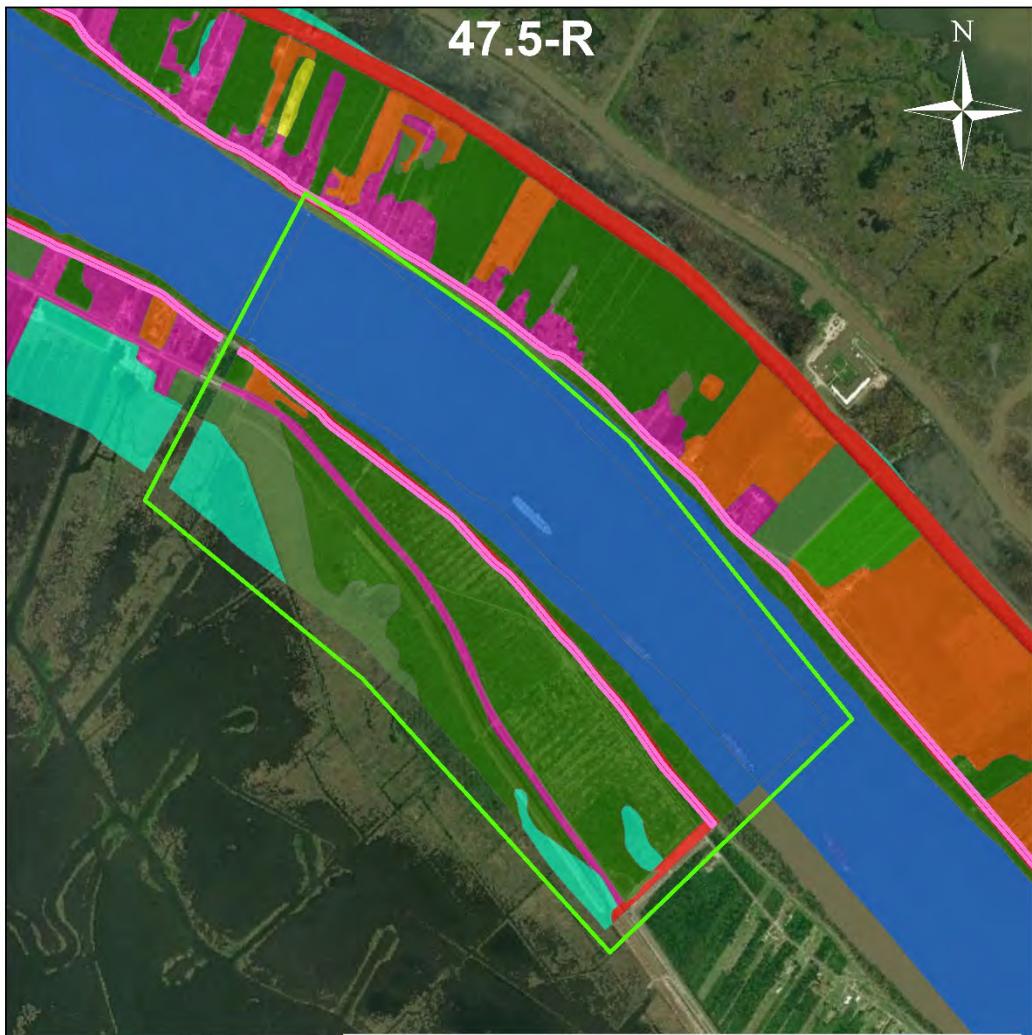
- [Yellow Box] Borrow Area
- [Dark Blue Box] Drainage Ditch
- [Light Blue Box] Floodwall Replacement
- [Orange Box] Haul Roads
- [Pink Box] Levee Enlarge
- [Purple Box] Relief Wells
- [Blue Box] Seepage Berm
- [Yellow Box] Slope Flattening

Cover Types

- | | | | |
|-------------------|----------------------|--------------------|--------------------|
| [Brown Box] | Bare Soil | [Blue Box] | Open Water |
| [Yellow Box] | Cropland | [Orange Box] | Pasture, Old Field |
| [Dark Green Box] | Forested | [Light Yellow Box] | Sandbar |
| [Red Box] | Levee | [Dark Green Box] | Scrub/Shrub |
| [Cyan Box] | Marsh | [Light Green Box] | Tree Plantation |
| [Light Green Box] | Non-Forested Wetland | [Pink Box] | Urban |

37R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		248	0.47	118		Forest		687	0.46	314	
Levee		62	0.00	0		Levee		162	0.00	0	
Open water		2150	0.00	0		Open water		138	0.00	0	
Cropland		0	0.00	0		Cropland		133	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		228	0.00	0	
Brackish marsh		0	0.96	0		Brackish marsh		130	0.96	125	
Urban		0	0.00	0		Urban		708	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.61	152	673	Target year - 5			0.59	405	2107
Target year - 10			0.77	190	855	Target year - 10			0.74	507	2591
Target year - 20			0.84	209	1996	Target year - 20			0.81	558	5948
Target year - 35			0.84	209	3137	Target year - 35			0.81	558	9301
Target year - 50			0.84	209	3137	Target year - 50			0.81	558	9301
Sum of HUs					9798	Sum of HSUs					29248
Pre-project AAHUs over 50 years				196		Pre-project AAHUs over 50 years				585	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		3.4			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		-3.4			
Marsh		0.0				Marsh		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		248	0.47	118		Forest		687	0.46	314	
Levee		62	0.00	0		Levee		162	0.00	0	
Open water		2150	0.00	0		Open water		141	0.00	0	
Cropland		0	0.00	0		Cropland		133	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		225	0.00	0	
Brackish marsh		0	0.96	0		Brackish marsh		130	0.96	125	
Urban		0	0.00	0		Urban		708	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.61	152	673	Target year - 5			0.59	405	2107
Target year - 10			0.77	190	855	Target year - 10			0.74	507	2591
Target year - 20			0.84	209	1996	Target year - 20			0.81	558	5948
Target year - 35			0.84	209	3137	Target year - 35			0.81	558	9301
Target year - 50			0.84	209	3137	Target year - 50			0.81	558	9301
Sum of HUs					9798	Sum of HSUs					29248
Post-project AAHUs over 50 years				196		Post-project AAHUs over 50 years				585	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

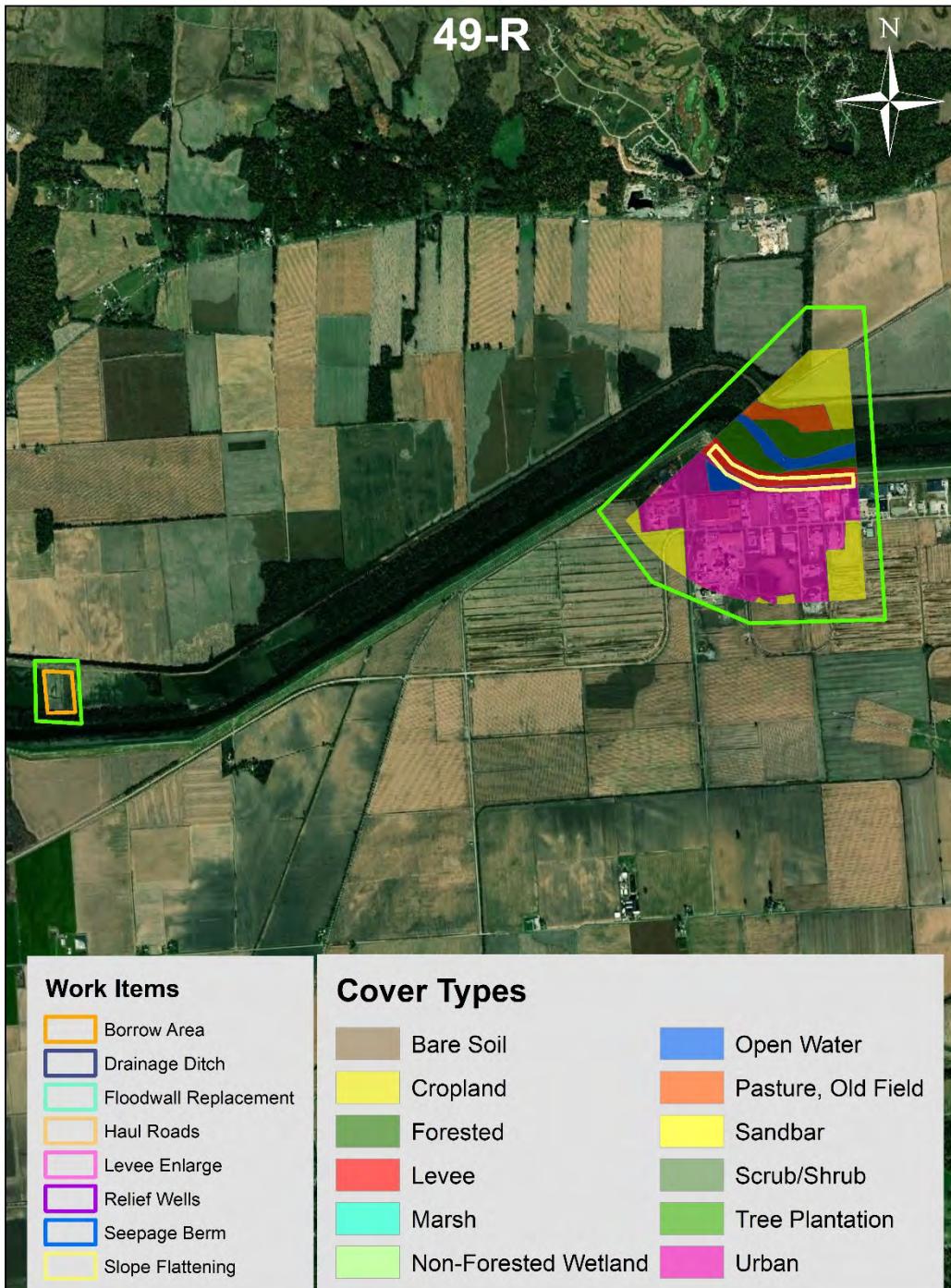
Figure 10.1.3 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 37-R, Port Sulphur, LA, Levee, Item 37-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

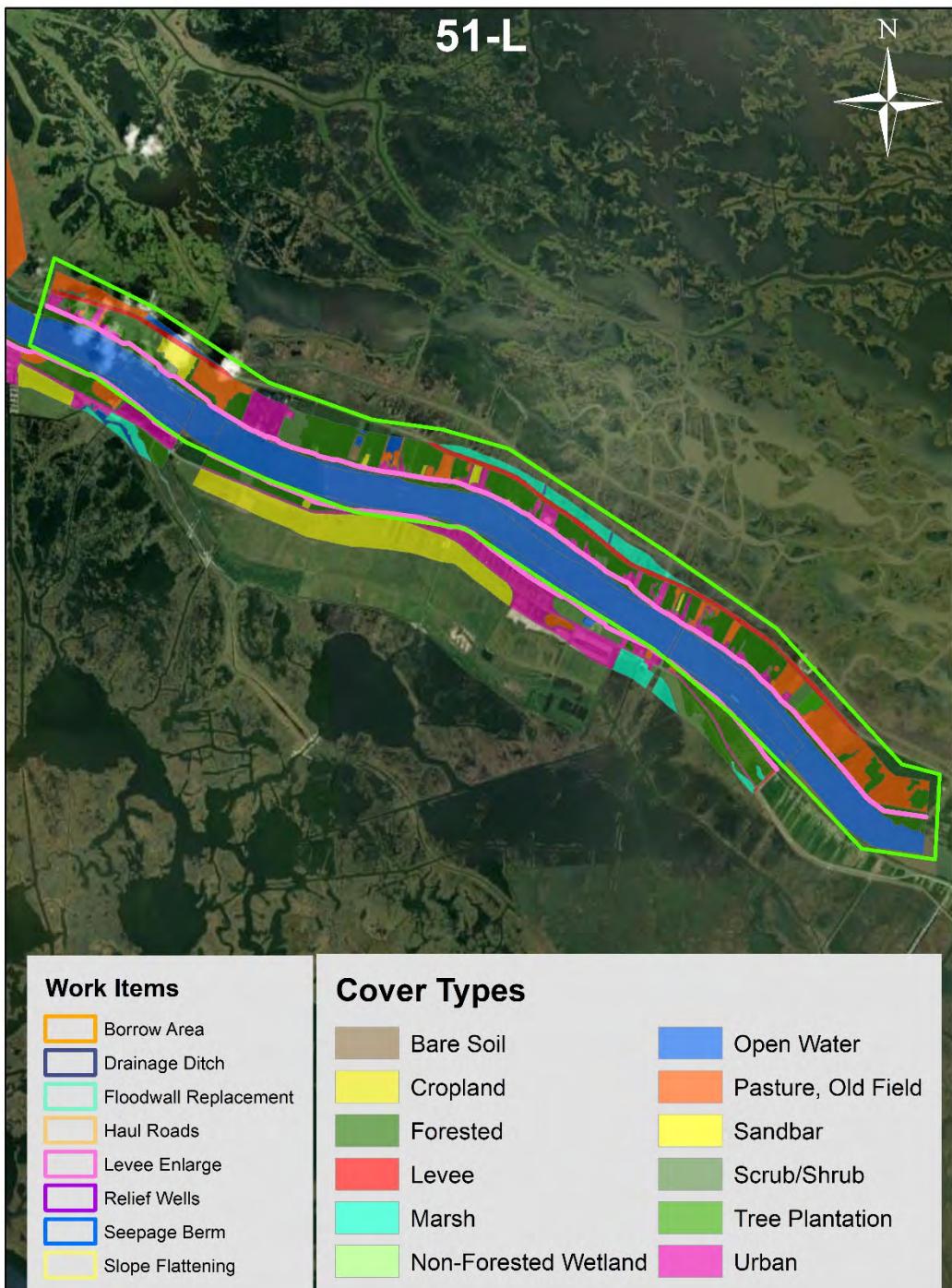
Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	51	0.47	24		Forest	509	0.46	232	
Levee	22	0.00	0		Levee	26	0.00	0	
Open water	641	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	12	0.00	0	
Brackish marsh	0	0.96	0		Brackish marsh	81	0.96	78	
Urban	0	0.00	0		Urban	38	0.00	0	
Pre-project future conditions				Pre-project future conditions					
Target year - 5		0.61	31	137	Target year - 5		0.59	300	1526
Target year - 10		0.77	39	174	Target year - 10		0.74	376	1885
Target year - 20		0.84	43	406	Target year - 20		0.81	413	4337
Target year - 35		0.84	43	638	Target year - 35		0.81	413	6787
Target year - 50		0.84	43	638	Target year - 50		0.81	413	6787
Sum of HUs				1992	Sum of HSUs				21323
Pre-project AAHUs over 50 years			40		Pre-project AAHUs over 50 years			426	
Land cover change				Land cover change					
Forest	0.0				Forest	-2.6			
Levee	0.0				Levee	2.6			
Open water	0.0				Open water	5.2			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	-5.2			
Marsh	0.0				Marsh	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover				Post-project land cover					
Forest	51	0.47	24		Forest	506	0.46	231	
Levee	22	0.00	0		Levee	29	0.00	0	
Open water	641	0.00	0		Open water	5	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	7	0.00	0	
Brackish marsh	0	0.96	0		Brackish marsh	81	0.96	78	
Urban	0	0.00	0		Urban	38	0.00	0	
Post-project future conditions				Post-project future conditions					
Target year - 5		0.61	31	137	Target year - 5		0.59	298	1519
Target year - 10		0.77	39	174	Target year - 10		0.74	374	1876
Target year - 20		0.84	43	406	Target year - 20		0.81	411	4317
Target year - 35		0.84	43	638	Target year - 35		0.81	411	6756
Target year - 50		0.84	43	638	Target year - 50		0.81	411	6756
Sum of HUs				1992	Sum of HUs				21224
Post-project AAHUs over 50 years			40		Post-project AAHUs over 50 years			424	
Change in AAHUs over 50 years				0.0	Change in AAHUs over 50 years				-2.0
Mitigation				Mitigation					
Target year - 0	0.0	0.00	0		Target year - 0	3.2	0.00	0	
Target year - 5	0.0	0.15	0		Target year - 5	3.2	0.15	0	1
Target year - 10	0.0	0.33	0		Target year - 10	3.2	0.33	1	4
Target year - 20	0.0	0.67	0		Target year - 20	3.2	0.67	2	16
Target year - 35	0.0	0.85	0		Target year - 35	3.2	0.85	3	36
Target year - 50	0.0	0.94	0		Target year - 50	3.2	0.94	3	43
Sum of HUs				0	Sum of HUs				99
Mitigation AAHUs over 50 years				0.0	Mitigation AAHUs over 50 years				2.0

Figure 10.1.4 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 47.5-R, W. Pt a la Hache to St. Jude, LA, Levee, Item 47.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.0 FCUs/AAHUs, requiring 3.2 acres of mitigation.



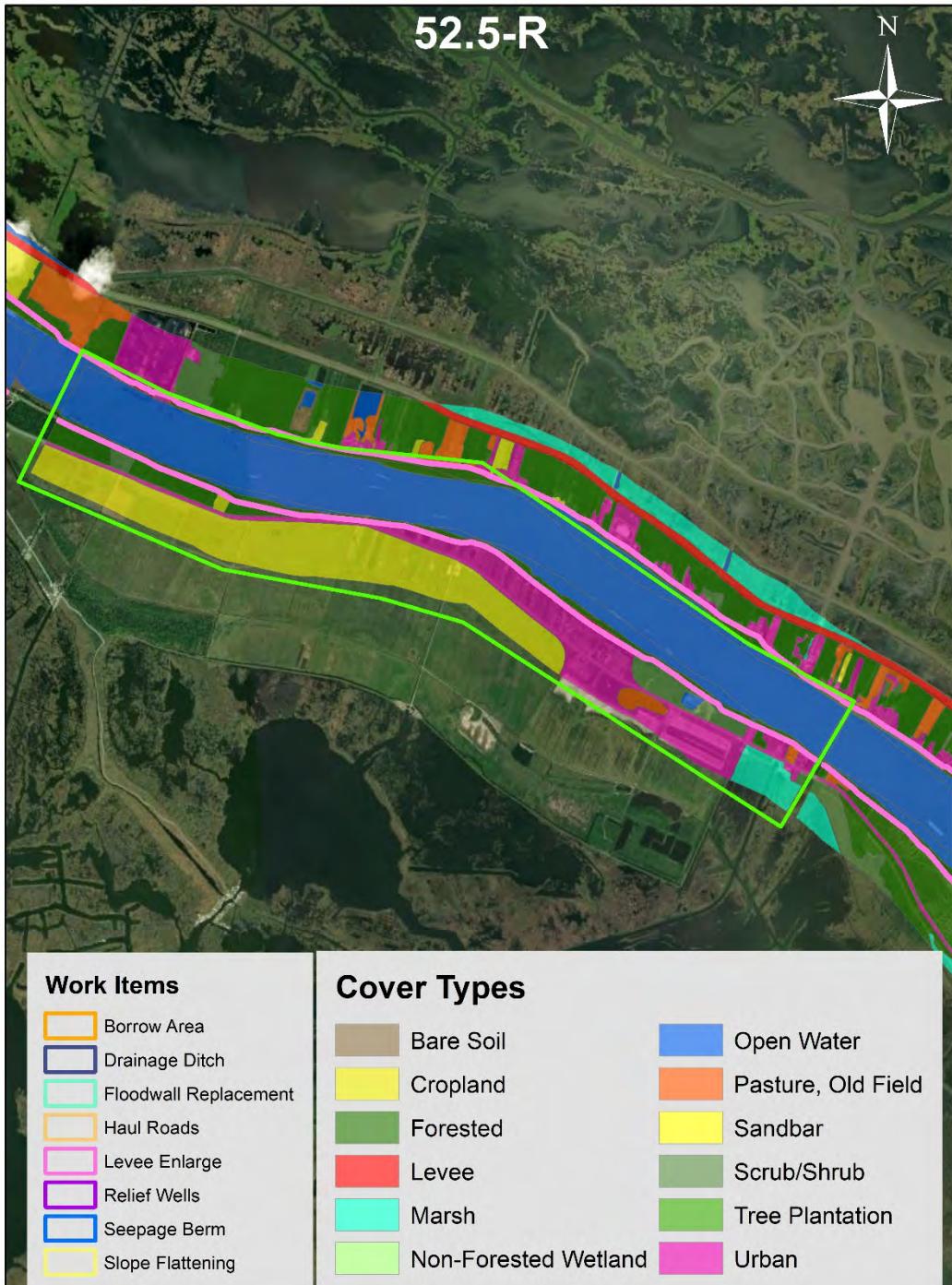
49R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		45	0.88	40		Forest		0	0.87	0	
Levee		10	0.00	0		Levee		17	0.00	0	
Open water		18	0.00	0		Open water		7	0.00	0	
Cropland		63	0.20	13		Cropland		47	0.15	7	
Pasture/old field		17	0.20	3		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		224	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.89	56	280	Target year - 5			0.87	7	35
Target year - 10			0.91	57	284	Target year - 10			0.87	7	35
Target year - 20			0.93	58	575	Target year - 20			0.87	7	70
Target year - 35			0.93	58	868	Target year - 35			0.87	7	105
Target year - 50			0.93	58	868	Target year - 50			0.87	7	105
Sum of FCUs					2874	Sum of FCUs					350
Pre-project AAFCUs over 50 years				57		Pre-project AAFCUs over 50 years					7
Land cover change						Land cover change					
Forest		-0.2				Forest		0.0			
Levee		0.0				Levee		6.1			
Open water		12.5				Open water		0.0			
Cropland		-12.3				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-6.1			
Post-project land cover						Post-project land cover					
Forest		45	0.88	39		Forest		0	0.87	0	
Levee		10	0.00	0		Levee		23	0.00	0	
Open water		31	0.00	0		Open water		7	0.00	0	
Cropland		51	0.20	10		Cropland		47	0.15	7	
Pasture/old field		17	0.20	3		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		218	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.89	54	267	Target year - 5			0.87	7	35
Target year - 10			0.91	54	271	Target year - 10			0.87	7	35
Target year - 20			0.93	55	548	Target year - 20			0.87	7	70
Target year - 35			0.93	55	828	Target year - 35			0.87	7	105
Target year - 50			0.93	55	828	Target year - 50			0.87	7	105
Sum of FCUs					2742	Sum of FCUs					350
Post-project AAFCUs over 50 years				55		Post-project AAFCUs over 50 years					7
Change in AAFCUs over 50 years				-2.6		Change in AAFCUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		3.7	0.17	0.64		Target year - 0		0.0	0.17	0.00	
Target year - 5		3.7	0.28	1.03		4 Target year - 5		0.0	0.28	0.00	0
Target year - 10		3.7	0.59	2.17		8 Target year - 10		0.0	0.59	0.00	0
Target year - 20		3.7	0.78	2.87		25 Target year - 20		0.0	0.78	0.00	0
Target year - 35		3.7	0.89	3.25		46 Target year - 35		0.0	0.89	0.00	0
Target year - 50		3.7	0.90	3.28		49 Target year - 50		0.0	0.90	0.00	0
Sum of FCUs					132	Sum of FCUs					0
Mitigation AAFCUs over 50 years					2.6	Mitigation AAFCUs over 50 years					0.0

Figure 10.1.5 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 49-R, Nash, MO Slope Flattening (11/12+00 to 12/0+00), Item 49-R AC, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -11.7 FCUs/AAHUs, requiring 16.3 acres of mitigation.



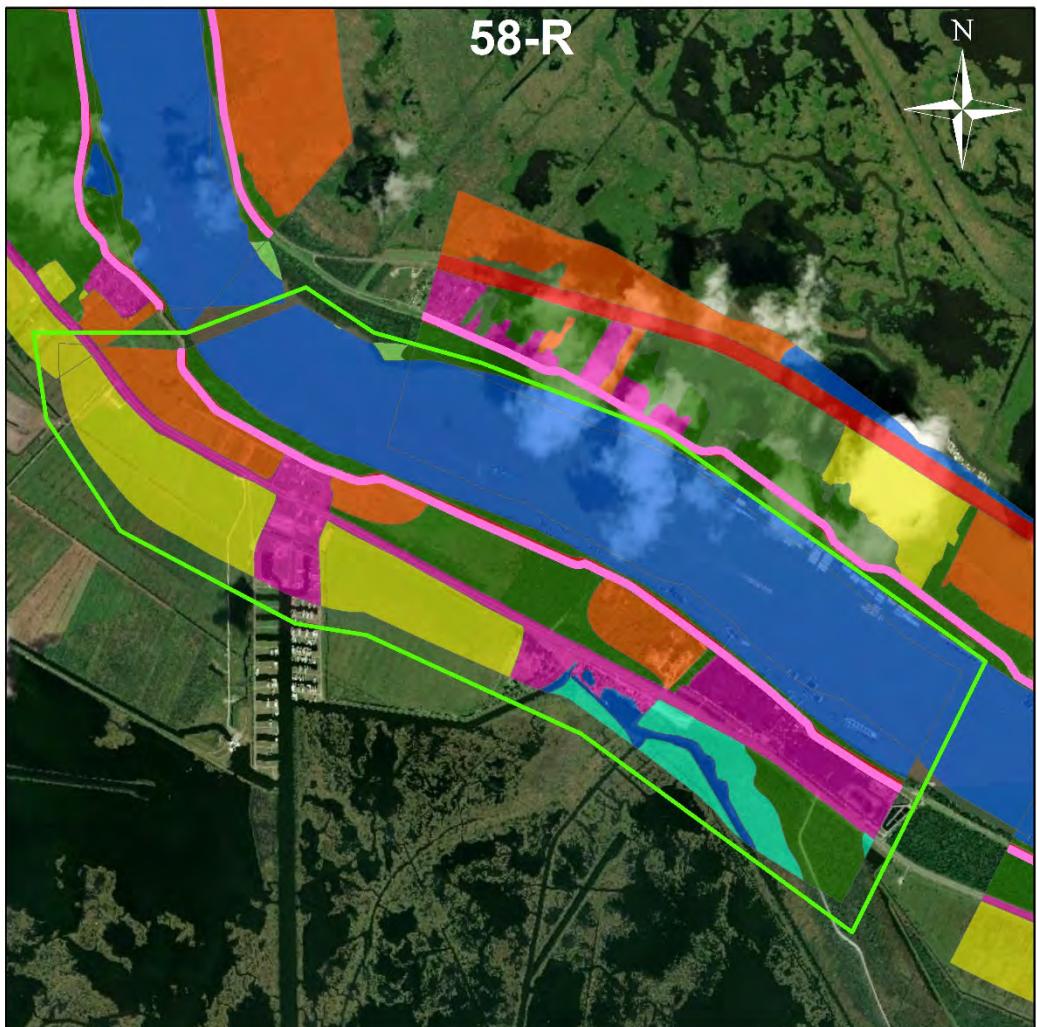
51L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		368	0.47	174		Forest		1930	0.46	881	
Levee		102	0.00	0		Levee		568	0.00	0	
Open water		4203	0.00	0		Open water		83	0.00	0	
Cropland		0	0.00	0		Cropland		148	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		1077	0.00	0	
Brackish marsh		0	0.61	0		Brackish marsh		320	0.61	195	
Urban		5	0.00	0		Urban		553	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.61	225	997	Target year - 5			0.59	1137	5535
Target year - 10			0.77	282	1266	Target year - 10			0.74	1426	6895
Target year - 20			0.84	310	2958	Target year - 20			0.81	1568	15944
Target year - 35			0.84	310	4649	Target year - 35			0.81	1568	24983
Target year - 50			0.84	310	4649	Target year - 50			0.81	1568	24983
Sum of HUs					14519	Sum of HSUs					78340
Pre-project AAHUs over 50 years				290		Pre-project AAHUs over 50 years				1567	
Land cover change						Land cover change					
Forest		0.0				Forest		-26.3			
Levee		0.0				Levee		15.9			
Open water		0.0				Open water		18.7			
Cropland		0.0				Cropland		-0.4			
Pasture/old field		0.0				Pasture/old field		-4.1			
Marsh		0.0				Marsh		0.0			
Urban		0.0				Urban		-3.8			
Post-project land cover						Post-project land cover					
Forest		368	0.47	174		Forest		1904	0.46	869	
Levee		102	0.00	0		Levee		584	0.00	0	
Open water		4203	0.00	0		Open water		102	0.00	0	
Cropland		0	0.00	0		Cropland		148	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		1073	0.00	0	
Brackish marsh		0	0.61	0		Brackish marsh		320	0.61	195	
Urban		5	0.00	0		Urban		549	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.61	225	997	Target year - 5			0.59	1122	5466
Target year - 10			0.77	282	1266	Target year - 10			0.74	1406	6808
Target year - 20			0.84	310	2958	Target year - 20			0.81	1547	15740
Target year - 35			0.84	310	4649	Target year - 35			0.81	1547	24662
Target year - 50			0.84	310	4649	Target year - 50			0.81	1547	24662
Sum of HUs					14519	Sum of HSUs					77339
Post-project AAHUs over 50 years				290		Post-project AAHUs over 50 years				1547	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-20.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		32.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		32.0	0.15	5	12
Target year - 10		0.0	0.33	0	0	Target year - 10		32.0	0.33	11	38
Target year - 20		0.0	0.67	0	0	Target year - 20		32.0	0.67	21	160
Target year - 35		0.0	0.85	0	0	Target year - 35		32.0	0.85	27	365
Target year - 50		0.0	0.94	0	0	Target year - 50		32.0	0.94	30	430
Sum of HUs					0	Sum of HSUs					1006
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					20.1

Figure 10.1.6 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 51-L, Phoenix to Bohemia, LA, Levee, Item 51-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -20.0 FCUs/AAHUs, requiring 32.0 acres of mitigation.



52.5R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		163	0.40	65		Forest		183	0.38	70	
Levee		66	0.00	0		Levee		66	0.00	0	
Open water		2063	0.00	0		Open water		12	0.00	0	
Cropland		0	0.00	0		Cropland		1043	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		53	0.00	0	
Brackish marsh		0	0.67	0		Brackish marsh		107	0.67	72	
Urban		2	0.00	0		Urban		716	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.40	65	324	Target year - 5			0.38	70	532
Target year - 10			0.53	87	379	Target year - 10			0.52	94	592
Target year - 20			0.67	109	979	Target year - 20			0.65	118	1423
Target year - 35			0.74	120	1716	Target year - 35			0.71	130	2403
Target year - 50			0.74	120	1797	Target year - 50			0.71	130	2492
Sum of HUs					5195	Sum of HSUs					7442
Pre-project AAHUs over 50 years				104		Pre-project AAHUs over 50 years				149	
Land cover change						Land cover change					
Forest		0.0				Forest		-2.3			
Levee		0.0				Levee		5.7			
Open water		0.0				Open water		11.7			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		-11.7			
Marsh		0.0				Marsh		0.0			
Urban		0.0				Urban		-3.4			
Post-project land cover						Post-project land cover					
Forest		163	0.40	65		Forest		181	0.38	69	
Levee		66	0.00	0		Levee		72	0.00	0	
Open water		2063	0.00	0		Open water		23	0.00	0	
Cropland		0	0.00	0		Cropland		1043	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		42	0.00	0	
Brackish marsh		0	0.67	0		Brackish marsh		107	0.67	72	
Urban		2	0.00	0		Urban		713	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.40	65	324	Target year - 5			0.38	70	527
Target year - 10			0.53	87	379	Target year - 10			0.52	93	587
Target year - 20			0.67	109	979	Target year - 20			0.65	117	1410
Target year - 35			0.74	120	1716	Target year - 35			0.71	129	2380
Target year - 50			0.74	120	1797	Target year - 50			0.71	129	2467
Sum of HUs					5195	Sum of HSUs					7371
Post-project AAHUs over 50 years				104		Post-project AAHUs over 50 years				147	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-1.4	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		2.3	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		2.3	0.15	0	1
Target year - 10		0.0	0.33	0	0	Target year - 10		2.3	0.33	1	3
Target year - 20		0.0	0.67	0	0	Target year - 20		2.3	0.67	2	11
Target year - 35		0.0	0.85	0	0	Target year - 35		2.3	0.85	2	26
Target year - 50		0.0	0.94	0	0	Target year - 50		2.3	0.94	2	30
Sum of HUs					0	Sum of HSUs					71
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					1.4

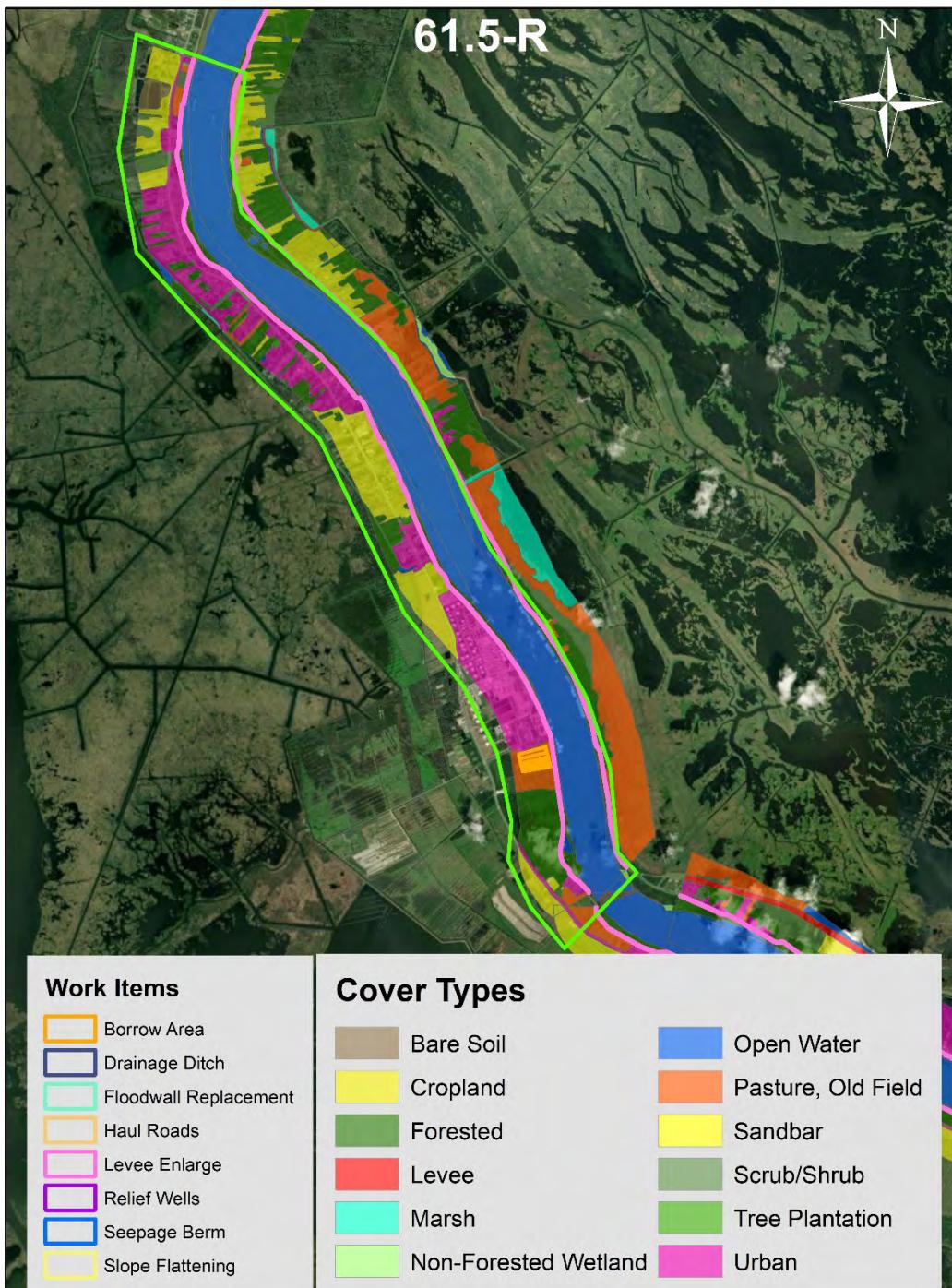
Figure 10.1.7 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 52.5-R, Deer Range to W. Point a la Hache, LA, Levee, Item 52.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.4 FCUs/AAHUs, requiring 2.3 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

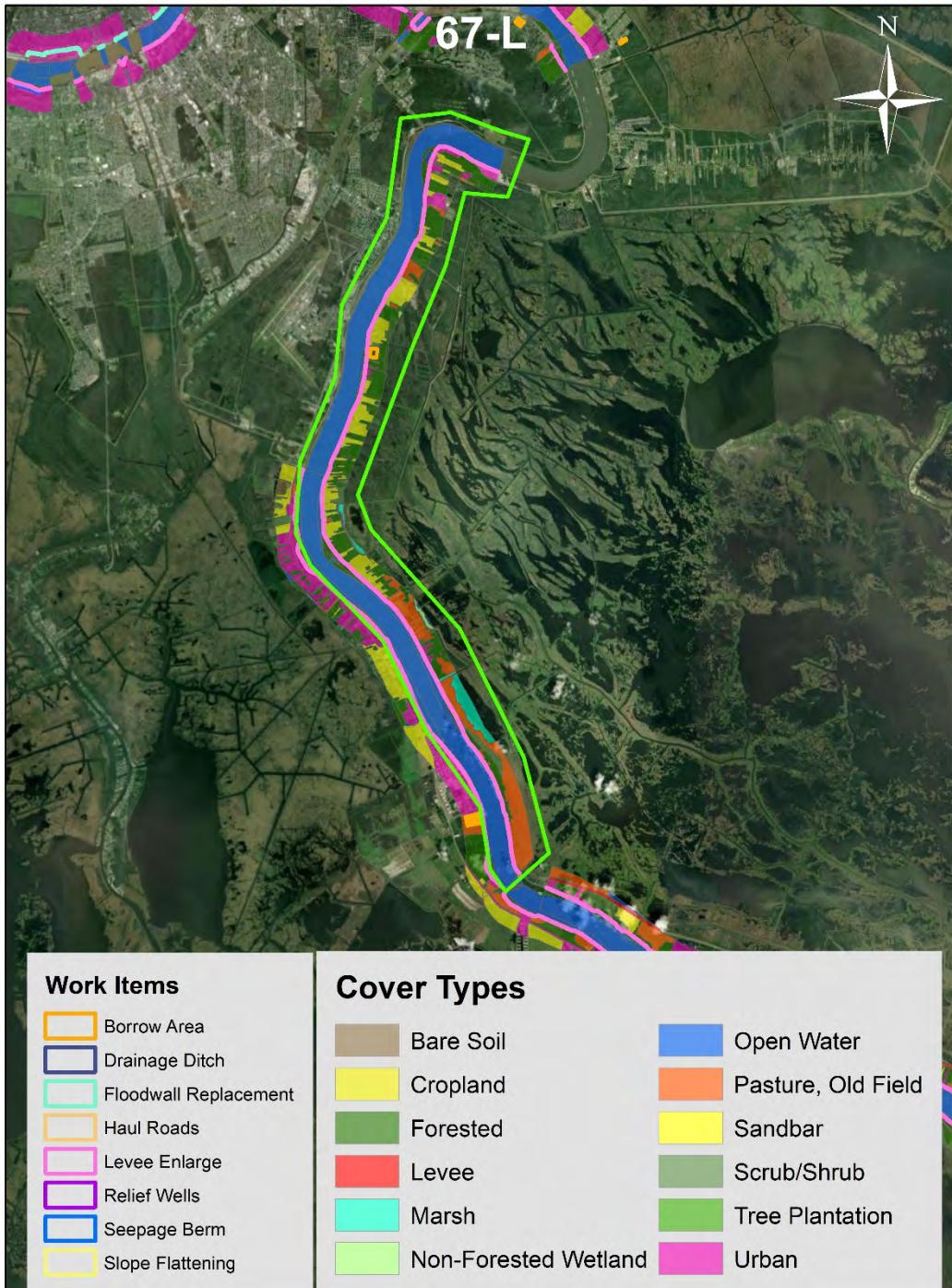
58R		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	68	0.52	36		Forest	215	0.50	108	
Levee	29	0.00	0		Levee	35	0.00	0	
Open water	915	0.00	0		Open water	35	0.00	0	
Cropland	0	0.00	0		Cropland	308	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	174	0.00	0	
Brackish marsh	0	0.59	0		Brackish marsh	75	0.59	44	
Urban	0	0.00	0		Urban	296	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.60	41	192	Target year - 5		0.58	125	695
Target year - 10		0.76	52	232	Target year - 10		0.73	157	817
Target year - 20		0.83	57	542	Target year - 20		0.80	173	1871
Target year - 35		0.83	57	852	Target year - 35		0.80	173	2924
Target year - 50		0.83	57	852	Target year - 50		0.80	173	2924
Sum of HUs				2671	Sum of HSUs				9230
Pre-project AAHUs over 50 years			53		Pre-project AAHUs over 50 years			185	
Land cover change					Land cover change				
Forest	0.0				Forest	-3.7			
Levee	0.0				Levee	4.6			
Open water	0.0				Open water	6.3			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	-6.7			
Marsh	0.0				Marsh	0.0			
Urban	0.0				Urban	-0.5			
Post-project land cover					Post-project land cover				
Forest	68	0.52	36		Forest	212	0.50	106	
Levee	29	0.00	0		Levee	39	0.00	0	
Open water	915	0.00	0		Open water	41	0.00	0	
Cropland	0	0.00	0		Cropland	308	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	168	0.00	0	
Brackish marsh	0	0.59	0		Brackish marsh	75	0.59	44	
Urban	0	0.00	0		Urban	296	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.60	41	192	Target year - 5		0.58	123	685
Target year - 10		0.76	52	232	Target year - 10		0.73	154	805
Target year - 20		0.83	57	542	Target year - 20		0.80	170	1843
Target year - 35		0.83	57	852	Target year - 35		0.80	170	2879
Target year - 50		0.83	57	852	Target year - 50		0.80	170	2879
Sum of HUs				2671	Sum of HSUs				9091
Post-project AAHUs over 50 years			53		Post-project AAHUs over 50 years			182	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			-2.8	
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	4.5	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	4.5	0.15	1	2
Target year - 10	0.0	0.33	0	0	Target year - 10	4.5	0.33	1	5
Target year - 20	0.0	0.67	0	0	Target year - 20	4.5	0.67	3	22
Target year - 35	0.0	0.85	0	0	Target year - 35	4.5	0.85	4	51
Target year - 50	0.0	0.94	0	0	Target year - 50	4.5	0.94	4	60
Sum of HUs				0	Sum of HSUs				140
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years			2.8	

Figure 10.1.8 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 58-R, Ironton to Deer Range, LA, Levee, Item 58-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.8 FCUs/AAHUs, requiring 4.5 acres of mitigation.



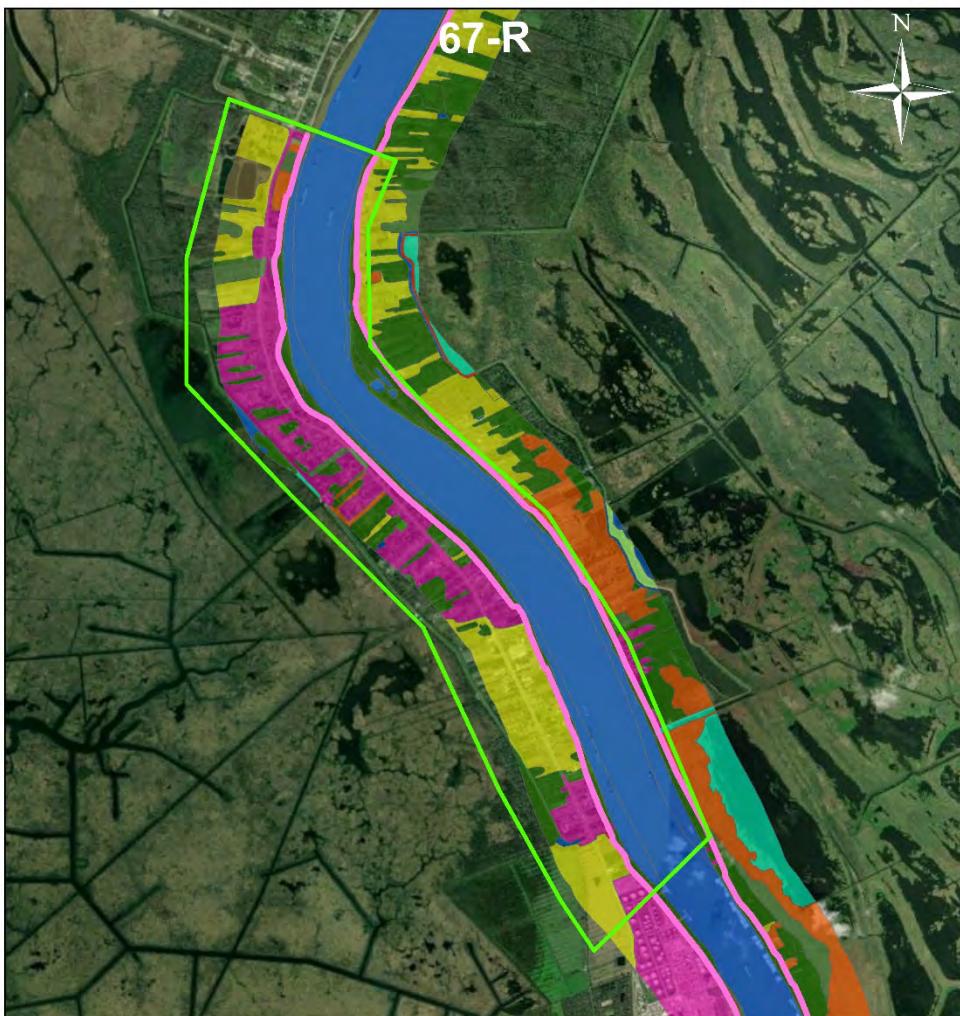
61.5R				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		277	0.52	144		Forest		688	0.50	346	
Levee		125	0.00	0		Levee		92	0.00	0	
Open water		2630	0.00	0		Open water		21	0.00	0	
Cropland		0	0.00	0		Cropland		897	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		266	0.00	0	
Brackish marsh		0	0.59	0		Brackish marsh		5	0.59	3	
Urban		1	0.00	0		Urban		1478	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.60	167		777	Target year - 5		0.58	401	1874	
Target year - 10		0.76	209		940	Target year - 10		0.73	502	2264	
Target year - 20		0.83	230		2195	Target year - 20		0.80	552	5286	
Target year - 35		0.83	230		3449	Target year - 35		0.80	552	8305	
Target year - 50		0.83	230		3449	Target year - 50		0.80	552	8305	
Sum of HUs					10811	Sum of HSUs				26033	
Pre-project AAHUs over 50 years						Pre-project AAHUs over 50 years					
Land cover change						Land cover change					
Forest		0.0				Forest		-0.7			
Levee		0.0				Levee		2.0			
Open water		0.0				Open water		5.4			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		-6.4			
Marsh		0.0				Marsh		0.0			
Urban		0.0				Urban		-0.3			
Post-project land cover						Post-project land cover					
Forest		277	0.52	144		Forest		688	0.50	346	
Levee		125	0.00	0		Levee		94	0.00	0	
Open water		2630	0.00	0		Open water		26	0.00	0	
Cropland		0	0.00	0		Cropland		897	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		260	0.00	0	
Brackish marsh		0	0.59	0		Brackish marsh		5	0.59	3	
Urban		1	0.00	0		Urban		1478	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.60	167		777	Target year - 5		0.58	400	1872	
Target year - 10		0.76	209		940	Target year - 10		0.73	502	2261	
Target year - 20		0.83	230		2195	Target year - 20		0.80	552	5281	
Target year - 35		0.83	230		3449	Target year - 35		0.80	552	8296	
Target year - 50		0.83	230		3449	Target year - 50		0.80	552	8296	
Sum of HUs					10811	Sum of HSUs				26006	
Post-project AAHUs over 50 years						Post-project AAHUs over 50 years					
Change in AAHUs over 50 years						Change in AAHUs over 50 years					
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.8	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.8	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.8	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.8	0.67	1	
Target year - 35		0.0	0.85	0		Target year - 35		0.8	0.85	1	
Target year - 50		0.0	0.94	0		Target year - 50		0.8	0.94	1	
Sum of HUs					0	Sum of HSUs				27	
Mitigation AAHUs over 50 years						Mitigation AAHUs over 50 years					
0.0						0.0					

Figure 10.1.9 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 61.5-R, Alliance to Ironton, LA, Levee, Item 61.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.5 FCUs/AAHUs, requiring 0.8 acres of mitigation.



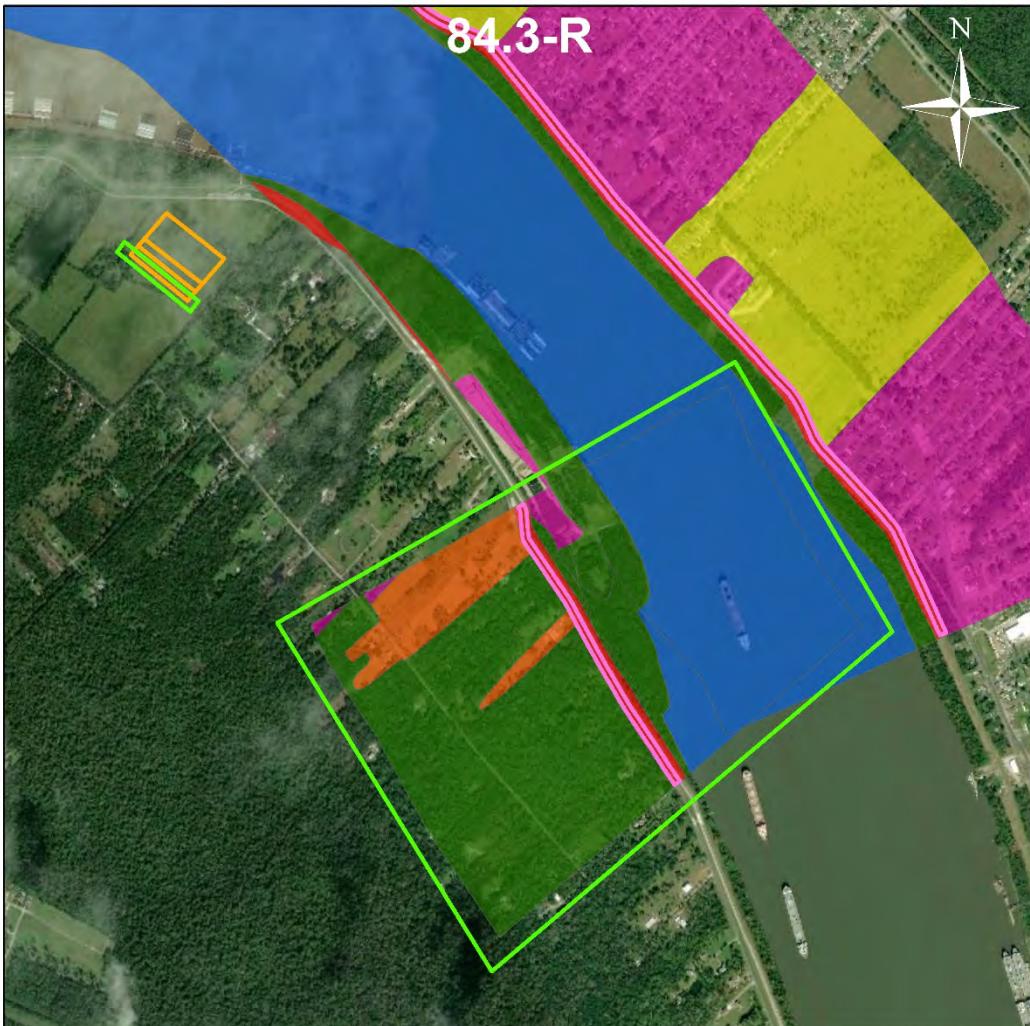
Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	557	0.62	343		Forest	2324	0.59	1381	
Levee	174	0.00	0		Levee	210	0.00	0	
Open water	5584	0.00	0		Open water	39	0.00	0	
Cropland	0	0.00	0		Cropland	1314	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	1370	0.00	0	
Brackish marsh	0	0.93	0		Brackish marsh	299	0.93	278	
Urban	3	0.00	0		Urban	305	0.00	0	
Pre-project future conditions									
Target year - 5		0.64	357	1749	Target year - 5		0.62	1438	7744
Target year - 10		0.80	447	2011	Target year - 10		0.78	1803	8798
Target year - 20		0.88	492	4698	Target year - 20		0.85	1983	20319
Target year - 35		0.88	492	7382	Target year - 35		0.85	1983	31828
Target year - 50		0.88	492	7382	Target year - 50		0.85	1983	31828
Sum of HUs				23222	Sum of HSUs				100519
Pre-project AAHUs over 50 years			464		Pre-project AAHUs over 50 years			2010	
Land cover change									
Forest	0.0				Forest	-12.1			
Levee	0.0				Levee	19.8			
Open water	0.0				Open water	12.2			
Cropland	0.0				Cropland	-10.3			
Pasture/old field	0.0				Pasture/old field	-1.2			
Marsh	0.0				Marsh	-4.8			
Urban	0.0				Urban	-3.6			
Post-project land cover									
Forest	557	0.62	343		Forest	2312	0.59	1374	
Levee	174	0.00	0		Levee	230	0.00	0	
Open water	5584	0.00	0		Open water	51	0.00	0	
Cropland	0	0.00	0		Cropland	1304	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	1368	0.00	0	
Brackish marsh	0	0.93	0		Brackish marsh	294	0.93	274	
Urban	3	0.00	0		Urban	301	0.00	0	
Post-project future conditions									
Target year - 5		0.64	357	1749	Target year - 5		0.62	1431	7696
Target year - 10		0.80	447	2011	Target year - 10		0.78	1794	8745
Target year - 20		0.88	492	4698	Target year - 20		0.85	1972	20199
Target year - 35		0.88	492	7382	Target year - 35		0.85	1972	31640
Target year - 50		0.88	492	7382	Target year - 50		0.85	1972	31640
Sum of HUs				23222	Sum of HSUs				99920
Post-project AAHUs over 50 years			464		Post-project AAHUs over 50 years			1998	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			-12.0	
Mitigation									
Target year - 0	0.0	0.00	0		Target year - 0	19.2	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	19.2	0.15	3	7
Target year - 10	0.0	0.33	0	0	Target year - 10	19.2	0.33	6	23
Target year - 20	0.0	0.67	0	0	Target year - 20	19.2	0.67	13	96
Target year - 35	0.0	0.85	0	0	Target year - 35	19.2	0.85	16	218
Target year - 50	0.0	0.94	0	0	Target year - 50	19.2	0.94	18	257
Sum of HUs				0	Sum of HSUs				602
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years				12.0

Figure 10.1.10 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 67-L, Carnaevon to Phoenix, LA, Levee, Item 67-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -12.0 FCUs/AAHUs, requiring 19.2 acres of mitigation.



Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	277	0.52	144		Forest	688	0.50	346	
Levee	125	0.00	0		Levee	92	0.00	0	
Open water	2630	0.00	0		Open water	21	0.00	0	
Cropland	0	0.00	0		Cropland	897	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	266	0.00	0	
Brackish marsh	0	0.50	0		Brackish marsh	5	0.50	2	
Urban	1	0.00	0		Urban	1478	0.00	0	
Pre-project future conditions				Pre-project future conditions					
Target year - 5		0.60	167	777	Target year - 5		0.58	401	1873
Target year - 10		0.76	209	940	Target year - 10		0.73	502	2263
Target year - 20		0.83	230	2195	Target year - 20		0.80	552	5284
Target year - 35		0.83	230	3449	Target year - 35		0.80	552	8302
Target year - 50		0.83	230	3449	Target year - 50		0.80	552	8302
Sum of HUs				10811	Sum of HSUs				26022
Pre-project AAHUs over 50 years			216	Pre-project AAHUs over 50 years				520	
Land cover change				Land cover change					
Forest	0.0			Forest		-2.4			
Levee	0.0			Levee		12.7			
Open water	0.0			Open water		10.0			
Cropland	0.0			Cropland		-1.3			
Pasture/old field	0.0			Pasture/old field		-10.5			
Marsh	0.0			Marsh		0.0			
Urban	0.0			Urban		-8.5			
Post-project land cover				Post-project land cover					
Forest	277	0.52	144		Forest	686	0.50	345	
Levee	125	0.00	0		Levee	104	0.00	0	
Open water	2630	0.00	0		Open water	31	0.00	0	
Cropland	0	0.00	0		Cropland	896	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	256	0.00	0	
Brackish marsh	0	0.50	0		Brackish marsh	5	0.50	2	
Urban	1	0.00	0		Urban	1469	0.00	0	
Post-project future conditions				Post-project future conditions					
Target year - 5		0.60	167	777	Target year - 5		0.58	399	1866
Target year - 10		0.76	209	940	Target year - 10		0.73	500	2255
Target year - 20		0.83	230	2195	Target year - 20		0.80	550	5265
Target year - 35		0.83	230	3449	Target year - 35		0.80	550	8273
Target year - 50		0.83	230	3449	Target year - 50		0.80	550	8273
Sum of HUs				10811	Sum of HUs				25932
Post-project AAHUs over 50 years			216	Post-project AAHUs over 50 years				519	
Change in AAHUs over 50 years			0.0	Change in AAHUs over 50 years				-1.8	
Mitigation				Mitigation					
Target year - 0	0.0	0.00	0	Target year - 0		2.9	0.00	0	
Target year - 5	0.0	0.15	0	Target year - 5		2.9	0.15	0	1
Target year - 10	0.0	0.33	0	Target year - 10		2.9	0.33	1	3
Target year - 20	0.0	0.67	0	Target year - 20		2.9	0.67	2	14
Target year - 35	0.0	0.85	0	Target year - 35		2.9	0.85	2	33
Target year - 50	0.0	0.94	0	Target year - 50		2.9	0.94	3	39
Sum of HUs				Sum of HUs					91
Mitigation AAHUs over 50 years			0.0	Mitigation AAHUs over 50 years					1.8

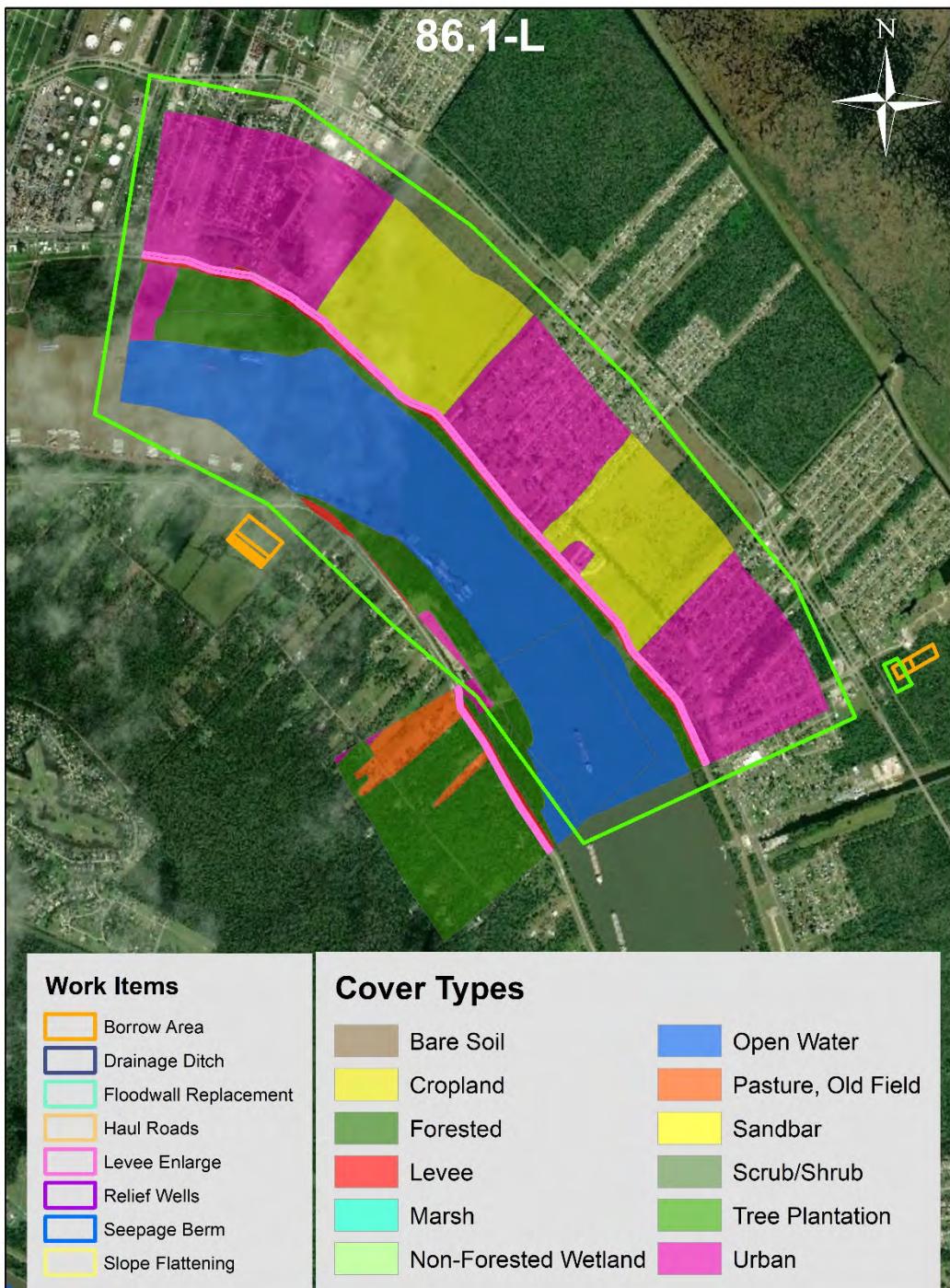
Figure 10.1.11 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 67-R, Oakville to Alliance, LA, Levee, Item 67-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.8 FCUs/AAHUs, requiring 2.9 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

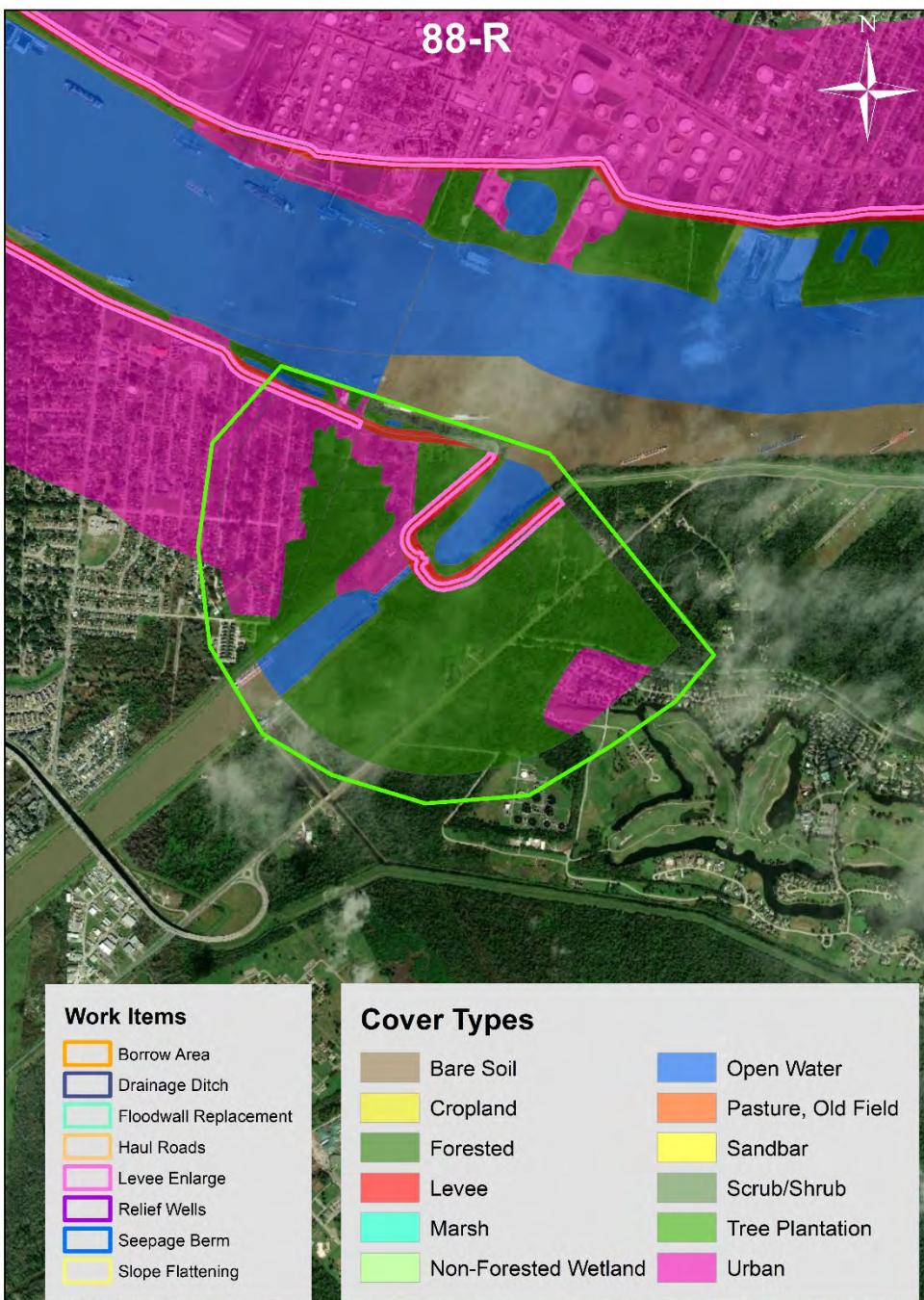
84.3R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		38	0.47	18		Forest		174	0.45	79	
Levee		7	0.00	0		Levee		6	0.00	0	
Open water		141	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		1	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		38	0.00	0	
Urban		5	0.00	0		Urban		1	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.52	20	95	Target year - 5			0.50	87	416
Target year - 10			0.57	22	104	Target year - 10			0.55	96	458
Target year - 20			0.57	22	218	Target year - 20			0.55	96	959
Target year - 35			0.57	22	327	Target year - 35			0.55	96	1439
Target year - 50			0.57	22	327	Target year - 50			0.55	96	1439
Sum of HUs					1071	Sum of HSUs					4711
Pre-project AAHUs over 50 years				21		Pre-project AAHUs over 50 years				94	
Land cover change						Land cover change					
Forest		0.0				Forest		-0.1			
Levee		0.0				Levee		0.1			
Open water		0.0				Open water		1.1			
Cropland		0.0				Cropland		-1.1			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		38	0.47	18		Forest		174	0.45	79	
Levee		7	0.00	0		Levee		6	0.00	0	
Open water		141	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		38	0.00	0	
Urban		5	0.00	0		Urban		1	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.52	20	95	Target year - 5			0.50	87	415
Target year - 10			0.57	22	104	Target year - 10			0.55	96	458
Target year - 20			0.57	22	218	Target year - 20			0.55	96	959
Target year - 35			0.57	22	327	Target year - 35			0.55	96	1438
Target year - 50			0.57	22	327	Target year - 50			0.55	96	1438
Sum of HUs					1071	Sum of HUs					4709
Post-project AAHUs over 50 years				21		Post-project AAHUs over 50 years				94	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.05	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.1	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.1	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.1	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.1	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.1	0.85	0	1
Target year - 50		0.0	0.94	0		Target year - 50		0.1	0.94	0	1
Sum of HUs						Sum of HUs					3
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.05

Figure 10.1.12 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 84.3-R, Stanton, LA, Levee, Item 84.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.05 FCUs/AAHUs, requiring 0.1 acres of mitigation.



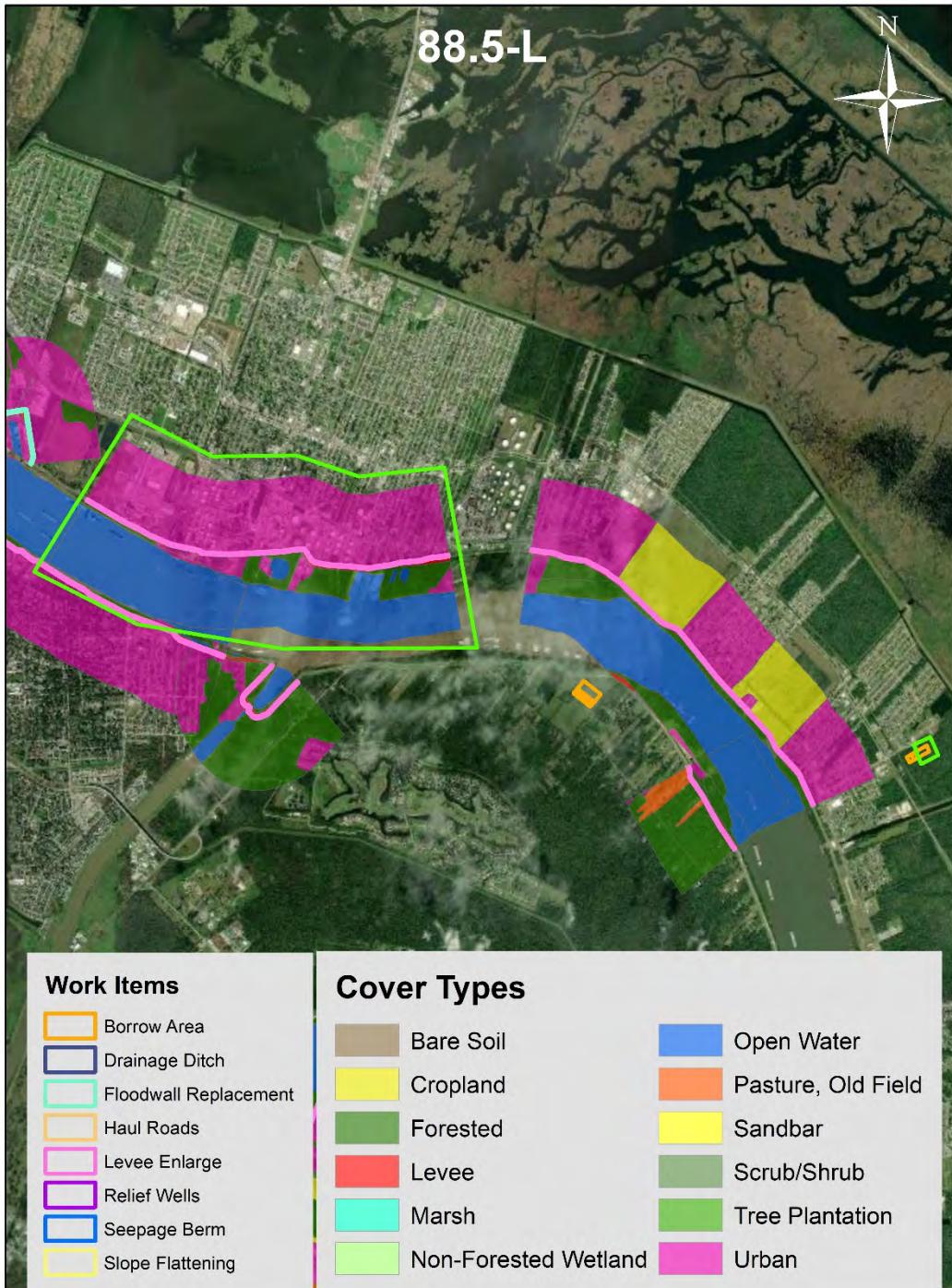
86.1L				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		182	0.27	49		Forest		1	0.26	0	
Levee		29	0.00	0		Levee		25	0.00	0	
Open water		558	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		345	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		23	0.00	0		Urban		580	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.28	52	253	Target year - 5			0.27	0	1
Target year - 10			0.38	69	303	Target year - 10			0.37	0	2
Target year - 20			0.48	87	781	Target year - 20			0.46	0	4
Target year - 35			0.52	96	1369	Target year - 35			0.51	1	7
Target year - 50			0.52	96	1434	Target year - 50			0.51	1	8
Sum of HUs					4140	Sum of HSUs					22
Pre-project AAHUs over 50 years				83		Pre-project AAHUs over 50 years				0	
Land cover change						Land cover change					
Forest		0.0				Forest		-1.0			
Levee		0.0				Levee		3.3			
Open water		0.0				Open water		1.0			
Cropland		0.0				Cropland		-0.8			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-2.5			
Post-project land cover						Post-project land cover					
Forest		182	0.27	49		Forest		0	0.26	0	
Levee		29	0.00	0		Levee		28	0.00	0	
Open water		558	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		344	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		23	0.00	0		Urban		578	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.28	52	253	Target year - 5			0.27	0	0
Target year - 10			0.38	69	303	Target year - 10			0.37	0	0
Target year - 20			0.48	87	781	Target year - 20			0.46	0	0
Target year - 35			0.52	96	1369	Target year - 35			0.51	0	0
Target year - 50			0.52	96	1434	Target year - 50			0.51	0	0
Sum of HUs					4140	Sum of HSUs					0
Post-project AAHUs over 50 years				83		Post-project AAHUs over 50 years				0	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.4	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.7	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.7	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.7	0.33	0	1
Target year - 20		0.0	0.67	0		Target year - 20		0.7	0.67	0	4
Target year - 35		0.0	0.85	0		Target year - 35		0.7	0.85	1	8
Target year - 50		0.0	0.94	0		Target year - 50		0.7	0.94	1	9
Sum of HUs						Sum of HSUs					22
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years				0.4	

Figure 10.1.13 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 86.1-L, Chalmette Battle Field (2), LA, Levee, Item 86.1-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.4 FCUs/AAHUs, requiring 0.7 acres of mitigation.



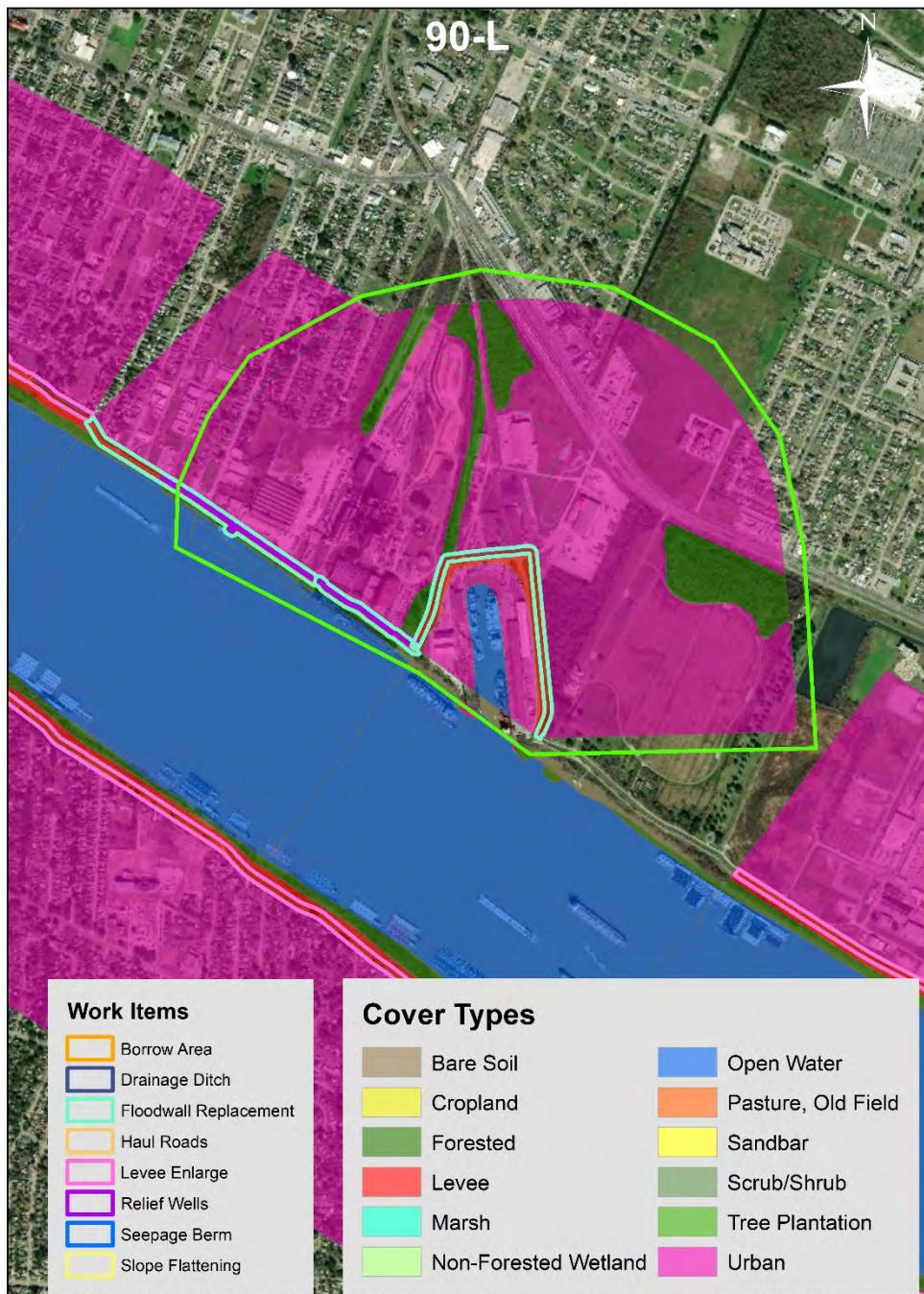
88R		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	14	0.27	4		Forest	311	0.26	81	
Levee	13	0.00	0		Levee	13	0.00	0	
Open water	24	0.00	0		Open water	24	0.00	0	
Cropland	0	0.00	0		Cropland	2	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	1	0.00	0		Urban	117	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.28	4	20	Target year - 5		0.27	85	416
Target year - 10		0.38	5	24	Target year - 10		0.37	114	498
Target year - 20		0.48	7	61	Target year - 20		0.46	143	1286
Target year - 35		0.52	8	107	Target year - 35		0.51	157	2253
Target year - 50		0.52	8	113	Target year - 50		0.51	157	2360
Sum of HUs				325	Sum of HSUs				6813
Pre-project AAHUs over 50 years				6	Pre-project AAHUs over 50 years				136
Land cover change					Land cover change				
Forest	0.0				Forest	-1.6			
Levee	0.0				Levee	1.7			
Open water	0.0				Open water	2.0			
Cropland	0.0				Cropland	-2.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	-0.1			
Post-project land cover					Post-project land cover				
Forest	14	0.27	4		Forest	309	0.26	81	
Levee	13	0.00	0		Levee	15	0.00	0	
Open water	24	0.00	0		Open water	26	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	1	0.00	0		Urban	117	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.28	4	20	Target year - 5		0.27	85	414
Target year - 10		0.38	5	24	Target year - 10		0.37	114	496
Target year - 20		0.48	7	61	Target year - 20		0.46	142	1279
Target year - 35		0.52	8	107	Target year - 35		0.51	157	2241
Target year - 50		0.52	8	113	Target year - 50		0.51	157	2348
Sum of HUs				325	Sum of HSUs				6777
Post-project AAHUs over 50 years				6	Post-project AAHUs over 50 years				136
Change in AAHUs over 50 years				0.0	Change in AAHUs over 50 years				-0.7
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	1.1	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	1.1	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	1.1	0.33	0	1
Target year - 20	0.0	0.67	0	0	Target year - 20	1.1	0.67	1	6
Target year - 35	0.0	0.85	0	0	Target year - 35	1.1	0.85	1	13
Target year - 50	0.0	0.94	0	0	Target year - 50	1.1	0.94	1	15
Sum of HUs					Sum of HSUs				35
Mitigation AAHUs over 50 years				0.0	Mitigation AAHUs over 50 years				0.7

Figure 10.1.14 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 88-R, Algiers Lock – Levee, LA, Levee, Item 88-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.1 acres of mitigation.



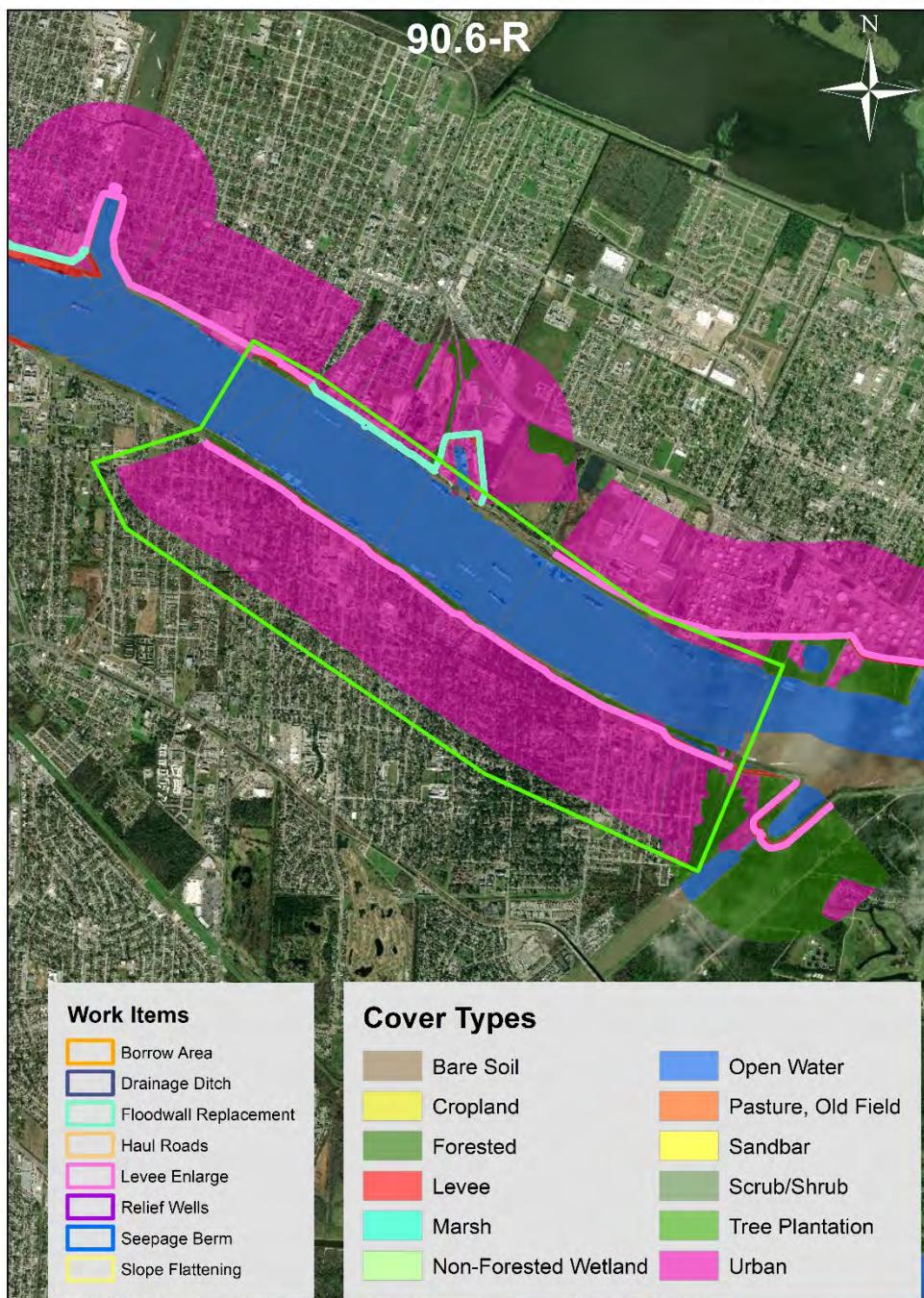
88.5L				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		137	0.27	37		Forest		3	0.26	1	
Levee		30	0.00	0		Levee		19	0.00	0	
Open water		697	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		63	0.00	0		Urban		792	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.28	39	190	Target year - 5			0.27	1	3
Target year - 10			0.38	52	227	Target year - 10			0.37	1	4
Target year - 20			0.48	65	587	Target year - 20			0.46	1	11
Target year - 35			0.52	72	1029	Target year - 35			0.51	1	19
Target year - 50			0.52	72	1078	Target year - 50			0.51	1	20
Sum of HUs					3111	Sum of HSUs					57
Pre-project AAHUs over 50 years				62		Pre-project AAHUs over 50 years					1
Land cover change						Land cover change					
Forest		0.0				Forest		-2.6			
Levee		0.0				Levee		4.1			
Open water		0.0				Open water		2.6			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-4.1			
Post-project land cover						Post-project land cover					
Forest		137	0.27	37		Forest		0	0.26	0	
Levee		30	0.00	0		Levee		23	0.00	0	
Open water		697	0.00	0		Open water		3	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		63	0.00	0		Urban		788	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.28	39	190	Target year - 5			0.27	0	0
Target year - 10			0.38	52	227	Target year - 10			0.37	0	0
Target year - 20			0.48	65	587	Target year - 20			0.46	0	0
Target year - 35			0.52	72	1029	Target year - 35			0.51	0	0
Target year - 50			0.52	72	1078	Target year - 50			0.51	0	0
Sum of HUs					3111	Sum of HSUs					0
Post-project AAHUs over 50 years				62		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-1.1
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		1.8	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		1.8	0.15	0	1
Target year - 10		0.0	0.33	0		Target year - 10		1.8	0.33	1	2
Target year - 20		0.0	0.67	0		Target year - 20		1.8	0.67	1	9
Target year - 35		0.0	0.85	0		Target year - 35		1.8	0.85	2	21
Target year - 50		0.0	0.94	0		Target year - 50		1.8	0.94	2	24
Sum of HUs						Sum of HSUs					57
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					1.1

Figure 10.1.15 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 88.5-L, Chalmette Battle Field (1), LA, Levee or Floodwall, Item 88.5-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.1 FCUs/AAHUs, requiring 1.8 acres of mitigation.



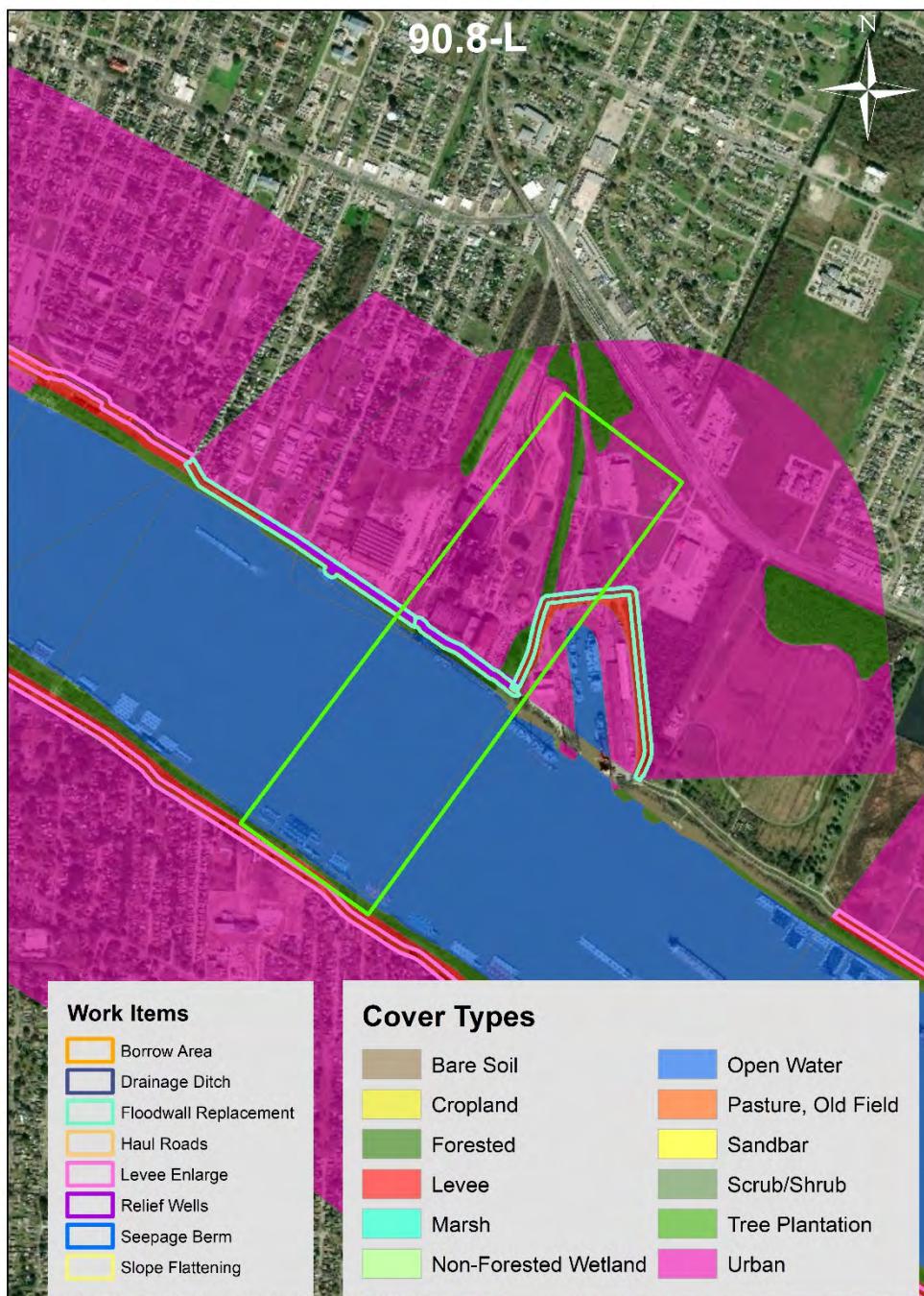
90L		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	3	0.27	1		Forest	42	0.26	11	
Levee	10	0.00	0		Levee	8	0.00	0	
Open water	15	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	21	0.00	0		Urban	372	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.28	1	3	Target year - 5		0.27	11	56
Target year - 10		0.38	1	4	Target year - 10		0.37	15	67
Target year - 20		0.48	1	11	Target year - 20		0.46	19	172
Target year - 35		0.52	1	19	Target year - 35		0.51	21	302
Target year - 50		0.52	1	20	Target year - 50		0.51	21	316
Sum of HUs				57	Sum of HSUs				912
Pre-project AAHUs over 50 years			1		Pre-project AAHUs over 50 years				18
Land cover change					Land cover change				
Forest	0.0				Forest	-1.1			
Levee	0.0				Levee	1.6			
Open water	0.0				Open water	0.8			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	-1.3			
Post-project land cover					Post-project land cover				
Forest	3	0.27	1	3	Forest	41	0.26	11	
Levee	10	0.00	0	Levee	10	0.00	0		
Open water	15	0.00	0	Open water	1	0.00	0		
Cropland	0	0.00	0	Cropland	0	0.00	0		
Pasture/old field	0	0.00	0	Pasture/old field	0	0.00	0		
Urban	21	0.00	0	Urban	371	0.00	0		
Post-project future conditions					Post-project future conditions				
Target year - 5		0.28	1	3	Target year - 5		0.27	11	54
Target year - 10		0.38	1	4	Target year - 10		0.37	15	65
Target year - 20		0.48	1	11	Target year - 20		0.46	19	168
Target year - 35		0.52	1	19	Target year - 35		0.51	21	294
Target year - 50		0.52	1	20	Target year - 50		0.51	21	308
Sum of HUs				57	Sum of HSUs				888
Post-project AAHUs over 50 years			1		Post-project AAHUs over 50 years				18
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years				-0.5
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.8	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.8	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.8	0.33	0	1
Target year - 20	0.0	0.67	0	0	Target year - 20	0.8	0.67	1	4
Target year - 35	0.0	0.85	0	0	Target year - 35	0.8	0.85	1	9
Target year - 50	0.0	0.94	0	0	Target year - 50	0.8	0.94	1	10
Sum of HUs				0	Sum of HSUs				24
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years				0.5

Figure 10.1.16 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 90-L, Chalmette Slip, LA, Levee or Floodwall, Item 90-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.5 FCUs/AAHUs, requiring 0.8 acres of mitigation.



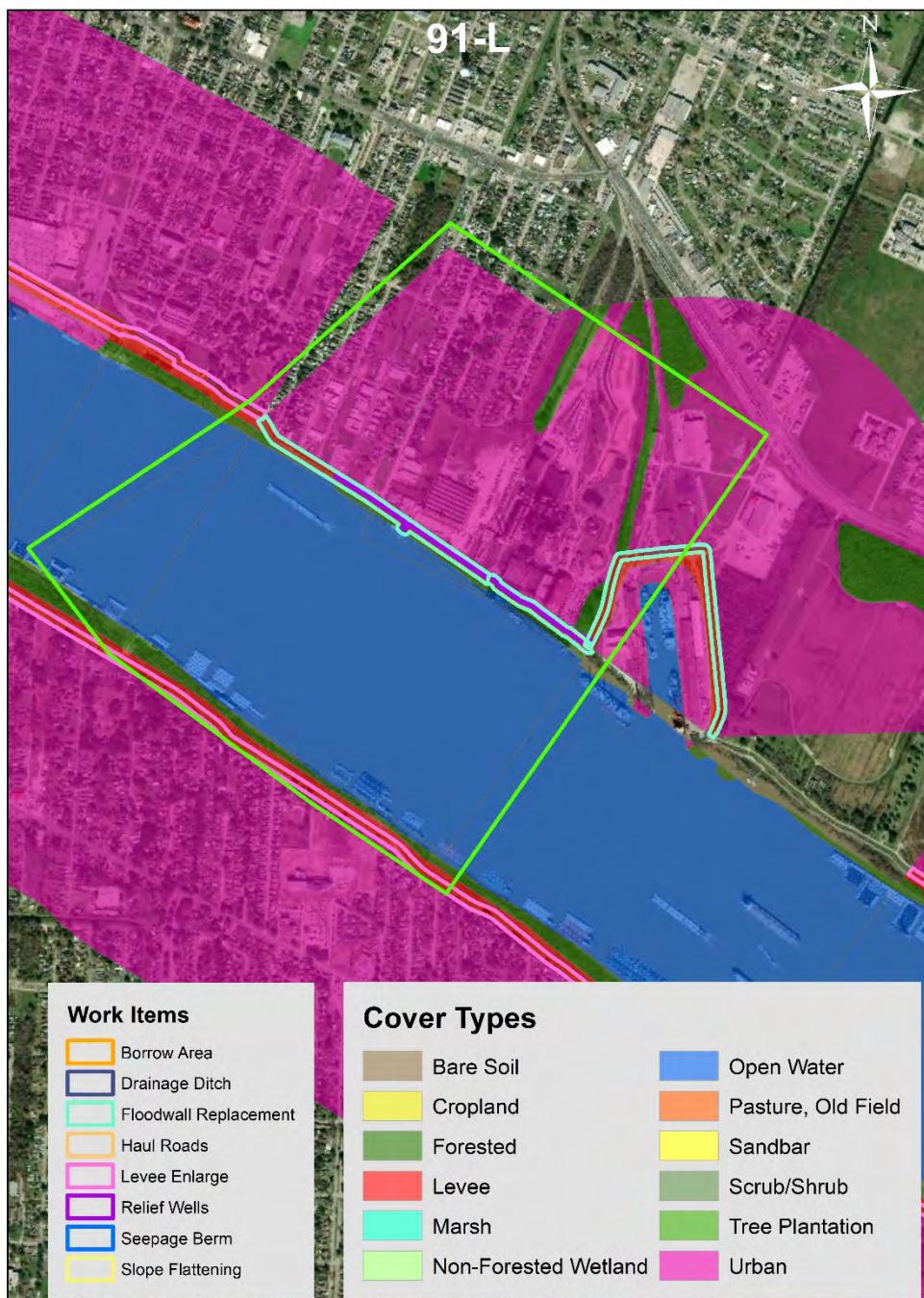
90.6L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		49	0.43	21		Forest		17	0.41	7			
Levee		29	0.00	0		Levee		31	0.00	0			
Open water		927	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		7	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		11	0.00	0		Urban		1049	0.00	0			
Pre-project future conditions		Pre-project future conditions											
Target year - 5			0.46	23	110	Target year - 5			0.44	8	37		
Target year - 10			0.57	28	128	Target year - 10			0.55	10	43		
Target year - 20			0.63	31	298	Target year - 20			0.61	11	101		
Target year - 35			0.63	31	468	Target year - 35			0.61	11	158		
Target year - 50			0.63	31	468	Target year - 50			0.61	11	158		
Sum of HUs					1472	Sum of HSUs					497		
Pre-project AAHUs over 50 years				29		Pre-project AAHUs over 50 years				10			
Land cover change		Land cover change											
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		3.9					
Open water		0.0				Open water		6.6					
Cropland		0.0				Cropland		-6.6					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-3.9					
Post-project land cover		Post-project land cover											
Forest		49	0.43	21		Forest		17	0.41	7			
Levee		29	0.00	0		Levee		34	0.00	0			
Open water		927	0.00	0		Open water		7	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		11	0.00	0		Urban		1046	0.00	0			
Post-project future conditions		Post-project future conditions											
Target year - 5			0.46	23	110	Target year - 5			0.44	8	37		
Target year - 10			0.57	28	128	Target year - 10			0.55	10	43		
Target year - 20			0.63	31	298	Target year - 20			0.61	11	101		
Target year - 35			0.63	31	468	Target year - 35			0.61	11	158		
Target year - 50			0.63	31	468	Target year - 50			0.61	11	158		
Sum of HUs					1472	Sum of HSUs					497		
Post-project AAHUs over 50 years				29		Post-project AAHUs over 50 years				10			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation		Mitigation											
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.17 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 90.6-R, US Coast Guard Reservation, LA, Levee, Item 90.6-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



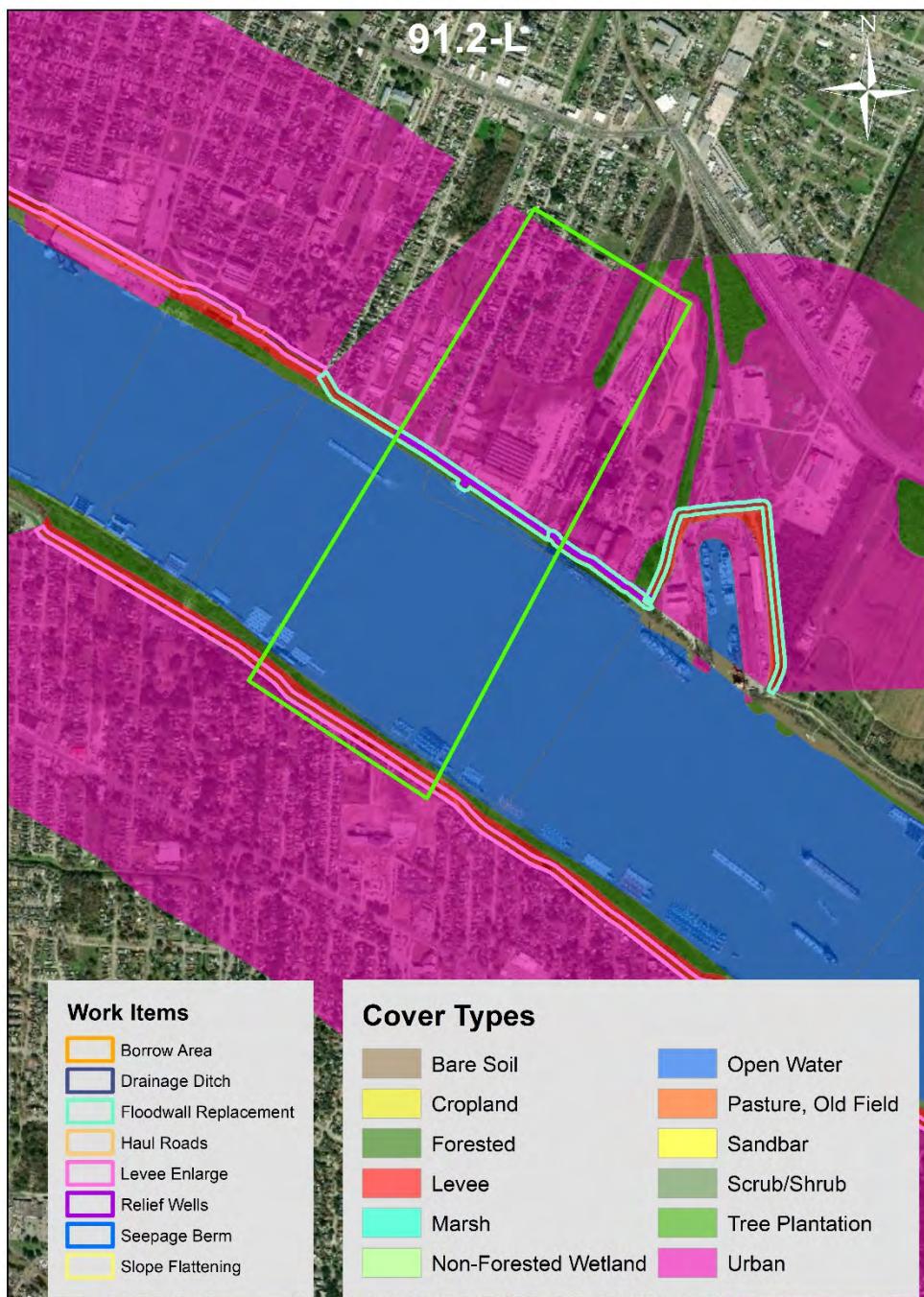
90.8L				Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs		
Forest	10	0.27	3		Forest	12	0.26	3			
Levee	8	0.00	0		Levee	6	0.00	0			
Open water	267	0.00	0		Open water	0	0.00	0			
Cropland	0	0.00	0		Cropland	0	0.00	0			
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0			
Urban	0	0.00	0		Urban	215	0.00	0			
Pre-project future conditions				Pre-project future conditions							
Target year - 5		0.28	3	13	Target year - 5		0.27	3	16		
Target year - 10		0.38	4	16	Target year - 10		0.37	4	19		
Target year - 20		0.48	5	41	Target year - 20		0.46	5	48		
Target year - 35		0.52	5	72	Target year - 35		0.51	6	85		
Target year - 50		0.52	5	76	Target year - 50		0.51	6	89		
Sum of HUs				218	Sum of HSUs				257		
Pre-project AAHUs over 50 years			4		Pre-project AAHUs over 50 years				5		
Land cover change				Land cover change							
Forest	0.0				Forest	0.0					
Levee	0.0				Levee	0.0					
Open water	0.0				Open water	0.0					
Cropland	0.0				Cropland	0.0					
Pasture/old field	0.0				Pasture/old field	0.0					
Urban	0.0				Urban	0.0					
Post-project land cover				Post-project land cover							
Forest	10	0.27	3		Forest	12	0.26	3			
Levee	8	0.00	0		Levee	6	0.00	0			
Open water	267	0.00	0		Open water	0	0.00	0			
Cropland	0	0.00	0		Cropland	0	0.00	0			
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0			
Urban	0	0.00	0		Urban	215	0.00	0			
Post-project future conditions				Post-project future conditions							
Target year - 5		0.28	3	13	Target year - 5		0.27	3	16		
Target year - 10		0.38	4	16	Target year - 10		0.37	4	19		
Target year - 20		0.48	5	41	Target year - 20		0.46	5	48		
Target year - 35		0.52	5	72	Target year - 35		0.51	6	85		
Target year - 50		0.52	5	76	Target year - 50		0.51	6	89		
Sum of HUs				218	Sum of HSUs				257		
Post-project AAHUs over 50 years			4		Post-project AAHUs over 50 years				5		
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years				0.0		
Mitigation				Mitigation							
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0			
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0		
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0		
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0		
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0		
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0		
Sum of HUs				0	Sum of HSUs				0		
Mitigation AAHUs over 50 years				0.0	Mitigation AAHUs over 50 years				0.0		

Figure 10.1.18 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 90.8-L, Amstar Levee and Floodwall, LA, Floodwall, Item 90.8-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



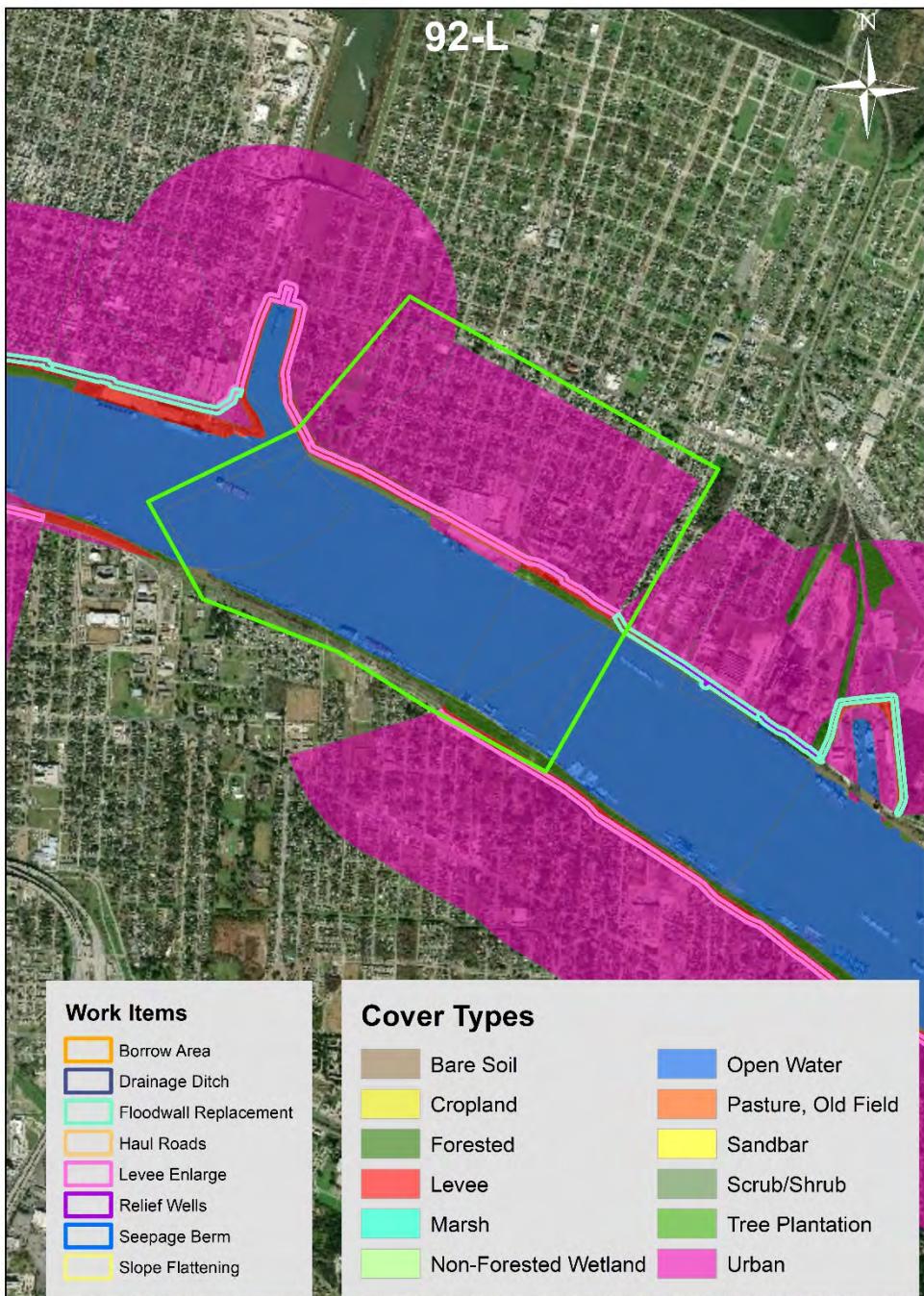
91L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		10	0.27	3		Forest		12	0.26	3			
Levee		8	0.00	0		Levee		6	0.00	0			
Open water		267	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		215	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.28	3	13	Target year - 5			0.27	3	16		
Target year - 10			0.38	4	16	Target year - 10			0.37	4	19		
Target year - 20			0.48	5	41	Target year - 20			0.46	5	48		
Target year - 35			0.52	5	72	Target year - 35			0.51	6	85		
Target year - 50			0.52	5	76	Target year - 50			0.51	6	89		
Sum of HUs					218	Sum of HSUs					257		
Pre-project AAHUs over 50 years				4		Pre-project AAHUs over 50 years					5		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		10	0.27	3	13	Forest		12	0.26	3			
Levee		8	0.00	0		Levee		6	0.00	0			
Open water		267	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		215	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.28	3	13	Target year - 5			0.27	3	16		
Target year - 10			0.38	4	16	Target year - 10			0.37	4	19		
Target year - 20			0.48	5	41	Target year - 20			0.46	5	48		
Target year - 35			0.52	5	72	Target year - 35			0.51	6	85		
Target year - 50			0.52	5	76	Target year - 50			0.51	6	89		
Sum of HUs					218	Sum of HSUs					257		
Post-project AAHUs over 50 years				4		Post-project AAHUs over 50 years					5		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.19 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 91-L, Domino Sugar, LA, Relief Wells, Item 91-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



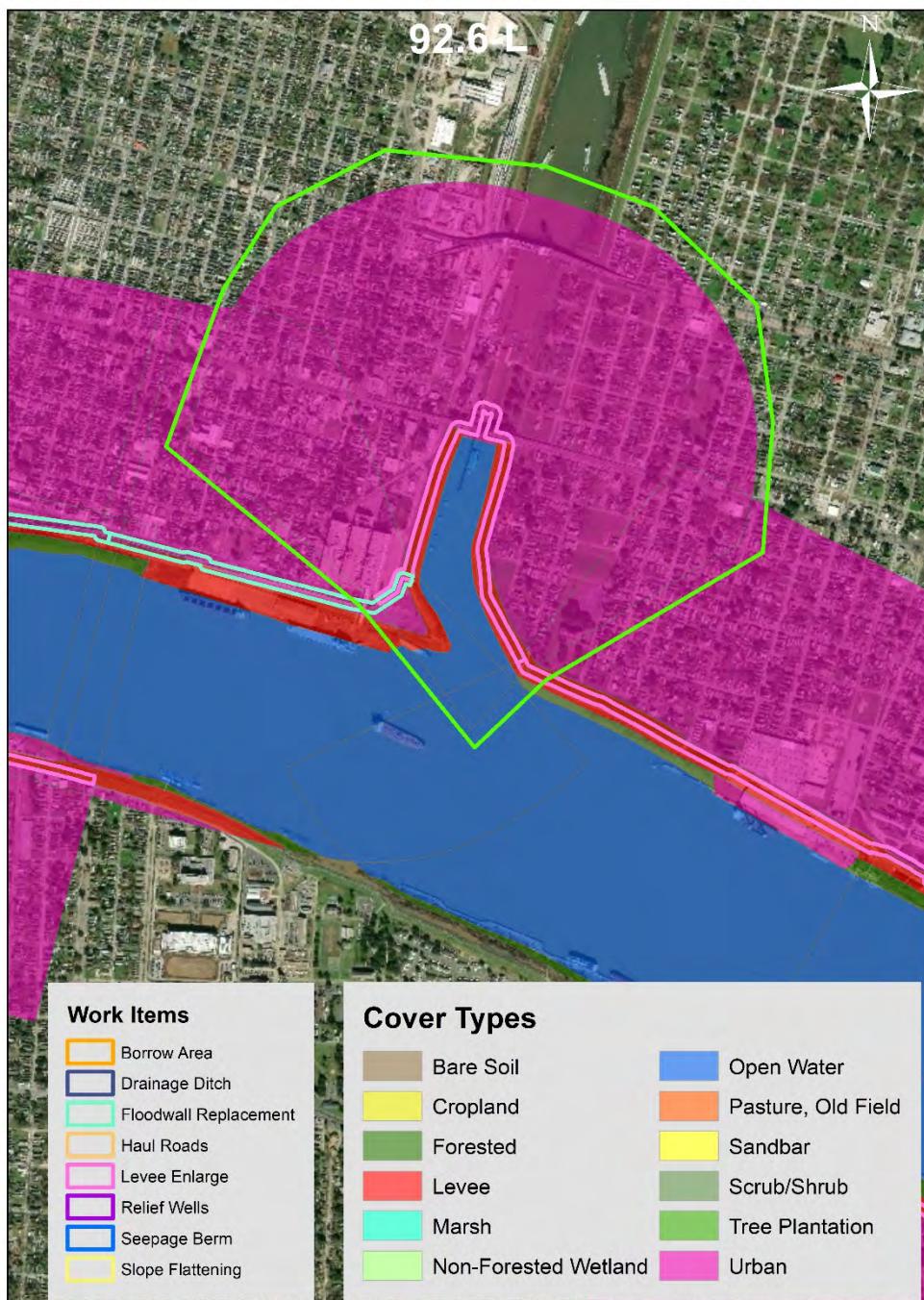
91.2L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		10	0.27	3		Forest		12	0.26	3	
Levee		8	0.00	0		Levee		6	0.00	0	
Open water		267	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		215	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.28	3	13	Target year - 5			0.27	3	16
Target year - 10			0.38	4	16	Target year - 10			0.37	4	19
Target year - 20			0.48	5	41	Target year - 20			0.46	5	48
Target year - 35			0.52	5	72	Target year - 35			0.51	6	85
Target year - 50			0.52	5	76	Target year - 50			0.51	6	89
Sum of HUs					218	Sum of HSUs					257
Pre-project AAHUs over 50 years				4		Pre-project AAHUs over 50 years					5
Land cover change						Land cover change					
Forest		-0.3				Forest		0.0			
Levee		0.3				Levee		0.1			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-0.1			
Post-project land cover						Post-project land cover					
Forest		9	0.27	3	13	Forest		12	0.26	3	
Levee		8	0.00	0		Levee		6	0.00	0	
Open water		267	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		215	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.28	3	13	Target year - 5			0.27	3	16
Target year - 10			0.38	4	15	Target year - 10			0.37	4	19
Target year - 20			0.48	4	40	Target year - 20			0.46	5	48
Target year - 35			0.52	5	70	Target year - 35			0.51	6	85
Target year - 50			0.52	5	73	Target year - 50			0.51	6	89
Sum of HUs					211	Sum of HUs					257
Post-project AAHUs over 50 years				4		Post-project AAHUs over 50 years					5
Change in AAHUs over 50 years				-0.1		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.2	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.2	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.2	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.2	0.67	0	1	Target year - 20		0.0	0.67	0	0
Target year - 35		0.2	0.85	0	2	Target year - 35		0.0	0.85	0	0
Target year - 50		0.2	0.94	0	3	Target year - 50		0.0	0.94	0	0
Sum of HUs					7	Sum of HUs					0
Mitigation AAHUs over 50 years					0.1	Mitigation AAHUs over 50 years					0.0

Figure 10.1.20 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 91.2-L, Arabi Levee and Floodwall, LA, Floodwall, Item 91.2-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.1 FCUs/AAHUs, requiring 0.2 acres of mitigation.



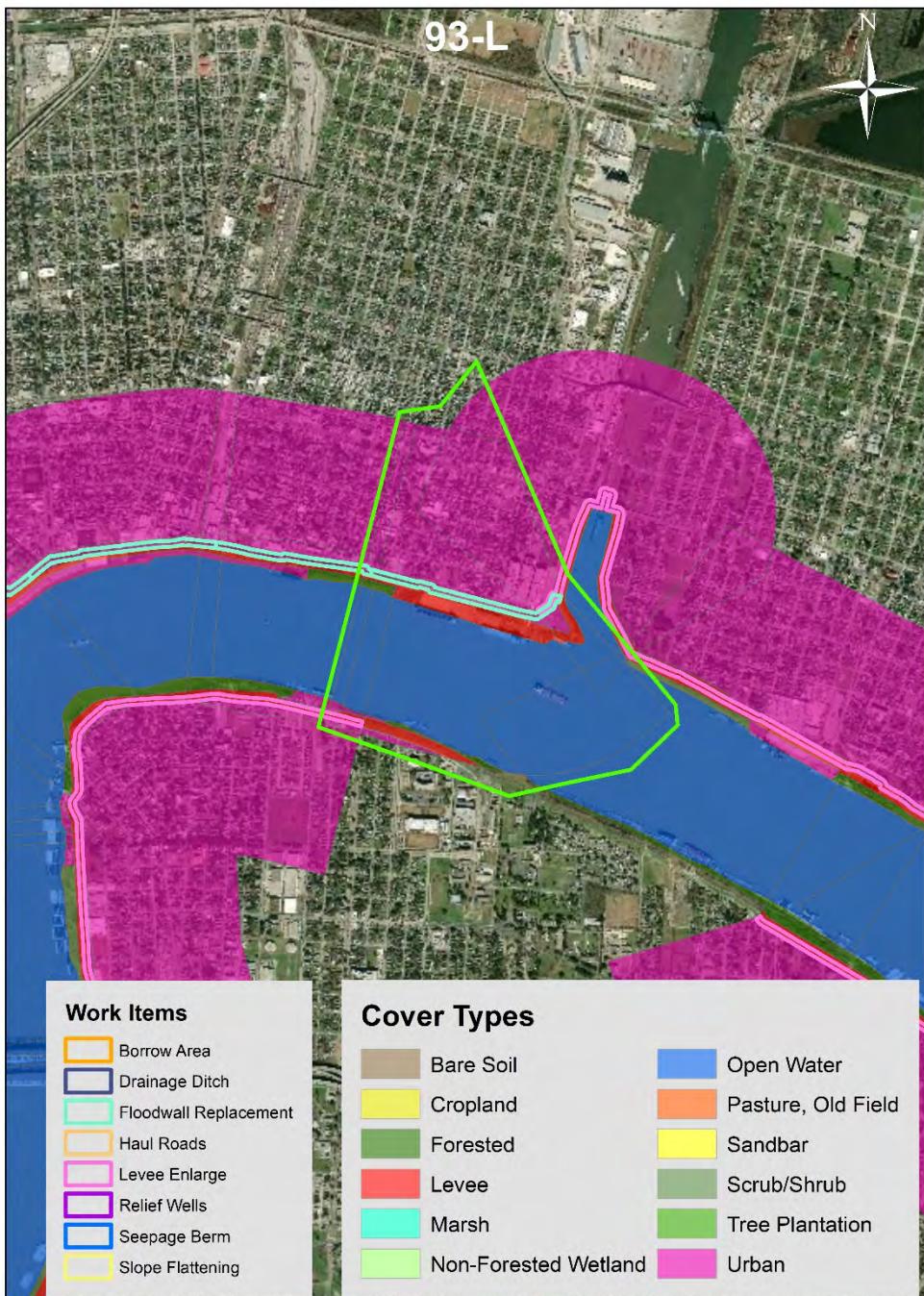
92L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		20	0.70	14		Forest		1	0.67	1			
Levee		13	0.00	0		Levee		14	0.00	0			
Open water		359	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		7	0.00	0		Urban		328	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	14	71	Target year - 5			0.69	1	4		
Target year - 10			0.78	16	75	Target year - 10			0.75	1	5		
Target year - 20			0.78	16	157	Target year - 20			0.75	1	10		
Target year - 35			0.78	16	236	Target year - 35			0.75	1	15		
Target year - 50			0.78	16	236	Target year - 50			0.75	1	15		
Sum of HUs					775	Sum of HSUs					48		
Pre-project AAHUs over 50 years				15		Pre-project AAHUs over 50 years					1		
Land cover change						Land cover change							
Forest		0.0				Forest		-1.3					
Levee		0.0				Levee		1.3					
Open water		0.0				Open water		1.3					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.3					
Post-project land cover						Post-project land cover							
Forest		20	0.70	14		Forest		0	0.67	0			
Levee		13	0.00	0		Levee		15	0.00	0			
Open water		359	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		7	0.00	0		Urban		326	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	14	71	Target year - 5			0.69	0	0		
Target year - 10			0.78	16	75	Target year - 10			0.75	0	0		
Target year - 20			0.78	16	157	Target year - 20			0.75	0	0		
Target year - 35			0.78	16	236	Target year - 35			0.75	0	0		
Target year - 50			0.78	16	236	Target year - 50			0.75	0	0		
Sum of HUs					775	Sum of HSUs					0		
Post-project AAHUs over 50 years				15		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-1.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		1.5	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		1.5	0.15	0	1		
Target year - 10		0.0	0.33	0		Target year - 10		1.5	0.33	1	2		
Target year - 20		0.0	0.67	0		Target year - 20		1.5	0.67	1	8		
Target year - 35		0.0	0.85	0		Target year - 35		1.5	0.85	1	18		
Target year - 50		0.0	0.94	0		Target year - 50		1.5	0.94	1	21		
Sum of HUs						Sum of HSUs					49		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					1.0		

Figure 10.1.21 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 92-L, Holy Cross, LA, Levee, Item 92-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.0 FCUs/AAHUs, requiring 1.5 acres of mitigation.



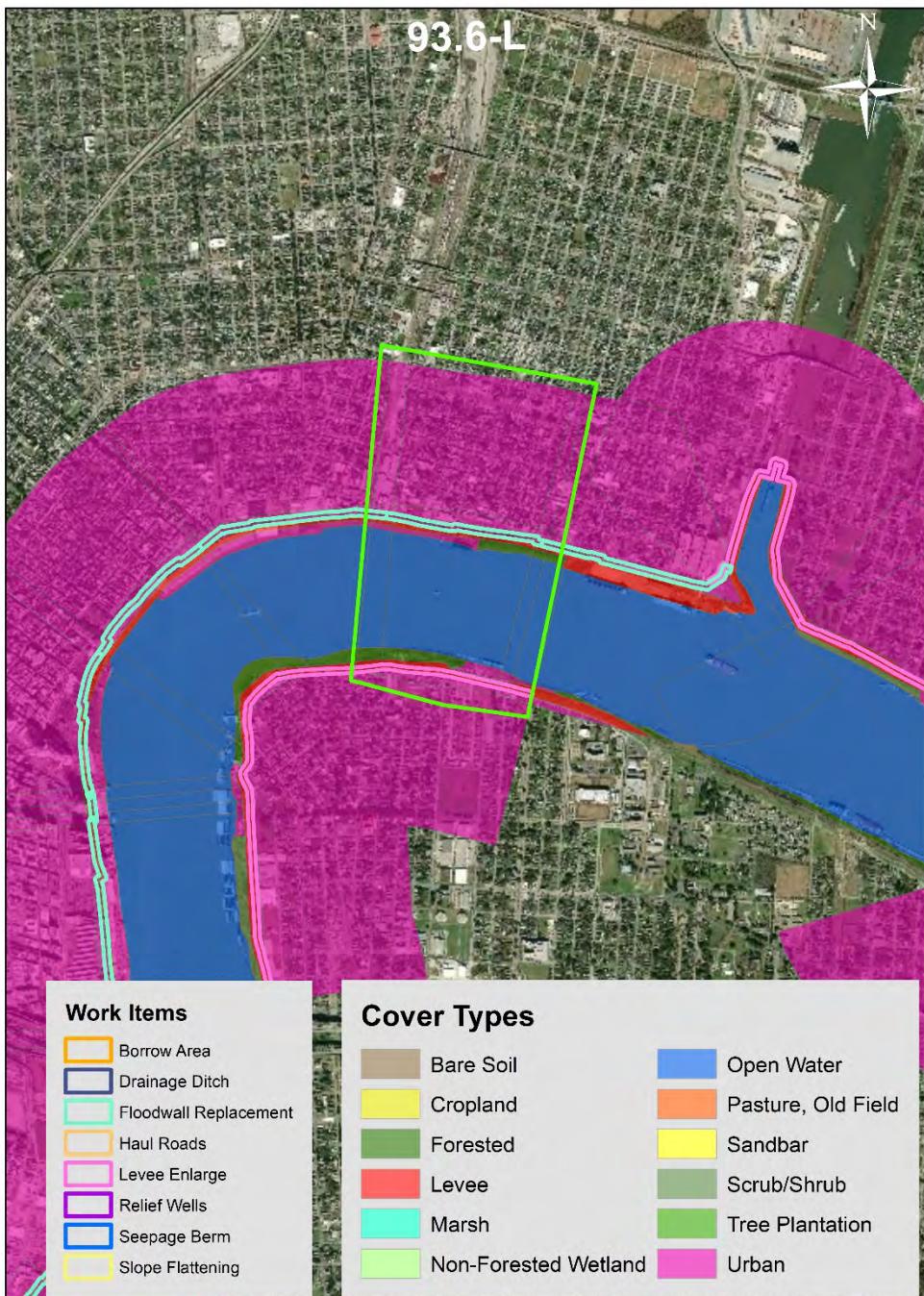
92.6L			Riverside								Landside				
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs				
Forest		0	0.70	0		Forest		7	0.67	5					
Levee		11	0.00	0		Levee		10	0.00	0					
Open water		35	0.00	0		Open water		0	0.00	0					
Cropland		0	0.00	0		Cropland		0	0.00	0					
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0					
Urban		3	0.00	0		Urban		433	0.00	0					
Pre-project future conditions						Pre-project future conditions									
Target year - 5			0.71	0	0	Target year - 5			0.69	5	24				
Target year - 10			0.78	0	0	Target year - 10			0.75	5	25				
Target year - 20			0.78	0	0	Target year - 20			0.75	5	53				
Target year - 35			0.78	0	0	Target year - 35			0.75	5	79				
Target year - 50			0.78	0	0	Target year - 50			0.75	5	79				
Sum of HUs					0	Sum of HSUs					260				
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years					5				
Land cover change						Land cover change									
Forest		0.0				Forest			-7.0						
Levee		0.0				Levee			3.1						
Open water		0.0				Open water			7.0						
Cropland		0.0				Cropland			0.0						
Pasture/old field		0.0				Pasture/old field			0.0						
Urban		0.0				Urban			-3.1						
Post-project land cover						Post-project land cover									
Forest		0	0.70	0	0	Forest		0	0.67	0					
Levee		11	0.00	0	0	Levee		13	0.00	0					
Open water		35	0.00	0	0	Open water		7	0.00	0					
Cropland		0	0.00	0	0	Cropland		0	0.00	0					
Pasture/old field		0	0.00	0	0	Pasture/old field		0	0.00	0					
Urban		3	0.00	0	0	Urban		430	0.00	0					
Post-project future conditions						Post-project future conditions									
Target year - 5			0.71	0	0	Target year - 5			0.69	0	0				
Target year - 10			0.78	0	0	Target year - 10			0.75	0	0				
Target year - 20			0.78	0	0	Target year - 20			0.75	0	0				
Target year - 35			0.78	0	0	Target year - 35			0.75	0	0				
Target year - 50			0.78	0	0	Target year - 50			0.75	0	0				
Sum of HUs					0	Sum of HSUs					0				
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years					0				
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-5.2				
Mitigation						Mitigation									
Target year - 0		0.0	0.00	0	0	Target year - 0		8.3	0.00	0					
Target year - 5		0.0	0.15	0	0	Target year - 5		8.3	0.15	1	3				
Target year - 10		0.0	0.33	0	0	Target year - 10		8.3	0.33	3	10				
Target year - 20		0.0	0.67	0	0	Target year - 20		8.3	0.67	6	42				
Target year - 35		0.0	0.85	0	0	Target year - 35		8.3	0.85	7	95				
Target year - 50		0.0	0.94	0	0	Target year - 50		8.3	0.94	8	112				
Sum of HUs					0	Sum of HSUs					262				
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					5.2				

Figure 10.1.22 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 92.6-L, IHNC Lock Forebay 92.6L - Levee, LA, Levee, Item 92.6-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -5.2 FCUs/AAHUs, requiring 8.3 acres of mitigation.



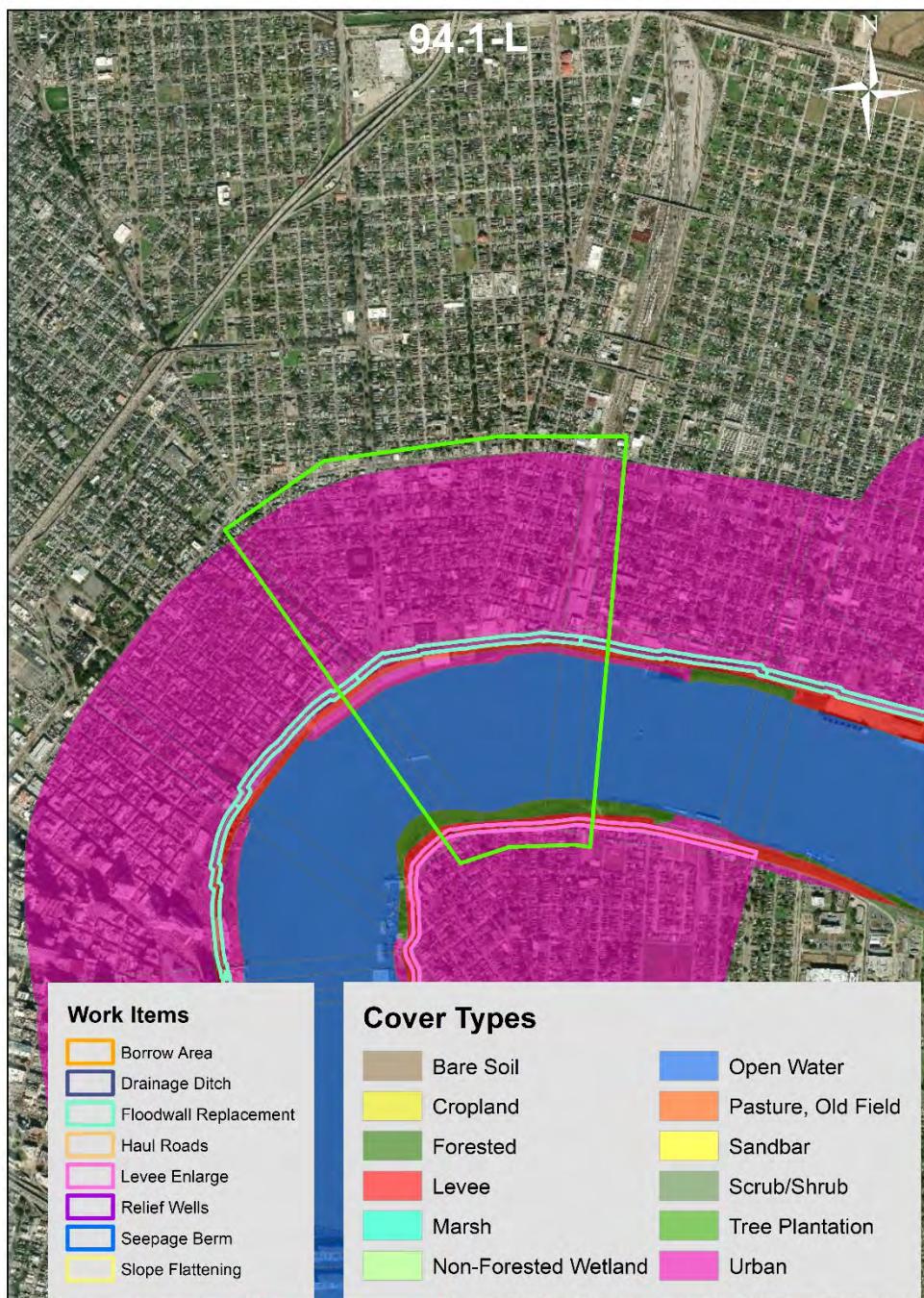
93L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		4	0.70	3		Forest		0	0.67	0	
Levee		33	0.00	0		Levee		0	0.00	0	
Open water		238	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		13	0.00	0		Urban		154	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	3	14	Target year - 5			0.69	0	0
Target year - 10			0.78	3	15	Target year - 10			0.75	0	0
Target year - 20			0.78	3	31	Target year - 20			0.75	0	0
Target year - 35			0.78	3	47	Target year - 35			0.75	0	0
Target year - 50			0.78	3	47	Target year - 50			0.75	0	0
Sum of HUs					154	Sum of HSUs					0
Pre-project AAHUs over 50 years				3		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		3.3				Levee		3.3			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		-3.3				Urban		-3.3			
Post-project land cover						Post-project land cover					
Forest		4	0.70	3		Forest		0	0.67	0	
Levee		37	0.00	0		Levee		4	0.00	0	
Open water		238	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		10	0.00	0		Urban		151	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	3	14	Target year - 5			0.69	0	0
Target year - 10			0.78	3	15	Target year - 10			0.75	0	0
Target year - 20			0.78	3	31	Target year - 20			0.75	0	0
Target year - 35			0.78	3	47	Target year - 35			0.75	0	0
Target year - 50			0.78	3	47	Target year - 50			0.75	0	0
Sum of HUs					154	Sum of HSUs					0
Post-project AAHUs over 50 years				3		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.23 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 93-L, Independence St. to I.H.N.C. Floodwall, LA, Floodwall, Item 93-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



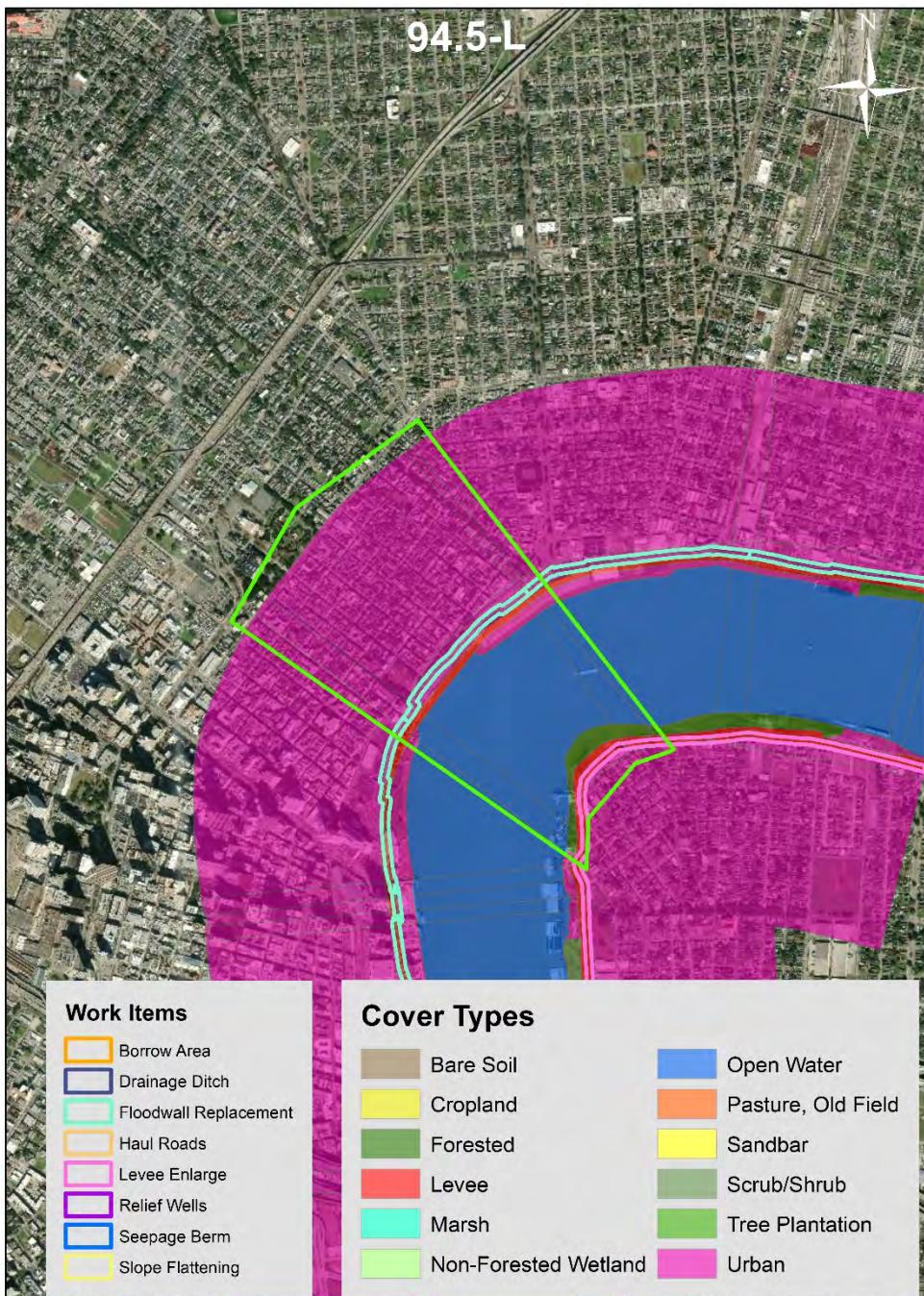
93.6L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		11	0.70	8		Forest		0	0.67	0			
Levee		16	0.00	0		Levee		0	0.00	0			
Open water		120	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		19	0.00	0		Urban		182	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	8	38	Target year - 5			0.69	0	0		
Target year - 10			0.78	9	41	Target year - 10			0.75	0	0		
Target year - 20			0.78	9	85	Target year - 20			0.75	0	0		
Target year - 35			0.78	9	128	Target year - 35			0.75	0	0		
Target year - 50			0.78	9	128	Target year - 50			0.75	0	0		
Sum of HUs					420	Sum of HSUs					0		
Pre-project AAHUs over 50 years				8		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		3.3				Levee		2.5					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		-3.3				Urban		-2.5					
Post-project land cover						Post-project land cover							
Forest		11	0.70	8		Forest		0	0.67	0			
Levee		19	0.00	0		Levee		3	0.00	0			
Open water		120	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		16	0.00	0		Urban		180	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	8	38	Target year - 5			0.69	0	0		
Target year - 10			0.78	9	41	Target year - 10			0.75	0	0		
Target year - 20			0.78	9	85	Target year - 20			0.75	0	0		
Target year - 35			0.78	9	128	Target year - 35			0.75	0	0		
Target year - 50			0.78	9	128	Target year - 50			0.75	0	0		
Sum of HUs					420	Sum of HSUs					0		
Post-project AAHUs over 50 years				8		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.24 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 93.6-L, Montegut St. to Independence St. Floodwall, LA, Floodwall, Item 93.6-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



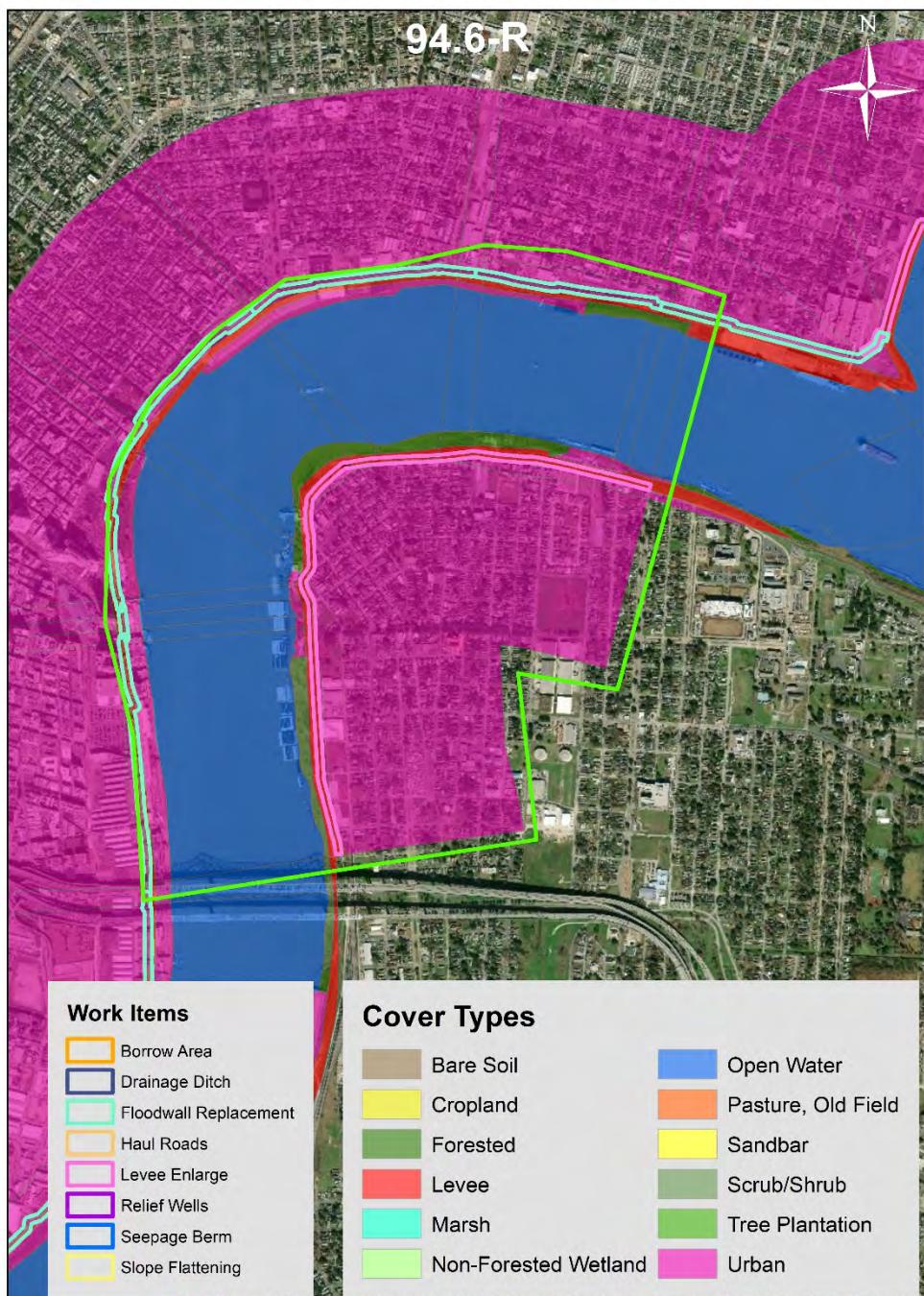
94.1L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		7	0.70	5		Forest		0	0.67	0	
Levee		11	0.00	0		Levee		0	0.00	0	
Open water		112	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		18	0.00	0		Urban		251	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	5	26	Target year - 5			0.69	0	0
Target year - 10			0.78	6	27	Target year - 10			0.75	0	0
Target year - 20			0.78	6	57	Target year - 20			0.75	0	0
Target year - 35			0.78	6	86	Target year - 35			0.75	0	0
Target year - 50			0.78	6	86	Target year - 50			0.75	0	0
Sum of HUs					281	Sum of HSUs					0
Pre-project AAHUs over 50 years				6		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		4.4				Levee		2.9			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		-4.4				Urban		-2.9			
Post-project land cover						Post-project land cover					
Forest		7	0.70	5	26	Forest		0	0.67	0	
Levee		15	0.00	0		Levee		3	0.00	0	
Open water		112	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		14	0.00	0		Urban		248	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	5	26	Target year - 5			0.69	0	0
Target year - 10			0.78	6	27	Target year - 10			0.75	0	0
Target year - 20			0.78	6	57	Target year - 20			0.75	0	0
Target year - 35			0.78	6	86	Target year - 35			0.75	0	0
Target year - 50			0.78	6	86	Target year - 50			0.75	0	0
Sum of HUs					281	Sum of HSUs					0
Post-project AAHUs over 50 years				6		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.25 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 94.1-L, Barracks St. to Montegut St. Floodwall, LA, Floodwall, Item 94.1-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



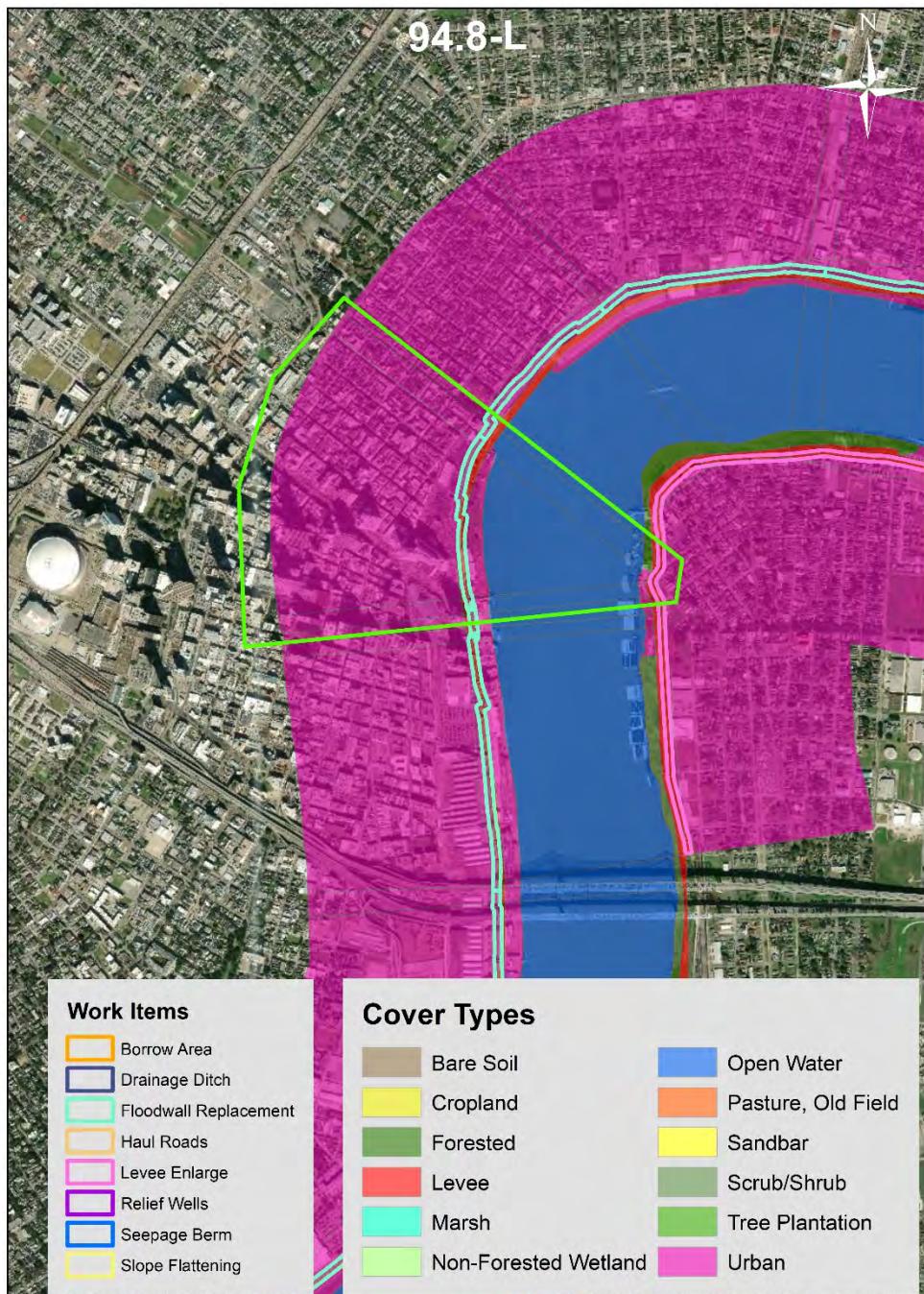
94.5L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		8	0.70	5		Forest		0	0.67	0	
Levee		11	0.00	0		Levee		0	0.00	0	
Open water		109	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		14	0.00	0		Urban		166	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	5	27	Target year - 5			0.69	0	0
Target year - 10			0.78	6	29	Target year - 10			0.75	0	0
Target year - 20			0.78	6	60	Target year - 20			0.75	0	0
Target year - 35			0.78	6	90	Target year - 35			0.75	0	0
Target year - 50			0.78	6	90	Target year - 50			0.75	0	0
Sum of HUs					297	Sum of HSUs					0
Pre-project AAHUs over 50 years				6		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		3.4				Levee		2.4			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		-3.4				Urban		-2.4			
Post-project land cover						Post-project land cover					
Forest		8	0.70	5		Forest		0	0.67	0	
Levee		15	0.00	0		Levee		2	0.00	0	
Open water		109	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		10	0.00	0		Urban		164	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	5	27	Target year - 5			0.69	0	0
Target year - 10			0.78	6	29	Target year - 10			0.75	0	0
Target year - 20			0.78	6	60	Target year - 20			0.75	0	0
Target year - 35			0.78	6	90	Target year - 35			0.75	0	0
Target year - 50			0.78	6	90	Target year - 50			0.75	0	0
Sum of HUs					297	Sum of HSUs					0
Post-project AAHUs over 50 years				6		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.26 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 94.5-L, Dumaine St. Floodwall, LA, Floodwall, Item 94.5-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



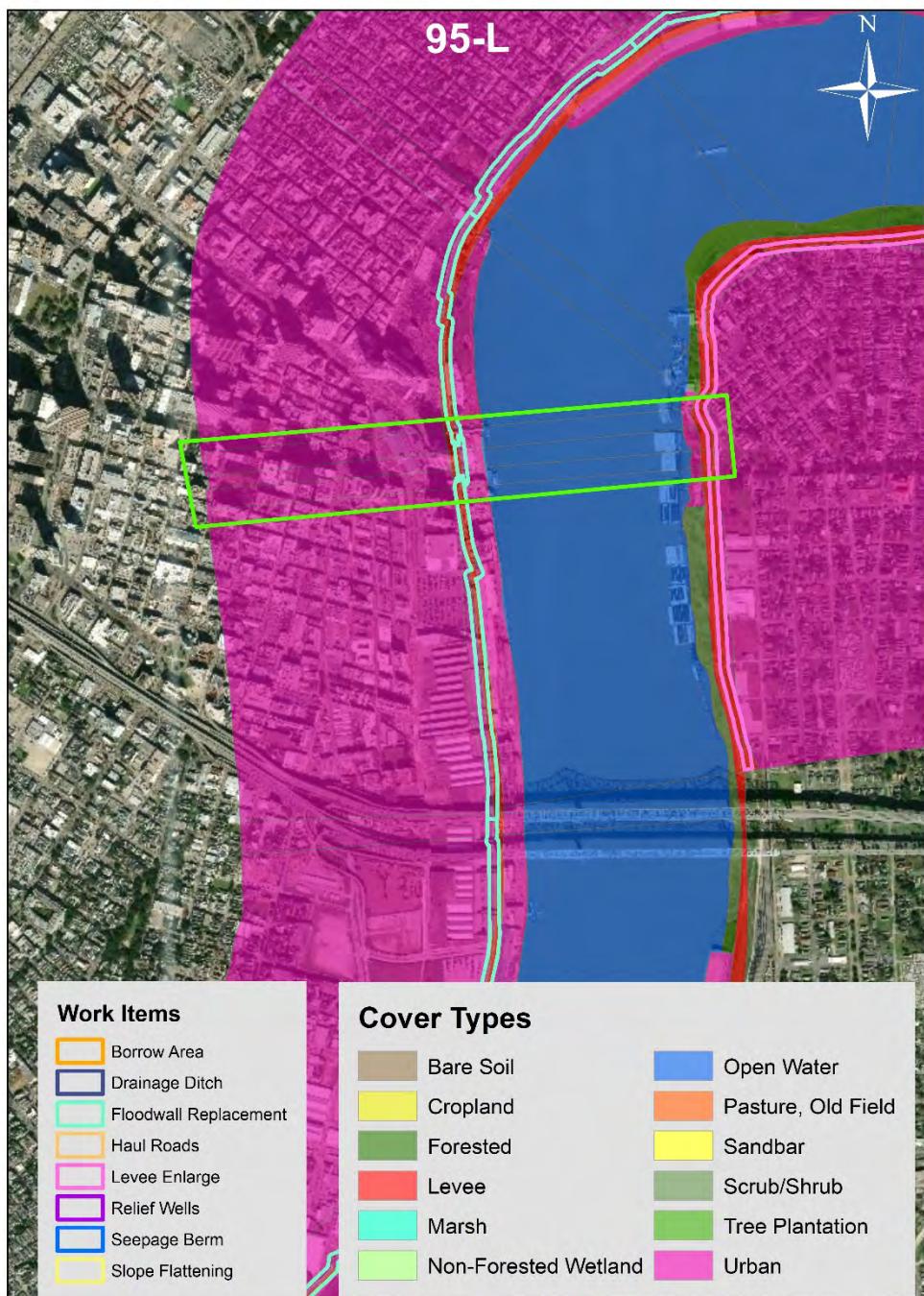
94.6R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		33	0.70	23		Forest		0	0.67	0			
Levee		47	0.00	0		Levee		20	0.00	0			
Open water		561	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		1	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		115	0.00	0		Urban		410	0.00	0			
Pre-project future conditions		Pre-project future conditions											
Target year - 5		0.71	24	117		Target year - 5		0.69	0	0			
Target year - 10		0.78	26	124		Target year - 10		0.75	0	0			
Target year - 20		0.78	26	260		Target year - 20		0.75	0	0			
Target year - 35		0.78	26	390		Target year - 35		0.75	0	0			
Target year - 50		0.78	26	390		Target year - 50		0.75	0	0			
Sum of HUs				1280		Sum of HSUs							0
Pre-project AAHUs over 50 years				26		Pre-project AAHUs over 50 years							0
Land cover change		Land cover change											
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		1.9					
Open water		0.0				Open water		1.2					
Cropland		0.0				Cropland		-1.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.9					
Post-project land cover		Post-project land cover											
Forest		33	0.70	23		Forest		0	0.67	0			
Levee		47	0.00	0		Levee		22	0.00	0			
Open water		561	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		115	0.00	0		Urban		408	0.00	0			
Post-project future conditions		Post-project future conditions											
Target year - 5		0.71	24	117		Target year - 5		0.69	0	0			
Target year - 10		0.78	26	124		Target year - 10		0.75	0	0			
Target year - 20		0.78	26	260		Target year - 20		0.75	0	0			
Target year - 35		0.78	26	390		Target year - 35		0.75	0	0			
Target year - 50		0.78	26	390		Target year - 50		0.75	0	0			
Sum of HUs				1280		Sum of HSUs							0
Post-project AAHUs over 50 years				26		Post-project AAHUs over 50 years							0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years							0.0
Mitigation		Mitigation											
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs						Sum of HSUs							0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.0

Figure 10.1.27 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 94.6-R, Algiers Point 93.75-95.5 R, LA, Levee or Floodwall, Item 94.6-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



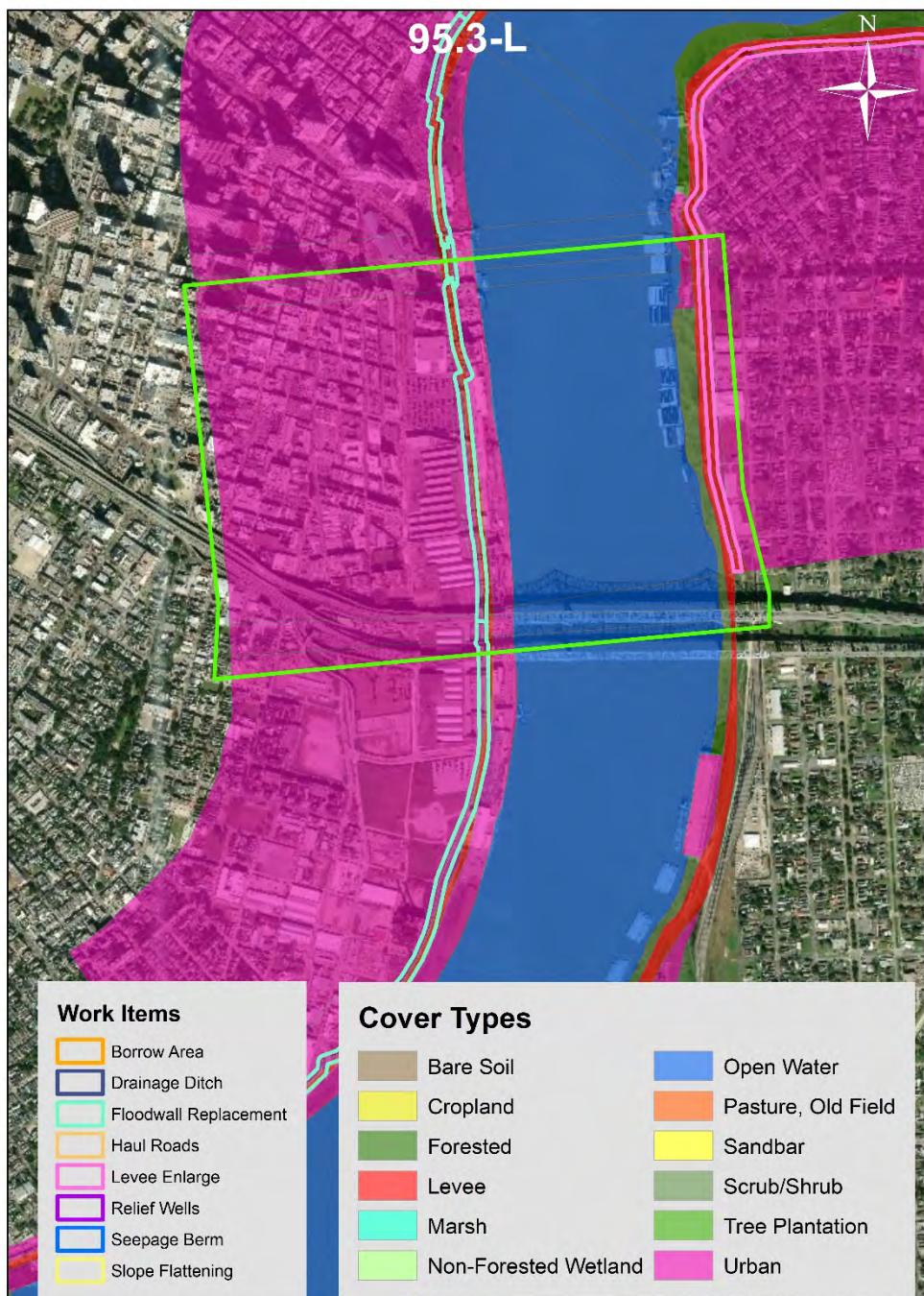
94.8L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		1	0.70	1		Forest		0	0.67	0			
Levee		4	0.00	0		Levee		4	0.00	0			
Open water		83	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		14	0.00	0		Urban		216	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	1	3	Target year - 5			0.69	0	0		
Target year - 10			0.78	1	3	Target year - 10			0.75	0	0		
Target year - 20			0.78	1	7	Target year - 20			0.75	0	0		
Target year - 35			0.78	1	11	Target year - 35			0.75	0	0		
Target year - 50			0.78	1	11	Target year - 50			0.75	0	0		
Sum of HUs					35	Sum of HSUs							0
Pre-project AAHUs over 50 years				1		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		1.9				Levee			1.3				
Open water		0.0				Open water			0.0				
Cropland		0.0				Cropland			0.0				
Pasture/old field		0.0				Pasture/old field			0.0				
Urban		-1.9				Urban			-1.3				
Post-project land cover						Post-project land cover							
Forest		1	0.70	1	3	Forest		0	0.67	0			
Levee		6	0.00	0	3	Levee		5	0.00	0			
Open water		83	0.00	0	7	Open water		0	0.00	0			
Cropland		0	0.00	0	11	Cropland		0	0.00	0			
Pasture/old field		0	0.00	0	11	Pasture/old field		0	0.00	0			
Urban		12	0.00	0	11	Urban		215	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	1	3	Target year - 5			0.69	0	0		
Target year - 10			0.78	1	3	Target year - 10			0.75	0	0		
Target year - 20			0.78	1	7	Target year - 20			0.75	0	0		
Target year - 35			0.78	1	11	Target year - 35			0.75	0	0		
Target year - 50			0.78	1	11	Target year - 50			0.75	0	0		
Sum of HUs					35	Sum of HSUs							0
Post-project AAHUs over 50 years				1		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0			
Sum of HUs					0	Sum of HSUs							0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.0

Figure 10.1.28 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 94.8-L, Canal St. to Toulouse St. Floodwall, LA, Floodwall, Item 94.8-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



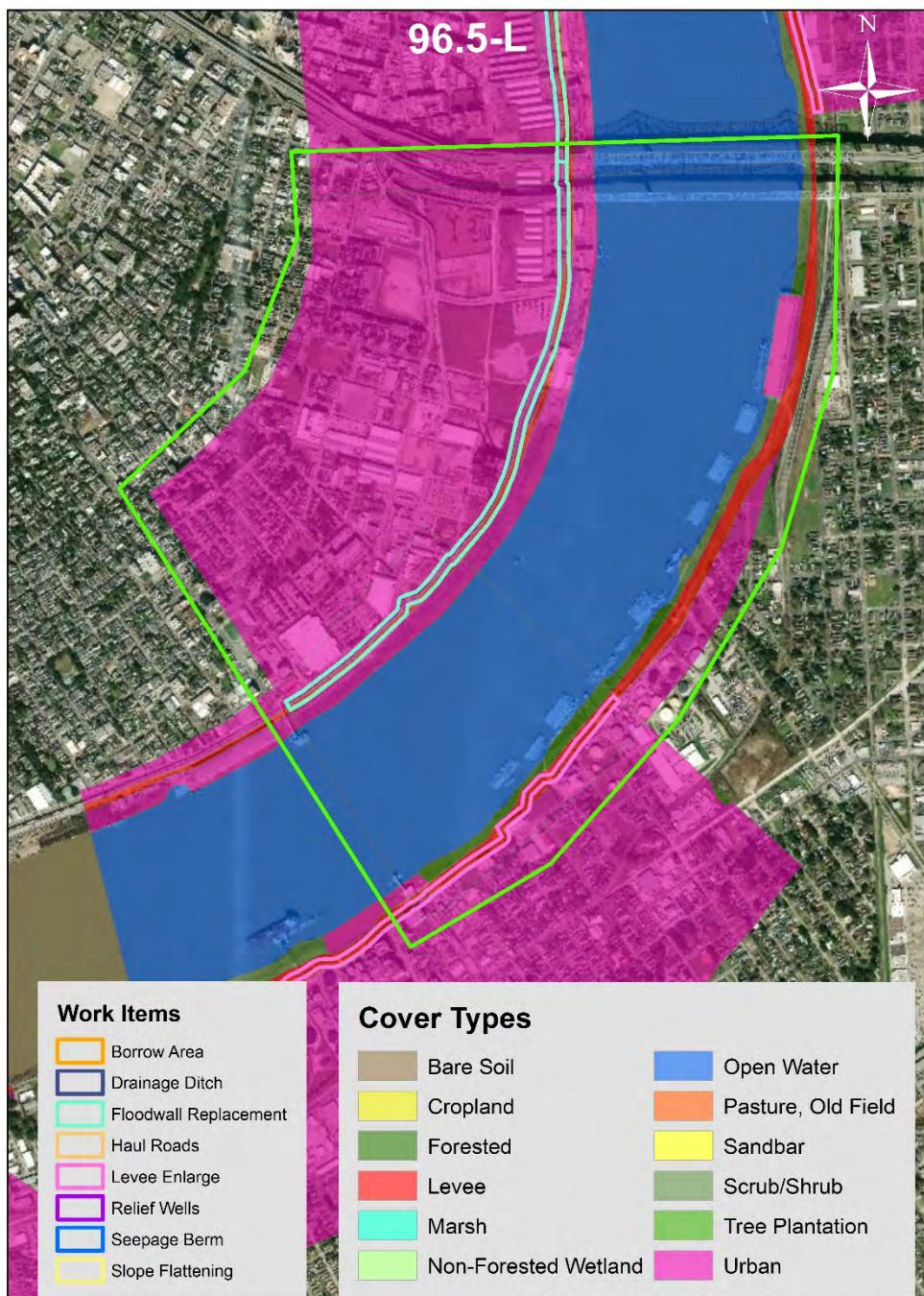
95L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		0	0.70	0		Forest		0	0.67	0	
Levee		2	0.00	0		Levee		2	0.00	0	
Open water		29	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		5	0.00	0		Urban		35	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	0	0	Target year - 5			0.69	0	0
Target year - 10			0.78	0	0	Target year - 10			0.75	0	0
Target year - 20			0.78	0	0	Target year - 20			0.75	0	0
Target year - 35			0.78	0	0	Target year - 35			0.75	0	0
Target year - 50			0.78	0	0	Target year - 50			0.75	0	0
Sum of HUs					0	Sum of HSUs					0
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years				0	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.4				Levee		0.4			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		-0.4				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.70	0	0	Forest		0	0.67	0	
Levee		2	0.00	0	0	Levee		2	0.00	0	
Open water		29	0.00	0	0	Open water		0	0.00	0	
Cropland		0	0.00	0	0	Cropland		0	0.00	0	
Pasture/old field		0	0.00	0	0	Pasture/old field		0	0.00	0	
Urban		5	0.00	0	0	Urban		35	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	0	0	Target year - 5			0.69	0	0
Target year - 10			0.78	0	0	Target year - 10			0.75	0	0
Target year - 20			0.78	0	0	Target year - 20			0.75	0	0
Target year - 35			0.78	0	0	Target year - 35			0.75	0	0
Target year - 50			0.78	0	0	Target year - 50			0.75	0	0
Sum of HUs					0	Sum of HSUs					0
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years				0	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0	0	Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years				0.0	

Figure 10.1.29 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 95-L, Spanish Plaza, LA, Floodwall, Item 95-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



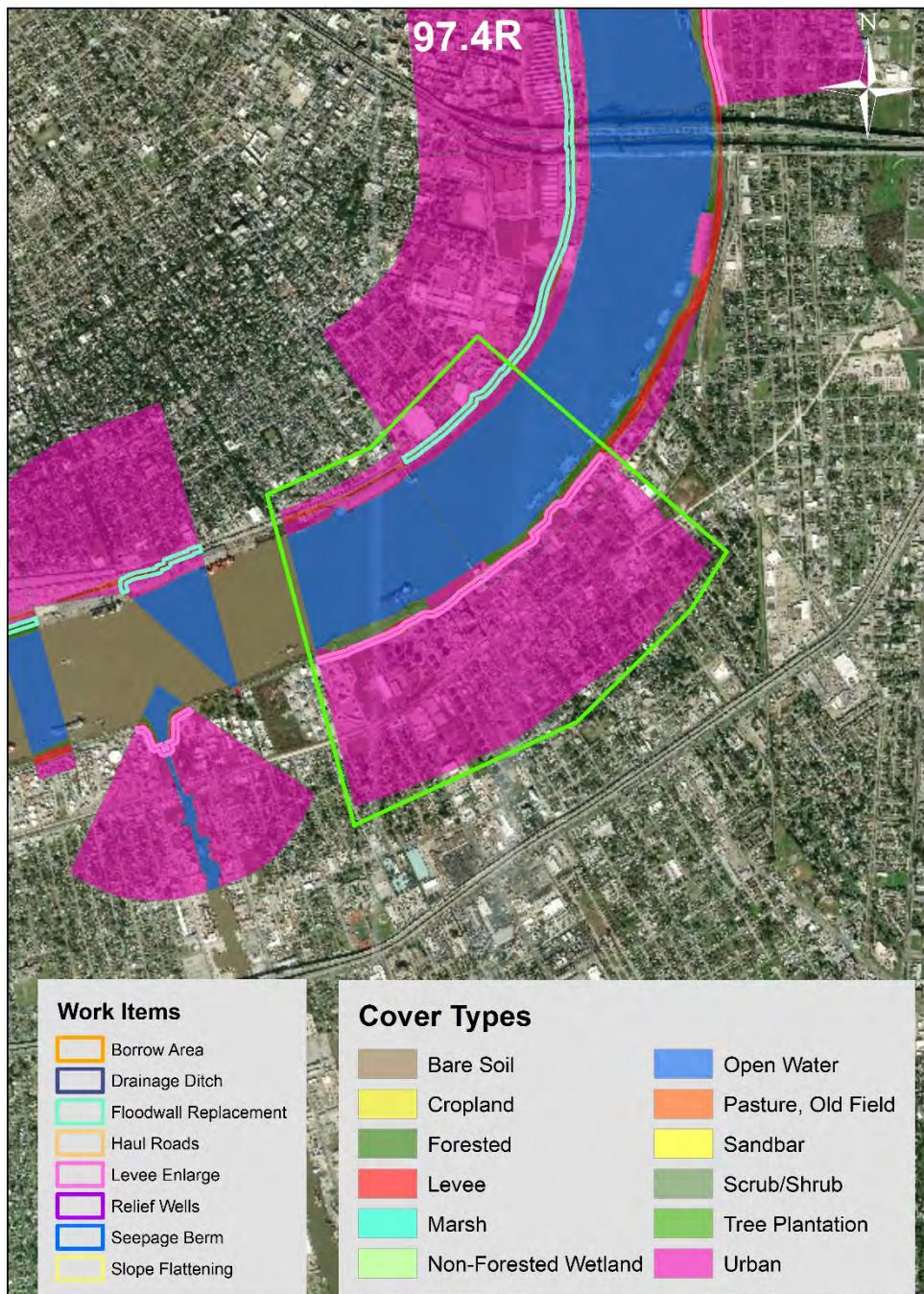
95.3L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		10	0.70	7		Forest		0	0.67	0			
Levee		19	0.00	0		Levee		2	0.00	0			
Open water		176	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		24	0.00	0		Urban		227	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	7	34	Target year - 5			0.69	0	0		
Target year - 10			0.78	8	36	Target year - 10			0.75	0	0		
Target year - 20			0.78	8	76	Target year - 20			0.75	0	0		
Target year - 35			0.78	8	114	Target year - 35			0.75	0	0		
Target year - 50			0.78	8	114	Target year - 50			0.75	0	0		
Sum of HUs					374	Sum of HSUs					0		
Pre-project AAHUs over 50 years				7		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.3				Levee		2.9					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		-0.3				Urban		-2.9					
Post-project land cover						Post-project land cover							
Forest		10	0.70	7		Forest		0	0.67	0			
Levee		19	0.00	0		Levee		5	0.00	0			
Open water		176	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		24	0.00	0		Urban		224	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	7	34	Target year - 5			0.69	0	0		
Target year - 10			0.78	8	36	Target year - 10			0.75	0	0		
Target year - 20			0.78	8	76	Target year - 20			0.75	0	0		
Target year - 35			0.78	8	114	Target year - 35			0.75	0	0		
Target year - 50			0.78	8	114	Target year - 50			0.75	0	0		
Sum of HUs					374	Sum of HSUs					0		
Post-project AAHUs over 50 years				7		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs						Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.30 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 95.3-L, Thalia St. to Poydras St. Floodwall, LA, Floodwall, Item 95.3-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



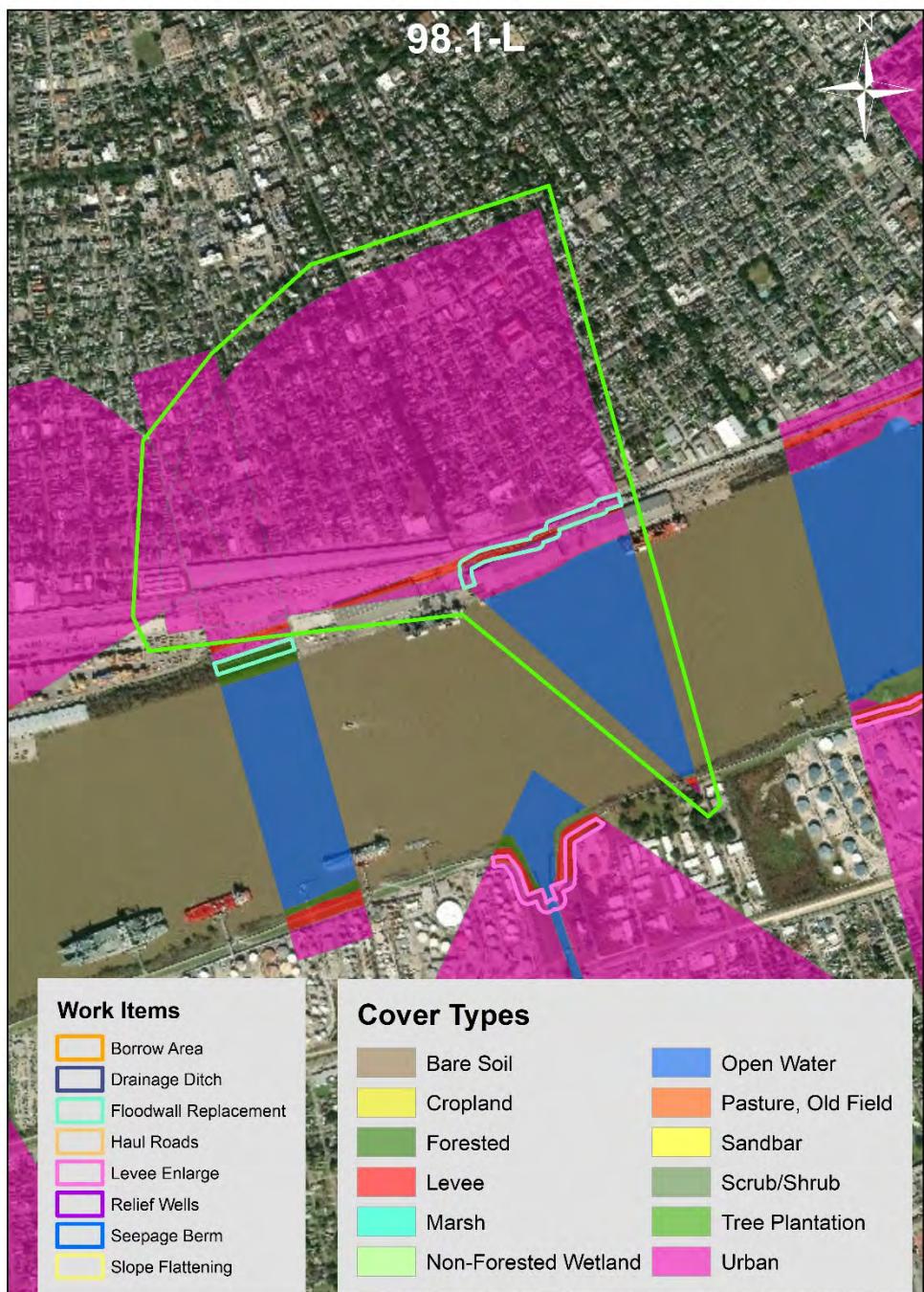
96.5L		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	11	0.70	7		Forest	0	0.67	0	
Levee	37	0.00	0		Levee	0	0.00	0	
Open water	346	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	7	0.00	0		Pasture/old field	0	0.00	0	
Urban	84	0.00	0		Urban	322	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.71	7	37	Target year - 5		0.69	0	0
Target year - 10		0.78	8	39	Target year - 10		0.75	0	0
Target year - 20		0.78	8	82	Target year - 20		0.75	0	0
Target year - 35		0.78	8	123	Target year - 35		0.75	0	0
Target year - 50		0.78	8	123	Target year - 50		0.75	0	0
Sum of HUs				405	Sum of HSUs				0
Pre-project AAHUs over 50 years			8		Pre-project AAHUs over 50 years				0
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	2.2				Levee	8.0			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	-2.2				Urban	-8.0			
Post-project land cover					Post-project land cover				
Forest	11	0.70	7		Forest	0	0.67	0	
Levee	39	0.00	0		Levee	8	0.00	0	
Open water	346	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	7	0.00	0		Pasture/old field	0	0.00	0	
Urban	81	0.00	0		Urban	314	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.71	7	37	Target year - 5		0.69	0	0
Target year - 10		0.78	8	39	Target year - 10		0.75	0	0
Target year - 20		0.78	8	82	Target year - 20		0.75	0	0
Target year - 35		0.78	8	123	Target year - 35		0.75	0	0
Target year - 50		0.78	8	123	Target year - 50		0.75	0	0
Sum of HUs				405	Sum of HSUs				0
Post-project AAHUs over 50 years			8		Post-project AAHUs over 50 years				0
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years				0.0
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years				0.0

Figure 10.1.31 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 96.5-L, Jackson to Thalia, LA Floodwall, Item 96.5-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



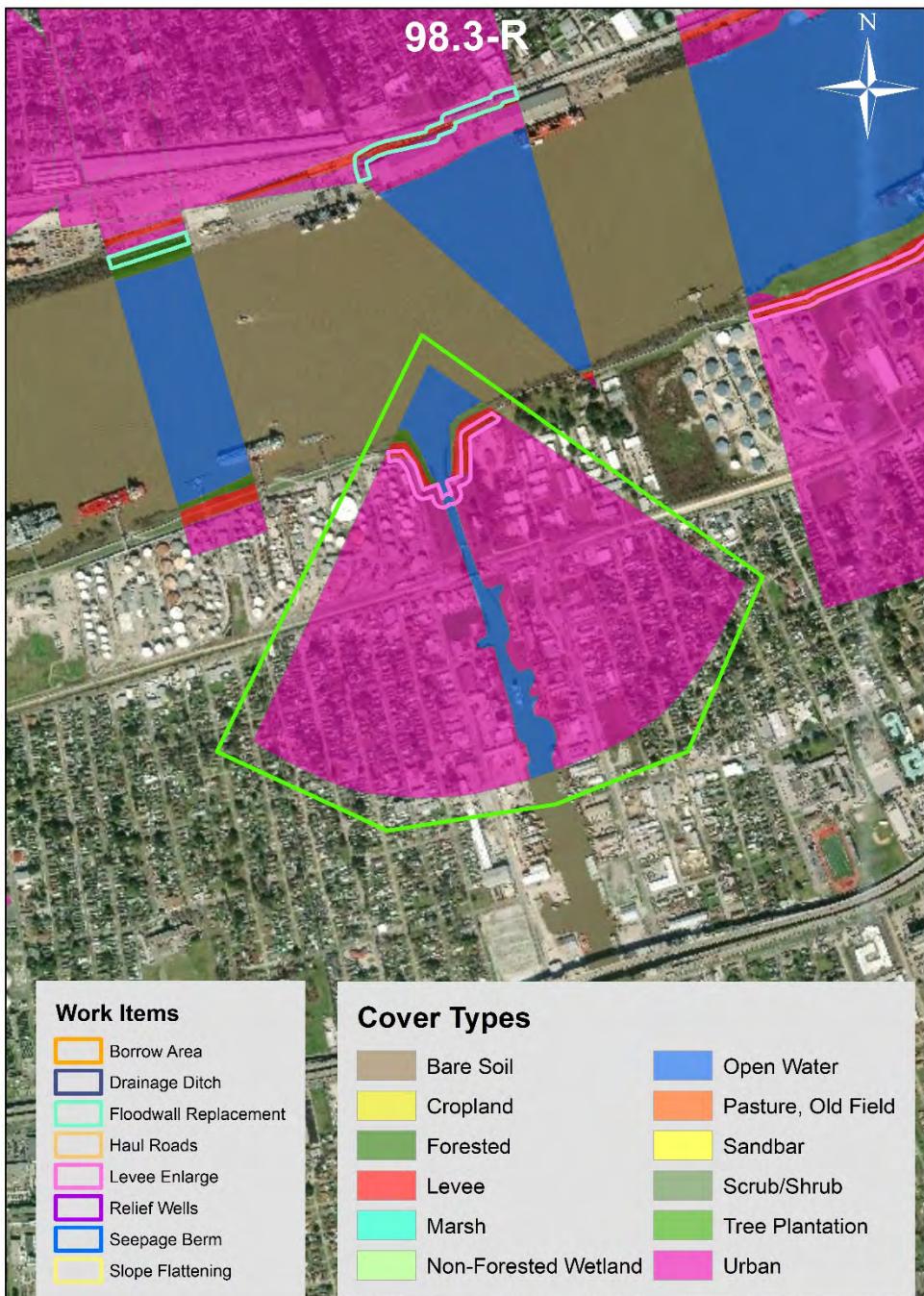
97.4R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		15	0.70	10		Forest		0	0.67	0			
Levee		14	0.00	0		Levee		12	0.00	0			
Open water		237	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		1	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		59	0.00	0		Urban		404	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	11	53	Target year - 5			0.69	0			
Target year - 10			0.78	12	56	Target year - 10			0.75	0			
Target year - 20			0.78	12	117	Target year - 20			0.75	0			
Target year - 35			0.78	12	176	Target year - 35			0.75	0			
Target year - 50			0.78	12	176	Target year - 50			0.75	0			
Sum of HUs					578	Sum of HSUs							0
Pre-project AAHUs over 50 years				12		Pre-project AAHUs over 50 years							0
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		1.5					
Open water		0.0				Open water		1.2					
Cropland		0.0				Cropland		-1.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.5					
Post-project land cover						Post-project land cover							
Forest		15	0.70	10		Forest		0	0.67	0			
Levee		14	0.00	0		Levee		14	0.00	0			
Open water		237	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		59	0.00	0		Urban		403	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	11	53	Target year - 5			0.69	0			
Target year - 10			0.78	12	56	Target year - 10			0.75	0			
Target year - 20			0.78	12	117	Target year - 20			0.75	0			
Target year - 35			0.78	12	176	Target year - 35			0.75	0			
Target year - 50			0.78	12	176	Target year - 50			0.75	0			
Sum of HUs					578	Sum of HSUs							0
Post-project AAHUs over 50 years				12		Post-project AAHUs over 50 years							0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years							0.0
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		0	Target year - 5		0.0	0.15	0		
Target year - 10		0.0	0.33	0		0	Target year - 10		0.0	0.33	0		
Target year - 20		0.0	0.67	0		0	Target year - 20		0.0	0.67	0		
Target year - 35		0.0	0.85	0		0	Target year - 35		0.0	0.85	0		
Target year - 50		0.0	0.94	0		0	Target year - 50		0.0	0.94	0		
Sum of HUs						0	Sum of HSUs						0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.0

Figure 10.1.32 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 97.4-R, Gretna Phase II 97-97.8 R, LA, Levee or Floodwall, Item 97.4-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



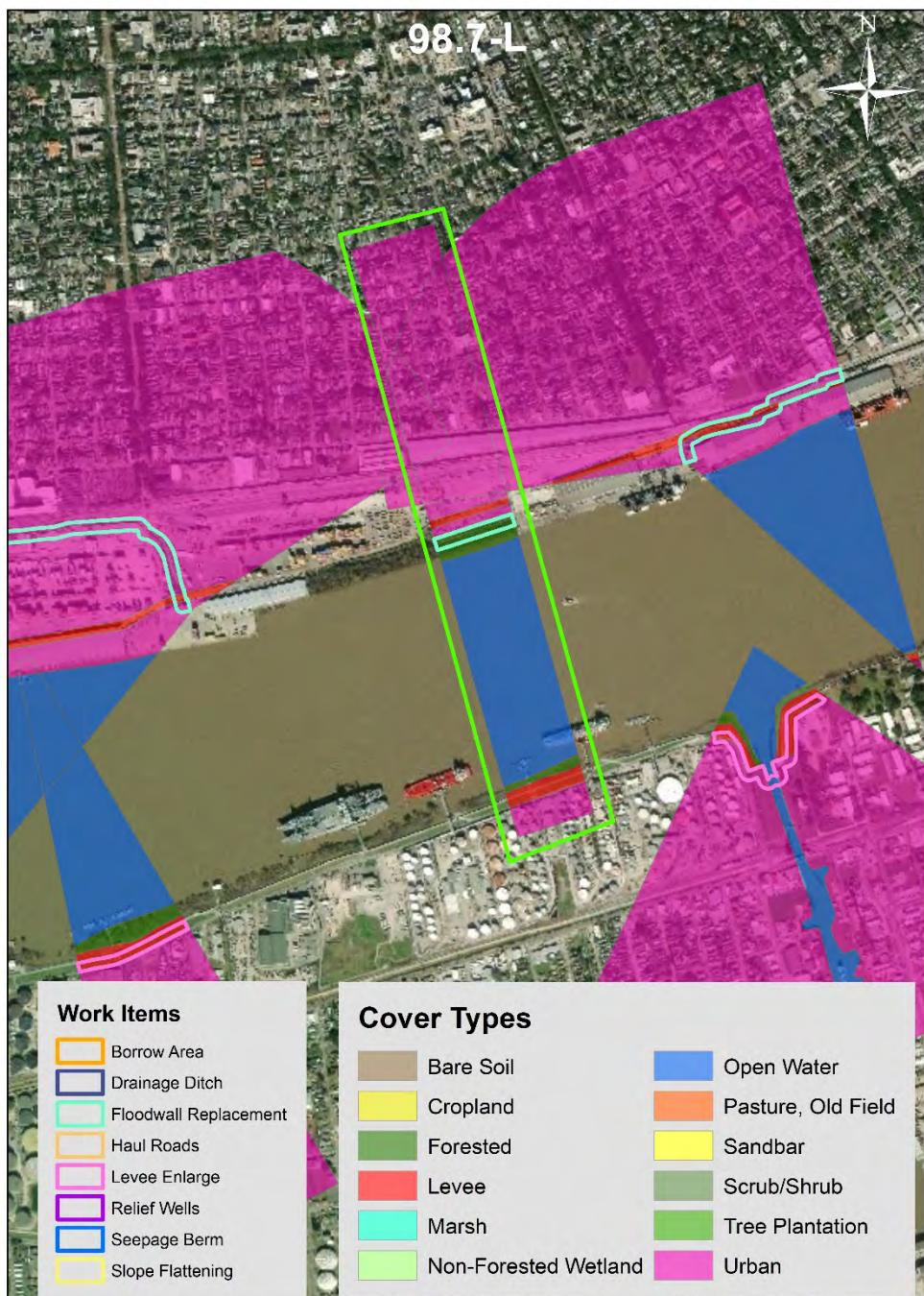
98.1L		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	0	0.70	0		Forest	0	0.67	0	
Levee	1	0.00	0		Levee	3	0.00	0	
Open water	37	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	9	0.00	0		Urban	212	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.71	0	0	Target year - 5		0.69	0	0
Target year - 10		0.78	0	0	Target year - 10		0.75	0	0
Target year - 20		0.78	0	1	Target year - 20		0.75	0	0
Target year - 35		0.78	0	1	Target year - 35		0.75	0	0
Target year - 50		0.78	0	1	Target year - 50		0.75	0	0
Sum of HUs				4	Sum of HSUs				0
Pre-project AAHUs over 50 years			0		Pre-project AAHUs over 50 years			0	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	1.3				Levee	1.0			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	-1.3				Urban	-1.0			
Post-project land cover					Post-project land cover				
Forest	0	0.70	0		Forest	0	0.67	0	
Levee	3	0.00	0		Levee	4	0.00	0	
Open water	37	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	8	0.00	0		Urban	211	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.71	0	0	Target year - 5		0.69	0	0
Target year - 10		0.78	0	0	Target year - 10		0.75	0	0
Target year - 20		0.78	0	1	Target year - 20		0.75	0	0
Target year - 35		0.78	0	1	Target year - 35		0.75	0	0
Target year - 50		0.78	0	1	Target year - 50		0.75	0	0
Sum of HUs				4	Sum of HSUs				0
Post-project AAHUs over 50 years			0		Post-project AAHUs over 50 years			0	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years			0.0	

Figure 10.1.33 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 98.1-L, Louisiana Ave to Jackson Ave Floodwall, LA, Floodwall, Item 98.1-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



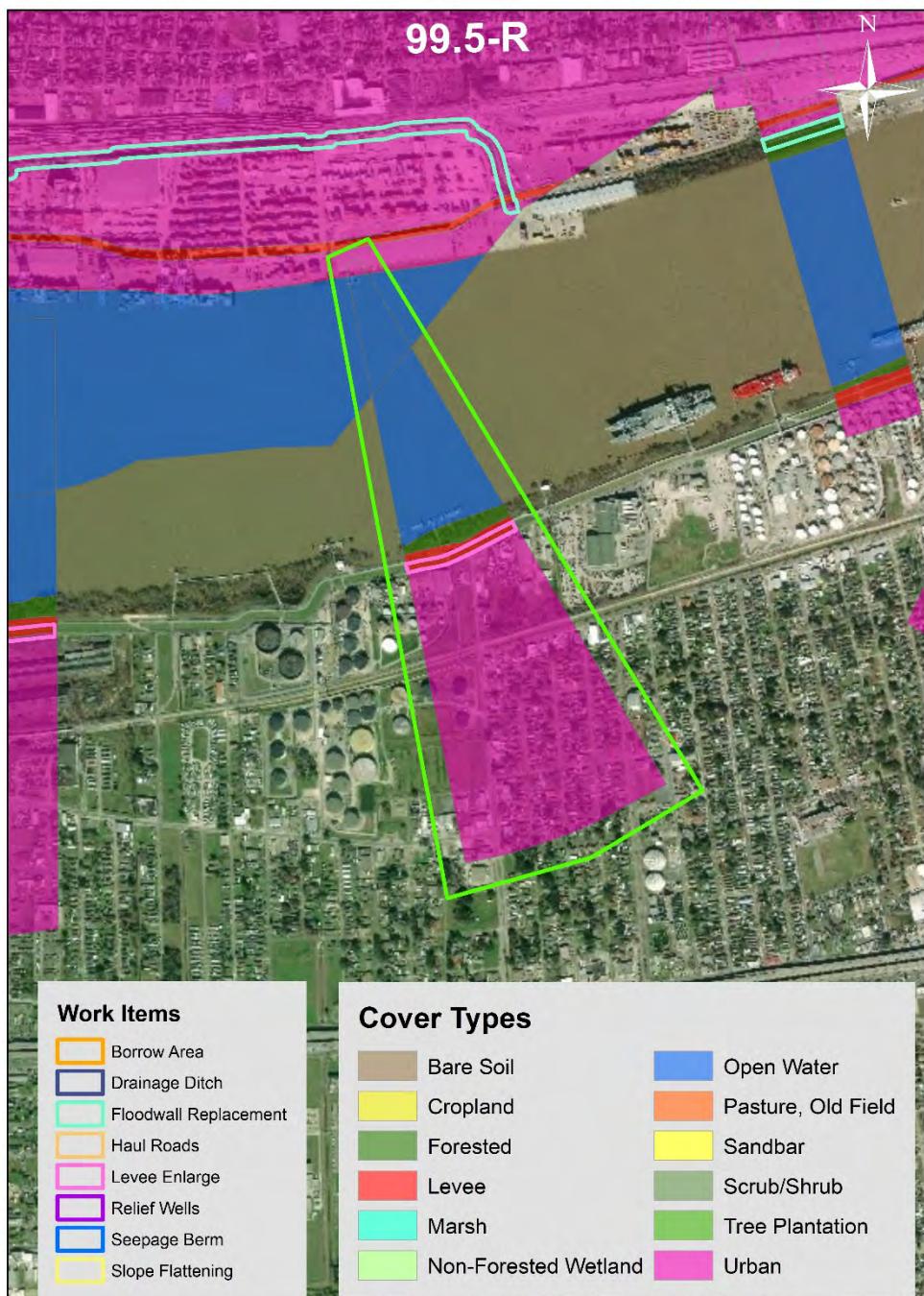
98.3R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		2	0.70	1		Forest		0	0.67	0			
Levee		2	0.00	0		Levee		2	0.00	0			
Open water		8	0.00	0		Open water		10	0.00	0			
Cropland		0	0.00	0		Cropland		1	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		188	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	1	5	Target year - 5			0.69	0	0		
Target year - 10			0.78	1	6	Target year - 10			0.75	0	0		
Target year - 20			0.78	1	12	Target year - 20			0.75	0	0		
Target year - 35			0.78	1	18	Target year - 35			0.75	0	0		
Target year - 50			0.78	1	18	Target year - 50			0.75	0	0		
Sum of HUs					58	Sum of HSUs					0		
Pre-project AAHUs over 50 years				1		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		1.9					
Open water		0.0				Open water		1.0					
Cropland		0.0				Cropland		-1.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.7					
Post-project land cover						Post-project land cover							
Forest		2	0.70	1	5	Forest		0	0.67	0			
Levee		2	0.00	0	6	Levee		4	0.00	0			
Open water		8	0.00	0	12	Open water		11	0.00	0			
Cropland		0	0.00	0	18	Cropland		0	0.00	0			
Pasture/old field		0	0.00	0	18	Pasture/old field		0	0.00	0			
Urban		0	0.00	0	187	Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	1	5	Target year - 5			0.69	0	0		
Target year - 10			0.78	1	6	Target year - 10			0.75	0	0		
Target year - 20			0.78	1	12	Target year - 20			0.75	0	0		
Target year - 35			0.78	1	18	Target year - 35			0.75	0	0		
Target year - 50			0.78	1	18	Target year - 50			0.75	0	0		
Sum of HUs				1	58	Sum of HSUs					0		
Post-project AAHUs over 50 years				0.0		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					0.0		

Figure 10.1.34 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 98.3-R, Harvey Lock Forebay – Levee, LA, Levee or Floodwall, Item 98.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



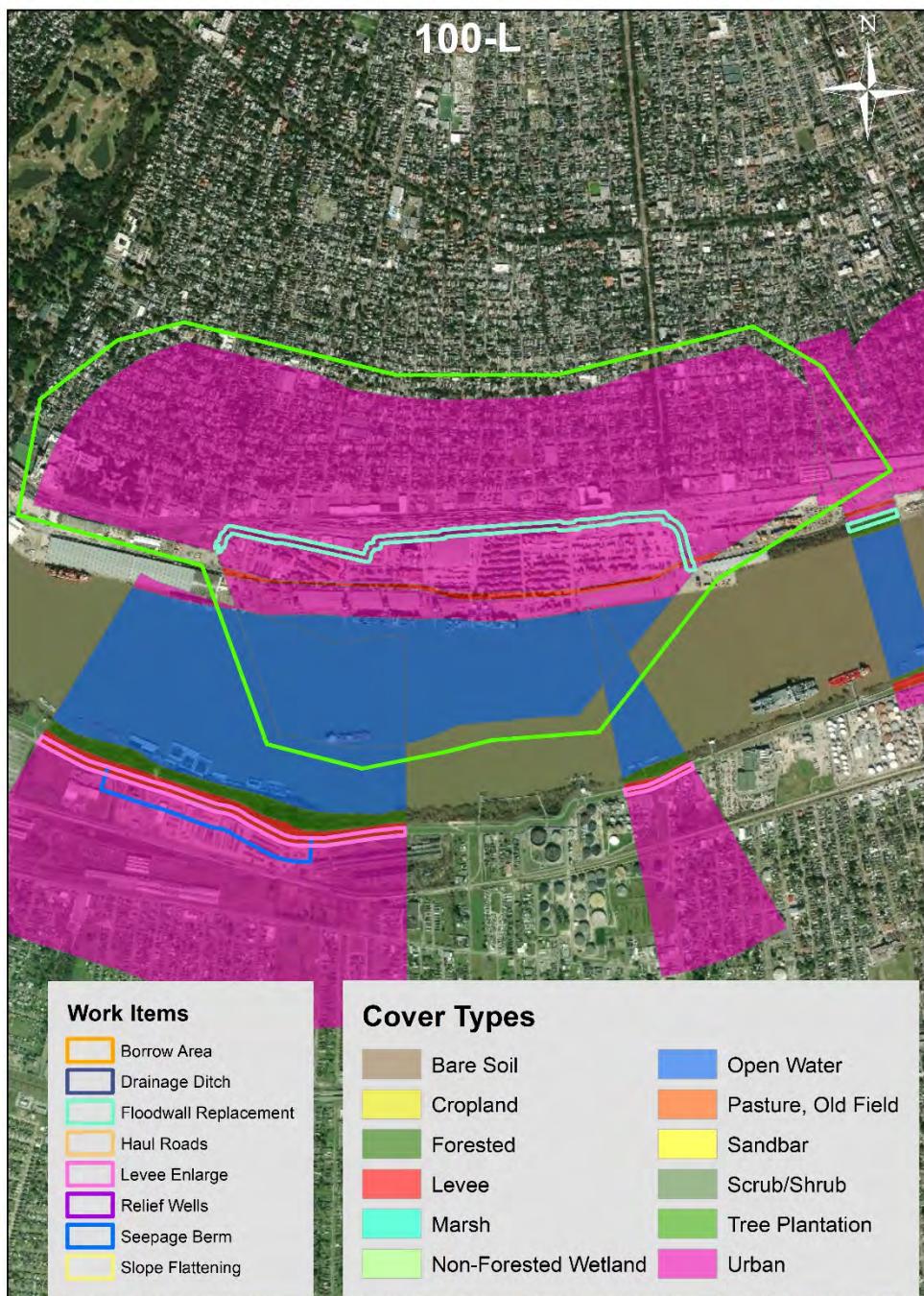
98.7L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		4	0.70	3		Forest		1	0.67	0			
Levee		2	0.00	0		Levee		1	0.00	0			
Open water		32	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		4	0.00	0		Urban		42	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	3	13	Target year - 5			0.69	0	2		
Target year - 10			0.78	3	14	Target year - 10			0.75	0	2		
Target year - 20			0.78	3	30	Target year - 20			0.75	0	4		
Target year - 35			0.78	3	45	Target year - 35			0.75	0	6		
Target year - 50			0.78	3	45	Target year - 50			0.75	0	6		
Sum of HUs					146	Sum of HSUs					19		
Pre-project AAHUs over 50 years				3		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		-0.9				Forest		-0.5					
Levee		0.9				Levee		0.6					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.1					
Post-project land cover						Post-project land cover							
Forest		3	0.70	2		Forest		0	0.67	0			
Levee		3	0.00	0		Levee		2	0.00	0			
Open water		32	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		4	0.00	0		Urban		42	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	2	10	Target year - 5			0.69	0	0		
Target year - 10			0.78	2	11	Target year - 10			0.75	0	0		
Target year - 20			0.78	2	23	Target year - 20			0.75	0	0		
Target year - 35			0.78	2	34	Target year - 35			0.75	0	0		
Target year - 50			0.78	2	34	Target year - 50			0.75	0	0		
Sum of HUs					112	Sum of HSUs					0		
Post-project AAHUs over 50 years				2		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				-0.7		Change in AAHUs over 50 years					-0.4		
Mitigation						Mitigation							
Target year - 0		1.1	0.00	0		Target year - 0		0.6	0.00	0			
Target year - 5		1.1	0.15	0		0	Target year - 5		0.6	0.15	0		
Target year - 10		1.1	0.33	0		1	Target year - 10		0.6	0.33	0		
Target year - 20		1.1	0.67	1		6	Target year - 20		0.6	0.67	0		
Target year - 35		1.1	0.85	1		13	Target year - 35		0.6	0.85	1		
Target year - 50		1.1	0.94	1		15	Target year - 50		0.6	0.94	1		
Sum of HUs					35	Sum of HSUs					19		
Mitigation AAHUs over 50 years					0.7	Mitigation AAHUs over 50 years					0.4		

Figure 10.1.35 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 98.7-L, Louisiana Avenue Wharves C&D, LA, Floodwall, Item 98.7-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.1 FCUs/AAHUs, requiring 1.7 acres of mitigation.



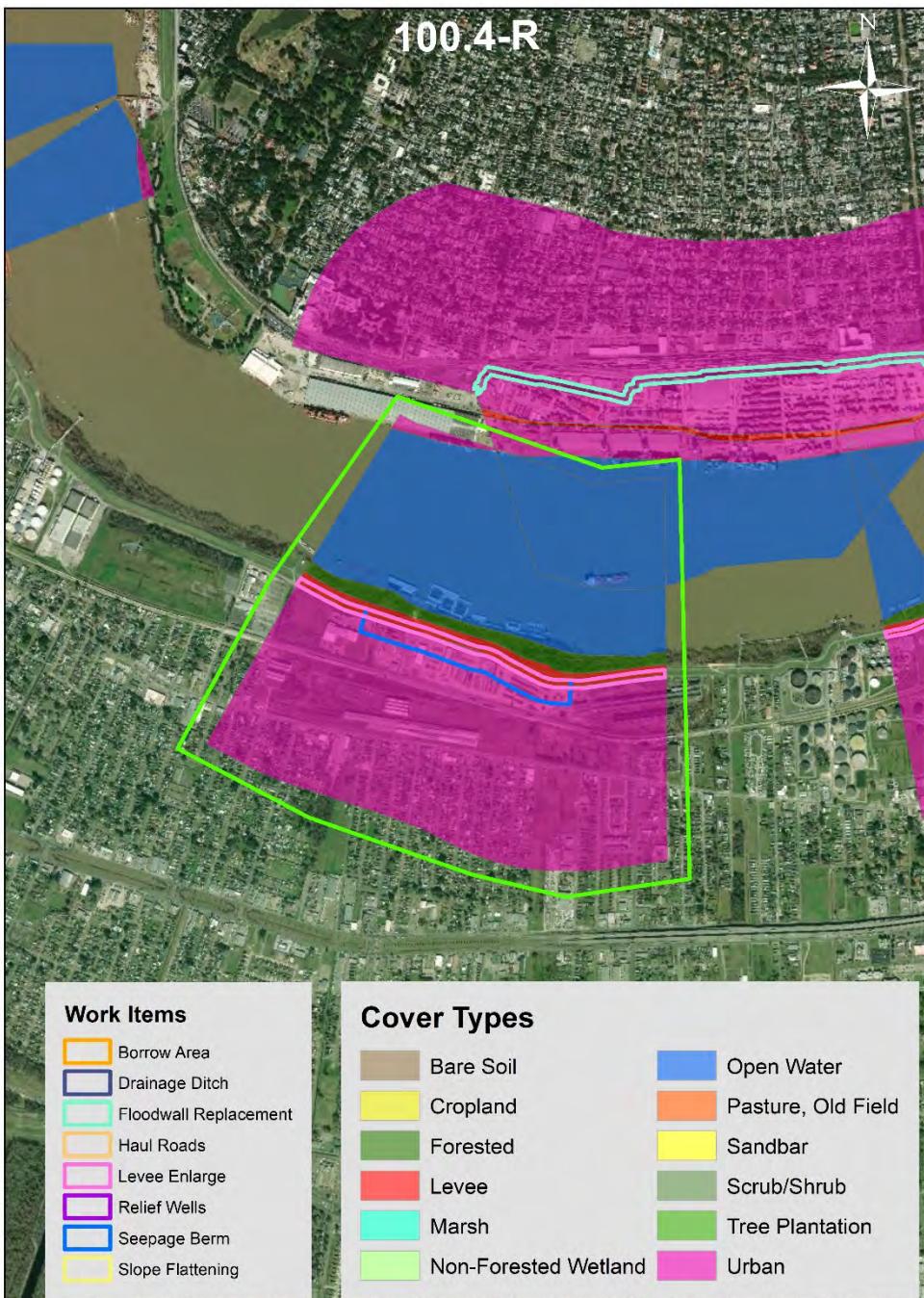
99.5R		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	3	0.70	2		Forest	0	0.67	0	
Levee	2	0.00	0		Levee	2	0.00	0	
Open water	29	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	0	0.00	0		Urban	85	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.71	2	11	Target year - 5		0.69	0	0
Target year - 10		0.78	2	12	Target year - 10		0.75	0	0
Target year - 20		0.78	2	24	Target year - 20		0.75	0	0
Target year - 35		0.78	2	36	Target year - 35		0.75	0	0
Target year - 50		0.78	2	36	Target year - 50		0.75	0	0
Sum of HUs				120	Sum of HSUs				0
Pre-project AAHUs over 50 years			2		Pre-project AAHUs over 50 years				0
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.1			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	-0.1			
Post-project land cover					Post-project land cover				
Forest	3	0.70	2		Forest	0	0.67	0	
Levee	2	0.00	0		Levee	2	0.00	0	
Open water	29	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	0	0.00	0		Urban	85	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.71	2	11	Target year - 5		0.69	0	0
Target year - 10		0.78	2	12	Target year - 10		0.75	0	0
Target year - 20		0.78	2	24	Target year - 20		0.75	0	0
Target year - 35		0.78	2	36	Target year - 35		0.75	0	0
Target year - 50		0.78	2	36	Target year - 50		0.75	0	0
Sum of HUs				120	Sum of HSUs				0
Post-project AAHUs over 50 years			2		Post-project AAHUs over 50 years				0
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years				0.0
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years				0.0

Figure 10.1.36 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 99.5-R, Barataria Blvd., LA, Levee, Item 99.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



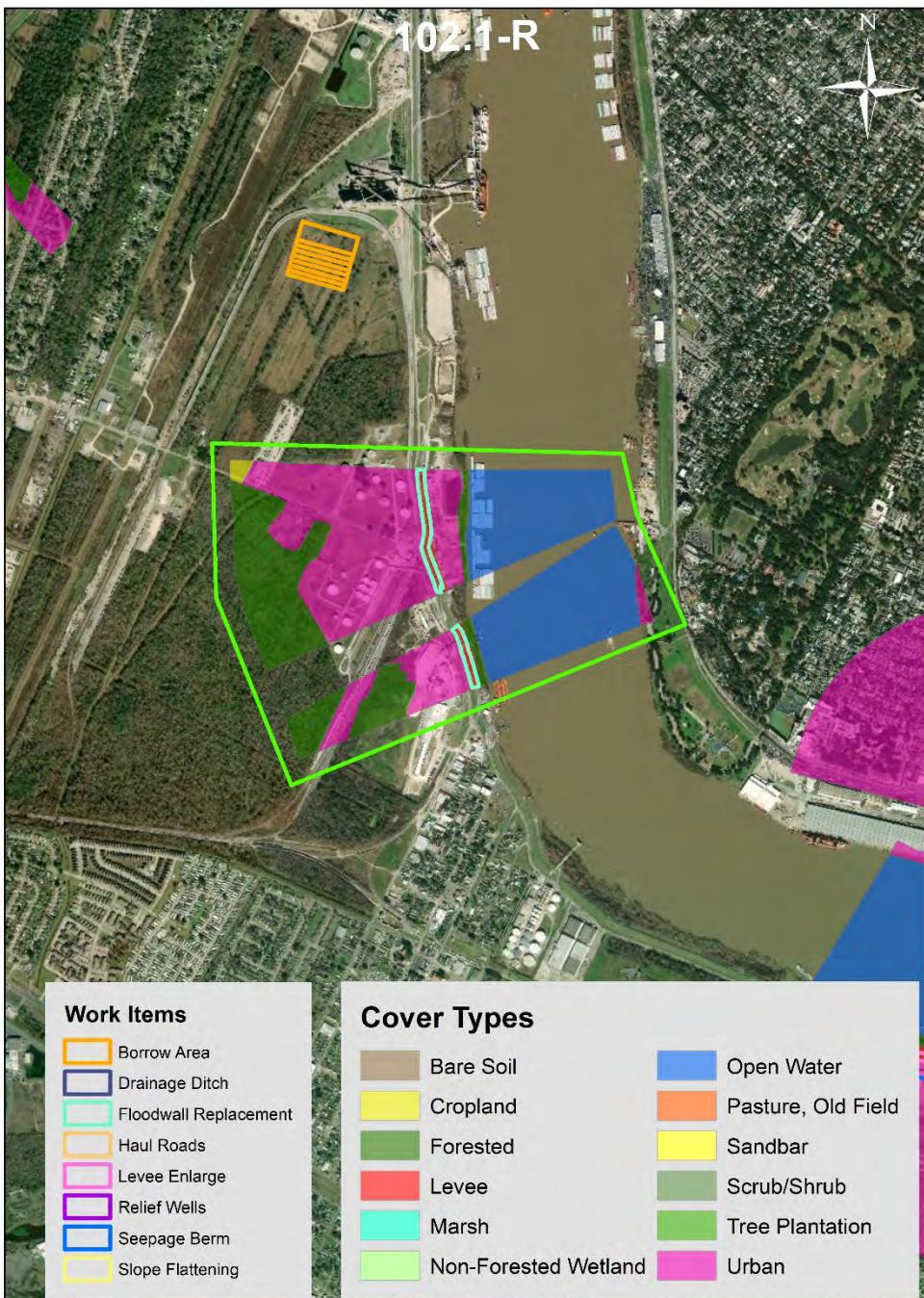
100L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		0	0.70	0		Forest		0	0.67	0			
Levee		11	0.00	0		Levee		1	0.00	0			
Open water		182	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		152	0.00	0		Urban		528	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.71	0	0	Target year - 5			0.69	0	0		
Target year - 10			0.78	0	0	Target year - 10			0.75	0	0		
Target year - 20			0.78	0	0	Target year - 20			0.75	0	0		
Target year - 35			0.78	0	0	Target year - 35			0.75	0	0		
Target year - 50			0.78	0	0	Target year - 50			0.75	0	0		
Sum of HUs					0	Sum of HSUs					0		
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		9.4				Levee		7.7					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		-9.4				Urban		-7.7					
Post-project land cover						Post-project land cover							
Forest		0	0.70	0	0	Forest		0	0.67	0			
Levee		20	0.00	0	0	Levee		8	0.00	0			
Open water		182	0.00	0	0	Open water		0	0.00	0			
Cropland		0	0.00	0	0	Cropland		0	0.00	0			
Pasture/old field		0	0.00	0	0	Pasture/old field		0	0.00	0			
Urban		143	0.00	0	0	Urban		521	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.71	0	0	Target year - 5			0.69	0	0		
Target year - 10			0.78	0	0	Target year - 10			0.75	0	0		
Target year - 20			0.78	0	0	Target year - 20			0.75	0	0		
Target year - 35			0.78	0	0	Target year - 35			0.75	0	0		
Target year - 50			0.78	0	0	Target year - 50			0.75	0	0		
Sum of HUs					0	Sum of HSUs					0		
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0	0	Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					0.0		

Figure 10.1.37 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 100-L, Nashville Ave. to Napoleon Ave. Floodwall, LA, Floodwall, Item 100-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



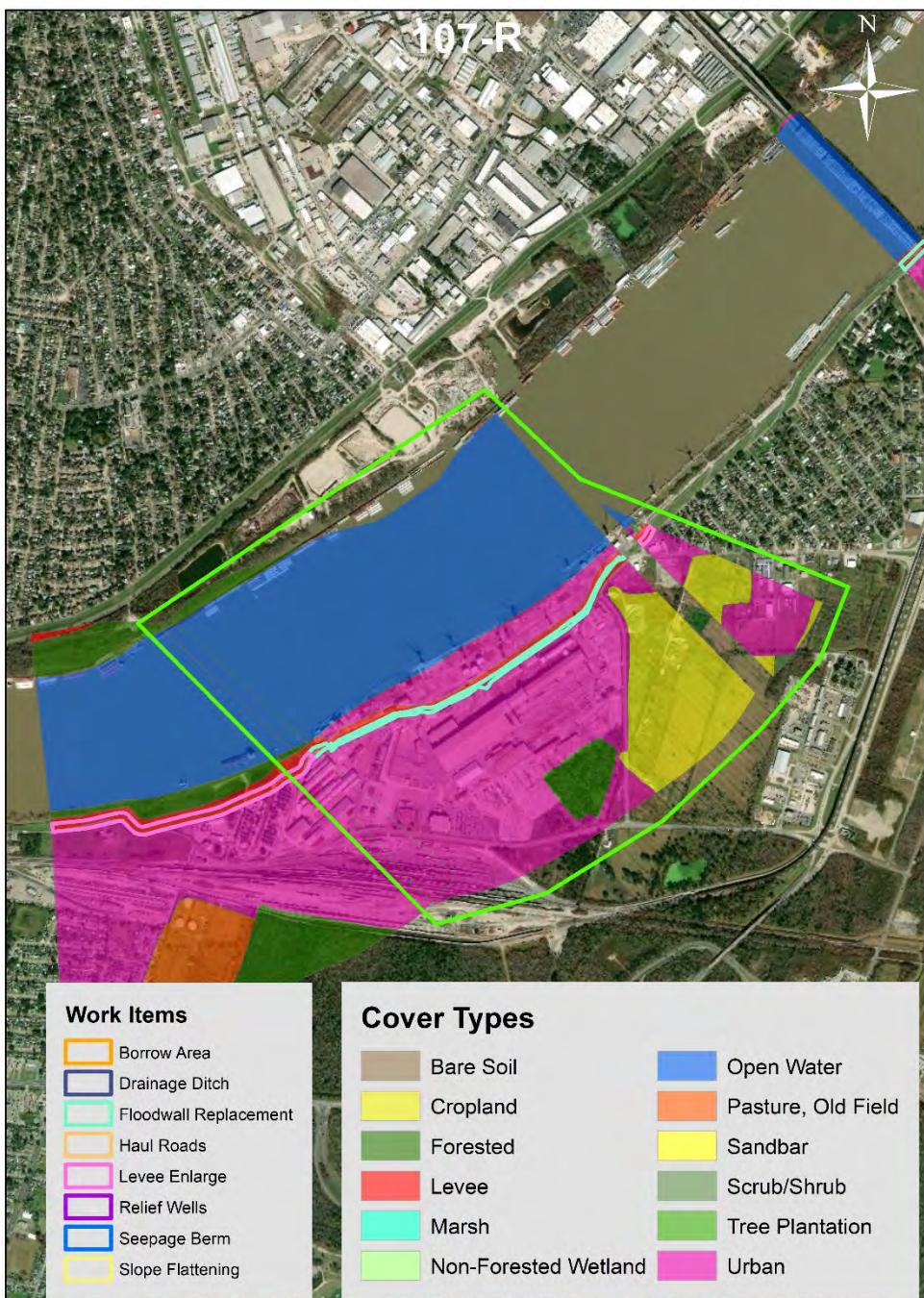
100.4R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		23	0.70	16		Forest		0	0.67	0	
Levee		11	0.00	0		Levee		11	0.00	0	
Open water		238	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		4	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		4	0.00	0		Urban		351	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	17	82	Target year - 5			0.69	0	0
Target year - 10			0.78	18	87	Target year - 10			0.75	0	0
Target year - 20			0.78	18	182	Target year - 20			0.75	0	0
Target year - 35			0.78	18	273	Target year - 35			0.75	0	0
Target year - 50			0.78	18	273	Target year - 50			0.75	0	0
Sum of HUs					898	Sum of HSUs					0
Pre-project AAHUs over 50 years				18		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		18.5			
Open water		0.0				Open water		4.5			
Cropland		0.0				Cropland		-4.4			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-18.6			
Post-project land cover						Post-project land cover					
Forest		23	0.70	16		Forest		0	0.67	0	
Levee		11	0.00	0		Levee		29	0.00	0	
Open water		238	0.00	0		Open water		5	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		4	0.00	0		Urban		332	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	17	82	Target year - 5			0.69	0	0
Target year - 10			0.78	18	87	Target year - 10			0.75	0	0
Target year - 20			0.78	18	182	Target year - 20			0.75	0	0
Target year - 35			0.78	18	273	Target year - 35			0.75	0	0
Target year - 50			0.78	18	273	Target year - 50			0.75	0	0
Sum of HUs					898	Sum of HSUs					0
Post-project AAHUs over 50 years				18		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.38 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 100.4-R, Dugas to Celotex, LA, Levee, Berm and/or Wells, Item 100.4-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



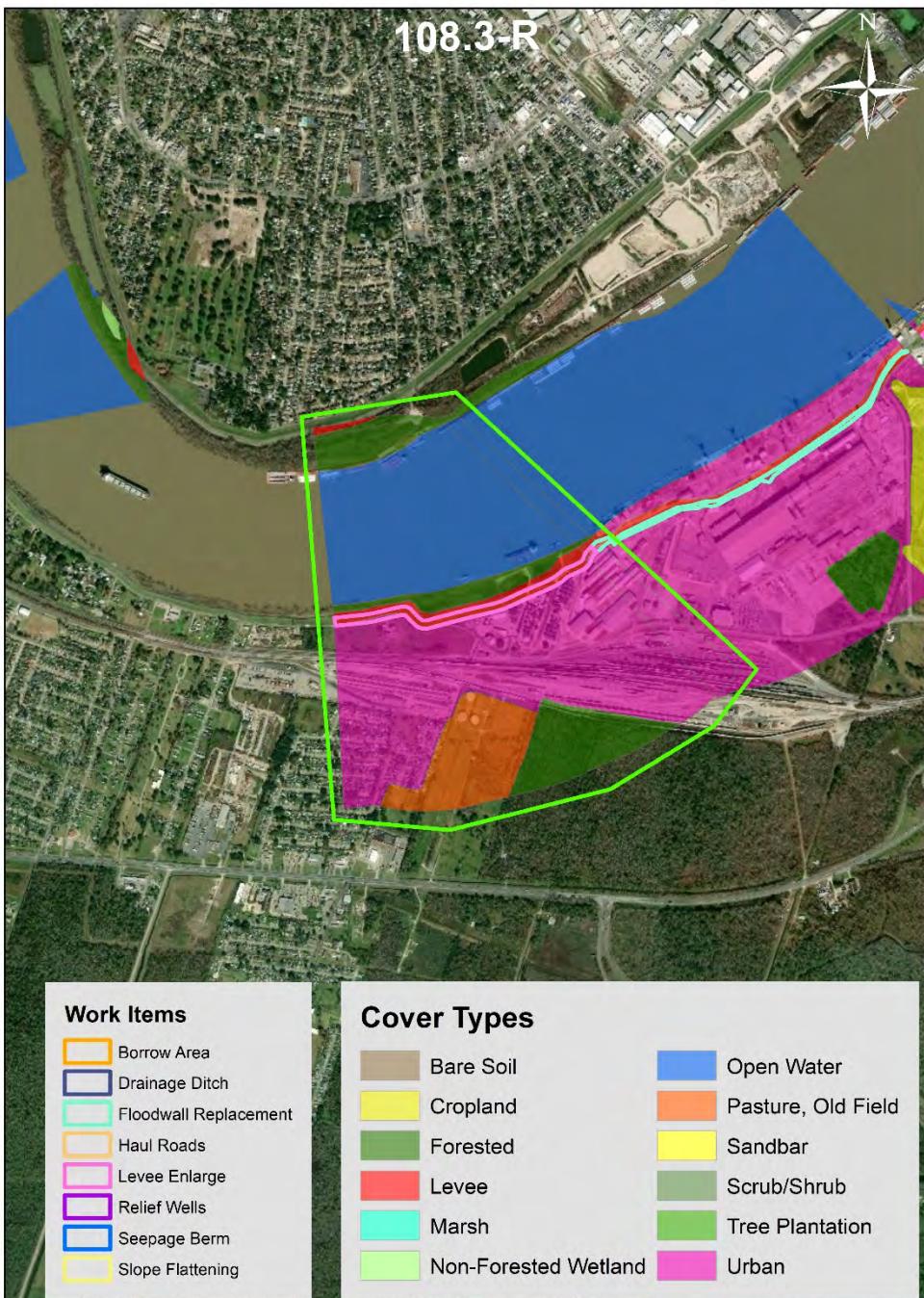
102.1R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		6	0.70	4		Forest		67	0.67	45	
Levee		6	0.00	0		Levee		3	0.00	0	
Open water		115	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		2	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		16	0.00	0		Urban		115	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.71	4	22	Target year - 5			0.69	46	227
Target year - 10			0.78	5	24	Target year - 10			0.75	50	240
Target year - 20			0.78	5	49	Target year - 20			0.75	50	503
Target year - 35			0.78	5	74	Target year - 35			0.75	50	755
Target year - 50			0.78	5	74	Target year - 50			0.75	50	755
Sum of HUs					243	Sum of HSUs					2481
Pre-project AAHUs over 50 years				5		Pre-project AAHUs over 50 years				50	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.1			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-0.1			
Post-project land cover						Post-project land cover					
Forest		6	0.70	4		Forest		67	0.67	45	
Levee		6	0.00	0		Levee		3	0.00	0	
Open water		115	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		2	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		16	0.00	0		Urban		115	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.71	4	22	Target year - 5			0.69	46	227
Target year - 10			0.78	5	24	Target year - 10			0.75	50	240
Target year - 20			0.78	5	49	Target year - 20			0.75	50	503
Target year - 35			0.78	5	74	Target year - 35			0.75	50	755
Target year - 50			0.78	5	74	Target year - 50			0.75	50	755
Sum of HUs					243	Sum of HSUs					2481
Post-project AAHUs over 50 years				5		Post-project AAHUs over 50 years				50	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.39 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 102.1-R, Westwego Levee and Floodwall, LA, Floodwall, Item 102.1-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



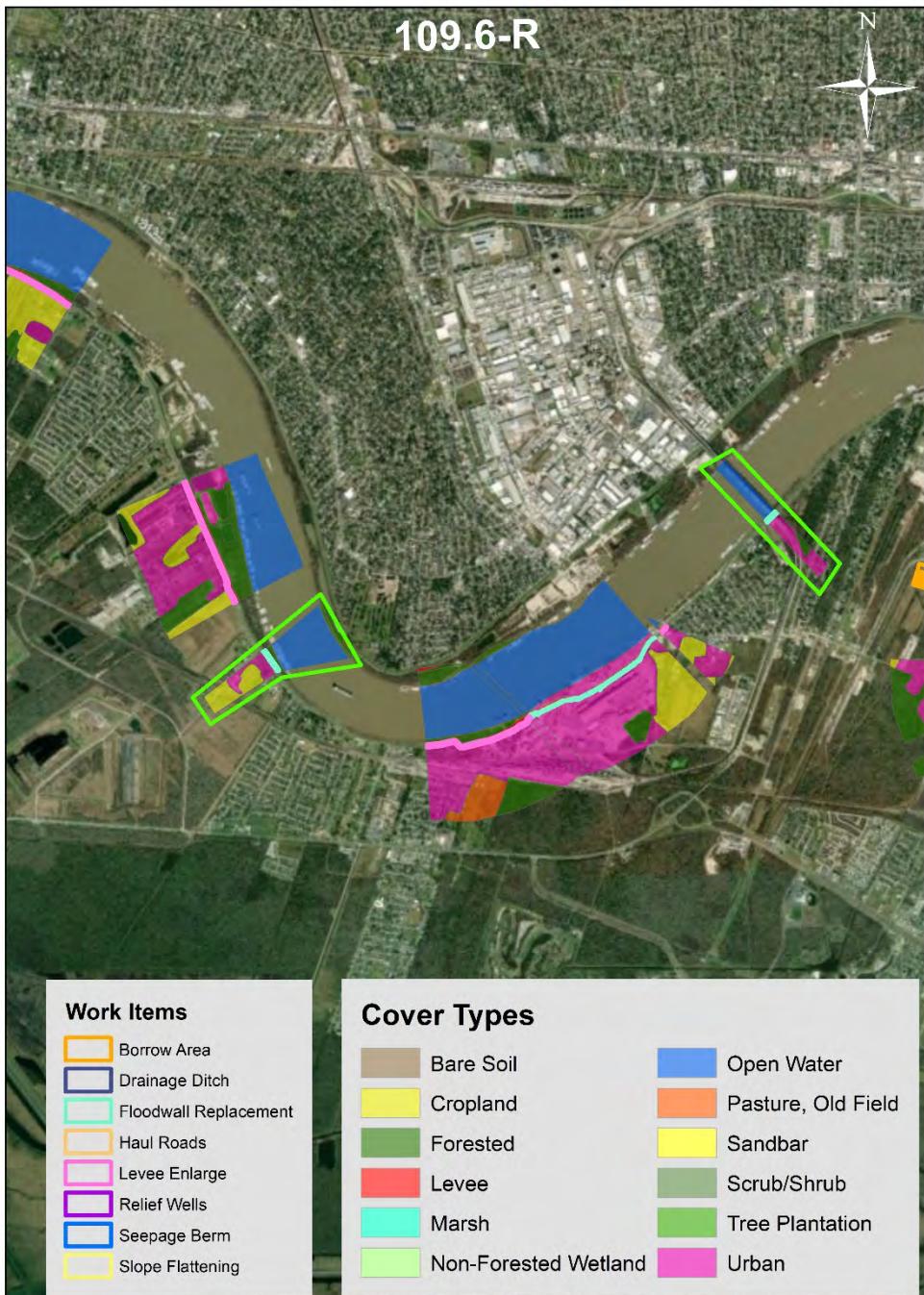
107R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		8	0.48	4		Forest		17	0.46	8	
Levee		10	0.00	0		Levee		10	0.00	0	
Open water		279	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		89	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		36	0.00	0		Urban		256	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.51	4	19	Target year - 5			0.50	8	40
Target year - 10			0.65	5	22	Target year - 10			0.62	10	46
Target year - 20			0.71	5	51	Target year - 20			0.68	11	109
Target year - 35			0.71	5	81	Target year - 35			0.68	11	171
Target year - 50			0.71	5	81	Target year - 50			0.68	11	171
Sum of HUs					254	Sum of HSUs					536
Pre-project AAHUs over 50 years				5		Pre-project AAHUs over 50 years				11	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		1.0			
Open water		0.0				Open water		1.3			
Cropland		0.0				Cropland		-1.3			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-1.0			
Post-project land cover						Post-project land cover					
Forest		8	0.48	4		Forest		17	0.46	8	
Levee		10	0.00	0		Levee		11	0.00	0	
Open water		279	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		88	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		36	0.00	0		Urban		255	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.51	4	19	Target year - 5			0.50	8	40
Target year - 10			0.65	5	22	Target year - 10			0.62	10	46
Target year - 20			0.71	5	51	Target year - 20			0.68	11	109
Target year - 35			0.71	5	81	Target year - 35			0.68	11	171
Target year - 50			0.71	5	81	Target year - 50			0.68	11	171
Sum of HUs					254	Sum of HSUs					536
Post-project AAHUs over 50 years				5		Post-project AAHUs over 50 years				11	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years				0.0	

Figure 10.1.40 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 107-R, Lower Avondale, LA, Levee or Floodwall, Item 107-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



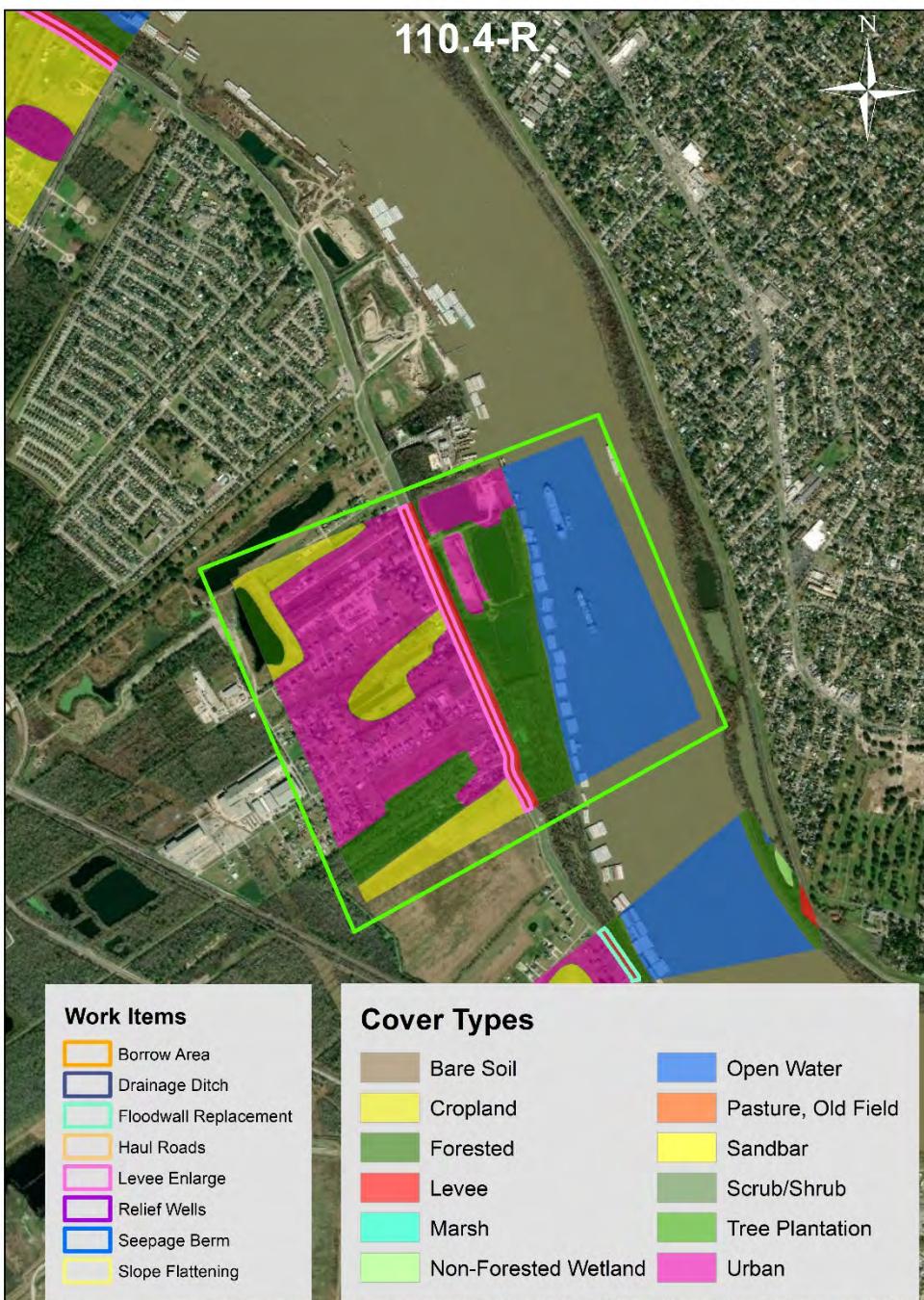
108.3R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		34	0.48	16		Forest		34	0.46	16			
Levee		10	0.00	0		Levee		10	0.00	0			
Open water		135	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		1	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		45	0.00	0			
Urban		0	0.00	0		Urban		210	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.51	17	84	Target year - 5			0.50	17	83		
Target year - 10			0.65	22	98	Target year - 10			0.62	21	96		
Target year - 20			0.71	24	228	Target year - 20			0.68	24	225		
Target year - 35			0.71	24	359	Target year - 35			0.68	24	353		
Target year - 50			0.71	24	359	Target year - 50			0.68	24	353		
Sum of HUs					1127	Sum of HSUs					1110		
Pre-project AAHUs over 50 years				23		Pre-project AAHUs over 50 years				22			
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		1.1					
Open water		0.0				Open water		1.4					
Cropland		0.0				Cropland		-1.4					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.1					
Post-project land cover						Post-project land cover							
Forest		34	0.48	16		Forest		34	0.46	16			
Levee		10	0.00	0		Levee		11	0.00	0			
Open water		135	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		45	0.00	0			
Urban		0	0.00	0		Urban		209	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.51	17	84	Target year - 5			0.50	17	83		
Target year - 10			0.65	22	98	Target year - 10			0.62	21	96		
Target year - 20			0.71	24	228	Target year - 20			0.68	24	225		
Target year - 35			0.71	24	359	Target year - 35			0.68	24	353		
Target year - 50			0.71	24	359	Target year - 50			0.68	24	353		
Sum of HUs					1127	Sum of HSUs					1110		
Post-project AAHUs over 50 years				23		Post-project AAHUs over 50 years				22			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0		
Sum of HUs						Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.41 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 108.3-R, Upper Avondale, LA, Levee, Item 108.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



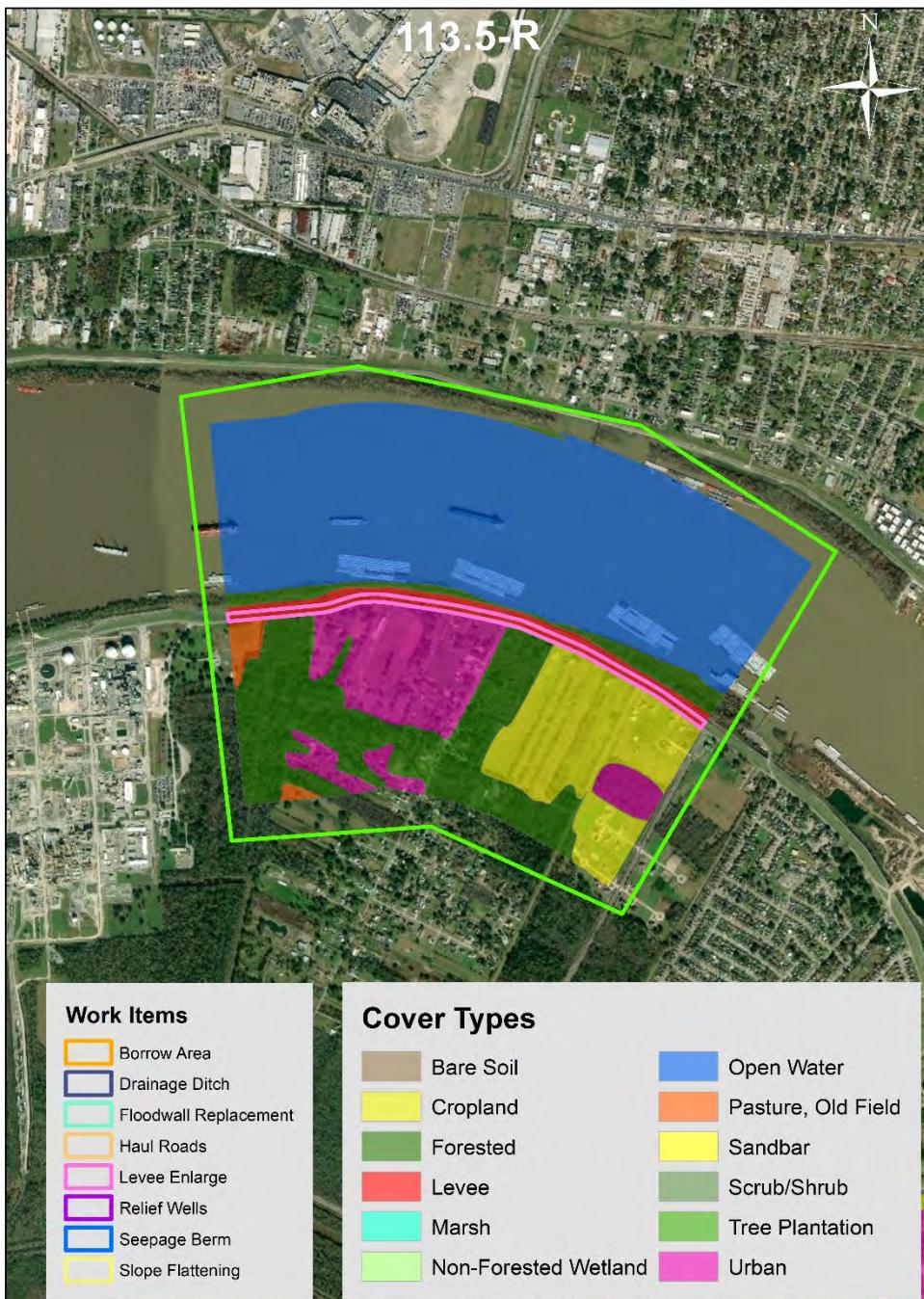
Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	19	0.48	9		Forest	4	0.46	2	
Levee	4	0.00	0		Levee	2	0.00	0	
Open water	100	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	30	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	0	0.00	0		Urban	42	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.51	10	46	Target year - 5		0.50	2	10
Target year - 10		0.65	12	54	Target year - 10		0.62	3	12
Target year - 20		0.71	13	125	Target year - 20		0.68	3	28
Target year - 35		0.71	13	197	Target year - 35		0.68	3	44
Target year - 50		0.71	13	197	Target year - 50		0.68	3	44
Sum of HUs				619	Sum of HSUs				139
Pre-project AAHUs over 50 years			12		Pre-project AAHUs over 50 years			3	
Land cover change					Land cover change				
Forest	-0.2				Forest	0.0			
Levee	0.2				Levee	0.0			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	18	0.48	9		Forest	4	0.46	2	
Levee	4	0.00	0		Levee	2	0.00	0	
Open water	100	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	30	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	0	0.00	0		Urban	42	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.51	9	46	Target year - 5		0.50	2	10
Target year - 10		0.65	12	53	Target year - 10		0.62	3	12
Target year - 20		0.71	13	124	Target year - 20		0.68	3	28
Target year - 35		0.71	13	195	Target year - 35		0.68	3	44
Target year - 50		0.71	13	195	Target year - 50		0.68	3	44
Sum of HUs				612	Sum of HSUs				139
Post-project AAHUs over 50 years			12		Post-project AAHUs over 50 years			3	
Change in AAHUs over 50 years		-0.1			Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.2	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.2	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.2	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.2	0.67	0	1	Target year - 20	0.0	0.67	0	0
Target year - 35	0.2	0.85	0	2	Target year - 35	0.0	0.85	0	0
Target year - 50	0.2	0.94	0	3	Target year - 50	0.0	0.94	0	0
Sum of HUs				7	Sum of HSUs				0
Mitigation AAHUs over 50 years				0.1	Mitigation AAHUs over 50 years				0.0

Figure 10.1.42 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 109.6-R, Waggaman and Bridge City Levee and Floodwall, LA, Floodwall, Item 109.6-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.1 FCUs/AAHUs, requiring 0.2 acres of mitigation.



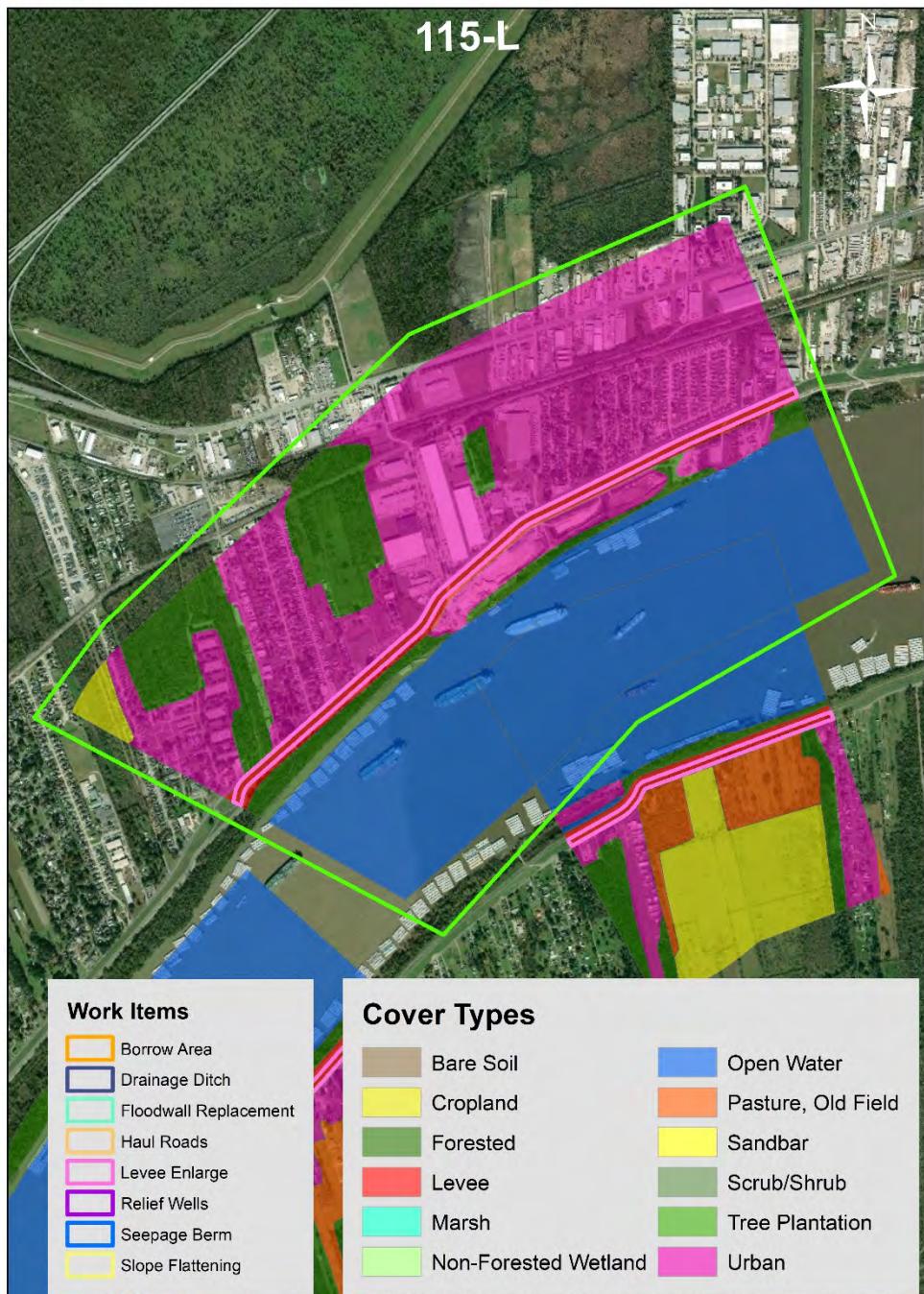
110.5R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		74	0.48	35		Forest		36	0.46	17			
Levee		11	0.00	0		Levee		10	0.00	0			
Open water		153	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		62	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		25	0.00	0		Urban		175	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.51	38	183	Target year - 5			0.50	18	86		
Target year - 10			0.65	47	213	Target year - 10			0.62	22	101		
Target year - 20			0.71	52	499	Target year - 20			0.68	25	235		
Target year - 35			0.71	52	784	Target year - 35			0.68	25	370		
Target year - 50			0.71	52	784	Target year - 50			0.68	25	370		
Sum of HUs					2462	Sum of HSUs					1162		
Pre-project AAHUs over 50 years				49		Pre-project AAHUs over 50 years				23			
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		1.6					
Open water		0.0				Open water		1.3					
Cropland		0.0				Cropland		-1.7					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.2					
Post-project land cover						Post-project land cover							
Forest		74	0.48	35		Forest		36	0.46	17			
Levee		11	0.00	0		Levee		11	0.00	0			
Open water		153	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		61	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		25	0.00	0		Urban		174	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.51	38	183	Target year - 5			0.50	18	86		
Target year - 10			0.65	47	213	Target year - 10			0.62	22	101		
Target year - 20			0.71	52	499	Target year - 20			0.68	25	235		
Target year - 35			0.71	52	784	Target year - 35			0.68	25	370		
Target year - 50			0.71	52	784	Target year - 50			0.68	25	370		
Sum of HUs					2462	Sum of HSUs					1162		
Post-project AAHUs over 50 years				49		Post-project AAHUs over 50 years				23			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0		
Sum of HUs						Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.43 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 110.4-R, Waggaman, LA, Levee, Item 110.4-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



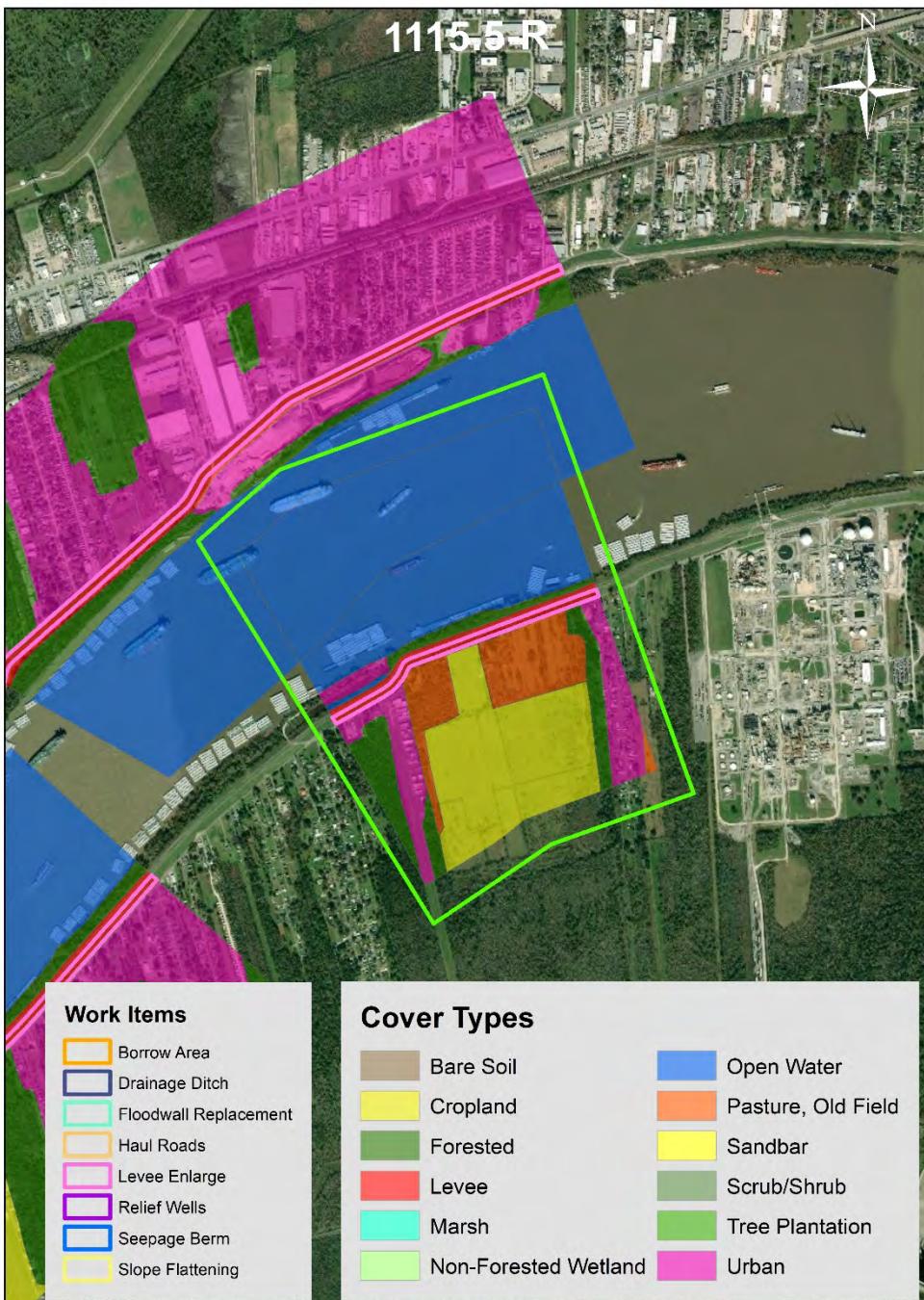
113.5R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		24	0.43	10		Forest		140	0.41	58			
Levee		17	0.00	0		Levee		14	0.00	0			
Open water		434	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		106	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		9	0.00	0			
Urban		0	0.00	0		Urban		104	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.50	12	56	Target year - 5			0.48	68	314		
Target year - 10			0.55	13	64	Target year - 10			0.53	75	357		
Target year - 20			0.55	13	134	Target year - 20			0.53	75	747		
Target year - 35			0.55	13	201	Target year - 35			0.53	75	1121		
Target year - 50			0.55	13	201	Target year - 50			0.53	75	1121		
Sum of HUs					657	Sum of HSUs					3661		
Pre-project AAHUs over 50 years				13		Pre-project AAHUs over 50 years				73			
Land cover change						Land cover change							
Forest		0.0				Forest		-0.3					
Levee		0.0				Levee		2.5					
Open water		0.0				Open water		1.4					
Cropland		0.0				Cropland		-2.3					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-1.3					
Post-project land cover						Post-project land cover							
Forest		24	0.43	10		Forest		140	0.41	58			
Levee		17	0.00	0		Levee		17	0.00	0			
Open water		434	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		104	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		9	0.00	0			
Urban		0	0.00	0		Urban		103	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.50	12	56	Target year - 5			0.48	68	314		
Target year - 10			0.55	13	64	Target year - 10			0.53	75	356		
Target year - 20			0.55	13	134	Target year - 20			0.53	75	746		
Target year - 35			0.55	13	201	Target year - 35			0.53	75	1119		
Target year - 50			0.55	13	201	Target year - 50			0.53	75	1119		
Sum of HUs					657	Sum of HSUs					3653		
Post-project AAHUs over 50 years				13		Post-project AAHUs over 50 years				73			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.2			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.3	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.3	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.3	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.3	0.67	0	1		
Target year - 35		0.0	0.85	0		Target year - 35		0.3	0.85	0	3		
Target year - 50		0.0	0.94	0		Target year - 50		0.3	0.94	0	3		
Sum of HUs						Sum of HSUs					8		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.2		

Figure 10.1.44 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 113.5-R, Ama, LA, Levee, Item 113.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.2 FCUs/AAHUs, requiring 0.3 acres of mitigation.



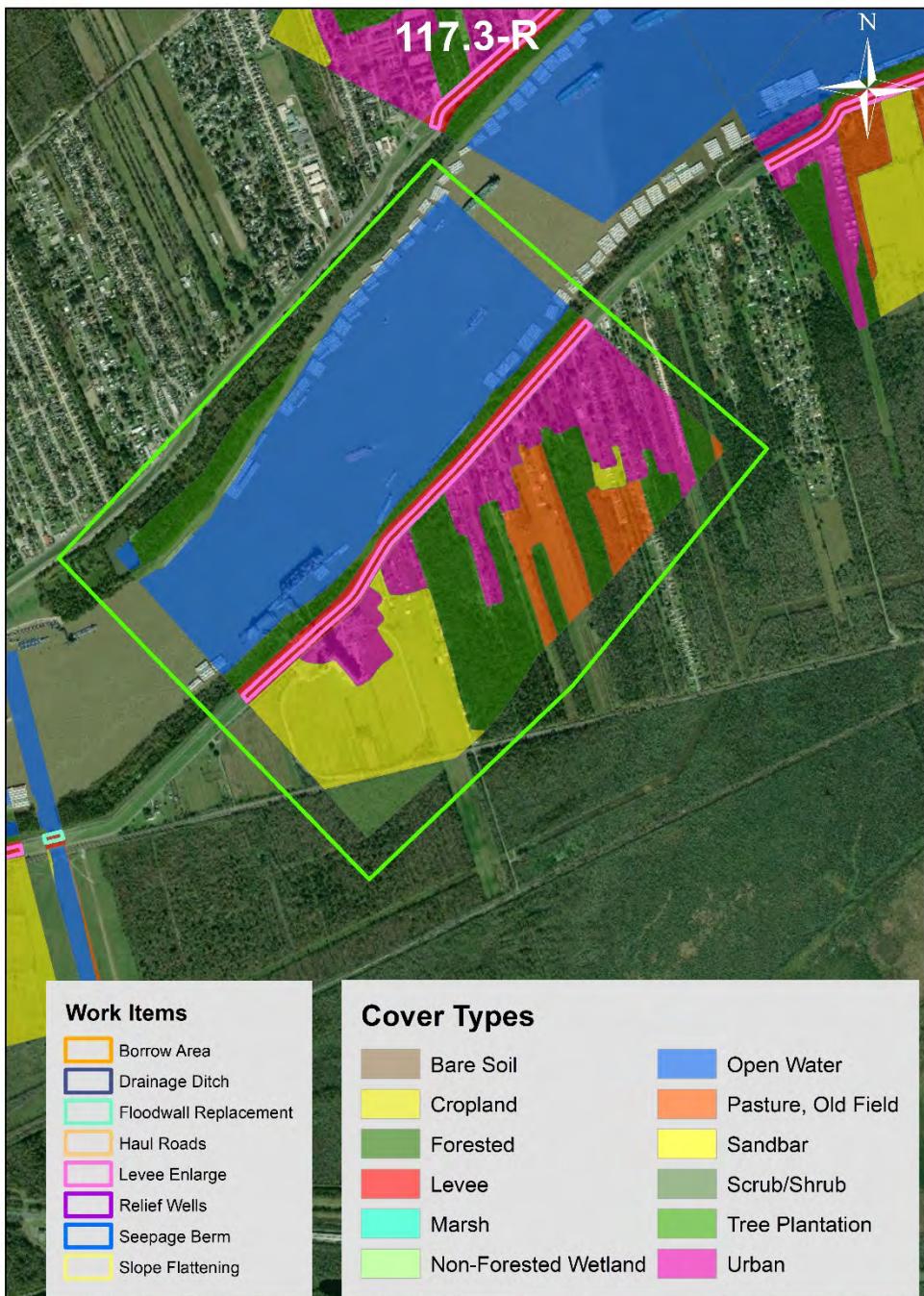
115L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		43	0.44	19		Forest		115	0.43	49	
Levee		18	0.00	0		Levee		25	0.00	0	
Open water		428	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		14	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		43	0.00	0		Urban		488	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.49	21	100	Target year - 5			0.47	54	259
Target year - 10			0.54	23	110	Target year - 10			0.52	60	285
Target year - 20			0.54	23	230	Target year - 20			0.52	60	597
Target year - 35			0.54	23	346	Target year - 35			0.52	60	896
Target year - 50			0.54	23	346	Target year - 50			0.52	60	896
Sum of HUs					1132	Sum of HSUs					2933
Pre-project AAHUs over 50 years				23		Pre-project AAHUs over 50 years				59	
Land cover change						Land cover change					
Forest		0.0				Forest		-0.3			
Levee		0.0				Levee		1.2			
Open water		0.0				Open water		3.2			
Cropland		0.0				Cropland		-3.2			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-0.9			
Post-project land cover						Post-project land cover					
Forest		43	0.44	19		Forest		115	0.43	49	
Levee		18	0.00	0		Levee		26	0.00	0	
Open water		428	0.00	0		Open water		3	0.00	0	
Cropland		0	0.00	0		Cropland		10	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		43	0.00	0		Urban		487	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.49	21	100	Target year - 5			0.47	54	258
Target year - 10			0.54	23	110	Target year - 10			0.52	60	284
Target year - 20			0.54	23	230	Target year - 20			0.52	60	596
Target year - 35			0.54	23	346	Target year - 35			0.52	60	894
Target year - 50			0.54	23	346	Target year - 50			0.52	60	894
Sum of HUs					1132	Sum of HSUs					2926
Post-project AAHUs over 50 years				23		Post-project AAHUs over 50 years				59	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.2	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.2	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.2	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.2	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.2	0.67	0	1
Target year - 35		0.0	0.85	0		Target year - 35		0.2	0.85	0	3
Target year - 50		0.0	0.94	0		Target year - 50		0.2	0.94	0	3
Sum of HUs						Sum of HSUs					8
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.2

Figure 10.1.45 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 115-L, St. Rose (Kenner Revet), LA, Levee, Item 115-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.2 FCUs/AAHUs, requiring 0.2 acres of mitigation.



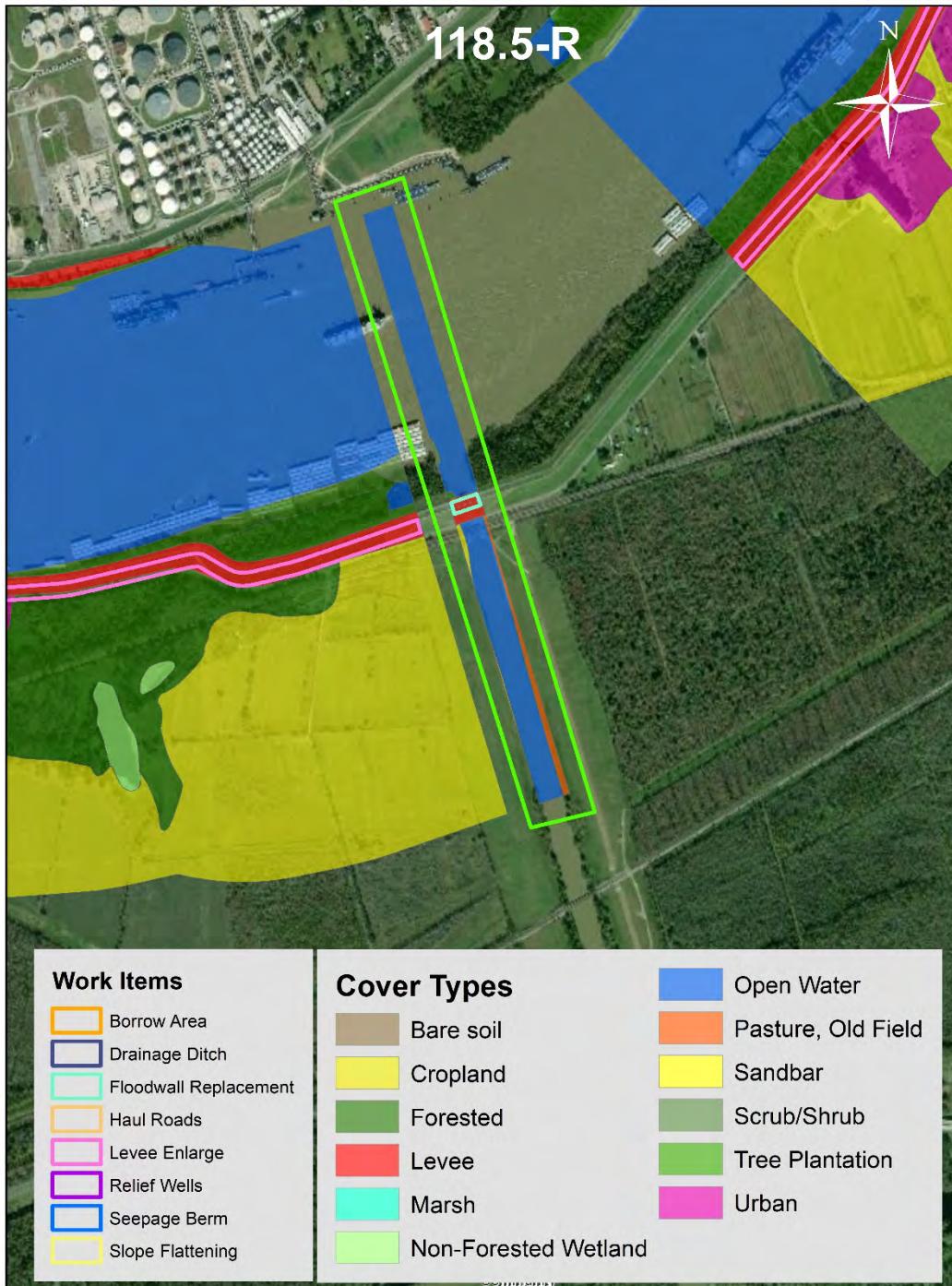
Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	9	0.55	5		Forest	31	0.53	17	
Levee	8	0.00	0		Levee	12	0.00	0	
Open water	240	0.00	0		Open water	0	0.00	0	
Cropland	1	0.00	0		Cropland	98	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	48	0.00	0	
Urban	5	0.00	0		Urban	42	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.56	5	24	Target year - 5		0.54	17	83
Target year - 10		0.56	5	24	Target year - 10		0.54	17	83
Target year - 20		0.56	5	48	Target year - 20		0.54	17	166
Target year - 35		0.56	5	72	Target year - 35		0.54	17	249
Target year - 50		0.56	5	72	Target year - 50		0.54	17	249
Sum of HUs				241	Sum of HSUs				830
Pre-project AAHUs over 50 years			5		Pre-project AAHUs over 50 years			17	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.0			
Open water	1.0				Open water	0.0			
Cropland	-1.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	9	0.55	5		Forest	31	0.53	17	
Levee	8	0.00	0		Levee	12	0.00	0	
Open water	241	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	98	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	48	0.00	0	
Urban	5	0.00	0		Urban	42	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.56	5	24	Target year - 5		0.54	17	83
Target year - 10		0.56	5	24	Target year - 10		0.54	17	83
Target year - 20		0.56	5	48	Target year - 20		0.54	17	166
Target year - 35		0.56	5	72	Target year - 35		0.54	17	249
Target year - 50		0.56	5	72	Target year - 50		0.54	17	249
Sum of HUs				241	Sum of HSUs				830
Post-project AAHUs over 50 years			5		Post-project AAHUs over 50 years			17	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years			0.0	

Figure 10.1.46 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 115.5-R, Cyanamid, LA, Levee, Item 115.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



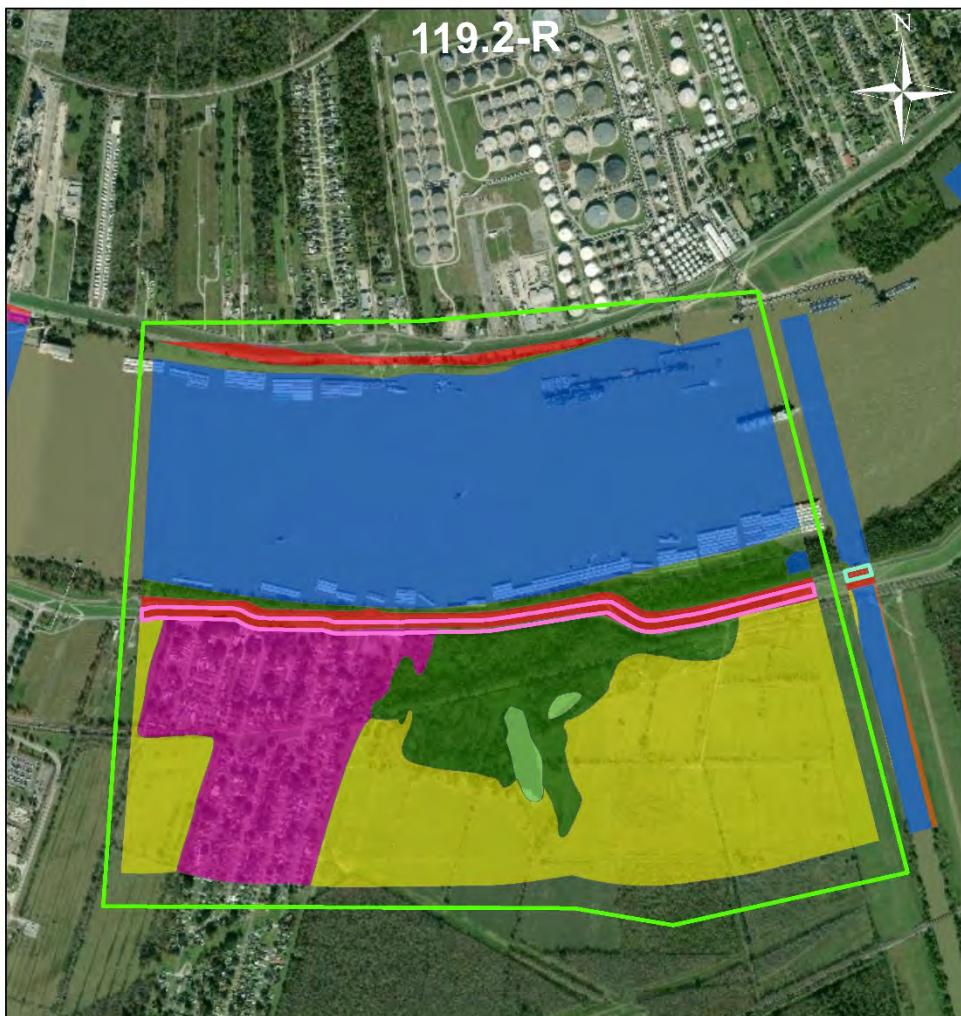
117.3R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		65	0.55	36		Forest		240	0.53	128			
Levee		16	0.00	0		Levee		23	0.00	0			
Open water		334	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		110	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		53	0.00	0			
Urban		0	0.00	0		Urban		115	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.56	36	180	Target year - 5			0.54	129	641		
Target year - 10			0.56	36	181	Target year - 10			0.54	129	643		
Target year - 20			0.56	36	361	Target year - 20			0.54	129	1286		
Target year - 35			0.56	36	542	Target year - 35			0.54	129	1929		
Target year - 50			0.56	36	542	Target year - 50			0.54	129	1929		
Sum of HUs					1807	Sum of HSUs					6427		
Pre-project AAHUs over 50 years				36		Pre-project AAHUs over 50 years				129			
Land cover change						Land cover change							
Forest		-0.8				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		1.1				Open water		0.0					
Cropland		-0.3				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		64	0.55	36		Forest		240	0.53	128			
Levee		16	0.00	0		Levee		23	0.00	0			
Open water		335	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		110	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		53	0.00	0			
Urban		0	0.00	0		Urban		115	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.56	36	178	Target year - 5			0.54	129	641		
Target year - 10			0.56	36	179	Target year - 10			0.54	129	643		
Target year - 20			0.56	36	357	Target year - 20			0.54	129	1286		
Target year - 35			0.56	36	536	Target year - 35			0.54	129	1929		
Target year - 50			0.56	36	536	Target year - 50			0.54	129	1929		
Sum of HUs					1785	Sum of HUs					6427		
Post-project AAHUs over 50 years				36		Post-project AAHUs over 50 years				129			
Change in AAHUs over 50 years				-0.4		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.7	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.7	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.7	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.7	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.7	0.85	1		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.7	0.94	1		Target year - 50		0.0	0.94	0	0		
Sum of HUs					22	Sum of HUs					0		
Mitigation AAHUs over 50 years					0.4	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.47 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 117.3-R, Ama #2, LA, Levee, Item 117.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.4 FCUs/AAHUs, requiring 0.7 acres of mitigation.



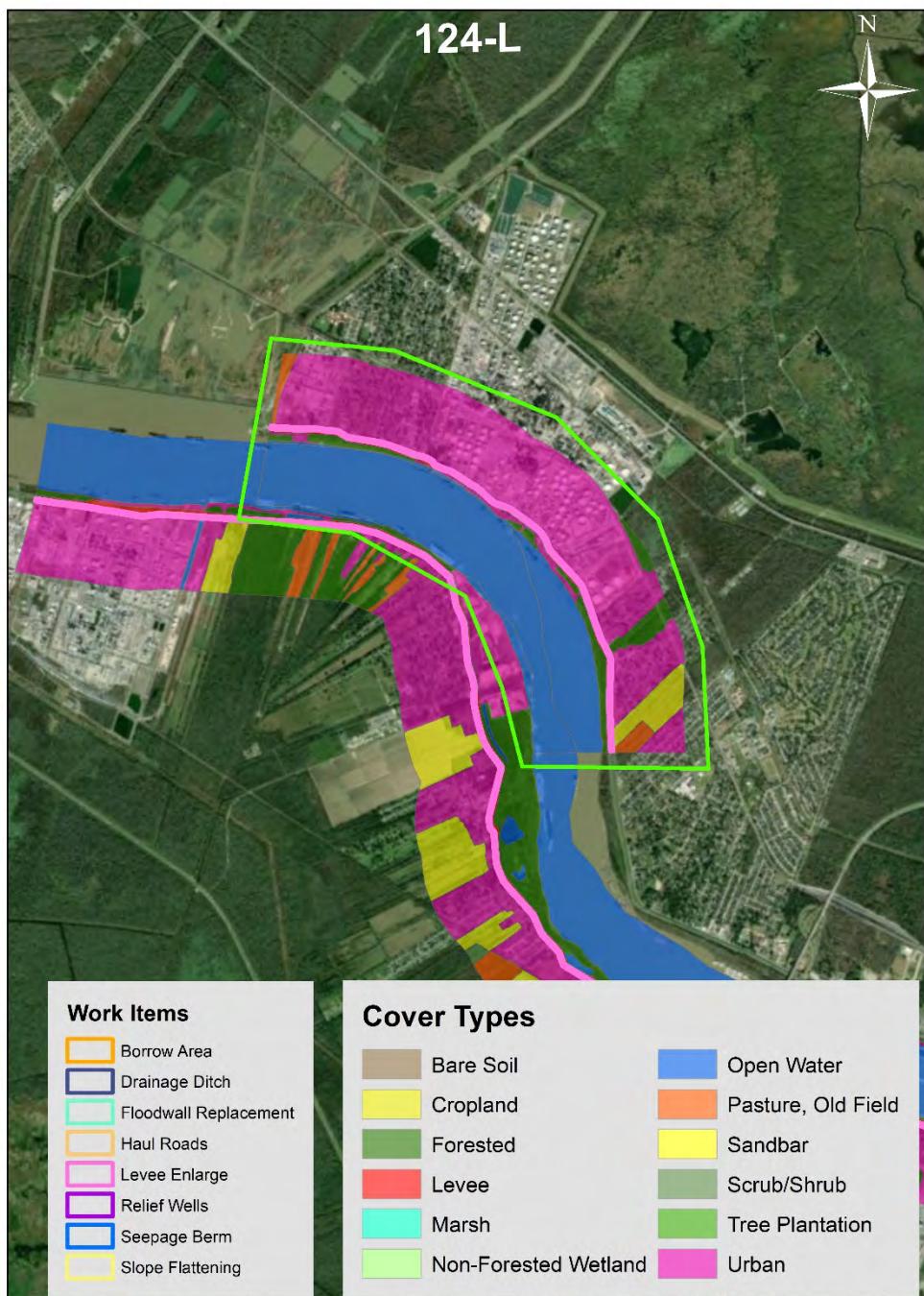
118.5R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		0	0.36	0		Forest		0	0.35	0	
Levee		1	0.00	0		Levee		1	0.00	0	
Open water		17	0.00	0		Open water		14	0.00	0	
Cropland		0	0.00	0		Cropland		1	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		2	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.48	0		1	Target year - 5		0.46	0	0
Target year - 10			0.60	0		1	Target year - 10		0.58	0	0
Target year - 20			0.66	0		2	Target year - 20		0.64	0	0
Target year - 35			0.66	0		3	Target year - 35		0.64	0	0
Target year - 50			0.66	0		3	Target year - 50		0.64	0	0
Sum of HUs						9	Sum of HSUs				0
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years					
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.36	0		Forest		0	0.35	0	
Levee		1	0.00	0		Levee		1	0.00	0	
Open water		17	0.00	0		Open water		14	0.00	0	
Cropland		0	0.00	0		Cropland		1	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		2	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.48	0		1	Target year - 5		0.46	0	0
Target year - 10			0.60	0		1	Target year - 10		0.58	0	0
Target year - 20			0.66	0		2	Target year - 20		0.64	0	0
Target year - 35			0.66	0		3	Target year - 35		0.64	0	0
Target year - 50			0.66	0		3	Target year - 50		0.64	0	0
Sum of HUs						9	Sum of HSUs				0
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years					
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		0	Target year - 5		0.0	0.15	0
Target year - 10		0.0	0.33	0		0	Target year - 10		0.0	0.33	0
Target year - 20		0.0	0.67	0		0	Target year - 20		0.0	0.67	0
Target year - 35		0.0	0.85	0		0	Target year - 35		0.0	0.85	0
Target year - 50		0.0	0.94	0		0	Target year - 50		0.0	0.94	0
Sum of HUs						0	Sum of HSUs				0
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					

Figure 10.1.48 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 118.5-R, Davis Pond Freshwater Diversion Structure Floodwall, LA, Item 118.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



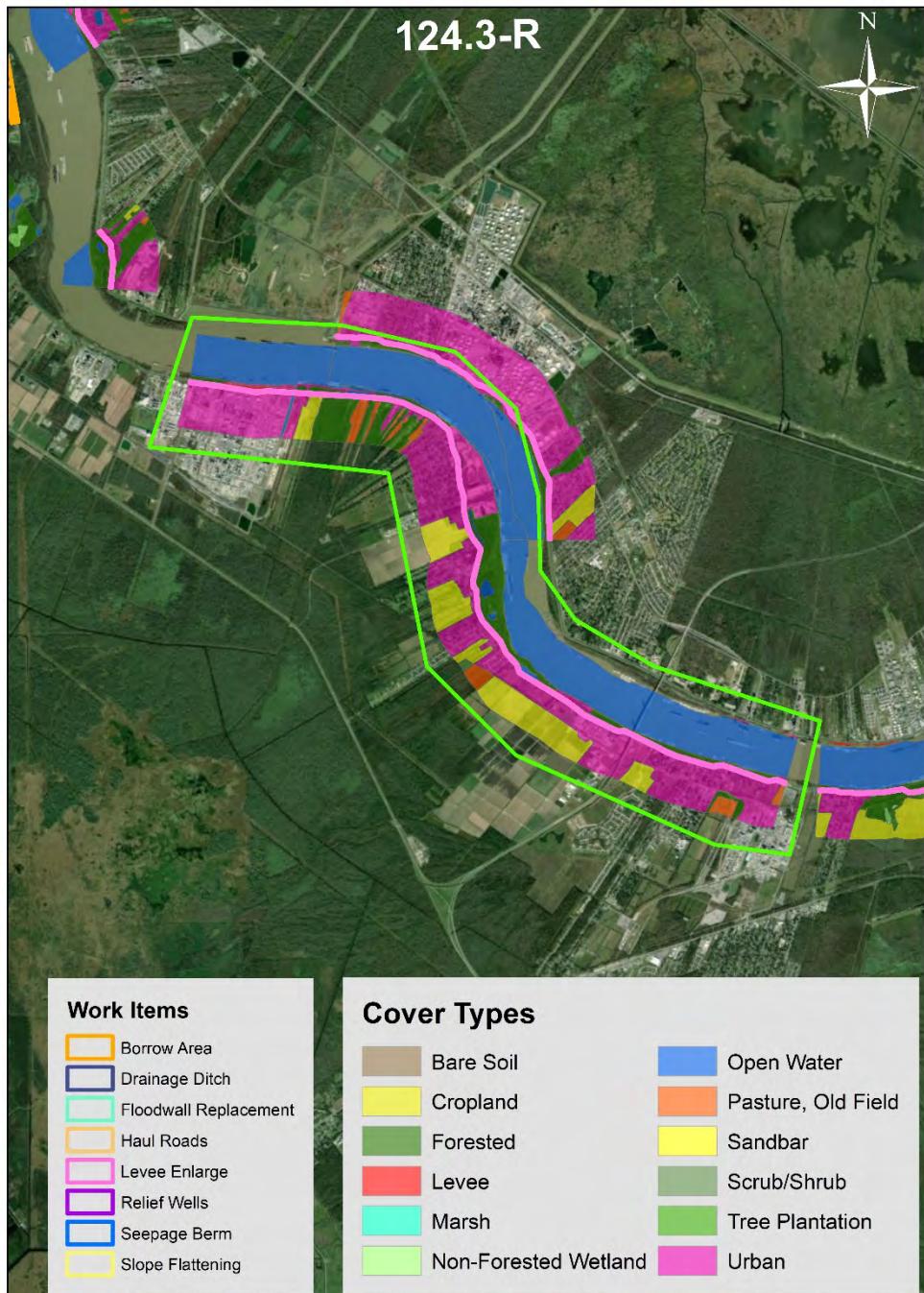
119.2R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		36	0.36	13		Forest		76	0.35	26	
Levee		24	0.00	0		Levee		16	0.00	0	
Open water		324	0.00	0		Open water		0	0.00	0	
Cropland		2	0.00	0		Cropland		234	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		107	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.48	17	75	Target year - 5			0.46	35	154
Target year - 10			0.60	22	97	Target year - 10			0.58	44	199
Target year - 20			0.66	24	226	Target year - 20			0.64	49	464
Target year - 35			0.66	24	355	Target year - 35			0.64	49	730
Target year - 50			0.66	24	355	Target year - 50			0.64	49	730
Sum of HUs					1109	Sum of HSUs					2277
Pre-project AAHUs over 50 years				22		Pre-project AAHUs over 50 years				46	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		1.4			
Open water		1.9				Open water		0.0			
Cropland		-1.9				Cropland		-0.1			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-1.3			
Post-project land cover						Post-project land cover					
Forest		36	0.36	13		Forest		76	0.35	26	
Levee		24	0.00	0		Levee		18	0.00	0	
Open water		326	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		234	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		106	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.48	17	75	Target year - 5			0.46	35	154
Target year - 10			0.60	22	97	Target year - 10			0.58	44	199
Target year - 20			0.66	24	226	Target year - 20			0.64	49	464
Target year - 35			0.66	24	355	Target year - 35			0.64	49	730
Target year - 50			0.66	24	355	Target year - 50			0.64	49	730
Sum of HUs					1109	Sum of HUs					2277
Post-project AAHUs over 50 years				22		Post-project AAHUs over 50 years				46	
Change in AAHUs over 50 years			0.0			Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HUs					0
Mitigation AAHUs over 50 years			0.0			Mitigation AAHUs over 50 years					0.0

Figure 10.1.49 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 119.2-R, Lone Star to Davis Pond, LA, Levee, Item 119.2-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



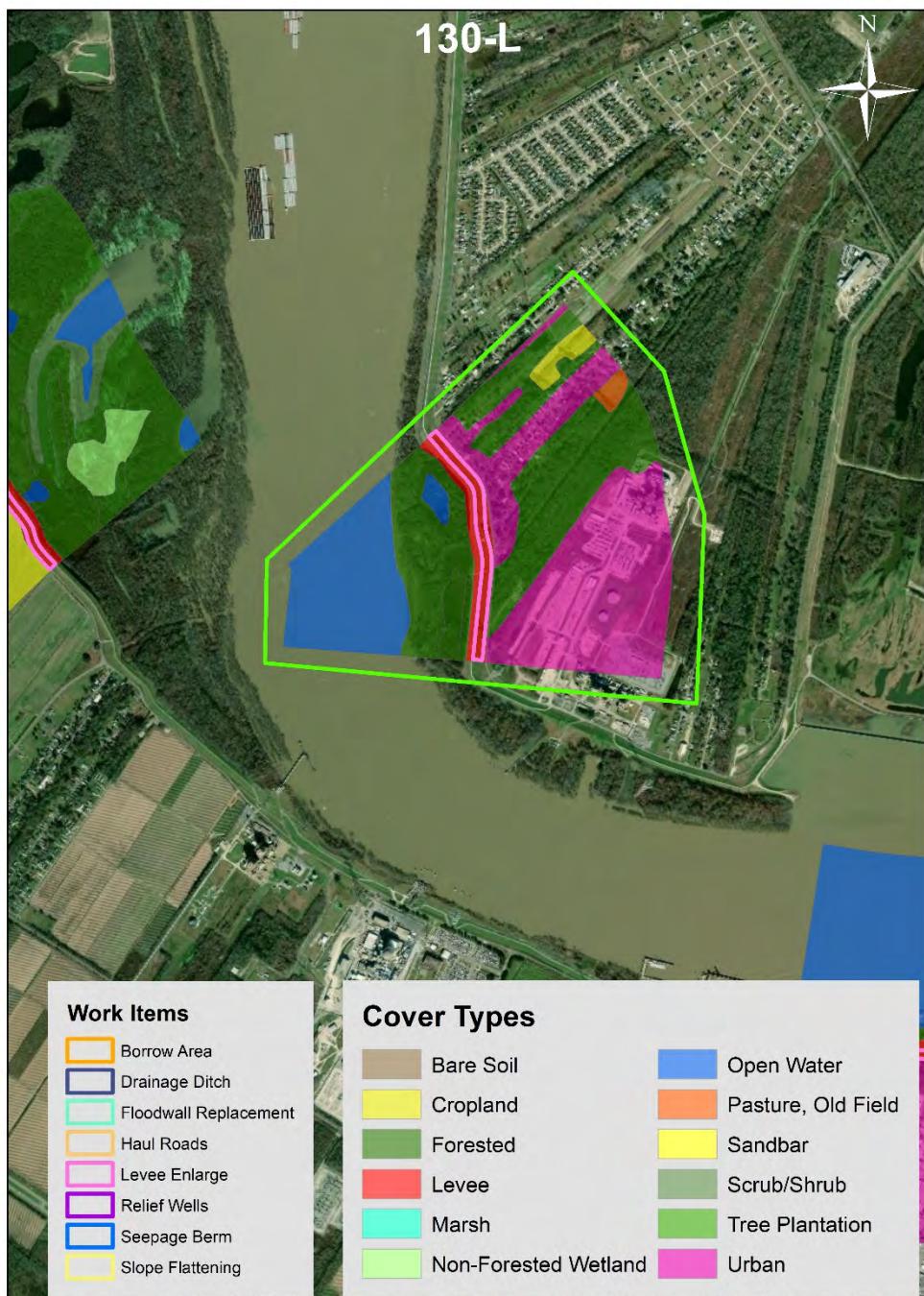
124L				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		64	0.46	29		Forest		50	0.44	22	
Levee		37	0.00	0		Levee		52	0.00	0	
Open water		866	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		62	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		32	0.00	0	
Urban		31	0.00	0		Urban		1024	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.48	31	149	Target year - 5			0.47	23	113
Target year - 10			0.53	34	161	Target year - 10			0.51	26	122
Target year - 20			0.53	34	337	Target year - 20			0.51	26	256
Target year - 35			0.53	34	506	Target year - 35			0.51	26	384
Target year - 50			0.53	34	506	Target year - 50			0.51	26	384
Sum of HUs					1659	Sum of HSUs					1258
Pre-project AAHUs over 50 years				33		Pre-project AAHUs over 50 years				25	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		3.6			
Open water		0.0				Open water		4.2			
Cropland		0.0				Cropland		-4.2			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-3.6			
Post-project land cover						Post-project land cover					
Forest		64	0.46	29		Forest		50	0.44	22	
Levee		37	0.00	0		Levee		55	0.00	0	
Open water		866	0.00	0		Open water		4	0.00	0	
Cropland		0	0.00	0		Cropland		58	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		32	0.00	0	
Urban		31	0.00	0		Urban		1020	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.48	31	149	Target year - 5			0.47	23	113
Target year - 10			0.53	34	161	Target year - 10			0.51	26	122
Target year - 20			0.53	34	337	Target year - 20			0.51	26	256
Target year - 35			0.53	34	506	Target year - 35			0.51	26	384
Target year - 50			0.53	34	506	Target year - 50			0.51	26	384
Sum of HUs					1659	Sum of HSUs					1258
Post-project AAHUs over 50 years				33		Post-project AAHUs over 50 years				25	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.50 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 124-L, Bonnet Carré to New Sarpy, LA, Levee, Item 124-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.2 FCUs/AAHUs, requiring 3.5 acres of mitigation.



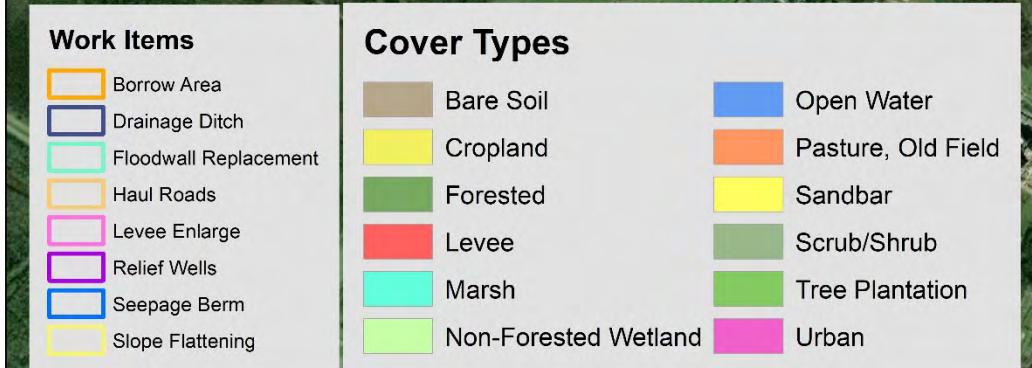
124.3R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		290	0.46	132		Forest		255	0.44	112			
Levee		121	0.00	0		Levee		107	0.00	0			
Open water		2146	0.00	0		Open water		9	0.00	0			
Cropland		0	0.00	0		Cropland		569	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		140	0.00	0			
Urban		183	0.00	0		Urban		1645	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.52	152		711	Target year - 5			0.51	129		603	
Target year - 10		0.66	191		856	Target year - 10			0.63	162		726	
Target year - 20		0.72	210		2000	Target year - 20			0.70	178		1696	
Target year - 35		0.72	210		3143	Target year - 35			0.70	178		2665	
Target year - 50		0.72	210		3143	Target year - 50			0.70	178		2665	
Sum of HUs					9853	Sum of HSUs						8355	
Pre-project AAHUs over 50 years				197		Pre-project AAHUs over 50 years				167			
Land cover change						Land cover change							
Forest		-0.8				Forest		-0.8					
Levee		0.0				Levee		13.7					
Open water		1.1				Open water		0.0					
Cropland		-0.3				Cropland		-0.6					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-12.1					
Post-project land cover						Post-project land cover							
Forest		289	0.46	132		Forest		254	0.44	112			
Levee		121	0.00	0		Levee		121	0.00	0			
Open water		2147	0.00	0		Open water		9	0.00	0			
Cropland		0	0.00	0		Cropland		568	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		140	0.00	0			
Urban		183	0.00	0		Urban		1633	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.52	152		709	Target year - 5			0.51	128		601	
Target year - 10		0.66	190		854	Target year - 10			0.63	161		724	
Target year - 20		0.72	209		1995	Target year - 20			0.70	177		1691	
Target year - 35		0.72	209		3134	Target year - 35			0.70	177		2657	
Target year - 50		0.72	209		3134	Target year - 50			0.70	177		2657	
Sum of HUs					9825	Sum of HUs						8329	
Post-project AAHUs over 50 years				197		Post-project AAHUs over 50 years				167			
Change in AAHUs over 50 years				-0.5		Change in AAHUs over 50 years				-0.5			
Mitigation						Mitigation							
Target year - 0		0.9	0.00	0		Target year - 0		0.8	0.00	0			
Target year - 5		0.9	0.15	0		0 Target year - 5		0.8	0.15	0		0	
Target year - 10		0.9	0.33	0		1 Target year - 10		0.8	0.33	0		1	
Target year - 20		0.9	0.67	1		4 Target year - 20		0.8	0.67	1		4	
Target year - 35		0.9	0.85	1		10 Target year - 35		0.8	0.85	1		10	
Target year - 50		0.9	0.94	1		12 Target year - 50		0.8	0.94	1		11	
Sum of HUs					27	Sum of HUs						26	
Mitigation AAHUs over 50 years					0.5	Mitigation AAHUs over 50 years						0.5	

Figure 10.1.51 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 124.3-R, Hahnville, Flagville, Dufresne 120-128.5 R, LA, Levee, Item 124.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.0 FCUs/AAHUs, requiring 1.7 acres of mitigation.



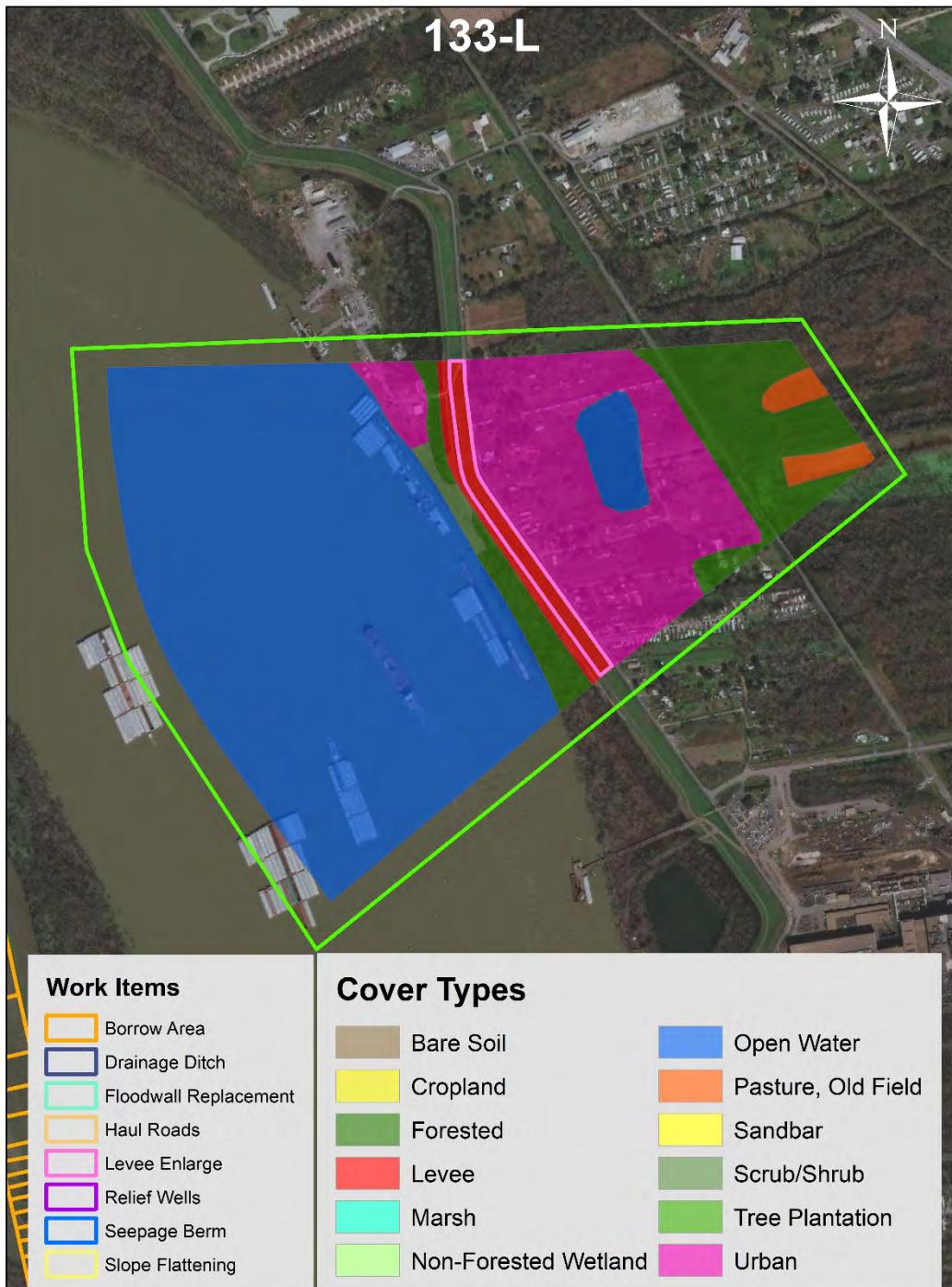
130L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		56	0.56	31		Forest		94	0.54	51			
Levee		9	0.00	0		Levee		13	0.00	0			
Open water		70	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		9	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		4	0.00	0			
Urban		0	0.00	0		Urban		151	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.58	32	159		Target year - 5		0.56	52	257			
Target year - 10		0.72	40	182		Target year - 10		0.70	65	294			
Target year - 20		0.80	44	425		Target year - 20		0.77	72	687			
Target year - 35		0.80	44	667		Target year - 35		0.77	72	1079			
Target year - 50		0.80	44	667		Target year - 50		0.77	72	1079			
Sum of HUs				2100		Sum of HSUs				3395			
Pre-project AAHUs over 50 years				42		Pre-project AAHUs over 50 years				68			
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		1.9					
Cropland		0.0				Cropland		-1.9					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		56	0.56	31		Forest		94	0.54	51			
Levee		9	0.00	0		Levee		13	0.00	0			
Open water		70	0.00	0		Open water		2	0.00	0			
Cropland		0	0.00	0		Cropland		7	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		4	0.00	0			
Urban		0	0.00	0		Urban		151	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.58	32	159		Target year - 5		0.56	52	257			
Target year - 10		0.72	40	182		Target year - 10		0.70	65	294			
Target year - 20		0.80	44	425		Target year - 20		0.77	72	687			
Target year - 35		0.80	44	667		Target year - 35		0.77	72	1079			
Target year - 50		0.80	44	667		Target year - 50		0.77	72	1079			
Sum of HUs				2100		Sum of HSUs				3395			
Post-project AAHUs over 50 years				42		Post-project AAHUs over 50 years				68			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0		
Sum of HUs						Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.52 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 130-L, 35 Mile Point, LA, Levee, Item 130-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.4 FCUs/AAHUs, requiring 2.3 acres of mitigation.



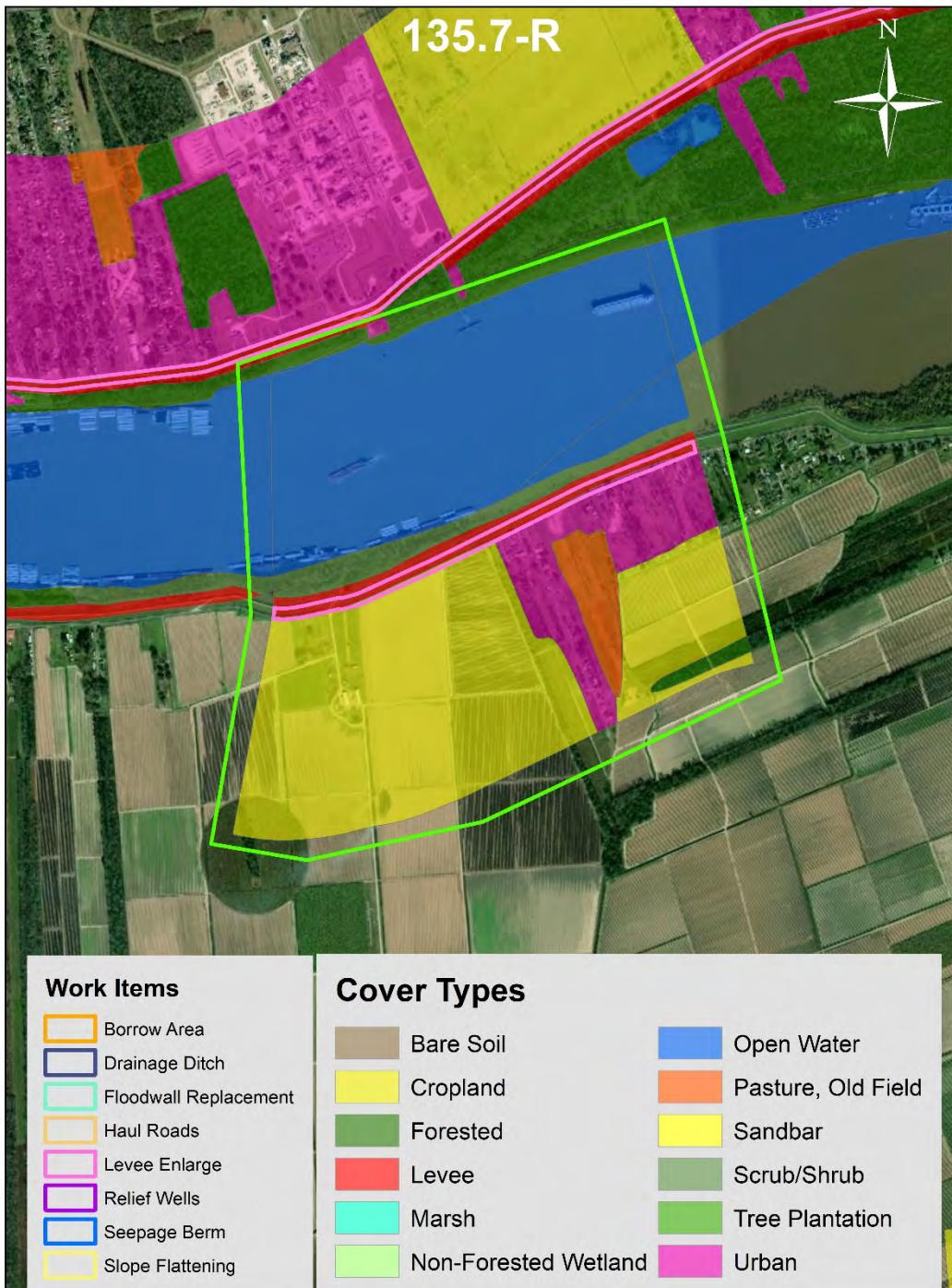
131.7R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		215	0.56	120		Forest		73	0.54	39	
Levee		14	0.00	0		Levee		13	0.00	0	
Open water		61	0.00	0		Open water		14	0.00	0	
Cropland		0	0.00	0		Cropland		348	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.56	120	599	Target year - 5			0.54	39	197
Target year - 10			0.56	120	599	Target year - 10			0.54	39	197
Target year - 20			0.56	120	1198	Target year - 20			0.54	39	394
Target year - 35			0.56	120	1797	Target year - 35			0.54	39	591
Target year - 50			0.56	120	1797	Target year - 50			0.54	39	591
Sum of HUs					5989	Sum of HSUs					1971
Pre-project AAHUs over 50 years				120		Pre-project AAHUs over 50 years				39	
Land cover change						Land cover change					
Forest		-0.9				Forest		-0.9			
Levee		0.0				Levee		1.9			
Open water		1.2				Open water		0.0			
Cropland		-0.3				Cropland		-1.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		214	0.56	119		Forest		72	0.54	39	
Levee		14	0.00	0		Levee		15	0.00	0	
Open water		62	0.00	0		Open water		14	0.00	0	
Cropland		0	0.00	0		Cropland		347	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.56	119	596	Target year - 5			0.54	39	195
Target year - 10			0.56	119	596	Target year - 10			0.54	39	195
Target year - 20			0.56	119	1193	Target year - 20			0.54	39	389
Target year - 35			0.56	119	1789	Target year - 35			0.54	39	584
Target year - 50			0.56	119	1789	Target year - 50			0.54	39	584
Sum of HUs					5964	Sum of HUs					1947
Post-project AAHUs over 50 years				119		Post-project AAHUs over 50 years				39	
Change in AAHUs over 50 years				-0.5		Change in AAHUs over 50 years				-0.5	
Mitigation						Mitigation					
Target year - 0		0.8	0.00	0		Target year - 0		0.8	0.00	0	
Target year - 5		0.8	0.15	0	0	Target year - 5		0.8	0.15	0	0
Target year - 10		0.8	0.33	0	1	Target year - 10		0.8	0.33	0	1
Target year - 20		0.8	0.67	1	4	Target year - 20		0.8	0.67	1	4
Target year - 35		0.8	0.85	1	9	Target year - 35		0.8	0.85	1	9
Target year - 50		0.8	0.94	1	11	Target year - 50		0.8	0.94	1	10
Sum of HUs					25	Sum of HUs					24
Mitigation AAHUs over 50 years					0.5	Mitigation AAHUs over 50 years					0.5

Figure 10.1.53 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 131.7-R, Lower Edgard 131.7 R, LA, Levee, Item 131.7-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.0 FCUs/AAHUs, requiring 1.6 acres of mitigation.



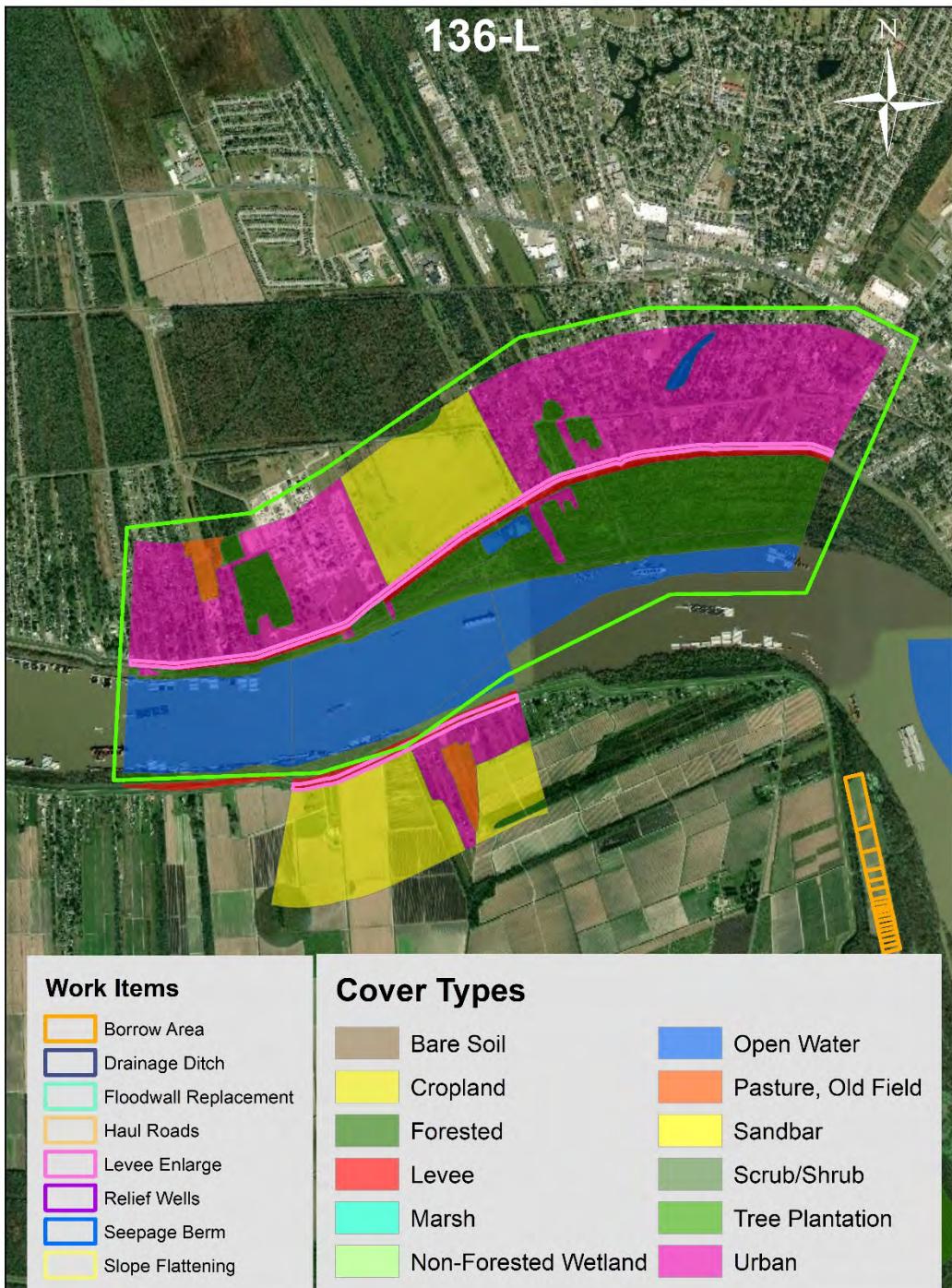
133L		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	11	0.46	5		Forest	28	0.44	13	
Levee	5	0.00	0		Levee	7	0.00	0	
Open water	185	0.00	0		Open water	7	0.00	0	
Cropland	0	0.00	0		Cropland	1	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	5	0.00	0	
Urban	5	0.00	0		Urban	63	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.48	5	26	Target year - 5		0.47	13	65
Target year - 10		0.60	7	30	Target year - 10		0.58	17	74
Target year - 20		0.66	7	70	Target year - 20		0.64	18	174
Target year - 35		0.66	7	110	Target year - 35		0.64	18	273
Target year - 50		0.66	7	110	Target year - 50		0.64	18	273
Sum of HUs				345	Sum of HSUs				859
Pre-project AAHUs over 50 years			7		Pre-project AAHUs over 50 years			17	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.3			
Open water	0.0				Open water	0.9			
Cropland	0.0				Cropland	-0.9			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	-0.3			
Post-project land cover					Post-project land cover				
Forest	11	0.46	5		Forest	28	0.44	13	
Levee	5	0.00	0		Levee	7	0.00	0	
Open water	185	0.00	0		Open water	8	0.00	0	
Cropland	0	0.00	0		Cropland	0	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	5	0.00	0	
Urban	5	0.00	0		Urban	62	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.48	5	26	Target year - 5		0.47	13	65
Target year - 10		0.60	7	30	Target year - 10		0.58	17	74
Target year - 20		0.66	7	70	Target year - 20		0.64	18	174
Target year - 35		0.66	7	110	Target year - 35		0.64	18	273
Target year - 50		0.66	7	110	Target year - 50		0.64	18	273
Sum of HUs				345	Sum of HSUs				859
Post-project AAHUs over 50 years			7		Post-project AAHUs over 50 years			17	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years			0.0	

Figure 10.1.54 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 133-L, Laplace, LA, Levee, Item 133-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.6 FCUs/AAHUs, requiring 0.9 acres of mitigation.



135.7R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		47	0.36	17		Forest		5	0.34	2	
Levee		12	0.00	0		Levee		14	0.00	0	
Open water		254	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		269	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		19	0.00	0	
Urban		1	0.00	0		Urban		64	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.38	18	87	Target year - 5			0.37	2	8
Target year - 10			0.48	23	102	Target year - 10			0.46	2	9
Target year - 20			0.53	25	238	Target year - 20			0.51	2	22
Target year - 35			0.53	25	374	Target year - 35			0.51	2	34
Target year - 50			0.53	25	374	Target year - 50			0.51	2	34
Sum of HUs					1175	Sum of HSUs					108
Pre-project AAHUs over 50 years				23		Pre-project AAHUs over 50 years					2
Land cover change						Land cover change					
Forest		-0.7				Forest		0.0			
Levee		0.0				Levee		4.0			
Open water		1.0				Open water		0.0			
Cropland		-0.3				Cropland		-2.1			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-1.9			
Post-project land cover						Post-project land cover					
Forest		46	0.36	17		Forest		5	0.34	2	
Levee		12	0.00	0		Levee		18	0.00	0	
Open water		255	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		267	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		19	0.00	0	
Urban		1	0.00	0		Urban		62	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.38	18	86	Target year - 5			0.37	2	8
Target year - 10			0.48	22	100	Target year - 10			0.46	2	9
Target year - 20			0.53	25	234	Target year - 20			0.51	2	22
Target year - 35			0.53	25	368	Target year - 35			0.51	2	34
Target year - 50			0.53	25	368	Target year - 50			0.51	2	34
Sum of HUs					1157	Sum of HSUs					108
Post-project AAHUs over 50 years				23		Post-project AAHUs over 50 years					2
Change in AAHUs over 50 years				-0.3		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.6	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.6	0.15	0		0	Target year - 5		0.0	0.15	0
Target year - 10		0.6	0.33	0		1	Target year - 10		0.0	0.33	0
Target year - 20		0.6	0.67	0		3	Target year - 20		0.0	0.67	0
Target year - 35		0.6	0.85	0		6	Target year - 35		0.0	0.85	0
Target year - 50		0.6	0.94	1		8	Target year - 50		0.0	0.94	0
Sum of HUs					18	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.4	Mitigation AAHUs over 50 years					0.0

Figure 10.1.55 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 135.7-R, Lower Edgard (3) 135.2-136.2 R, LA, Levee, Item 135.7-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.3 FCUs/AAHUs, requiring 0.6 acres of mitigation.



136L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		399	0.41	164		Forest		72	0.40	29	
Levee		66	0.00	0		Levee		24	0.00	0	
Open water		536	0.00	0		Open water		8	0.00	0	
Cropland		0	0.00	0		Cropland		207	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		18	0.00	0	
Urban		16	0.00	0		Urban		749	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.42	169		832	Target year - 5		0.41	29	145
Target year - 10			0.57	226		987	Target year - 10		0.55	40	173
Target year - 20			0.71	283		2548	Target year - 20		0.69	50	445
Target year - 35			0.78	312		4465	Target year - 35		0.75	54	780
Target year - 50			0.78	312		4677	Target year - 50		0.75	54	817
Sum of HUs						13509	Sum of HSUs				2361
Pre-project AAHUs over 50 years				270			Pre-project AAHUs over 50 years				47
Land cover change						Land cover change					
Forest		0.0				Forest		-0.3			
Levee		0.0				Levee		9.2			
Open water		0.0				Open water		1.0			
Cropland		0.0				Cropland		-2.7			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-7.2			
Post-project land cover						Post-project land cover					
Forest		399	0.41	164			Forest		72	0.40	29
Levee		66	0.00	0			Levee		33	0.00	0
Open water		536	0.00	0			Open water		9	0.00	0
Cropland		0	0.00	0			Cropland		204	0.00	0
Pasture/old field		0	0.00	0			Pasture/old field		18	0.00	0
Urban		16	0.00	0			Urban		742	0.00	0
Post-project future conditions						Post-project future conditions					
Target year - 5			0.42	169		832	Target year - 5		0.41	29	145
Target year - 10			0.57	226		987	Target year - 10		0.55	39	172
Target year - 20			0.71	283		2548	Target year - 20		0.69	49	443
Target year - 35			0.78	312		4465	Target year - 35		0.75	54	777
Target year - 50			0.78	312		4677	Target year - 50		0.75	54	814
Sum of HUs						13509	Sum of HUs				2351
Post-project AAHUs over 50 years				270			Post-project AAHUs over 50 years				47
Change in AAHUs over 50 years				0.0			Change in AAHUs over 50 years				-0.2
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0			Target year - 0		0.3	0.00	0
Target year - 5		0.0	0.15	0		0	Target year - 5		0.3	0.15	0
Target year - 10		0.0	0.33	0		0	Target year - 10		0.3	0.33	0
Target year - 20		0.0	0.67	0		0	Target year - 20		0.3	0.67	0
Target year - 35		0.0	0.85	0		0	Target year - 35		0.3	0.85	0
Target year - 50		0.0	0.94	0		0	Target year - 50		0.3	0.94	0
Sum of HUs						0	Sum of HUs				10
Mitigation AAHUs over 50 years						0.0	Mitigation AAHUs over 50 years				0.2

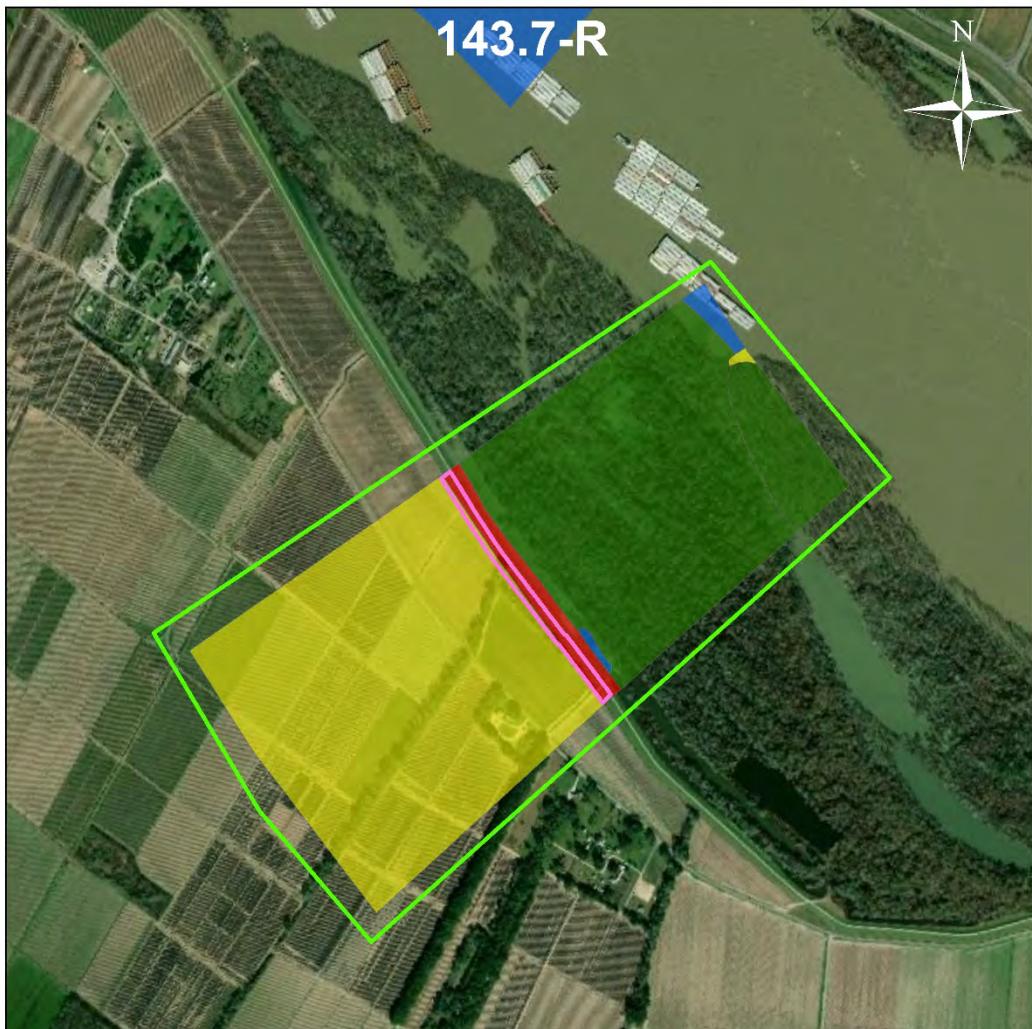
Figure 10.1.56 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 136-L, Reserve, LA, Levee, Item 136-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.4 FCUs/AAHUs, requiring 3.8 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

142R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		55	0.68	37		Forest		0	0.65	0	
Levee		12	0.00	0		Levee		13	0.00	0	
Open water		171	0.00	0		Open water		4	0.00	0	
Cropland		0	0.00	0		Cropland		219	0.00	0	
Pasture/old field		7	0.00	0		Pasture/old field		114	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.74	41	197	Target year - 5			0.72	0	0
Target year - 10			0.74	41	206	Target year - 10			0.72	0	0
Target year - 20			0.74	41	411	Target year - 20			0.72	0	0
Target year - 35			0.74	41	617	Target year - 35			0.72	0	0
Target year - 50			0.74	41	617	Target year - 50			0.72	0	0
Sum of HUs					2048	Sum of HSUs					0
Pre-project AAHUs over 50 years				41		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		-0.6				Forest		0.0			
Levee		0.0				Levee		0.4			
Open water		0.9				Open water		0.0			
Cropland		-0.3				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		-0.4			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		55	0.68	37		Forest		0	0.65	0	
Levee		12	0.00	0		Levee		13	0.00	0	
Open water		172	0.00	0		Open water		4	0.00	0	
Cropland		0	0.00	0		Cropland		219	0.00	0	
Pasture/old field		7	0.00	0		Pasture/old field		113	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.74	41	194	Target year - 5			0.72	0	0
Target year - 10			0.74	41	203	Target year - 10			0.72	0	0
Target year - 20			0.74	41	407	Target year - 20			0.72	0	0
Target year - 35			0.74	41	610	Target year - 35			0.72	0	0
Target year - 50			0.74	41	610	Target year - 50			0.72	0	0
Sum of HUs					2026	Sum of HSUs					0
Post-project AAHUs over 50 years				41		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				-0.4		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.7	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.7	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.7	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.7	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.7	0.85	1		Target year - 35		0.0	0.85	0	
Target year - 50		0.7	0.94	1		Target year - 50		0.0	0.94	0	
Sum of HUs					22	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.4	Mitigation AAHUs over 50 years					0.0

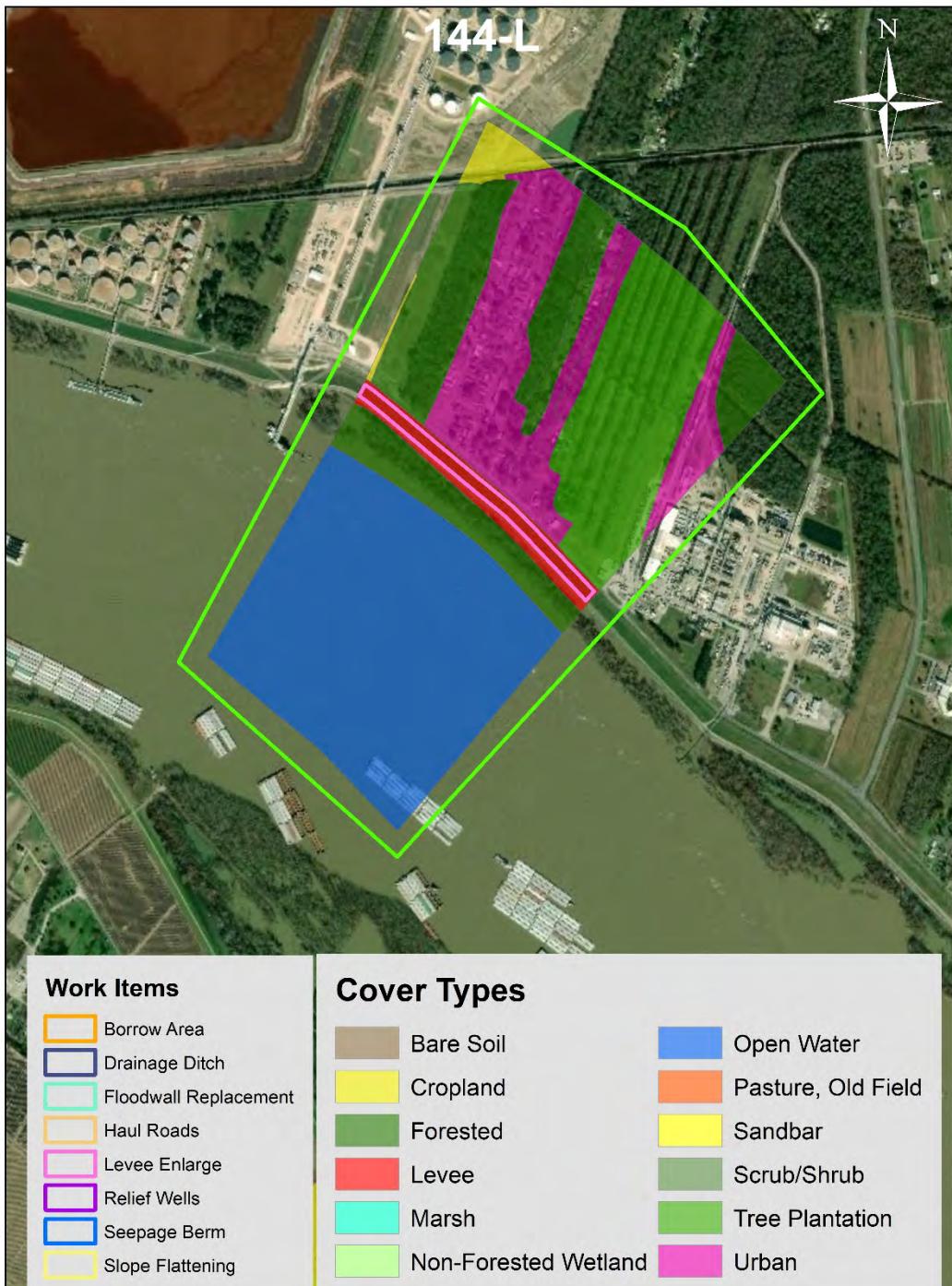
Figure 10.1.57 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 142-R, Upper Edgard 142 R, LA, Levee, Item 142-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.4 FCUs/AAHUs, requiring 0.7 acres of mitigation.



Work Items	Cover Types
Borrow Area	Bare Soil
Drainage Ditch	Open Water
Floodwall Replacement	Pasture, Old Field
Haul Roads	Sandbar
Levee Enlarge	Scrub/Shrub
Relief Wells	Tree Plantation
Seepage Berm	Non-Forested Wetland
Slope Flattening	Urban

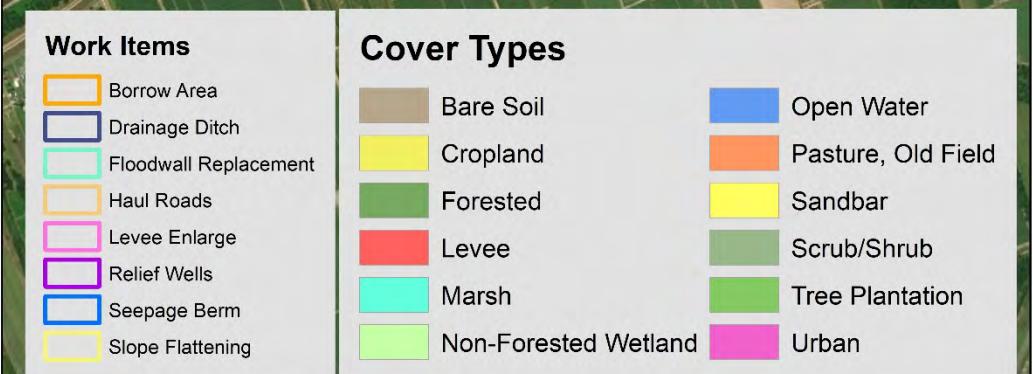
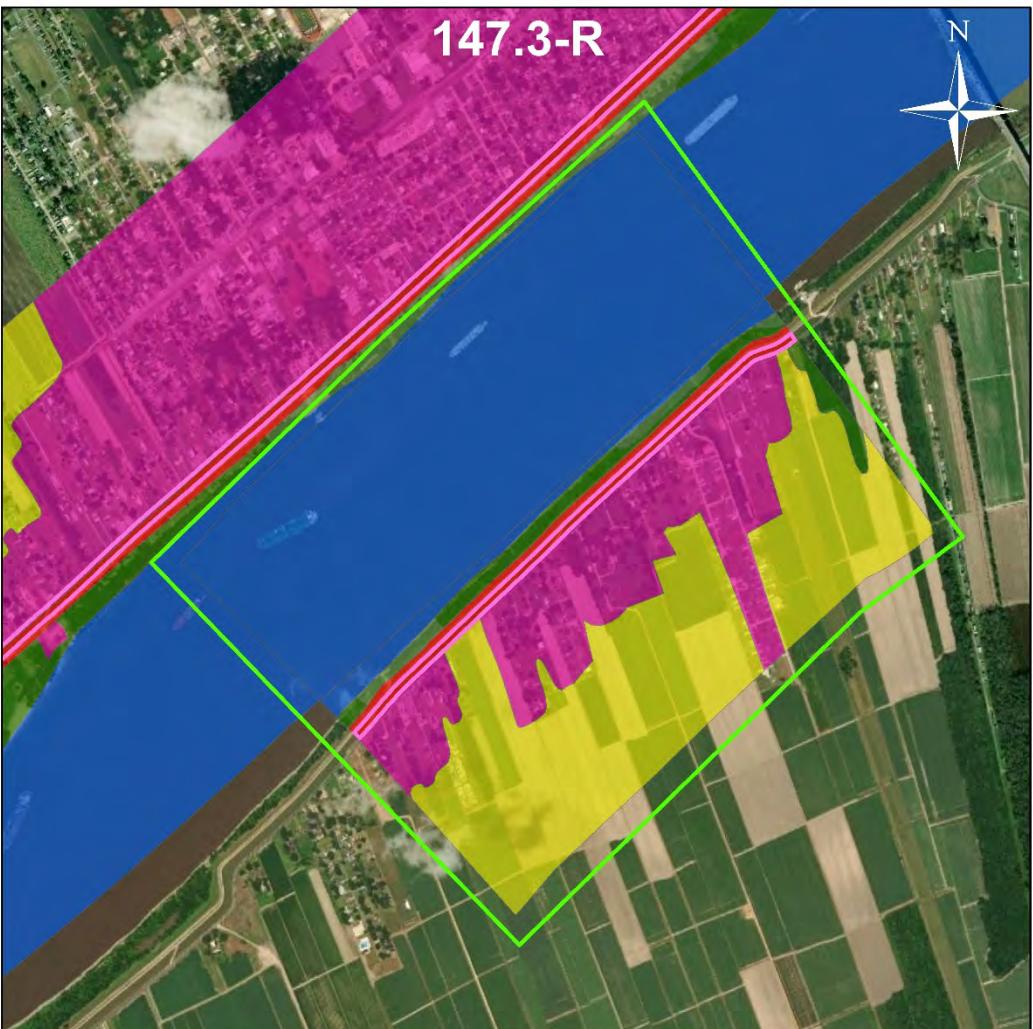
143.7R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		120	0.68	81		Forest		0	0.65	0			
Levee		5	0.00	0		Levee		3	0.00	0			
Open water		3	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		142	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.74	89	426		Target year - 5		0.72	0	0			
Target year - 10		0.74	89	446		Target year - 10		0.72	0	0			
Target year - 20		0.74	89	892		Target year - 20		0.72	0	0			
Target year - 35		0.74	89	1338		Target year - 35		0.72	0	0			
Target year - 50		0.74	89	1338		Target year - 50		0.72	0	0			
Sum of HUs				4440		Sum of HSUs							0
Pre-project AAHUs over 50 years				89		Pre-project AAHUs over 50 years							0
Land cover change						Land cover change							
Forest	-0.7					Forest		0.0					
Levee	0.0					Levee		1.3					
Open water	1.0					Open water		0.0					
Cropland	-0.3					Cropland		-1.3					
Pasture/old field	0.0					Pasture/old field		0.0					
Urban	0.0					Urban		0.0					
Post-project land cover						Post-project land cover							
Forest	119	0.68	81			Forest		0	0.65	0			
Levee	5	0.00	0			Levee		5	0.00	0			
Open water	4	0.00	0			Open water		0	0.00	0			
Cropland	0	0.00	0			Cropland		140	0.00	0			
Pasture/old field	0	0.00	0			Pasture/old field		0	0.00	0			
Urban	0	0.00	0			Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.74	89	424		Target year - 5		0.72	0	0			
Target year - 10		0.74	89	443		Target year - 10		0.72	0	0			
Target year - 20		0.74	89	887		Target year - 20		0.72	0	0			
Target year - 35		0.74	89	1330		Target year - 35		0.72	0	0			
Target year - 50		0.74	89	1330		Target year - 50		0.72	0	0			
Sum of HUs				4414		Sum of HUs							0
Post-project AAHUs over 50 years				88		Post-project AAHUs over 50 years							0
Change in AAHUs over 50 years				-0.5		Change in AAHUs over 50 years							0.0
Mitigation						Mitigation							
Target year - 0	0.8	0.00	0			Target year - 0		0.0	0.00	0			
Target year - 5	0.8	0.15	0		0	Target year - 5		0.0	0.15	0			
Target year - 10	0.8	0.33	0		1	Target year - 10		0.0	0.33	0			
Target year - 20	0.8	0.67	1		4	Target year - 20		0.0	0.67	0			
Target year - 35	0.8	0.85	1		9	Target year - 35		0.0	0.85	0			
Target year - 50	0.8	0.94	1		11	Target year - 50		0.0	0.94	0			
Sum of HUs					26	Sum of HUs							0
Mitigation AAHUs over 50 years					0.5	Mitigation AAHUs over 50 years							0.0

Figure 10.1.58 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 143.7-R, Oak Alley - Willow Grove 142.6-144 R, LA, Levee, Item 143.7-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.5 FCUs/AAHUs, requiring 0.8 acres of mitigation.



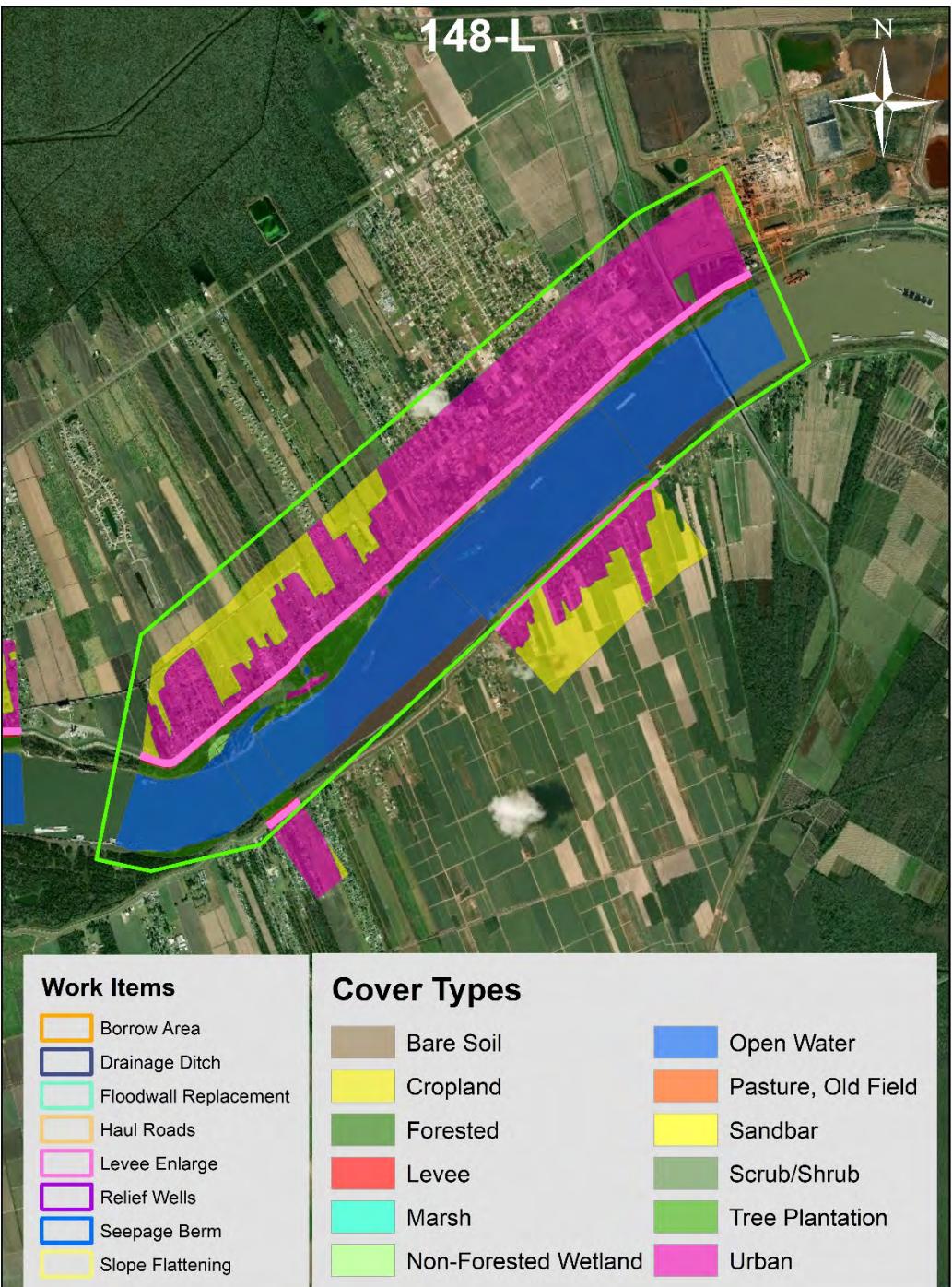
144L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		19	0.59	11		Forest		107	0.57	61			
Levee		5	0.00	0		Levee		9	0.00	0			
Open water		127	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		7	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		14	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.70	13	59		Target year - 5		0.67	72	332			
Target year - 10		0.77	14	68		Target year - 10		0.74	79	378			
Target year - 20		0.77	14	142		Target year - 20		0.74	79	792			
Target year - 35		0.77	14	213		Target year - 35		0.74	79	1188			
Target year - 50		0.77	14	213		Target year - 50		0.74	79	1188			
Sum of HUs				695		Sum of HSUs						3879	
Pre-project AAHUs over 50 years				14		Pre-project AAHUs over 50 years					78		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		1.0					
Cropland		0.0				Cropland		-1.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		19	0.59	11		Forest		107	0.57	61			
Levee		5	0.00	0		Levee		9	0.00	0			
Open water		127	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		6	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		14	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.70	13	59		Target year - 5		0.67	72	332			
Target year - 10		0.77	14	68		Target year - 10		0.74	79	378			
Target year - 20		0.77	14	142		Target year - 20		0.74	79	792			
Target year - 35		0.77	14	213		Target year - 35		0.74	79	1188			
Target year - 50		0.77	14	213		Target year - 50		0.74	79	1188			
Sum of HUs				695		Sum of HSUs						3879	
Post-project AAHUs over 50 years				14		Post-project AAHUs over 50 years					78		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs						Sum of HSUs						0	
Mitigation AAHUs over 50 years						Mitigation AAHUs over 50 years						0.0	

Figure 10.1.59 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 144-L, Gramercy.Mt. Airy/48 mile Point, LA, Levee, Item 144-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.8 FCUs/AAHUs, requiring 1.2 acres of mitigation.



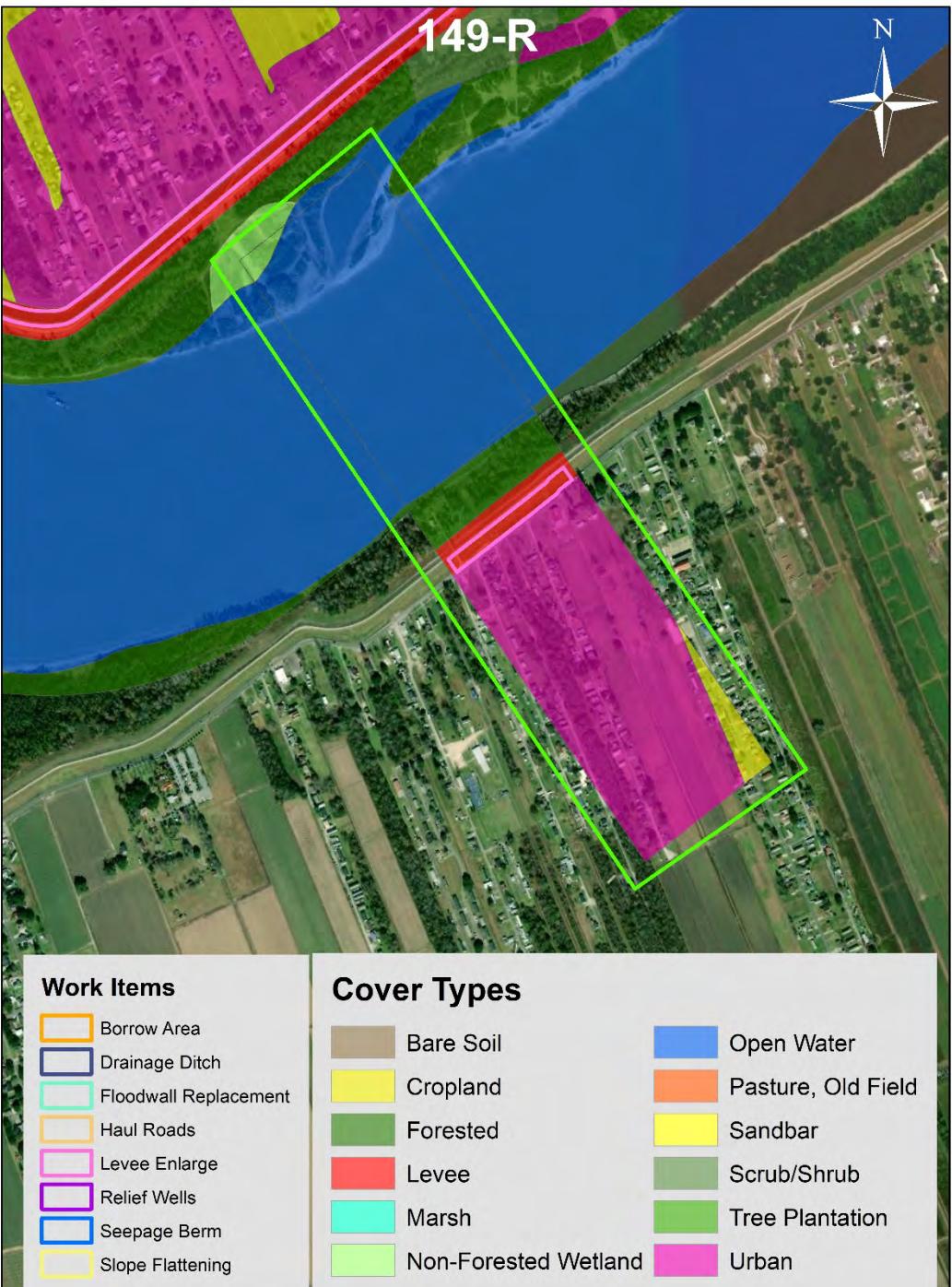
147.3R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		23	0.59	13		Forest		6	0.57	3			
Levee		14	0.00	0		Levee		14	0.00	0			
Open water		367	0.00	0		Open water		0	0.00	0			
Cropland		2	0.00	0		Cropland		229	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		136	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.70	16	73	Target year - 5			0.67	4	19		
Target year - 10			0.77	17	83	Target year - 10			0.74	4	21		
Target year - 20			0.77	17	173	Target year - 20			0.74	4	44		
Target year - 35			0.77	17	260	Target year - 35			0.74	4	67		
Target year - 50			0.77	17	260	Target year - 50			0.74	4	67		
Sum of HUs					849	Sum of HSUs					218		
Pre-project AAHUs over 50 years				17		Pre-project AAHUs over 50 years					4		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.8					
Open water		1.7				Open water		0.0					
Cropland		-1.7				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.8					
Post-project land cover						Post-project land cover							
Forest		23	0.59	13		Forest		6	0.57	3			
Levee		14	0.00	0		Levee		14	0.00	0			
Open water		369	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		229	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		135	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.70	16	73	Target year - 5			0.67	4	19		
Target year - 10			0.77	17	83	Target year - 10			0.74	4	21		
Target year - 20			0.77	17	173	Target year - 20			0.74	4	44		
Target year - 35			0.77	17	260	Target year - 35			0.74	4	67		
Target year - 50			0.77	17	260	Target year - 50			0.74	4	67		
Sum of HUs					849	Sum of HSUs					218		
Post-project AAHUs over 50 years				17		Post-project AAHUs over 50 years					4		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.60 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 147.3-R, Wallace, LA, Levee, Item 147.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of 0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



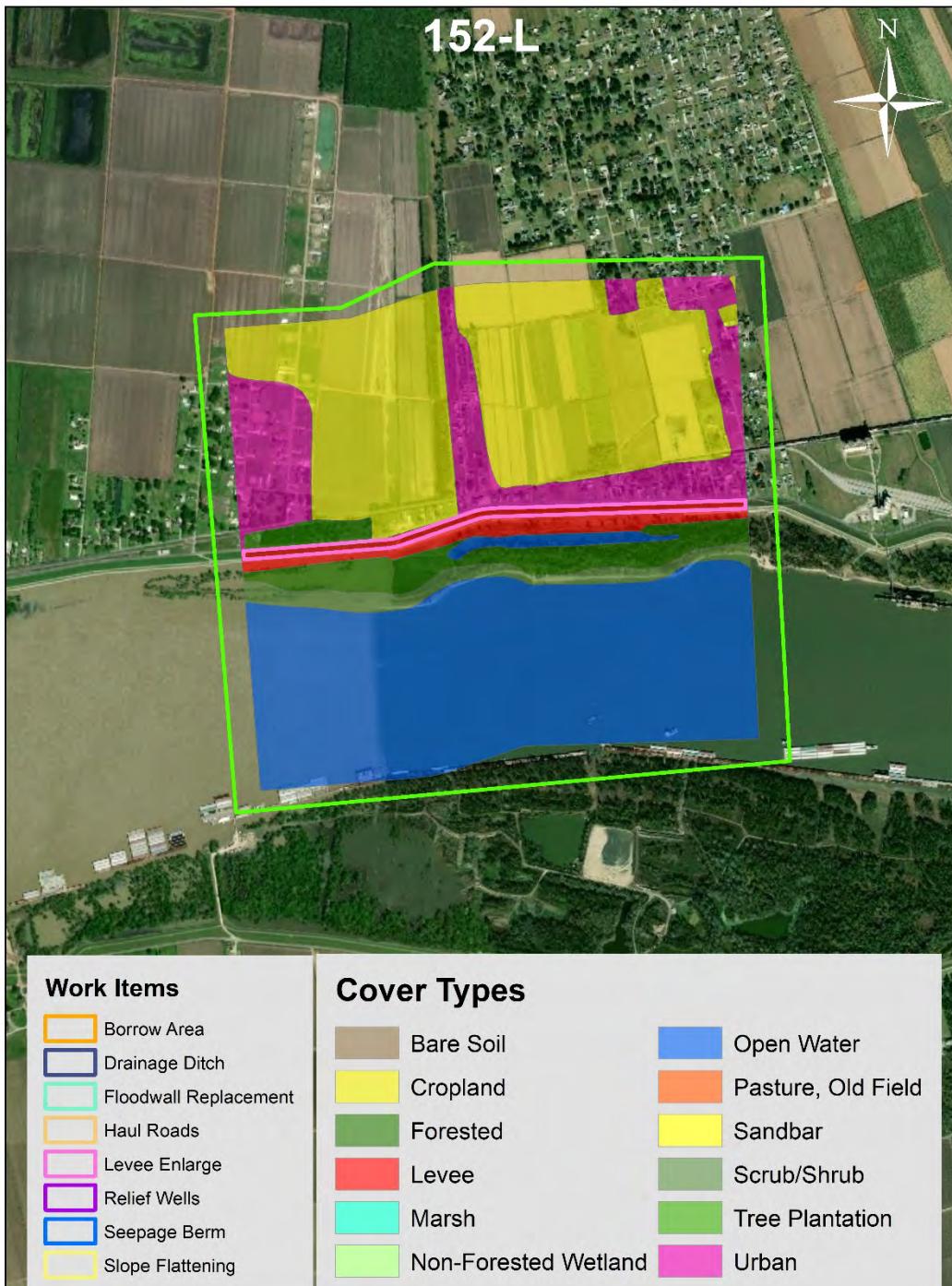
148L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		199	0.46	91		Forest		9	0.44	4			
Levee		54	0.00	0		Levee		43	0.00	0			
Open water		1202	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		260	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		8	0.00	0		Urban		1067	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.49	98		472	Target year - 5			0.47	4		21
Target year - 10			0.54	108		515	Target year - 10			0.52	5		22
Target year - 20			0.54	108		1078	Target year - 20			0.52	5		47
Target year - 35			0.54	108		1618	Target year - 35			0.52	5		70
Target year - 50			0.54	108		1618	Target year - 50			0.52	5		70
Sum of HUs						5300	Sum of HSUs						231
Pre-project AAHUs over 50 years					106		Pre-project AAHUs over 50 years						5
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		9.1					
Open water		0.0				Open water		10.2					
Cropland		0.0				Cropland		-10.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-9.1					
Post-project land cover						Post-project land cover							
Forest		199	0.46	91		Forest		9	0.44	4			
Levee		54	0.00	0		Levee		52	0.00	0			
Open water		1202	0.00	0		Open water		10	0.00	0			
Cropland		0	0.00	0		Cropland		250	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		8	0.00	0		Urban		1058	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.49	98		472	Target year - 5			0.47	4		21
Target year - 10			0.54	108		515	Target year - 10			0.52	5		22
Target year - 20			0.54	108		1078	Target year - 20			0.52	5		47
Target year - 35			0.54	108		1618	Target year - 35			0.52	5		70
Target year - 50			0.54	108		1618	Target year - 50			0.52	5		70
Sum of HUs						5300	Sum of HSUs						231
Post-project AAHUs over 50 years					106		Post-project AAHUs over 50 years						5
Change in AAHUs over 50 years					0.0		Change in AAHUs over 50 years						0.0
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		0	Target year - 5		0.0	0.15	0		0
Target year - 10		0.0	0.33	0		0	Target year - 10		0.0	0.33	0		0
Target year - 20		0.0	0.67	0		0	Target year - 20		0.0	0.67	0		0
Target year - 35		0.0	0.85	0		0	Target year - 35		0.0	0.85	0		0
Target year - 50		0.0	0.94	0		0	Target year - 50		0.0	0.94	0		0
Sum of HUs						0	Sum of HSUs						0
Mitigation AAHUs over 50 years						0.0	Mitigation AAHUs over 50 years						0.0

Figure 10.1.61 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 148-L, Paulina/Lutcher/Gramercy, LA, Levee, Item 148-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -5.4 FCUs/AAHUs, requiring 8.7 acres of mitigation.



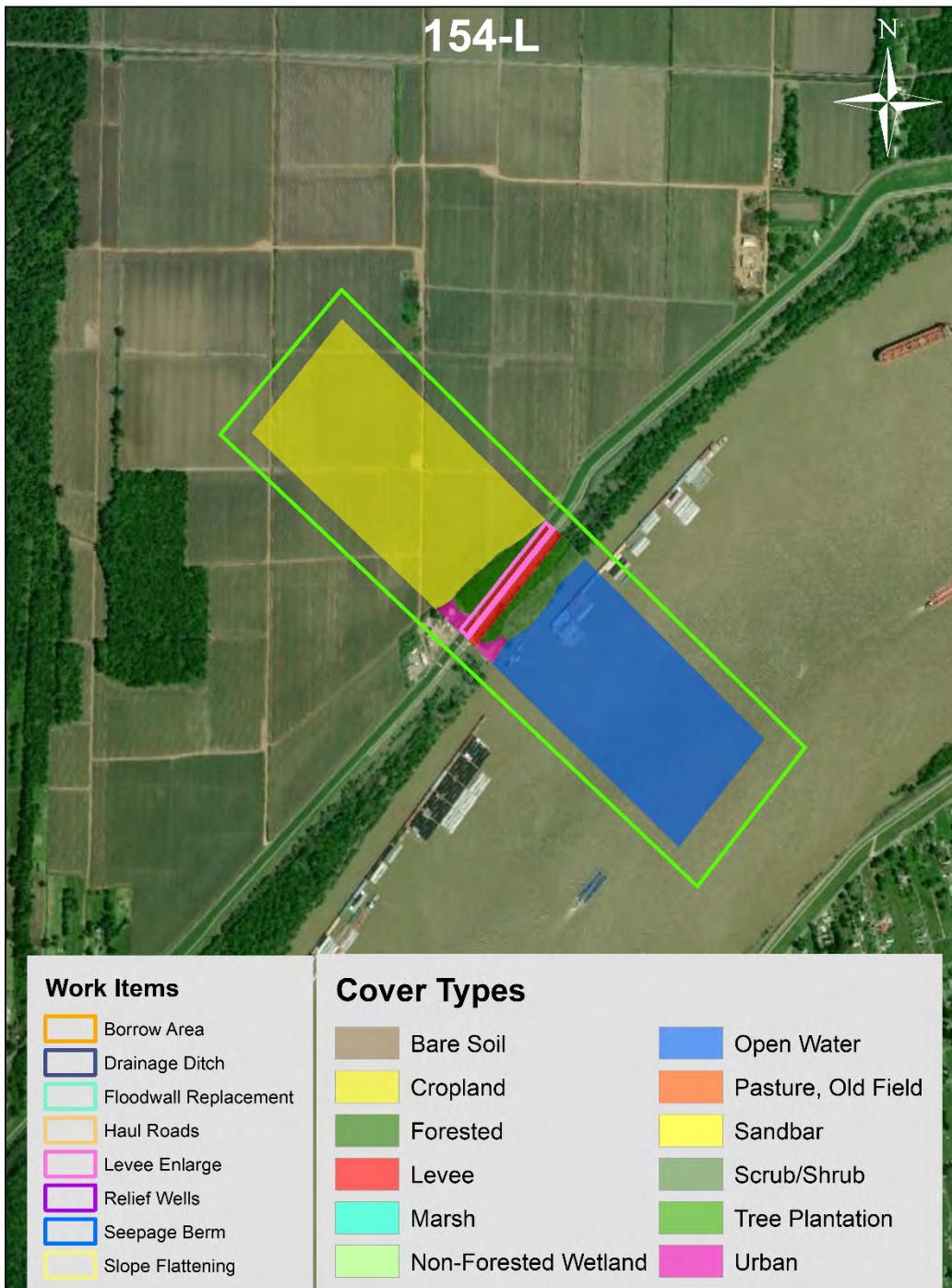
149R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		11	0.52	6		Forest		0	0.50	0			
Levee		4	0.00	0		Levee		5	0.00	0			
Open water		59	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		4	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		65	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.59	7	31	Target year - 5			0.57	0	0		
Target year - 10			0.65	7	35	Target year - 10			0.63	0	0		
Target year - 20			0.65	7	73	Target year - 20			0.63	0	0		
Target year - 35			0.65	7	110	Target year - 35			0.63	0	0		
Target year - 50			0.65	7	110	Target year - 50			0.63	0	0		
Sum of HUs					358	Sum of HSUs					0		
Pre-project AAHUs over 50 years				7		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		-0.6				Forest		0.0					
Levee		0.0				Levee		0.1					
Open water		0.9				Open water		0.0					
Cropland		-0.3				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.1					
Post-project land cover						Post-project land cover							
Forest		11	0.52	6		Forest		0	0.50	0			
Levee		4	0.00	0		Levee		5	0.00	0			
Open water		60	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		4	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		65	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.59	6	29	Target year - 5			0.57	0	0		
Target year - 10			0.65	7	33	Target year - 10			0.63	0	0		
Target year - 20			0.65	7	69	Target year - 20			0.63	0	0		
Target year - 35			0.65	7	104	Target year - 35			0.63	0	0		
Target year - 50			0.65	7	104	Target year - 50			0.63	0	0		
Sum of HUs					339	Sum of HSUs					0		
Post-project AAHUs over 50 years				7		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				-0.4		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.6	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.6	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.6	0.33	0	1	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.6	0.67	0	3	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.6	0.85	1	7	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.6	0.94	1	8	Target year - 50		0.0	0.94	0	0		
Sum of HUs					19	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.4	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.62 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 149-R, Vacherie, LA, Levee, Item 149-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.4 FCUs/AAHUs, requiring 0.6 acres of mitigation.



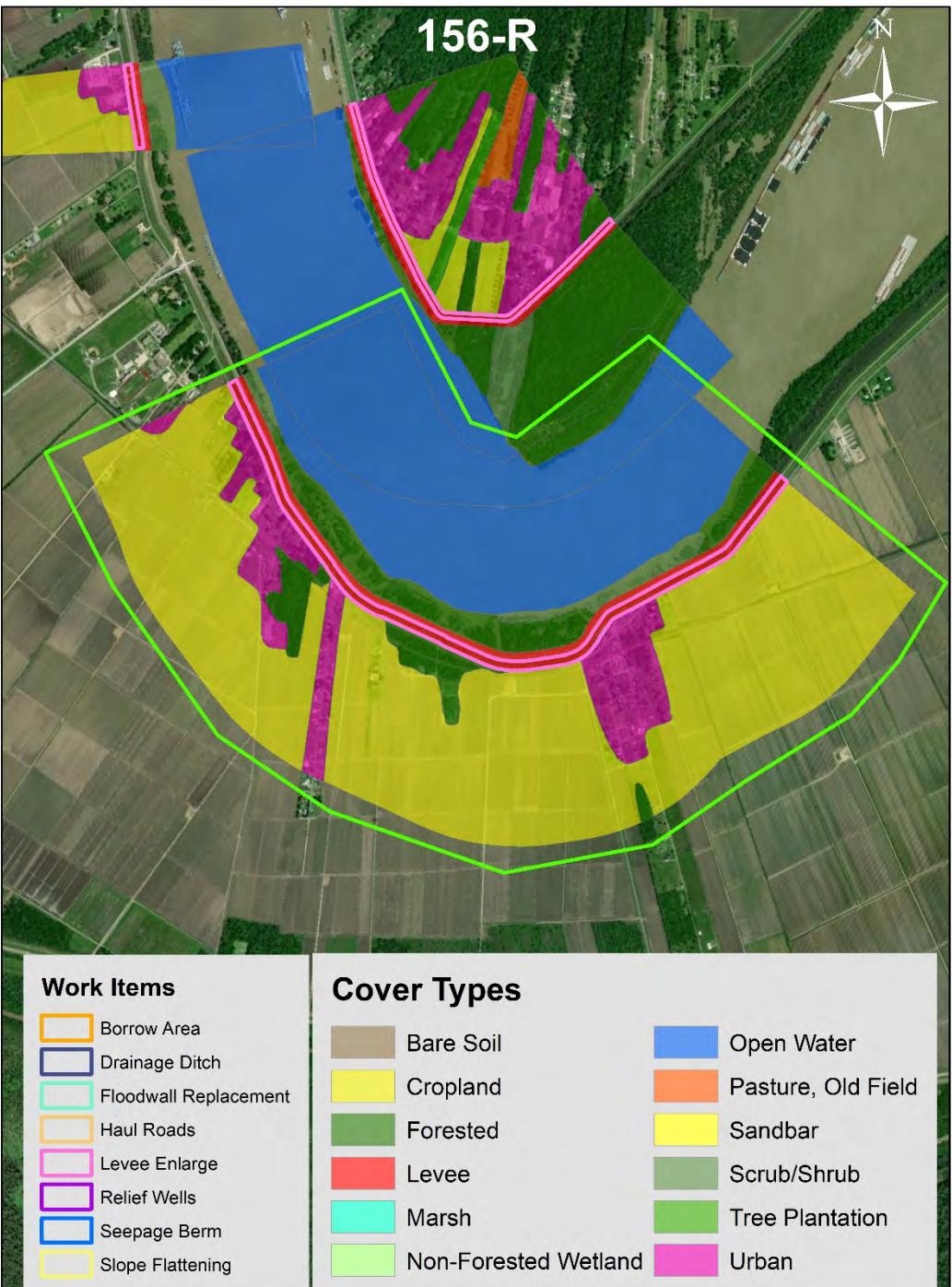
152L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		65	0.36	24		Forest		9	0.35	3			
Levee		25	0.00	0		Levee		12	0.00	0			
Open water		284	0.00	0		Open water		0	0.00	0			
Cropland		1	0.00	0		Cropland		254	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		103	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.39	26	123	Target year - 5			0.38	4	17		
Target year - 10			0.49	32	145	Target year - 10			0.47	4	20		
Target year - 20			0.54	35	338	Target year - 20			0.52	5	46		
Target year - 35			0.54	35	531	Target year - 35			0.52	5	73		
Target year - 50			0.54	35	531	Target year - 50			0.52	5	73		
Sum of HUs					1667	Sum of HSUs					229		
Pre-project AAHUs over 50 years				33		Pre-project AAHUs over 50 years				5			
Land cover change						Land cover change							
Forest		0.0				Forest		-0.4					
Levee		0.0				Levee		0.4					
Open water		1.0				Open water		0.0					
Cropland		-1.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		65	0.36	24		Forest		9	0.35	3			
Levee		25	0.00	0		Levee		13	0.00	0			
Open water		285	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		254	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		103	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.39	26	123	Target year - 5			0.38	3	16		
Target year - 10			0.49	32	145	Target year - 10			0.47	4	19		
Target year - 20			0.54	35	338	Target year - 20			0.52	5	44		
Target year - 35			0.54	35	531	Target year - 35			0.52	5	70		
Target year - 50			0.54	35	531	Target year - 50			0.52	5	70		
Sum of HUs					1667	Sum of HSUs					219		
Post-project AAHUs over 50 years				33		Post-project AAHUs over 50 years				4			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.2			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.3	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.3	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.3	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.3	0.67	0	2		
Target year - 35		0.0	0.85	0		Target year - 35		0.3	0.85	0	4		
Target year - 50		0.0	0.94	0		Target year - 50		0.3	0.94	0	4		
Sum of HUs						Sum of HSUs					10		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.2		

Figure 10.1.63 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 152-L, Belmont, LA, Levee, Item 152-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.1 acres of mitigation.



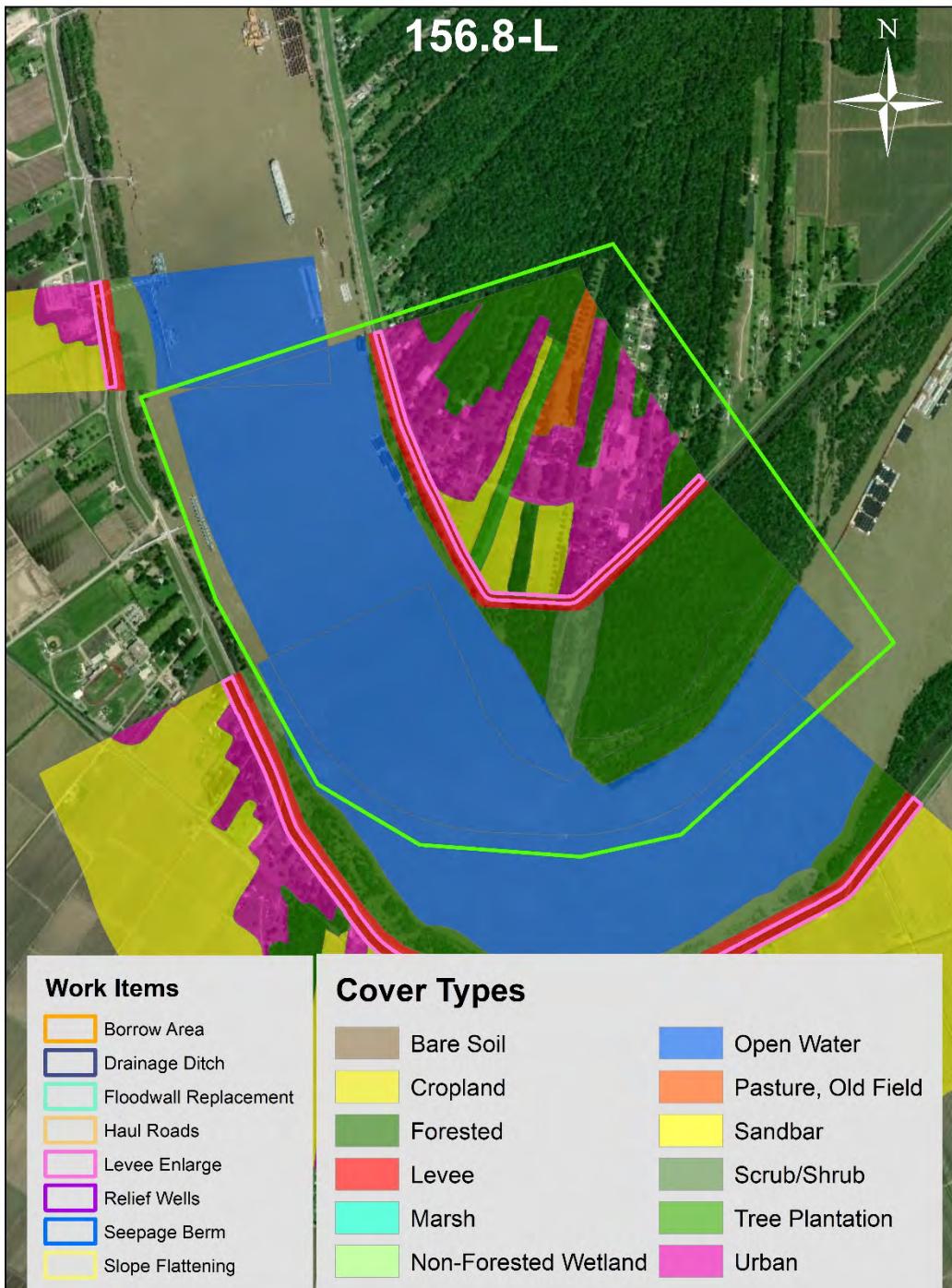
154L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		6	0.40	2		Forest		4	0.38	2	
Levee		3	0.00	0		Levee		2	0.00	0	
Open water		64	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		70	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		1	0.00	0		Urban		1	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.40	2	12	Target year - 5			0.39	2	8
Target year - 10			0.50	3	14	Target year - 10			0.48	2	9
Target year - 20			0.55	3	33	Target year - 20			0.53	2	21
Target year - 35			0.55	3	51	Target year - 35			0.53	2	33
Target year - 50			0.55	3	51	Target year - 50			0.53	2	33
Sum of HUs					161	Sum of HSUs					103
Pre-project AAHUs over 50 years				3		Pre-project AAHUs over 50 years					2
Land cover change						Land cover change					
Forest		0.0				Forest		-0.5			
Levee		0.0				Levee		0.6			
Open water		0.0				Open water		1.0			
Cropland		0.0				Cropland		-1.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		-0.1			
Post-project land cover						Post-project land cover					
Forest		6	0.40	2	12	Forest		4	0.38	1	
Levee		3	0.00	0		Levee		3	0.00	0	
Open water		64	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		69	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		1	0.00	0		Urban		1	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.40	2	12	Target year - 5			0.39	1	7
Target year - 10			0.50	3	14	Target year - 10			0.48	2	8
Target year - 20			0.55	3	33	Target year - 20			0.53	2	18
Target year - 35			0.55	3	51	Target year - 35			0.53	2	29
Target year - 50			0.55	3	51	Target year - 50			0.53	2	29
Sum of HUs					161	Sum of HSUs					90
Post-project AAHUs over 50 years				3		Post-project AAHUs over 50 years					2
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-0.3
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.4	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.4	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.4	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.4	0.67	0	2
Target year - 35		0.0	0.85	0	0	Target year - 35		0.4	0.85	0	5
Target year - 50		0.0	0.94	0	0	Target year - 50		0.4	0.94	0	5
Sum of HUs						Sum of HSUs					13
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.3

Figure 10.1.64 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 154-L, Welham Plantation, LA, Levee, Item 154-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.8 FCUs/AAHUs, requiring 1.2 acres of mitigation.



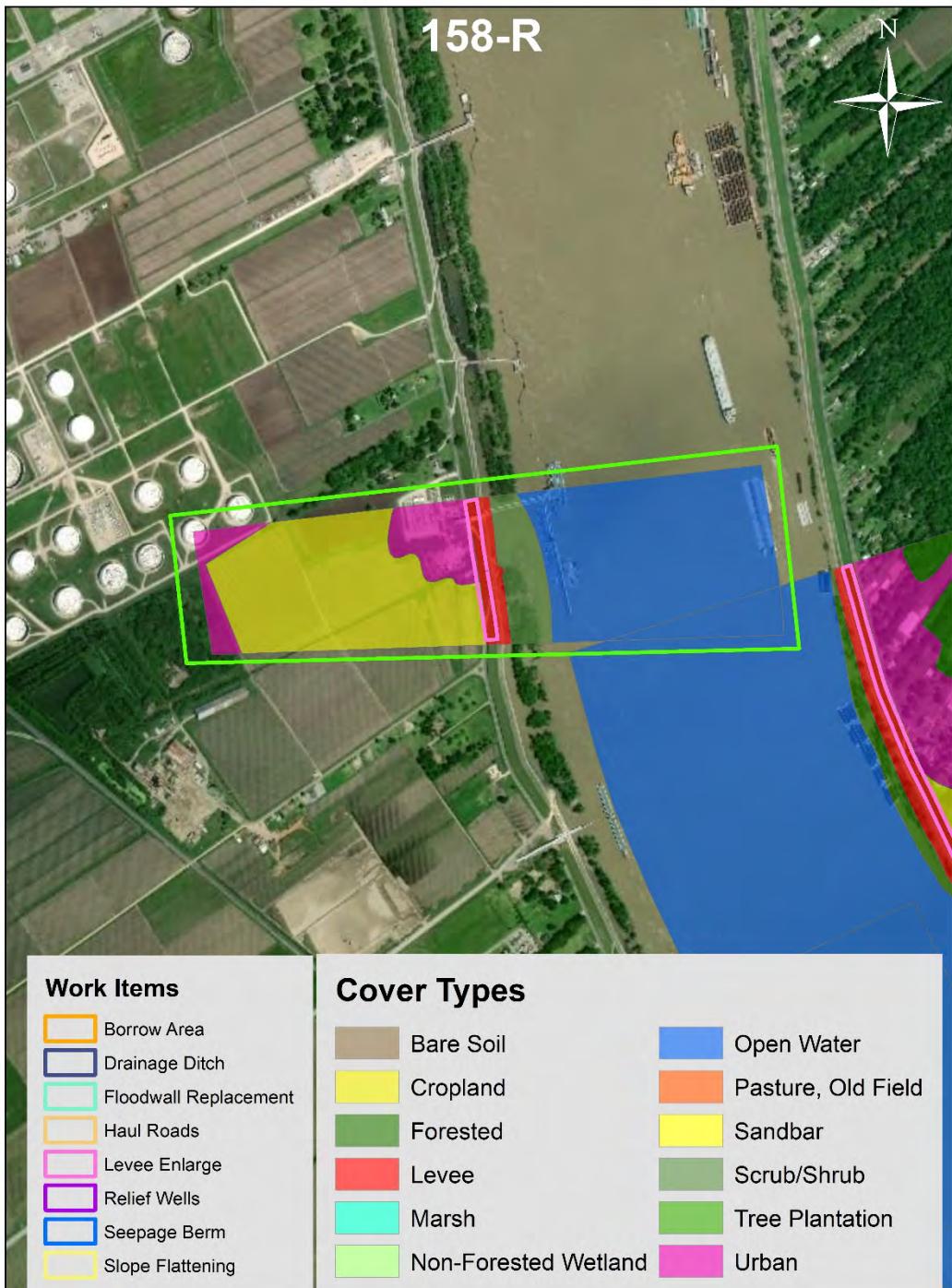
156R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		84	0.52	44		Forest		20	0.50	10			
Levee		30	0.00	0		Levee		31	0.00	0			
Open water		392	0.00	0		Open water		0	0.00	0			
Cropland		5	0.00	0		Cropland		666	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		104	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.59	50		235	Target year - 5			0.57	11	53		
Target year - 10		0.65	55		262	Target year - 10			0.63	12	59		
Target year - 20		0.65	55		550	Target year - 20			0.63	12	125		
Target year - 35		0.65	55		825	Target year - 35			0.63	12	187		
Target year - 50		0.65	55		825	Target year - 50			0.63	12	187		
Sum of HUs					2696	Sum of HSUs					611		
Pre-project AAHUs over 50 years						Pre-project AAHUs over 50 years							12
Land cover change						Land cover change							
Forest		0.0				Forest		-0.2					
Levee		0.0				Levee		2.1					
Open water		4.6				Open water		0.0					
Cropland		-4.6				Cropland		-1.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.7					
Post-project land cover						Post-project land cover							
Forest		84	0.52	44		Forest		20	0.50	10			
Levee		30	0.00	0		Levee		33	0.00	0			
Open water		397	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		664	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		104	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.59	50		235	Target year - 5			0.57	11	53		
Target year - 10		0.65	55		262	Target year - 10			0.63	12	59		
Target year - 20		0.65	55		550	Target year - 20			0.63	12	123		
Target year - 35		0.65	55		825	Target year - 35			0.63	12	185		
Target year - 50		0.65	55		825	Target year - 50			0.63	12	185		
Sum of HUs					2696	Sum of HSUs					605		
Post-project AAHUs over 50 years						Post-project AAHUs over 50 years							12
Change in AAHUs over 50 years						Change in AAHUs over 50 years							-0.1
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.2	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.2	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.2	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.2	0.67	0	1		
Target year - 35		0.0	0.85	0		Target year - 35		0.2	0.85	0	2		
Target year - 50		0.0	0.94	0		Target year - 50		0.2	0.94	0	3		
Sum of HUs						Sum of HSUs					6		
Mitigation AAHUs over 50 years						Mitigation AAHUs over 50 years							0.1

Figure 10.1.65 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 156-R, St. James Moonshine, LA, Levee, Item 156-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.1 FCUs/AAHUs, requiring 0.2 acres of mitigation.



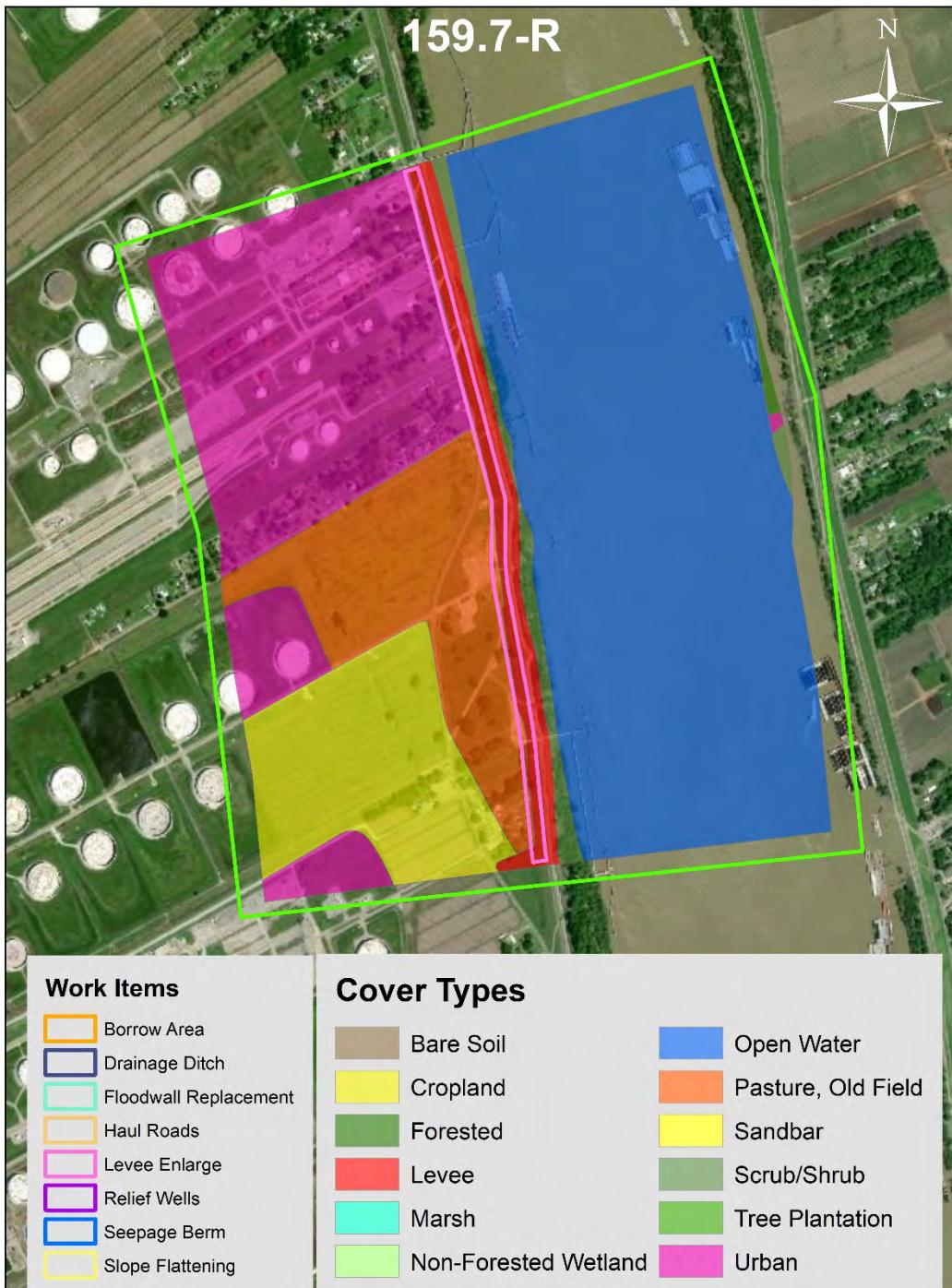
156.8L				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		151	0.68	103		Forest		65	0.65	42	
Levee		17	0.00	0		Levee		11	0.00	0	
Open water		387	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		29	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		12	0.00	0	
Urban		0	0.00	0		Urban		104	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.73	110	530	Target year - 5			0.70	45	219
Target year - 10			0.80	120	575	Target year - 10			0.77	50	237
Target year - 20			0.80	120	1205	Target year - 20			0.77	50	497
Target year - 35			0.80	120	1807	Target year - 35			0.77	50	746
Target year - 50			0.80	120	1807	Target year - 50			0.77	50	746
Sum of HUs					5925	Sum of HSUs					2444
Pre-project AAHUs over 50 years				119		Pre-project AAHUs over 50 years				49	
Land cover change						Land cover change					
Forest		0.0				Forest		-0.1			
Levee		0.0				Levee		0.5			
Open water		0.0				Open water		1.1			
Cropland		0.0				Cropland		-1.5			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		151	0.68	103		Forest		65	0.65	42	
Levee		17	0.00	0		Levee		12	0.00	0	
Open water		387	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		28	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		12	0.00	0	
Urban		0	0.00	0		Urban		104	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.73	110	530	Target year - 5			0.70	45	218
Target year - 10			0.80	120	575	Target year - 10			0.77	50	237
Target year - 20			0.80	120	1205	Target year - 20			0.77	50	496
Target year - 35			0.80	120	1807	Target year - 35			0.77	50	744
Target year - 50			0.80	120	1807	Target year - 50			0.77	50	744
Sum of HUs					5925	Sum of HUs					2440
Post-project AAHUs over 50 years				119		Post-project AAHUs over 50 years				49	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.1	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.1	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.1	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.1	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.1	0.67	0	1
Target year - 35		0.0	0.85	0		Target year - 35		0.1	0.85	0	1
Target year - 50		0.0	0.94	0		Target year - 50		0.1	0.94	0	2
Sum of HUs						Sum of HUs					4
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.1

Figure 10.1.66 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 156.8-L, Romeville/College Point 156.8 L, LA, Levee, Item 156.8-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.1 FCUs/AAHUs, requiring 1.5 acres of mitigation.



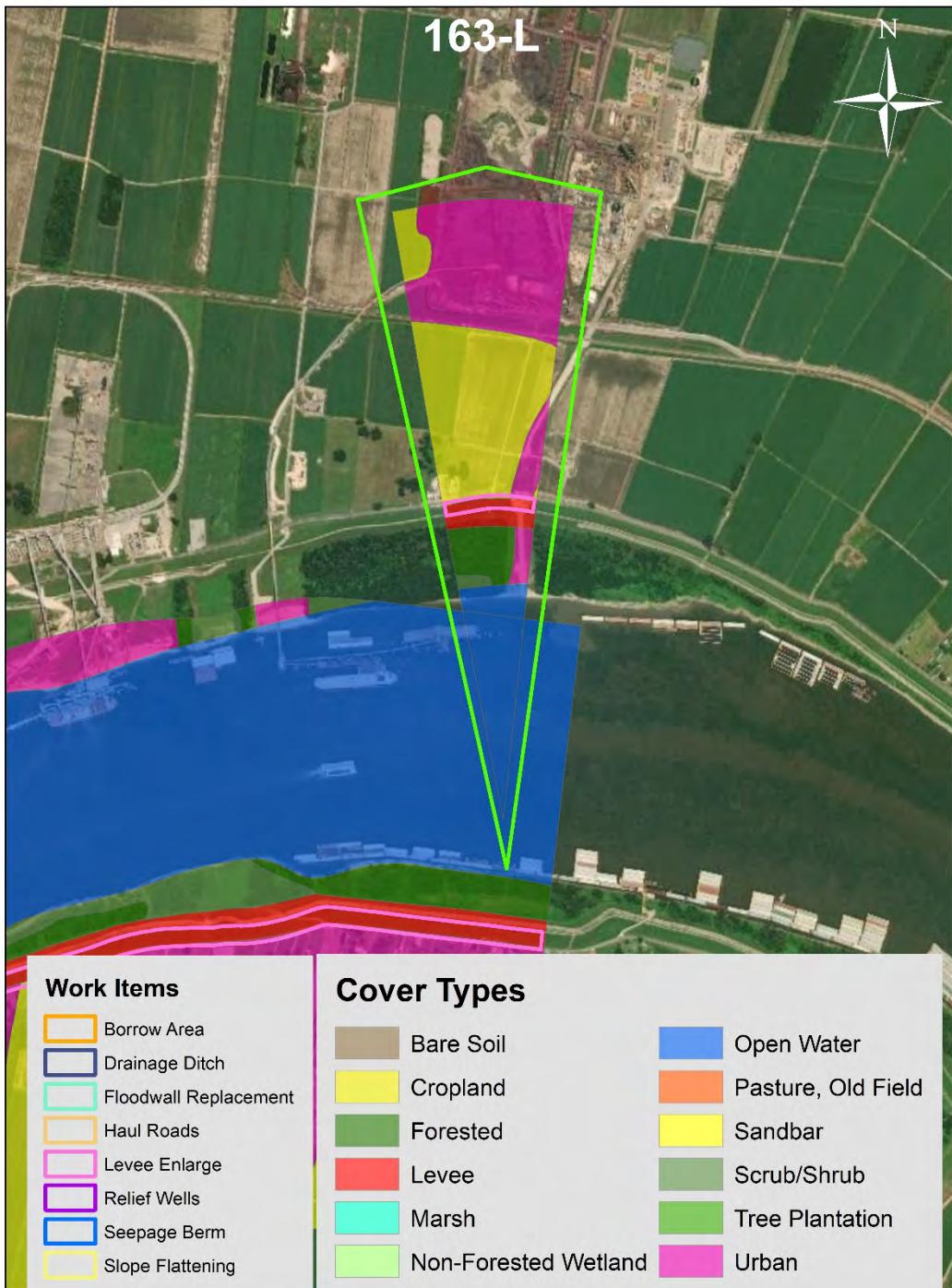
158R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		11	0.38	4		Forest		0	0.37	0	
Levee		3	0.00	0		Levee		3	0.00	0	
Open water		67	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		51	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		16	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.39	4	22	Target year - 5			0.37	0	0
Target year - 10			0.48	6	25	Target year - 10			0.47	0	0
Target year - 20			0.53	6	58	Target year - 20			0.51	0	0
Target year - 35			0.53	6	91	Target year - 35			0.51	0	0
Target year - 50			0.53	6	91	Target year - 50			0.51	0	0
Sum of HUs					286	Sum of HSUs					0
Pre-project AAHUs over 50 years				6		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		-0.5				Forest		0.0			
Levee		0.0				Levee		0.2			
Open water		0.8				Open water		0.0			
Cropland		-0.3				Cropland		-0.2			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		11	0.38	4		Forest		0	0.37	0	
Levee		3	0.00	0		Levee		3	0.00	0	
Open water		68	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		51	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		16	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.39	4	21	Target year - 5			0.37	0	0
Target year - 10			0.48	5	24	Target year - 10			0.47	0	0
Target year - 20			0.53	6	55	Target year - 20			0.51	0	0
Target year - 35			0.53	6	87	Target year - 35			0.51	0	0
Target year - 50			0.53	6	87	Target year - 50			0.51	0	0
Sum of HUs					274	Sum of HSUs					0
Post-project AAHUs over 50 years				5		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				-0.3		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.4	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.4	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.4	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.4	0.67	0	2	Target year - 20		0.0	0.67	0	0
Target year - 35		0.4	0.85	0	5	Target year - 35		0.0	0.85	0	0
Target year - 50		0.4	0.94	0	5	Target year - 50		0.0	0.94	0	0
Sum of HUs					13	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.3	Mitigation AAHUs over 50 years					0.0

Figure 10.1.67 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 158-R, St. Amelia 158R, LA, Levee, Item 158-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.3 FCUs/AAHUs, requiring 0.4 acres of mitigation.



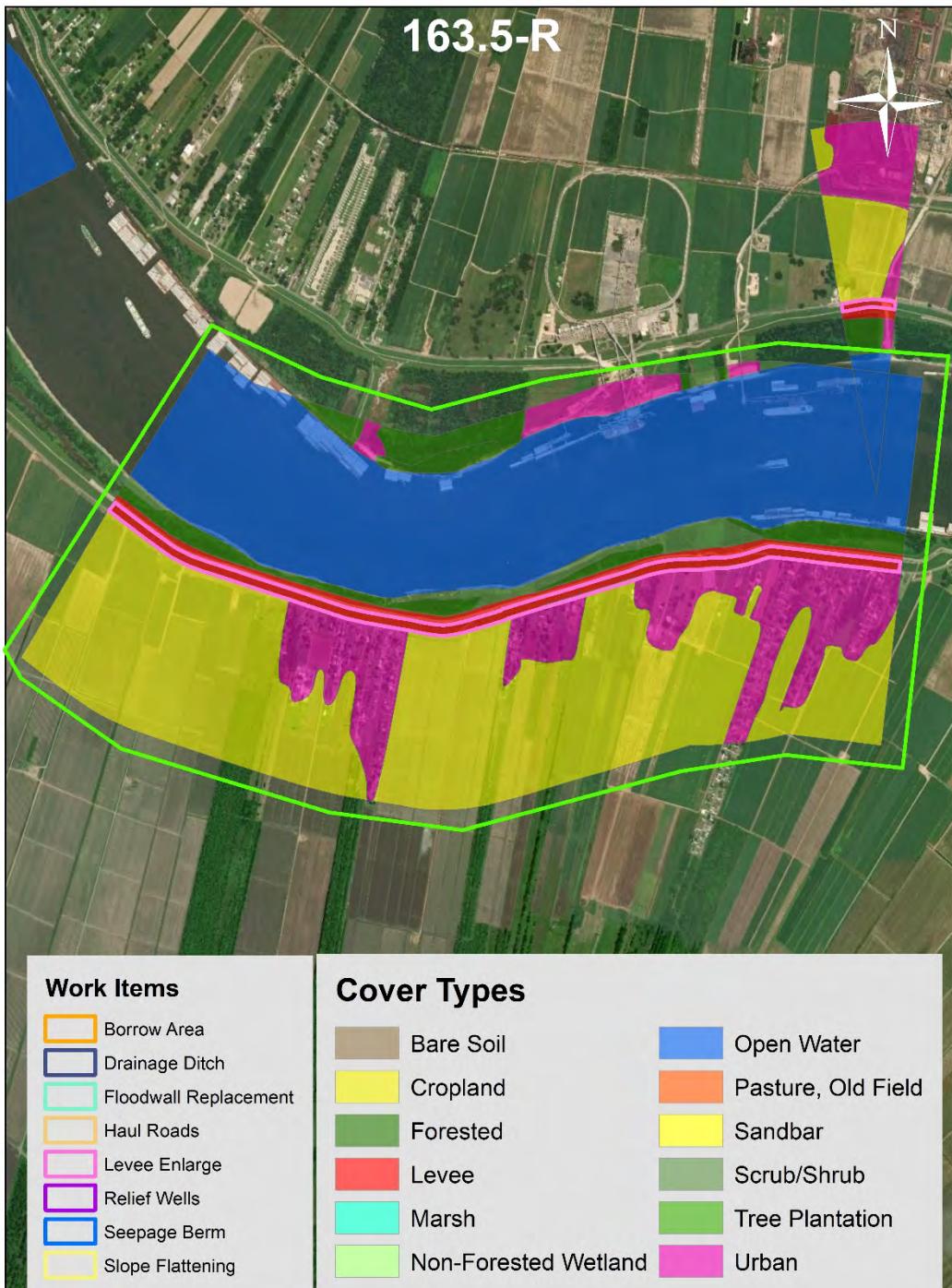
159.7R		Riverside								Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs				
Forest	15	0.69	11		Forest	0	0.66	0					
Levee	16	0.00	0		Levee	16	0.00	0					
Open water	346	0.00	0		Open water	0	0.00	0					
Cropland	0	0.00	0		Cropland	77	0.00	0					
Pasture/old field	0	0.00	0		Pasture/old field	86	0.00	0					
Urban	0	0.00	0		Urban	172	0.00	0					
Pre-project future conditions					Pre-project future conditions								
Target year - 5		0.71	11	54	Target year - 5		0.69	0	0				
Target year - 10		0.71	11	55	Target year - 10		0.69	0	0				
Target year - 20		0.71	11	110	Target year - 20		0.69	0	0				
Target year - 35		0.71	11	165	Target year - 35		0.69	0	0				
Target year - 50		0.71	11	165	Target year - 50		0.69	0	0				
Sum of HUs				548	Sum of HSUs								0
Pre-project AAHUs over 50 years			11		Pre-project AAHUs over 50 years								0
Land cover change					Land cover change								
Forest	-0.4				Forest	0.0							
Levee	0.0				Levee	4.2							
Open water	0.7				Open water	0.0							
Cropland	-0.3				Cropland	0.0							
Pasture/old field	0.0				Pasture/old field	-2.8							
Urban	0.0				Urban	-1.4							
Post-project land cover					Post-project land cover								
Forest	15	0.69	10		Forest	0	0.66	0					
Levee	16	0.00	0		Levee	20	0.00	0					
Open water	346	0.00	0		Open water	0	0.00	0					
Cropland	0	0.00	0		Cropland	77	0.00	0					
Pasture/old field	0	0.00	0		Pasture/old field	83	0.00	0					
Urban	0	0.00	0		Urban	171	0.00	0					
Post-project future conditions					Post-project future conditions								
Target year - 5		0.71	11	53	Target year - 5		0.69	0	0				
Target year - 10		0.71	11	53	Target year - 10		0.69	0	0				
Target year - 20		0.71	11	107	Target year - 20		0.69	0	0				
Target year - 35		0.71	11	160	Target year - 35		0.69	0	0				
Target year - 50		0.71	11	160	Target year - 50		0.69	0	0				
Sum of HUs				534	Sum of HSUs								0
Post-project AAHUs over 50 years			11		Post-project AAHUs over 50 years								0
Change in AAHUs over 50 years			-0.3		Change in AAHUs over 50 years								0.0
Mitigation					Mitigation								
Target year - 0	0.5	0.00	0		Target year - 0	0.0	0.00	0					
Target year - 5	0.5	0.15	0	0	Target year - 5	0.0	0.15	0	0				
Target year - 10	0.5	0.33	0	1	Target year - 10	0.0	0.33	0	0				
Target year - 20	0.5	0.67	0	2	Target year - 20	0.0	0.67	0	0				
Target year - 35	0.5	0.85	0	5	Target year - 35	0.0	0.85	0	0				
Target year - 50	0.5	0.94	0	6	Target year - 50	0.0	0.94	0	0				
Sum of HUs				14	Sum of HSUs								0
Mitigation AAHUs over 50 years				0.3	Mitigation AAHUs over 50 years								0.0

Figure 10.1.68 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 159.7-R, Barton Lane 159.7 R, LA, Levee, Item 159.7-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.3 FCUs/AAHUs, requiring 0.5 acres of mitigation.



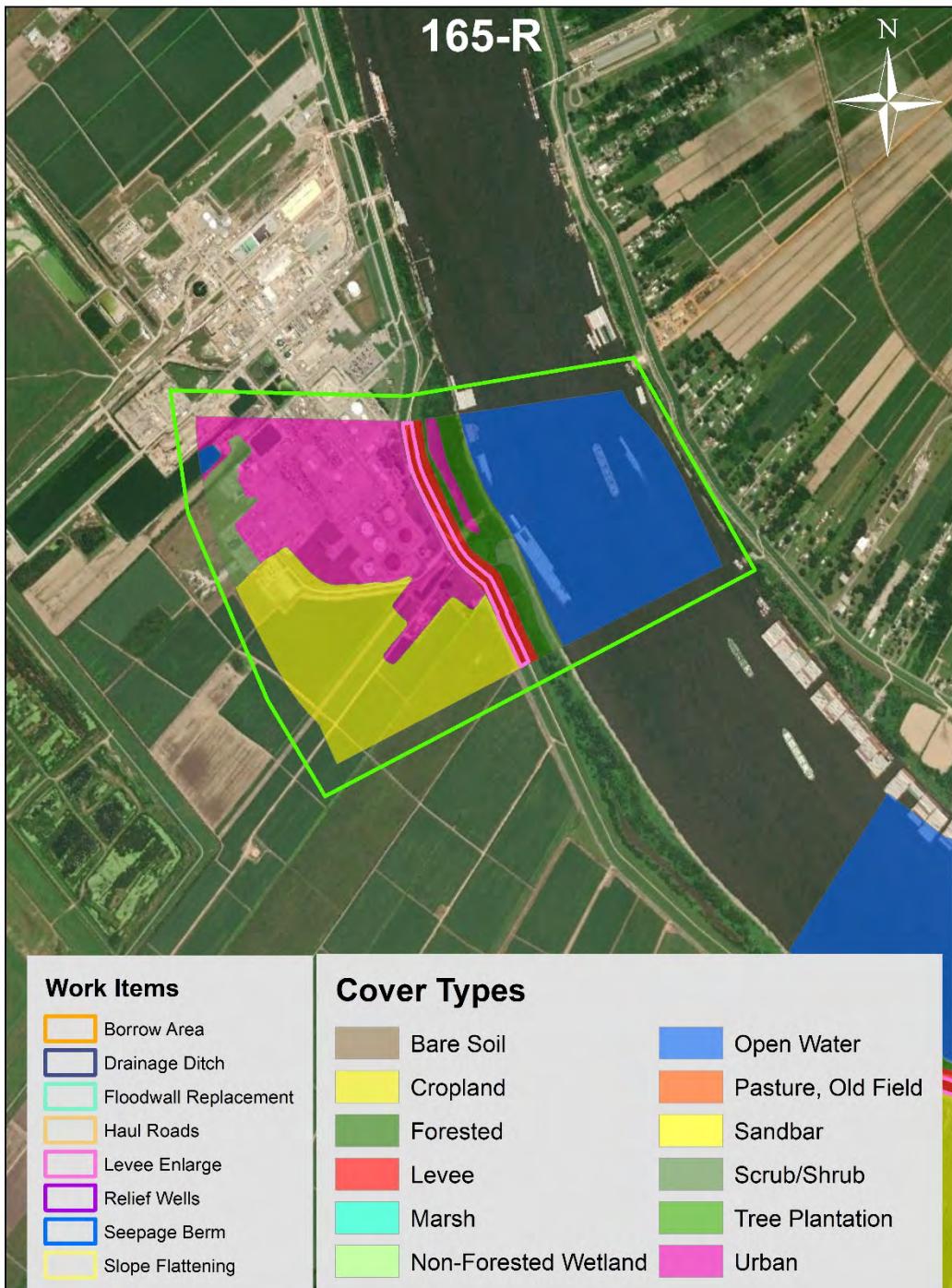
163L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		6	0.36	2		Forest		0	0.35	0			
Levee		3	0.00	0		Levee		2	0.00	0			
Open water		15	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		38	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		2	0.00	0		Urban		38	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.39	2	12	Target year - 5			0.37	0	0		
Target year - 10			0.49	3	14	Target year - 10			0.47	0	0		
Target year - 20			0.54	3	33	Target year - 20			0.52	0	0		
Target year - 35			0.54	3	51	Target year - 35			0.52	0	0		
Target year - 50			0.54	3	51	Target year - 50			0.52	0	0		
Sum of HUs					161	Sum of HSUs					0		
Pre-project AAHUs over 50 years				3		Pre-project AAHUs over 50 years					0		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.4					
Open water		0.0				Open water		1.0					
Cropland		0.0				Cropland		-1.3					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.1					
Post-project land cover						Post-project land cover							
Forest		6	0.36	2	12	Forest		0	0.35	0			
Levee		3	0.00	0		Levee		2	0.00	0			
Open water		15	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		36	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		2	0.00	0		Urban		38	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.39	2	12	Target year - 5			0.37	0	0		
Target year - 10			0.49	3	14	Target year - 10			0.47	0	0		
Target year - 20			0.54	3	33	Target year - 20			0.52	0	0		
Target year - 35			0.54	3	51	Target year - 35			0.52	0	0		
Target year - 50			0.54	3	51	Target year - 50			0.52	0	0		
Sum of HUs					161	Sum of HSUs					0		
Post-project AAHUs over 50 years				3		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					0.0		

Figure 10.1.69 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 163-L, Romeville, LA, Levee, Item 163-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.5 FCUs/AAHUs, requiring 0.8 acres of mitigation.



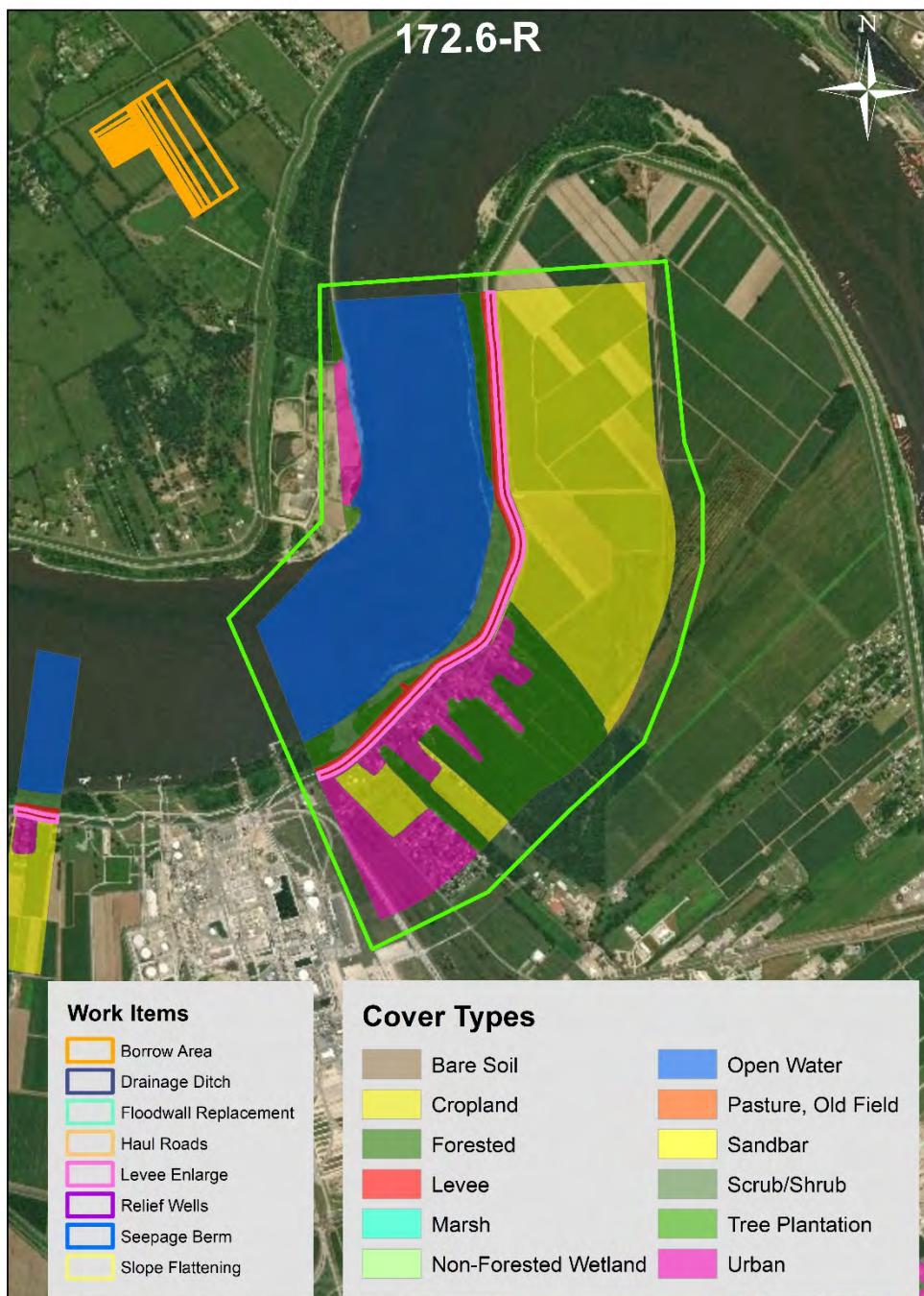
163.5R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		72	0.69	50		Forest		0	0.67	0	
Levee		33	0.00	0		Levee		41	0.00	0	
Open water		552	0.00	0		Open water		0	0.00	0	
Cropland		8	0.00	0		Cropland		569	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		181	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.72	51		253	Target year - 5		0.69	0	0	
Target year - 10		0.72	51		257	Target year - 10		0.69	0	0	
Target year - 20		0.72	51		514	Target year - 20		0.69	0	0	
Target year - 35		0.72	51		771	Target year - 35		0.69	0	0	
Target year - 50		0.72	51		771	Target year - 50		0.69	0	0	
Sum of HUs					2567	Sum of HSUs					0
Pre-project AAHUs over 50 years				51		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest	-2.1					Forest		0.0			
Levee	0.0					Levee		0.0			
Open water	10.3					Open water		0.0			
Cropland	-8.2					Cropland		0.0			
Pasture/old field	0.0					Pasture/old field		0.0			
Urban	0.0					Urban		0.0			
Post-project land cover						Post-project land cover					
Forest	69	0.69	48			Forest		0	0.67	0	
Levee	33	0.00	0			Levee		41	0.00	0	
Open water	562	0.00	0			Open water		0	0.00	0	
Cropland	0	0.00	0			Cropland		569	0.00	0	
Pasture/old field	0	0.00	0			Pasture/old field		0	0.00	0	
Urban	0	0.00	0			Urban		181	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.72	50		245	Target year - 5		0.69	0	0	
Target year - 10		0.72	50		250	Target year - 10		0.69	0	0	
Target year - 20		0.72	50		499	Target year - 20		0.69	0	0	
Target year - 35		0.72	50		749	Target year - 35		0.69	0	0	
Target year - 50		0.72	50		749	Target year - 50		0.69	0	0	
Sum of HUs					2492	Sum of HUs					0
Post-project AAHUs over 50 years				50		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				-1.5		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0	2.4	0.00	0			Target year - 0		0.0	0.00	0	
Target year - 5	2.4	0.15	0		1	Target year - 5		0.0	0.15	0	
Target year - 10	2.4	0.33	1			Target year - 10		0.0	0.33	0	
Target year - 20	2.4	0.67	2			Target year - 20		0.0	0.67	0	
Target year - 35	2.4	0.85	2			Target year - 35		0.0	0.85	0	
Target year - 50	2.4	0.94	2			Target year - 50		0.0	0.94	0	
Sum of HUs					76	Sum of HUs					0
Mitigation AAHUs over 50 years					1.5	Mitigation AAHUs over 50 years					0.0

Figure 10.1.70 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 163.5-R, Brilliant Point 163.5 R, LA, Levee, Item 163.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.5 FCUs/AAHUs, requiring 2.4 acres of mitigation.



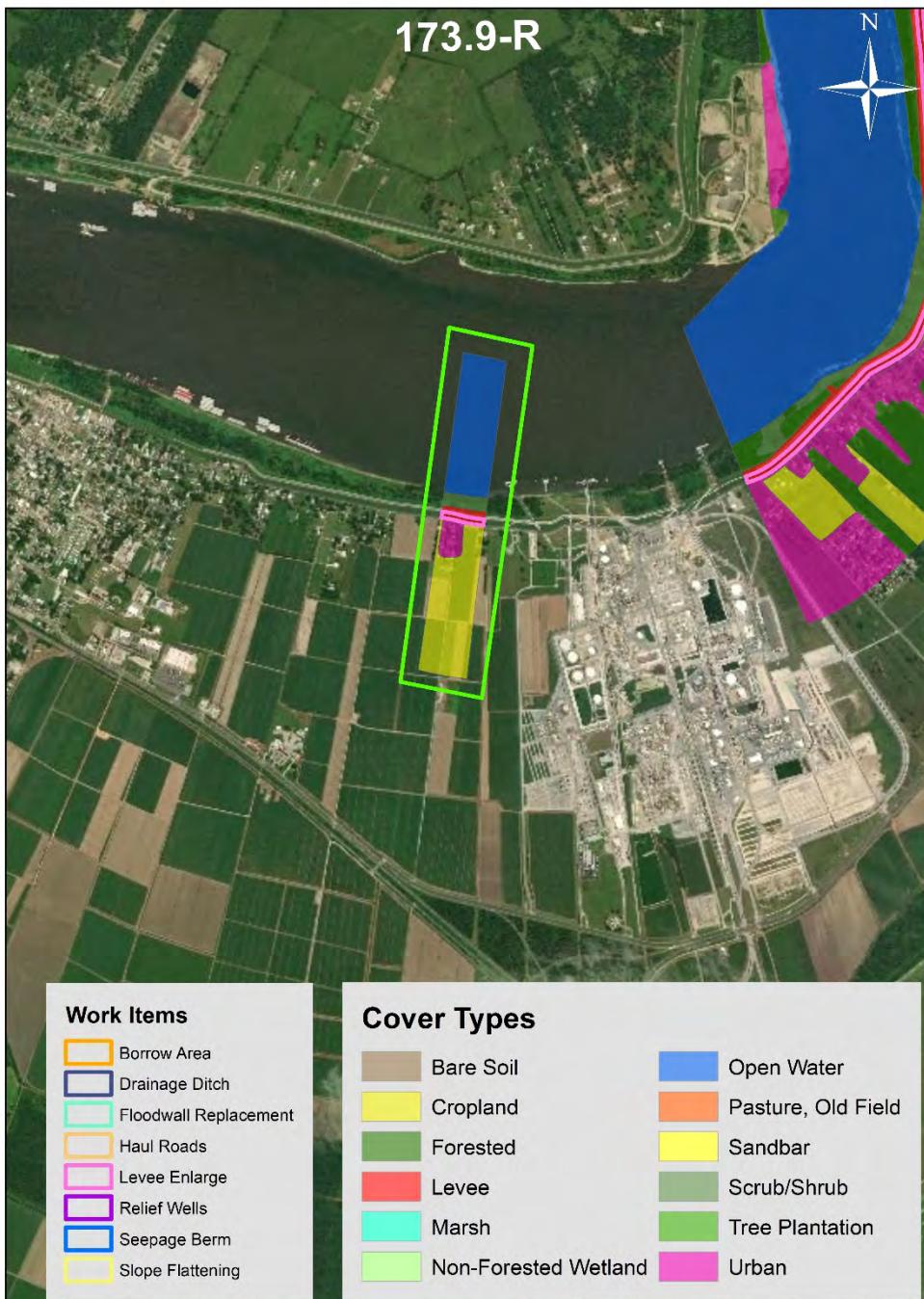
165R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		25	0.65	16		Forest		13	0.63	8			
Levee		9	0.00	0		Levee		9	0.00	0			
Open water		126	0.00	0		Open water		1	0.00	0			
Cropland		2	0.00	0		Cropland		99	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		5	0.00	0		Urban		104	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.67	17	82	Target year - 5			0.65	9	43		
Target year - 10			0.74	18	87	Target year - 10			0.71	10	45		
Target year - 20			0.74	18	183	Target year - 20			0.71	10	95		
Target year - 35			0.74	18	274	Target year - 35			0.71	10	143		
Target year - 50			0.74	18	274	Target year - 50			0.71	10	143		
Sum of HUs					900	Sum of HSUs					469		
Pre-project AAHUs over 50 years				18		Pre-project AAHUs over 50 years					9		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		2.1				Open water		0.0					
Cropland		-2.1				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		25	0.65	16		Forest		13	0.63	8			
Levee		9	0.00	0		Levee		9	0.00	0			
Open water		128	0.00	0		Open water		1	0.00	0			
Cropland		0	0.00	0		Cropland		99	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		5	0.00	0		Urban		104	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.67	17	82	Target year - 5			0.65	9	43		
Target year - 10			0.74	18	87	Target year - 10			0.71	10	45		
Target year - 20			0.74	18	183	Target year - 20			0.71	10	95		
Target year - 35			0.74	18	274	Target year - 35			0.71	10	143		
Target year - 50			0.74	18	274	Target year - 50			0.71	10	143		
Sum of HUs					900	Sum of HSUs					469		
Post-project AAHUs over 50 years				18		Post-project AAHUs over 50 years					9		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0		
Sum of HUs					0	Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.71 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 165-R, Point Houmas (Lauderdale), LA, Levee, Item 165-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



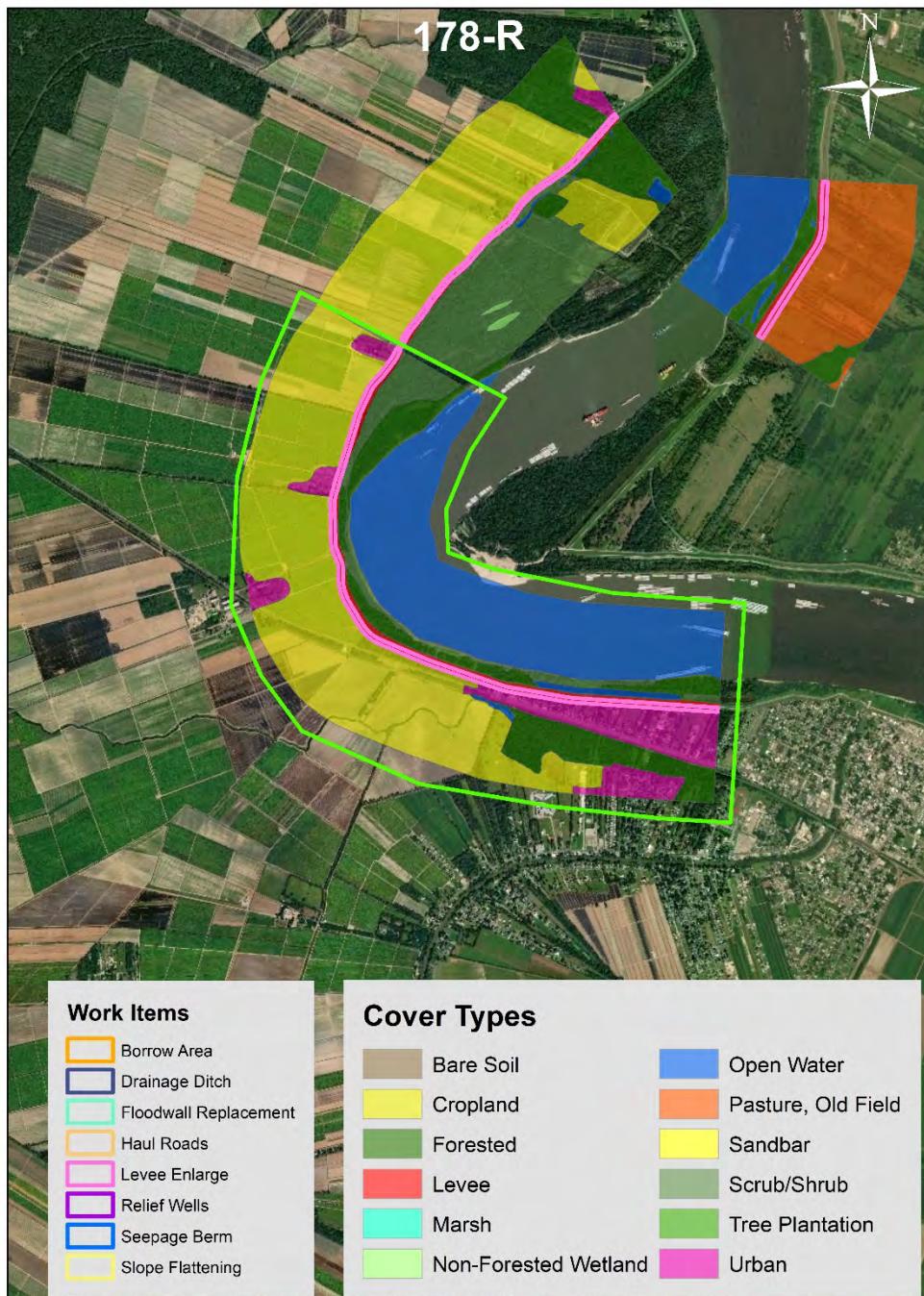
Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	49	0.65	32		Forest	121	0.63	76	
Levee	23	0.00	0		Levee	29	0.00	0	
Open water	375	0.00	0		Open water	0	0.00	0	
Cropland	4	0.00	0		Cropland	400	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	15	0.00	0		Urban	114	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.67	32	160	Target year - 5		0.65	78	385
Target year - 10		0.74	36	170	Target year - 10		0.71	86	410
Target year - 20		0.74	36	357	Target year - 20		0.71	86	860
Target year - 35		0.74	36	536	Target year - 35		0.71	86	1290
Target year - 50		0.74	36	536	Target year - 50		0.71	86	1290
Sum of HUs				1759	Sum of HSUs				4235
Pre-project AAHUs over 50 years			35		Pre-project AAHUs over 50 years			85	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.3			
Open water	3.7				Open water	0.0			
Cropland	-3.7				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	-0.3			
Post-project land cover					Post-project land cover				
Forest	49	0.65	32		Forest	121	0.63	76	
Levee	23	0.00	0		Levee	29	0.00	0	
Open water	379	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	400	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	0	0.00	0	
Urban	15	0.00	0		Urban	114	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.67	32	160	Target year - 5		0.65	78	385
Target year - 10		0.74	36	170	Target year - 10		0.71	86	410
Target year - 20		0.74	36	357	Target year - 20		0.71	86	860
Target year - 35		0.74	36	536	Target year - 35		0.71	86	1290
Target year - 50		0.74	36	536	Target year - 50		0.71	86	1290
Sum of HUs				1759	Sum of HSUs				4235
Post-project AAHUs over 50 years			35		Post-project AAHUs over 50 years			85	
Change in AAHUs over 50 years			0.0		Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.0	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	0.0	0.15	0	0	Target year - 5	0.0	0.15	0	0
Target year - 10	0.0	0.33	0	0	Target year - 10	0.0	0.33	0	0
Target year - 20	0.0	0.67	0	0	Target year - 20	0.0	0.67	0	0
Target year - 35	0.0	0.85	0	0	Target year - 35	0.0	0.85	0	0
Target year - 50	0.0	0.94	0	0	Target year - 50	0.0	0.94	0	0
Sum of HUs				0	Sum of HSUs				0
Mitigation AAHUs over 50 years			0.0		Mitigation AAHUs over 50 years			0.0	

Figure 10.1.72 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 172.6-R, Aben, LA, Levee, Item 172.6R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



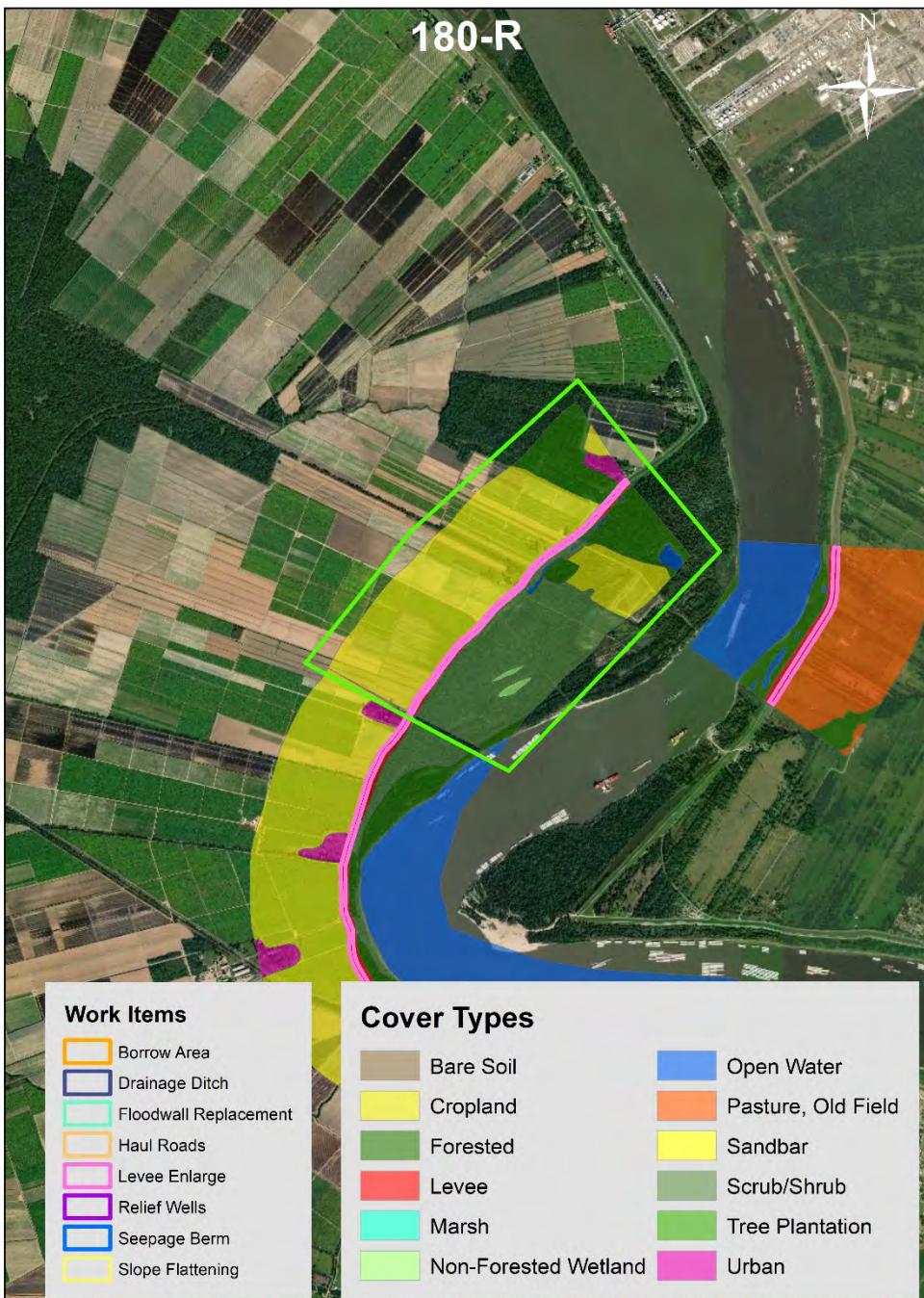
173.9R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		4	0.52	2		Forest		0	0.50	0	
Levee		2	0.00	0		Levee		2	0.00	0	
Open water		39	0.00	0		Open water		0	0.00	0	
Cropland		1	0.00	0		Cropland		40	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		5	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.52	2	10	Target year - 5			0.50	0	0
Target year - 10			0.52	2	10	Target year - 10			0.50	0	0
Target year - 20			0.52	2	19	Target year - 20			0.50	0	0
Target year - 35			0.52	2	29	Target year - 35			0.50	0	0
Target year - 50			0.52	2	29	Target year - 50			0.50	0	0
Sum of HUs					97	Sum of HSUs					0
Pre-project AAHUs over 50 years				2		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		-0.1				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.9				Open water		0.0			
Cropland		-0.8				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		4	0.52	2		Forest		0	0.50	0	
Levee		2	0.00	0		Levee		2	0.00	0	
Open water		40	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		40	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		5	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.52	2	9	Target year - 5			0.50	0	0
Target year - 10			0.52	2	9	Target year - 10			0.50	0	0
Target year - 20			0.52	2	19	Target year - 20			0.50	0	0
Target year - 35			0.52	2	28	Target year - 35			0.50	0	0
Target year - 50			0.52	2	28	Target year - 50			0.50	0	0
Sum of HUs					94	Sum of HSUs					0
Post-project AAHUs over 50 years				2		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				-0.1		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.1	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.1	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.1	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.1	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.1	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.1	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs					3	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.1	Mitigation AAHUs over 50 years					0.0

Figure 10.1.73 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 173.9-R, Stella Landing, LA, Levee, Item 173.9-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.1 FCUs/AAHUs, requiring 0.1 acres of mitigation.



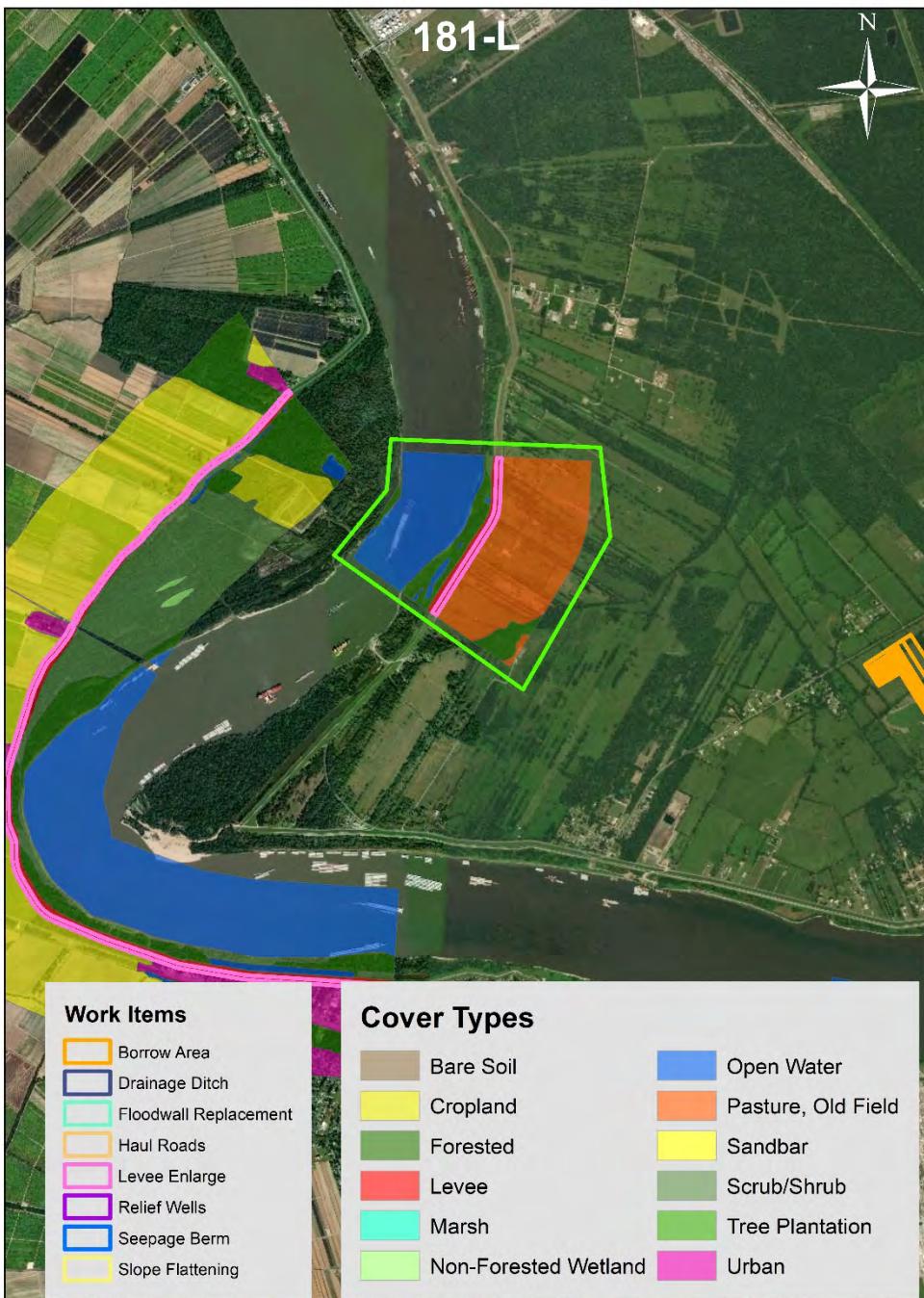
178R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		239	0.50	120		Forest		120	0.49	58			
Levee		53	0.00	0		Levee		40	0.00	0			
Open water		652	0.00	0		Open water		4	0.00	0			
Cropland		0	0.00	0		Cropland		882	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		210	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.61	146	666	Target year - 5			0.59	71	323		
Target year - 10			0.67	160	765	Target year - 10			0.65	78	372		
Target year - 20			0.67	160	1603	Target year - 20			0.65	78	779		
Target year - 35			0.67	160	2405	Target year - 35			0.65	78	1168		
Target year - 50			0.67	160	2405	Target year - 50			0.65	78	1168		
Sum of HUs					7844	Sum of HSUs					3810		
Pre-project AAHUs over 50 years				157		Pre-project AAHUs over 50 years				76			
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		12.2					
Open water		0.0				Open water		10.0					
Cropland		0.0				Cropland		-15.2					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-7.0					
Post-project land cover						Post-project land cover							
Forest		239	0.50	120		Forest		120	0.49	58			
Levee		53	0.00	0		Levee		52	0.00	0			
Open water		652	0.00	0		Open water		14	0.00	0			
Cropland		0	0.00	0		Cropland		866	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		203	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.61	146	666	Target year - 5			0.59	71	323		
Target year - 10			0.67	160	765	Target year - 10			0.65	78	372		
Target year - 20			0.67	160	1603	Target year - 20			0.65	78	779		
Target year - 35			0.67	160	2405	Target year - 35			0.65	78	1168		
Target year - 50			0.67	160	2405	Target year - 50			0.65	78	1168		
Sum of HUs					7844	Sum of HUs					3810		
Post-project AAHUs over 50 years				157		Post-project AAHUs over 50 years				76			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		0	Target year - 5	0.0	0.15	0	0		
Target year - 10		0.0	0.33	0		0	Target year - 10	0.0	0.33	0	0		
Target year - 20		0.0	0.67	0		0	Target year - 20	0.0	0.67	0	0		
Target year - 35		0.0	0.85	0		0	Target year - 35	0.0	0.85	0	0		
Target year - 50		0.0	0.94	0		0	Target year - 50	0.0	0.94	0	0		
Sum of HUs						0	Sum of HUs				0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.74 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 178-R, Smoke Bend, LA, Levee, Item 178-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -6.6 FCUs/AAHUs, requiring 10.5 acres of mitigation.



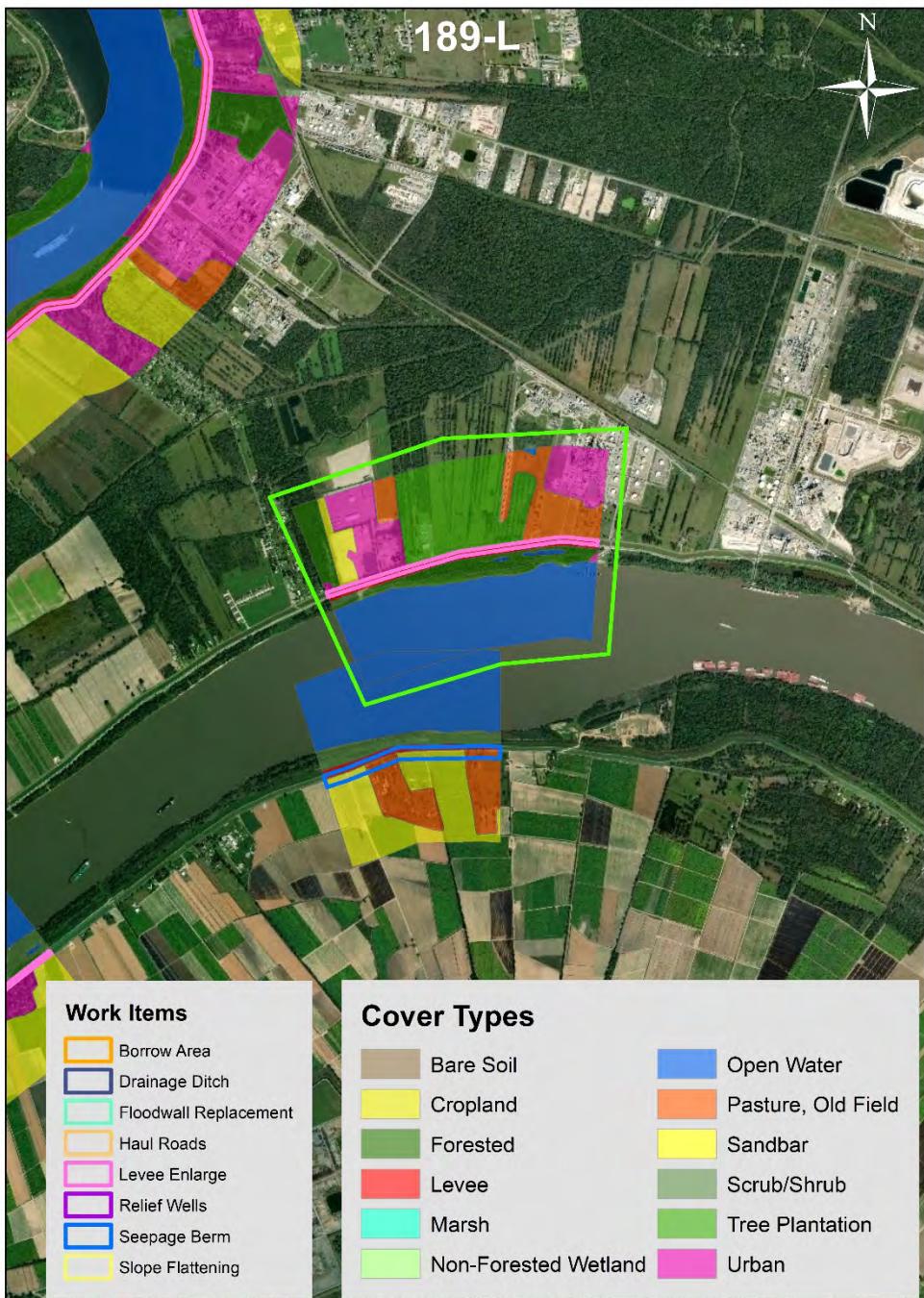
180R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		383	0.67	255		Forest		82	0.64	53			
Levee		16	0.00	0		Levee		15	0.00	0			
Open water		0	0.00	0		Open water		0	0.00	0			
Cropland		78	0.00	0		Cropland		460	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		11	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.77	297		1379	Target year - 5		0.75	61	284			
Target year - 10		0.85	326		1557	Target year - 10		0.82	67	321			
Target year - 20		0.85	326		3263	Target year - 20		0.82	67	672			
Target year - 35		0.85	326		4894	Target year - 35		0.82	67	1008			
Target year - 50		0.85	326		4894	Target year - 50		0.82	67	1008			
Sum of HUs					15987	Sum of HSUs							3293
Pre-project AAHUs over 50 years				320		Pre-project AAHUs over 50 years				66			
Land cover change						Land cover change							
Forest		0.0				Forest		-0.7					
Levee		0.0				Levee		5.9					
Open water		0.0				Open water		1.9					
Cropland		0.0				Cropland		-6.9					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-0.2					
Post-project land cover						Post-project land cover							
Forest		383	0.67	255		Forest		81	0.64	52			
Levee		16	0.00	0		Levee		21	0.00	0			
Open water		0	0.00	0		Open water		2	0.00	0			
Cropland		78	0.00	0		Cropland		453	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		11	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.77	297		1379	Target year - 5		0.75	61	282			
Target year - 10		0.85	326		1557	Target year - 10		0.82	67	318			
Target year - 20		0.85	326		3263	Target year - 20		0.82	67	666			
Target year - 35		0.85	326		4894	Target year - 35		0.82	67	999			
Target year - 50		0.85	326		4894	Target year - 50		0.82	67	999			
Sum of HUs					15987	Sum of HUs							3265
Post-project AAHUs over 50 years				320		Post-project AAHUs over 50 years				65			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-0.6			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.9	0.00	0			
Target year - 5		0.0	0.15	0		0	Target year - 5	0.9	0.15	0			0
Target year - 10		0.0	0.33	0		0	Target year - 10	0.9	0.33	0			1
Target year - 20		0.0	0.67	0		0	Target year - 20	0.9	0.67	1			5
Target year - 35		0.0	0.85	0		0	Target year - 35	0.9	0.85	1			10
Target year - 50		0.0	0.94	0		0	Target year - 50	0.9	0.94	1			12
Sum of HUs						0	Sum of HUs						28
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.6

Figure 10.1.75 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 180-R, ABLD-1 180 R, LA, Levee, Item 180-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.4 FCUs/AAHUs, requiring 2.1 acres of mitigation.



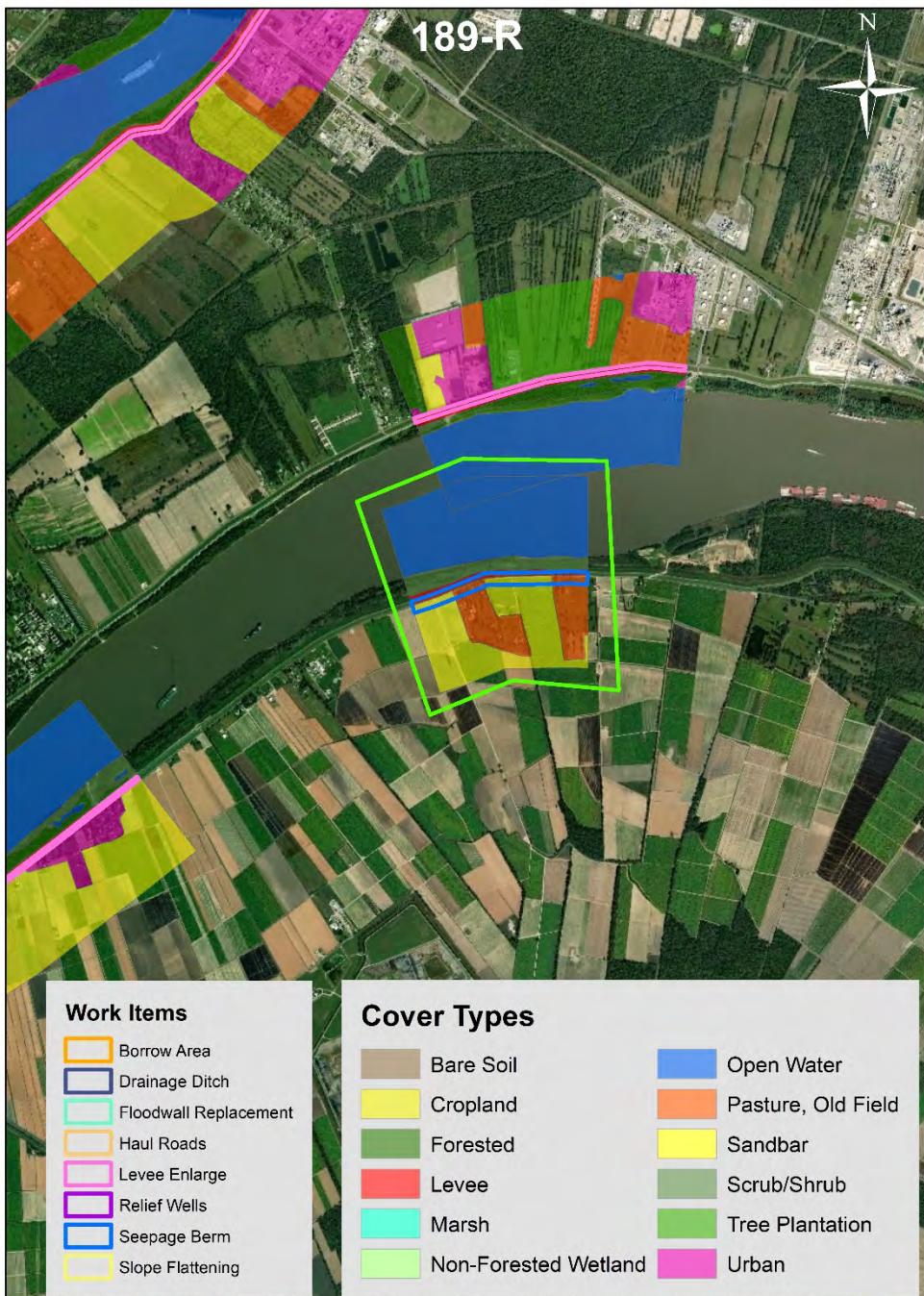
181L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		45	0.44	20		Forest		21	0.43	9	
Levee		14	0.00	0		Levee		19	0.00	0	
Open water		180	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		1	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		291	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.49	22	104	Target year - 5			0.48	10	48
Target year - 10			0.54	24	116	Target year - 10			0.52	11	53
Target year - 20			0.54	24	242	Target year - 20			0.52	11	111
Target year - 35			0.54	24	363	Target year - 35			0.52	11	166
Target year - 50			0.54	24	363	Target year - 50			0.52	11	166
Sum of HUs					1188	Sum of HSUs					544
Pre-project AAHUs over 50 years				24		Pre-project AAHUs over 50 years				11	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		1.0			
Cropland		0.0				Cropland		-1.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		45	0.44	20		Forest		21	0.43	9	
Levee		14	0.00	0		Levee		19	0.00	0	
Open water		180	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		291	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.49	22	104	Target year - 5			0.48	10	48
Target year - 10			0.54	24	116	Target year - 10			0.52	11	53
Target year - 20			0.54	24	242	Target year - 20			0.52	11	111
Target year - 35			0.54	24	363	Target year - 35			0.52	11	166
Target year - 50			0.54	24	363	Target year - 50			0.52	11	166
Sum of HUs					1188	Sum of HSUs					544
Post-project AAHUs over 50 years				24		Post-project AAHUs over 50 years				11	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.76 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 181-L, Marchand, LA, Levee, Item 181-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.5 FCUs/AAHUs, requiring 0.9 acres of mitigation.



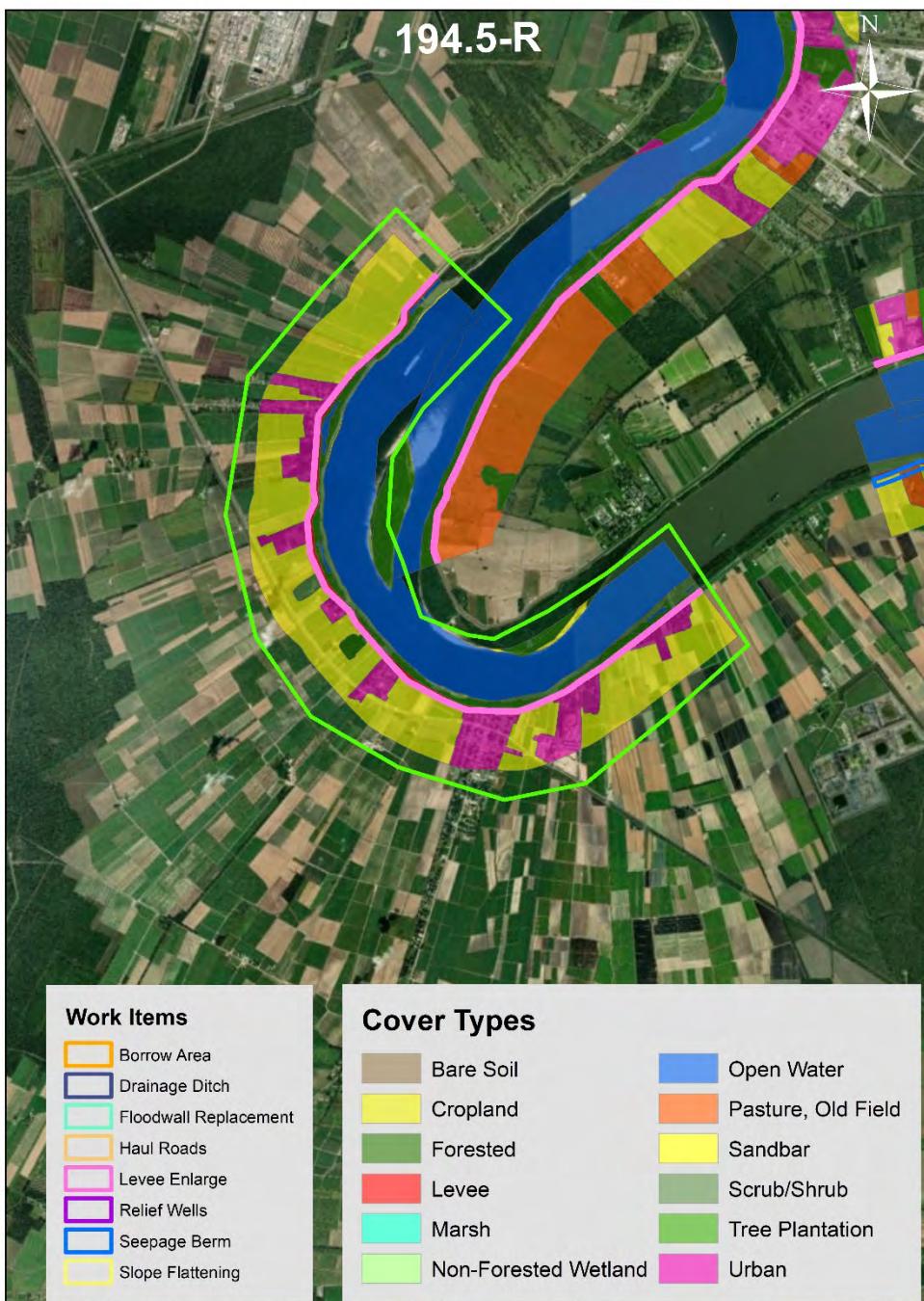
189L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		44	0.69	30		Forest		0	0.66	0	
Levee		10	0.00	0		Levee		13	0.00	0	
Open water		273	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		169	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		96	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.74	33	158	Target year - 5			0.72	0	0
Target year - 10			0.82	36	173	Target year - 10			0.79	0	0
Target year - 20			0.82	36	362	Target year - 20			0.79	0	0
Target year - 35			0.82	36	543	Target year - 35			0.79	0	0
Target year - 50			0.82	36	543	Target year - 50			0.79	0	0
Sum of HUs					1779	Sum of HSUs					0
Pre-project AAHUs over 50 years				36		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		25.2			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		-15.4			
Pasture/old field		0.0				Pasture/old field		-9.8			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		44	0.69	30		Forest		0	0.66	0	
Levee		10	0.00	0		Levee		38	0.00	0	
Open water		273	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		154	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		86	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.74	33	158	Target year - 5			0.72	0	0
Target year - 10			0.82	36	173	Target year - 10			0.79	0	0
Target year - 20			0.82	36	362	Target year - 20			0.79	0	0
Target year - 35			0.82	36	543	Target year - 35			0.79	0	0
Target year - 50			0.82	36	543	Target year - 50			0.79	0	0
Sum of HUs					1779	Sum of HSUs					0
Post-project AAHUs over 50 years				36		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.77 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 189-L, Carville, LA, Levee, Item 189-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.1 FCUs/AAHUs, requiring 1.8 acres of mitigation.



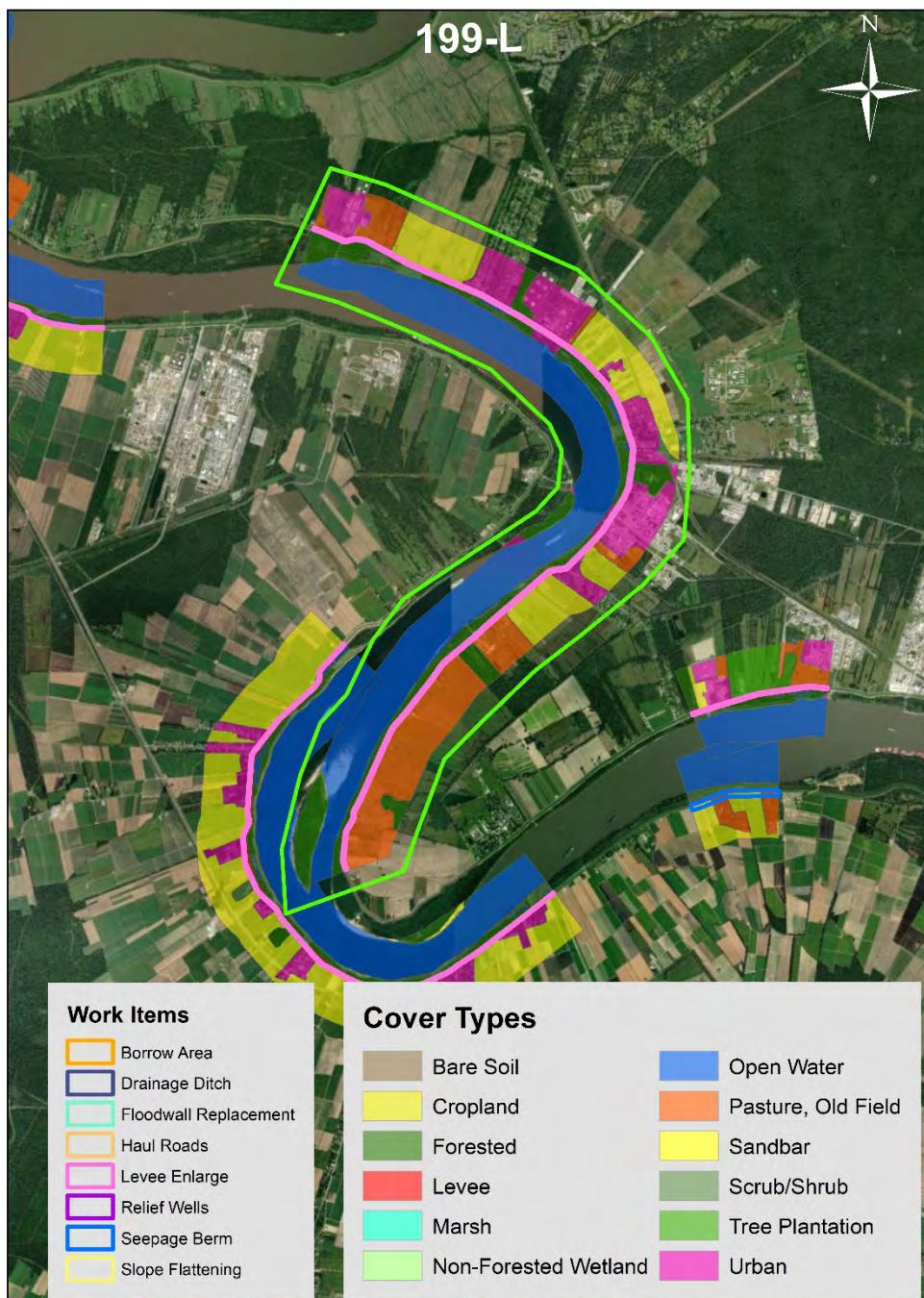
189R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		44	0.52	23		Forest		0	0.51	0	
Levee		10	0.00	0		Levee		13	0.00	0	
Open water		273	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		169	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		96	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.52	23	117	Target year - 5			0.51	0	0
Target year - 10			0.52	23	117	Target year - 10			0.51	0	0
Target year - 20			0.52	23	233	Target year - 20			0.51	0	0
Target year - 35			0.52	23	350	Target year - 35			0.51	0	0
Target year - 50			0.52	23	350	Target year - 50			0.51	0	0
Sum of HUs					1165	Sum of HSUs					0
Pre-project AAHUs over 50 years				23		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		25.2			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		-15.4			
Pasture/old field		0.0				Pasture/old field		-9.8			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		44	0.52	23		Forest		0	0.51	0	
Levee		10	0.00	0		Levee		38	0.00	0	
Open water		273	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		154	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		86	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.52	23	117	Target year - 5			0.51	0	0
Target year - 10			0.52	23	117	Target year - 10			0.51	0	0
Target year - 20			0.52	23	233	Target year - 20			0.51	0	0
Target year - 35			0.52	23	350	Target year - 35			0.51	0	0
Target year - 50			0.52	23	350	Target year - 50			0.51	0	0
Sum of HUs					1165	Sum of HSUs					0
Post-project AAHUs over 50 years				23		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					0.0

Figure 10.1.78 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 189-R, Claiborne Island, LA, Berm, Item 189-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.5 FCUs/AAHUs, requiring 2.4 acres of mitigation.



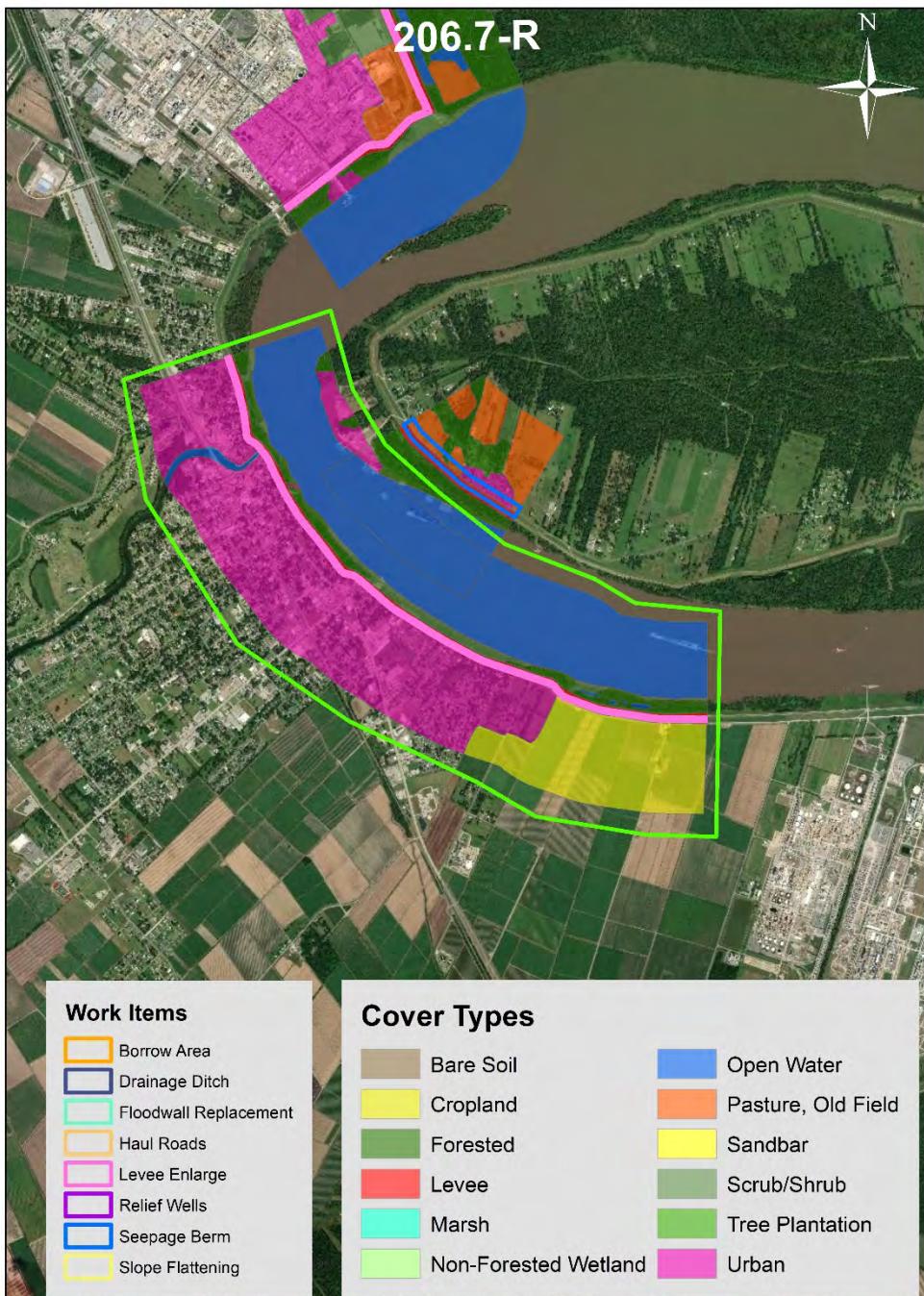
194.5R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		326	0.47	154		Forest		36	0.46	16	
Levee		103	0.00	0		Levee		116	0.00	0	
Open water		1427	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		1699	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		529	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.47	155	771	Target year - 5			0.46	16	82
Target year - 10			0.60	194	871	Target year - 10			0.57	21	93
Target year - 20			0.65	213	2035	Target year - 20			0.63	23	217
Target year - 35			0.65	213	3197	Target year - 35			0.63	23	341
Target year - 50			0.65	213	3197	Target year - 50			0.63	23	341
Sum of HUs					10071	Sum of HSUs					1074
Pre-project AAHUs over 50 years				201		Pre-project AAHUs over 50 years				21	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		1.9			
Cropland		0.0				Cropland		-1.9			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		326	0.47	154		Forest		36	0.46	16	
Levee		103	0.00	0		Levee		116	0.00	0	
Open water		1427	0.00	0		Open water		2	0.00	0	
Cropland		0	0.00	0		Cropland		1697	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		529	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.47	155	771	Target year - 5			0.46	16	82
Target year - 10			0.60	194	871	Target year - 10			0.57	21	93
Target year - 20			0.65	213	2035	Target year - 20			0.63	23	217
Target year - 35			0.65	213	3197	Target year - 35			0.63	23	341
Target year - 50			0.65	213	3197	Target year - 50			0.63	23	341
Sum of HUs					10071	Sum of HSUs					1074
Post-project AAHUs over 50 years				201		Post-project AAHUs over 50 years				21	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.79 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 194.5-R, Bayou Goula to Alhambra, LA, Levee, Item 194.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.2 FCUs/AAHUs, requiring 1.9 acres of mitigation.



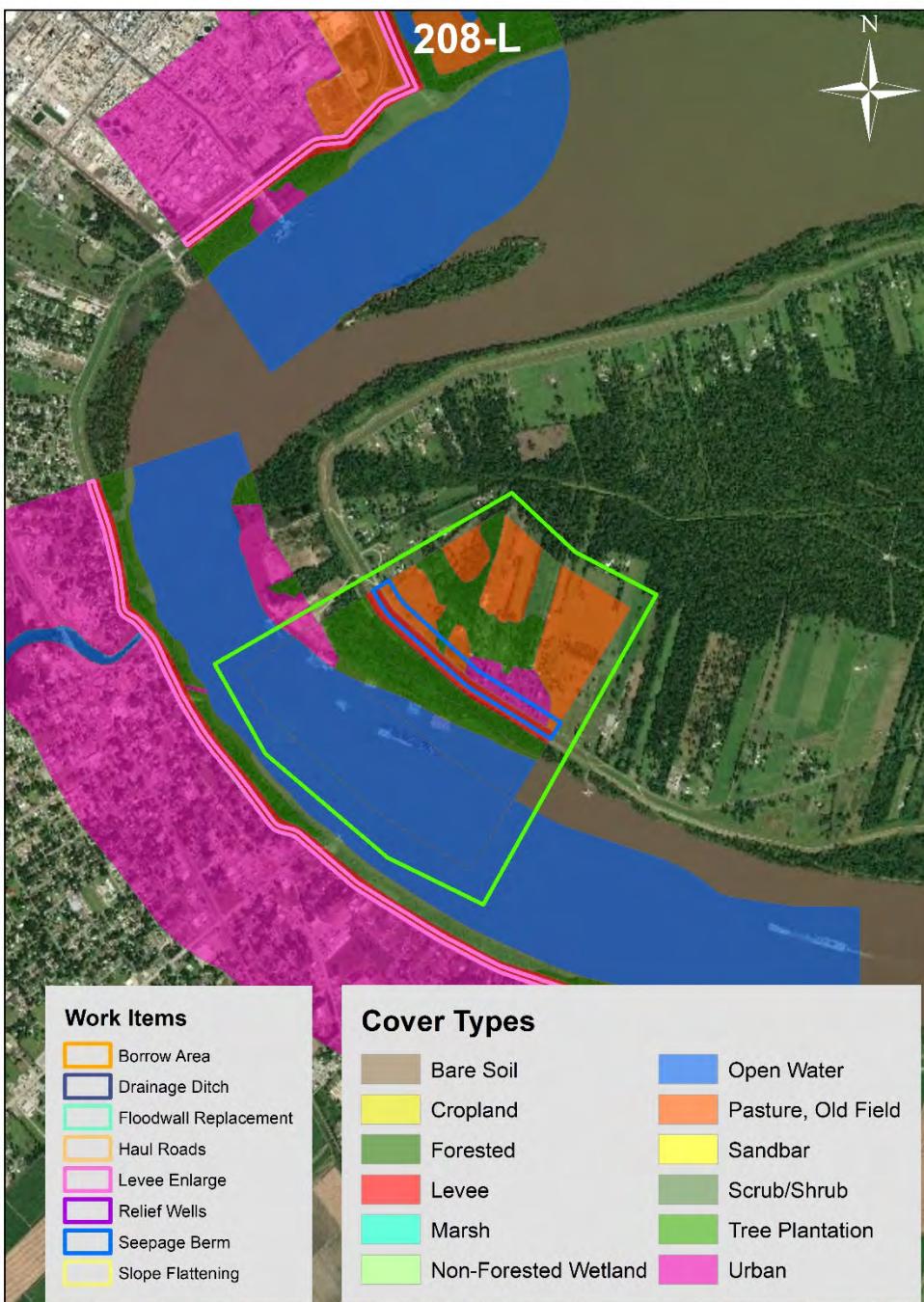
199L		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		664	0.65	430		Forest		211	0.62	132			
Levee		116	0.00	0		Levee		166	0.00	0			
Open water		2183	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		905	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		1007	0.00	0			
Urban		37	0.00	0		Urban		903	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.74	491	2303		Target year - 5		0.71	150	705			
Target year - 10		0.81	540	2579		Target year - 10		0.79	165	790			
Target year - 20		0.81	540	5403		Target year - 20		0.79	165	1655			
Target year - 35		0.81	540	8105		Target year - 35		0.79	165	2482			
Target year - 50		0.81	540	8105		Target year - 50		0.79	165	2482			
Sum of HUs				26495		Sum of HSUs					8114		
Pre-project AAHUs over 50 years				530		Pre-project AAHUs over 50 years				162			
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		11.2					
Open water		0.0				Open water		13.9					
Cropland		0.0				Cropland		-13.9					
Pasture/old field		0.0				Pasture/old field		-11.2					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		664	0.65	430		Forest		211	0.62	132			
Levee		116	0.00	0		Levee		177	0.00	0			
Open water		2183	0.00	0		Open water		14	0.00	0			
Cropland		0	0.00	0		Cropland		891	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		996	0.00	0			
Urban		37	0.00	0		Urban		903	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.74	491	2303		Target year - 5		0.71	150	705			
Target year - 10		0.81	540	2579		Target year - 10		0.79	165	790			
Target year - 20		0.81	540	5403		Target year - 20		0.79	165	1655			
Target year - 35		0.81	540	8105		Target year - 35		0.79	165	2482			
Target year - 50		0.81	540	8105		Target year - 50		0.79	165	2482			
Sum of HUs				26495		Sum of HSUs					8114		
Post-project AAHUs over 50 years				530		Post-project AAHUs over 50 years				162			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs						Sum of HSUs					0		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.80 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 199-L, Lower Plaquemines Point, LA, Levee, Item 199-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -11.1 FCUs/AAHUs, requiring 17.7 acres of mitigation.



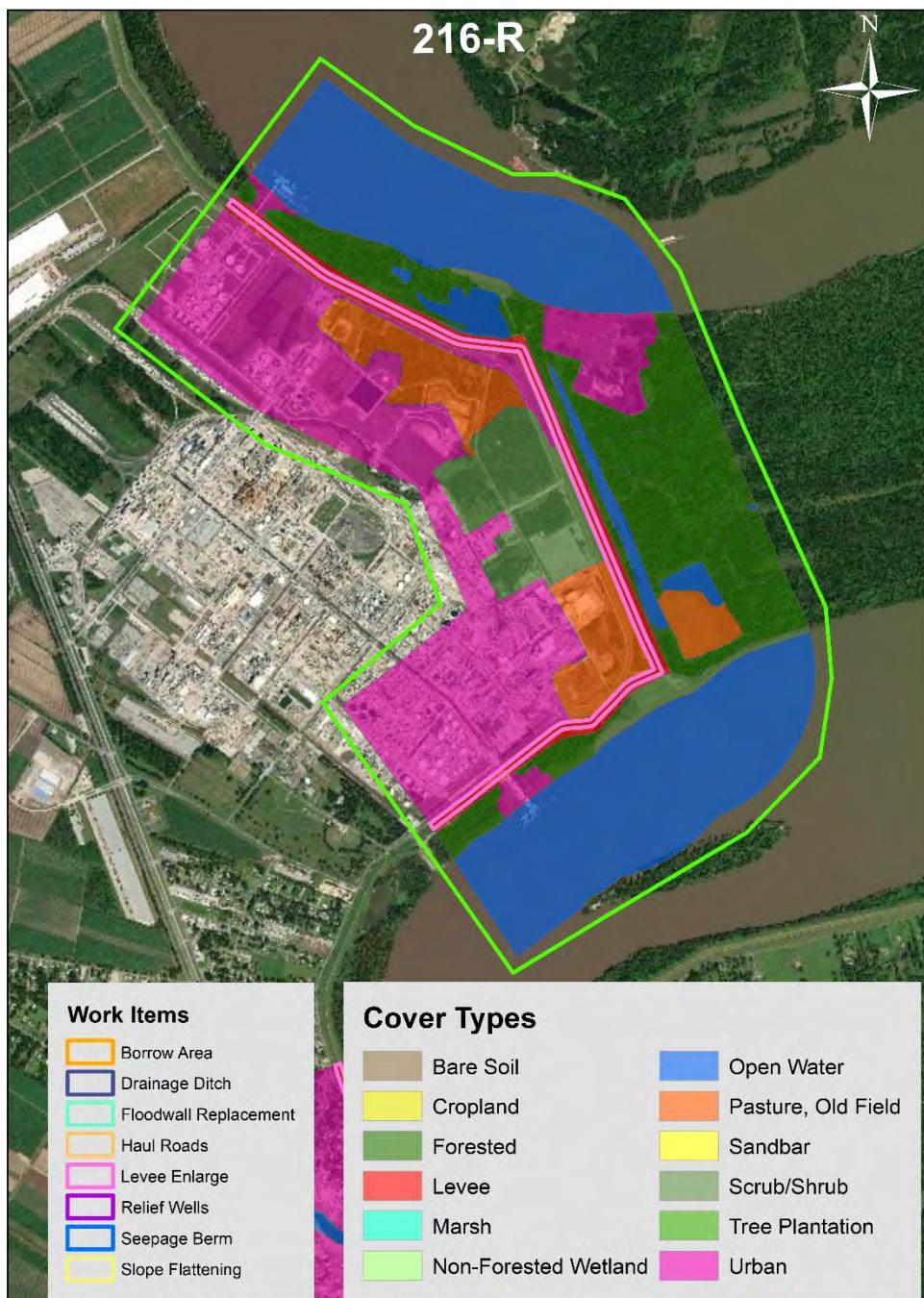
206.7R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		130	0.64	83		Forest		0	0.62	0			
Levee		45	0.00	0		Levee		44	0.00	0			
Open water		761	0.00	0		Open water		14	0.00	0			
Cropland		0	0.00	0		Cropland		308	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		37	0.00	0		Urban		807	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.64	84	417	Target year - 5			0.62	0			0
Target year - 10			0.71	92	438	Target year - 10			0.68	0			0
Target year - 20			0.71	92	919	Target year - 20			0.68	0			0
Target year - 35			0.71	92	1378	Target year - 35			0.68	0			0
Target year - 50			0.71	92	1378	Target year - 50			0.68	0			0
Sum of HUs					4530	Sum of HSUs							0
Pre-project AAHUs over 50 years						Pre-project AAHUs over 50 years							0
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		2.0					
Open water		0.0				Open water		3.5					
Cropland		0.0				Cropland		-3.5					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-2.0					
Post-project land cover						Post-project land cover							
Forest		130	0.64	83		Forest		0	0.62	0			
Levee		45	0.00	0		Levee		46	0.00	0			
Open water		761	0.00	0		Open water		17	0.00	0			
Cropland		0	0.00	0		Cropland		304	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		37	0.00	0		Urban		805	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.64	84	417	Target year - 5			0.62	0			0
Target year - 10			0.71	92	438	Target year - 10			0.68	0			0
Target year - 20			0.71	92	919	Target year - 20			0.68	0			0
Target year - 35			0.71	92	1378	Target year - 35			0.68	0			0
Target year - 50			0.71	92	1378	Target year - 50			0.68	0			0
Sum of HUs					4530	Sum of HSUs							0
Post-project AAHUs over 50 years						Post-project AAHUs over 50 years							0
Change in AAHUs over 50 years						Change in AAHUs over 50 years							0.0
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			0
Sum of HUs						Sum of HSUs							0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.0

Figure 10.1.81 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 206.7-R, Plaquemine/Reveille, LA, Levee, Item 206.7-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.4 FCUs/AAHUs, requiring 3.9 acres of mitigation.



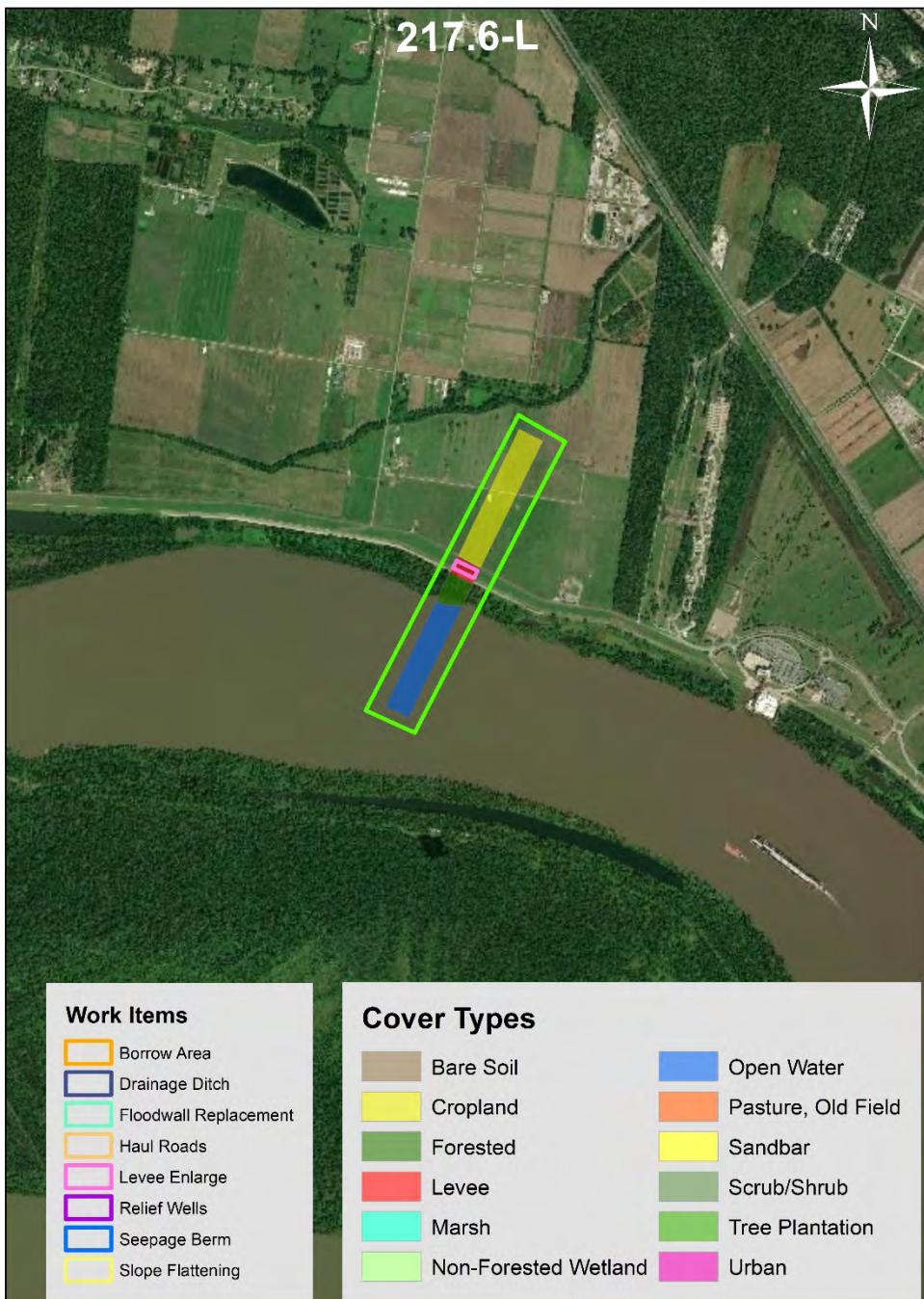
208L		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		0	0.59	0		Forest		57	0.57	32	
Levee		11	0.00	0		Levee		13	0.00	0	
Open water		194	0.00	0		Open water		0	0.00	0	
Cropland		68	0.00	0		Cropland		5	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		116	0.00	0	
Urban		6	0.00	0		Urban		20	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.64	0	0	Forest		0	0.00	0	
Target year - 10			0.70	0	0	Levee		0	0.00	0	
Target year - 20			0.70	0	0	Open water		1	0.00	0	
Target year - 35			0.70	0	0	Cropland		1	0.68	0	
Target year - 50			0.70	0	0	Pasture/old field		0	0.68	0	
Sum of HUs						Urban		0	0.00	0	
Pre-project AAHUs over 50 years				0		Pre-project future conditions					
Land cover change						Target year - 5		0.00	0	0	
Forest		0.0				Target year - 10		0.00	0	0	
Levee		0.0				Target year - 20		0.00	0	0	
Open water		0.0				Target year - 35		0.00	0	0	
Cropland		0.0				Target year - 50		0.00	0	0	
Pasture/old field		0.0				Sum of HSUs				0	
Urban		0.0				Pre-project AAHUs over 50 years				0	
Post-project land cover						Land cover change					
Forest		0	0.59	0	0	Forest		0.0			
Levee		11	0.00	0		Levee		0.0			
Open water		194	0.00	0		Open water		0.0			
Cropland		68	0.00	0		Cropland		0.0			
Pasture/old field		0	0.00	0		Pasture/old field		0.0			
Urban		6	0.00	0		Urban		0.0			
Post-project future conditions						Post-project land cover					
Target year - 5			0.64	0	0	Forest		0	0.00	0	
Target year - 10			0.70	0	0	Levee		0	0.00	0	
Target year - 20			0.70	0	0	Open water		1	0.00	0	
Target year - 35			0.70	0	0	Cropland		1	0.68	0	
Target year - 50			0.70	0	0	Pasture/old field		0	0.68	0	
Sum of HUs						Urban		0	0.00	0	
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years				0	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0	0	Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs						Sum of HUs				0	
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years				0.0	

Figure 10.1.82 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 208-L, Plaquemines Point, LA, Berm and/or Wells, Item 208-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -3.4 FCUs/AAHUs, requiring 5.4 acres of mitigation.



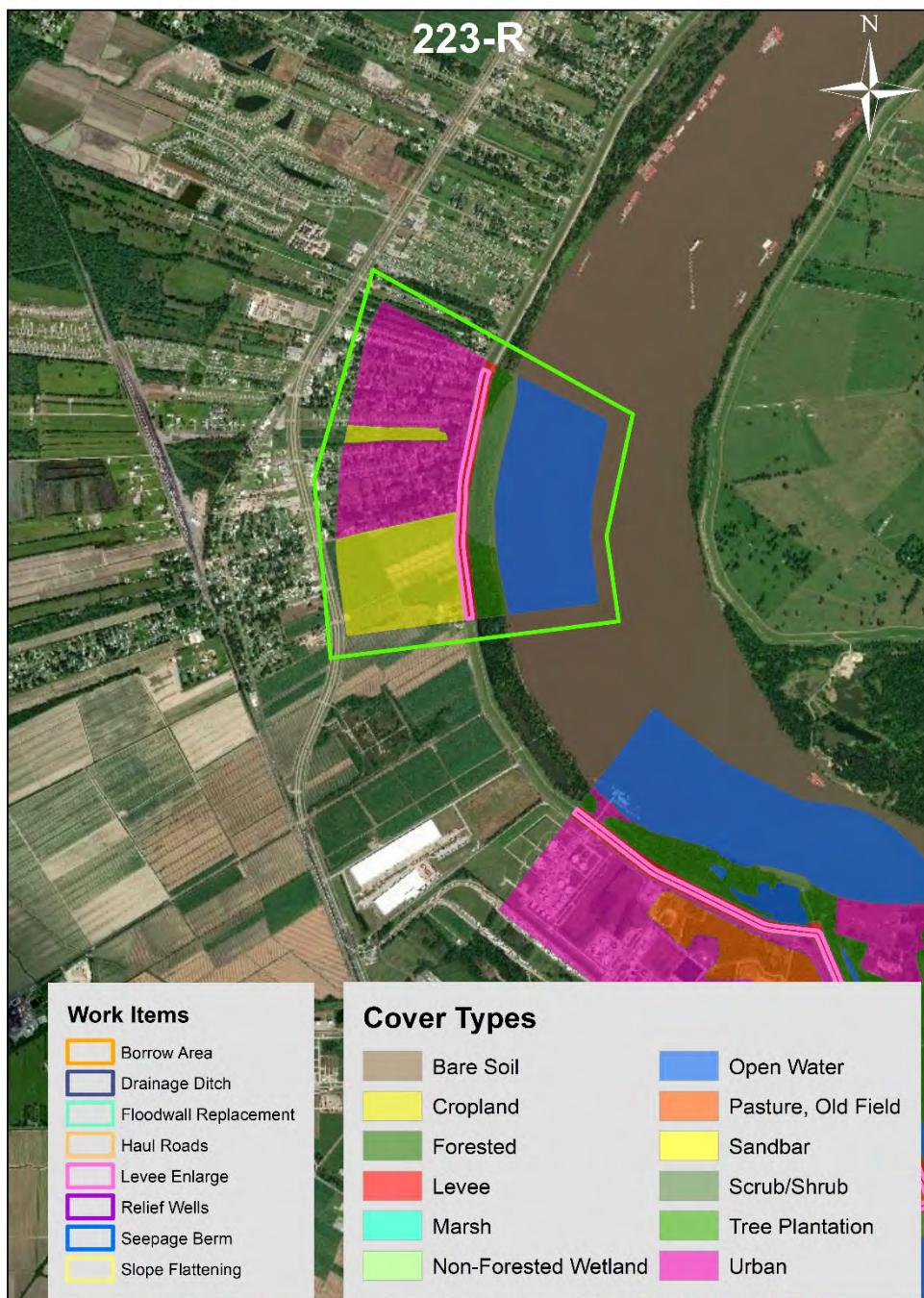
216R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		367	0.64	236		Forest		120	0.62	74			
Levee		40	0.00	0		Levee		55	0.00	0			
Open water		647	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		25	0.00	0		Pasture/old field		133	0.00	0			
Urban		71	0.00	0		Urban		509	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.70	255		1228	Target year - 5			0.67	80		386	
Target year - 10		0.70	255		1275	Target year - 10			0.67	80		401	
Target year - 20		0.70	255		2550	Target year - 20			0.67	80		802	
Target year - 35		0.70	255		3825	Target year - 35			0.67	80		1202	
Target year - 50		0.70	255		3825	Target year - 50			0.67	80		1202	
Sum of HUs					12704	Sum of HSUs						3993	
Pre-project AAHUs over 50 years				254		Pre-project AAHUs over 50 years					80		
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		367	0.64	236		Forest		120	0.62	74			
Levee		40	0.00	0		Levee		55	0.00	0			
Open water		647	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		25	0.00	0		Pasture/old field		133	0.00	0			
Urban		71	0.00	0		Urban		509	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.70	255		1228	Target year - 5			0.67	80		386	
Target year - 10		0.70	255		1275	Target year - 10			0.67	80		401	
Target year - 20		0.70	255		2550	Target year - 20			0.67	80		802	
Target year - 35		0.70	255		3825	Target year - 35			0.67	80		1202	
Target year - 50		0.70	255		3825	Target year - 50			0.67	80		1202	
Sum of HUs				254	12704	Sum of HSUs					80	3993	
Post-project AAHUs over 50 years				0.0	Post-project AAHUs over 50 years						0.0		
Change in AAHUs over 50 years						Change in AAHUs over 50 years						0.0	
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0		0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0		0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0		0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0		0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0		0	
Sum of HUs					0	Sum of HSUs						0	
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years						0.0	

Figure 10.1.83 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 216-R, Morrisonville, LA, Levee, Item 216-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -6.3 FCUs/AAHUs, requiring 10.1 acres of mitigation.



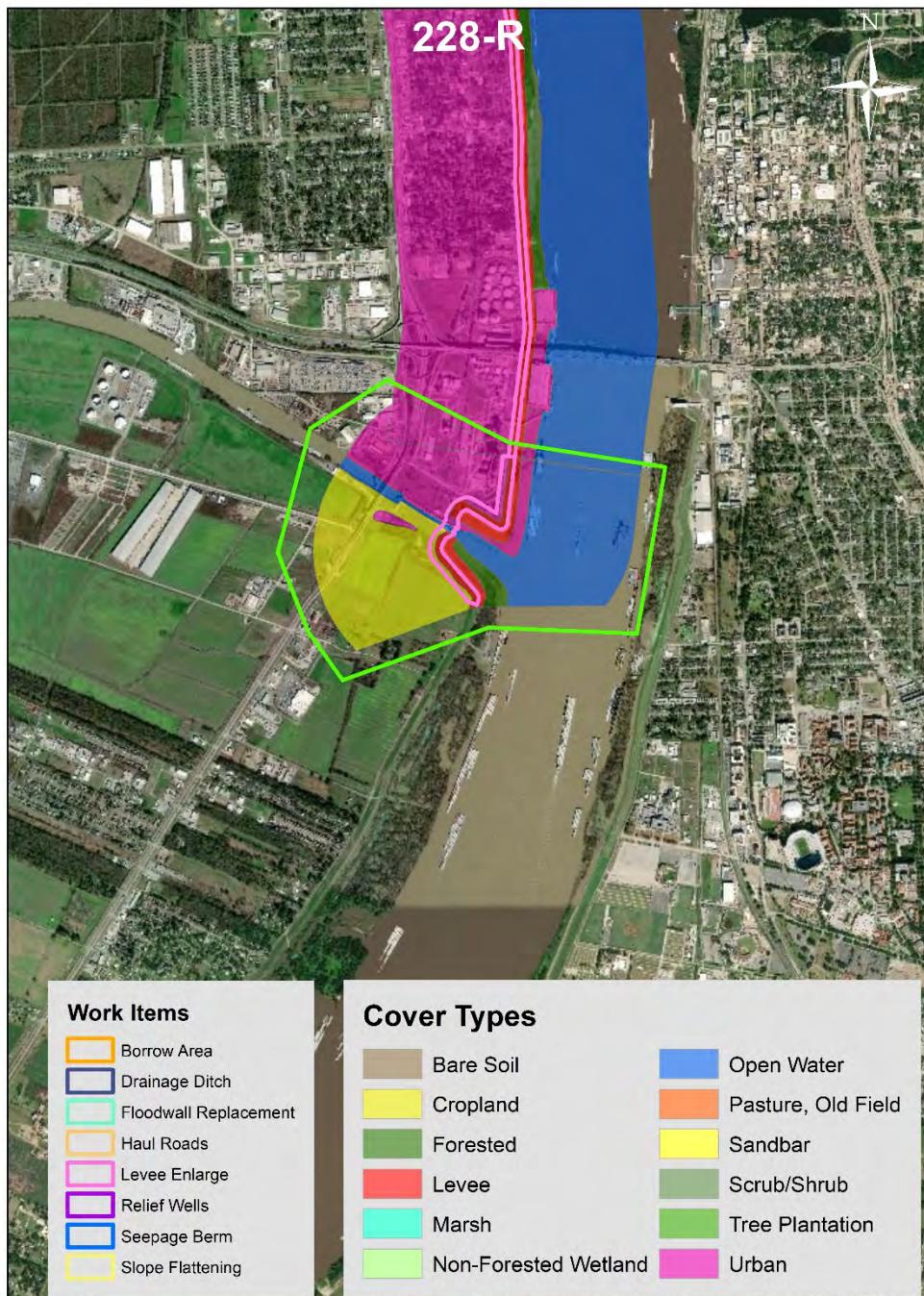
217.6R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		5	0.59	3		Forest		0	0.57	0	
Levee		1	0.00	0		Levee		3	0.00	0	
Open water		21	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		26	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.64	3	15	Target year - 5			0.62	0	0
Target year - 10			0.70	4	17	Target year - 10			0.68	0	0
Target year - 20			0.70	4	35	Target year - 20			0.68	0	0
Target year - 35			0.70	4	53	Target year - 35			0.68	0	0
Target year - 50			0.70	4	53	Target year - 50			0.68	0	0
Sum of HUs					173	Sum of HSUs					0
Pre-project AAHUs over 50 years				3		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		1.0			
Cropland		0.0				Cropland		-1.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		5	0.59	3	15	Forest		0	0.57	0	
Levee		1	0.00	0		Levee		3	0.00	0	
Open water		21	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		25	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.64	3	15	Target year - 5			0.62	0	0
Target year - 10			0.70	4	17	Target year - 10			0.68	0	0
Target year - 20			0.70	4	35	Target year - 20			0.68	0	0
Target year - 35			0.70	4	53	Target year - 35			0.68	0	0
Target year - 50			0.70	4	53	Target year - 50			0.68	0	0
Sum of HUs					173	Sum of HSUs					0
Post-project AAHUs over 50 years				3		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	
Sum of HUs						Sum of HSUs					0
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					0.0

Figure 10.1.84 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 217.6-L, Ben Hur Road, LA, Levee, Item 217.6-L, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.1 acres of mitigation.



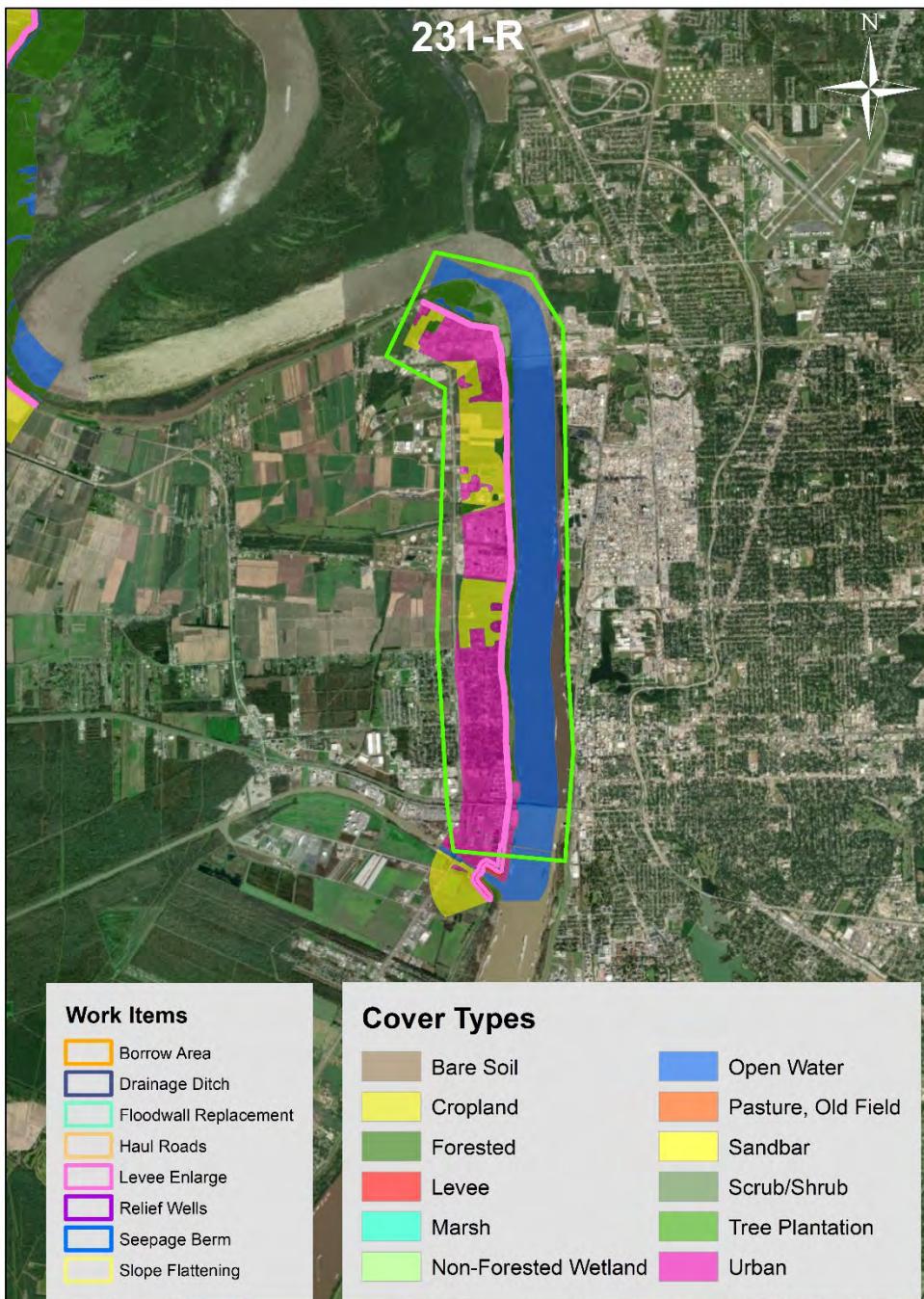
223R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		65	0.48	31		Forest		135	0.46	62			
Levee		12	0.00	0		Levee		20	0.00	0			
Open water		197	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		217	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.51	33	160		Target year - 5		0.49	66	320			
Target year - 10		0.64	41	186		Target year - 10		0.61	83	372			
Target year - 20		0.70	46	436		Target year - 20		0.68	91	869			
Target year - 35		0.70	46	684		Target year - 35		0.68	91	1365			
Target year - 50		0.70	46	684		Target year - 50		0.68	91	1365			
Sum of HUs				2151		Sum of HSUs						4292	
Pre-project AAHUs over 50 years				43		Pre-project AAHUs over 50 years						86	
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		65	0.48	31		Forest		135	0.46	62			
Levee		12	0.00	0		Levee		20	0.00	0			
Open water		197	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		217	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.51	33	160		Target year - 5		0.49	66	320			
Target year - 10		0.64	41	186		Target year - 10		0.61	83	372			
Target year - 20		0.70	46	436		Target year - 20		0.68	91	869			
Target year - 35		0.70	46	684		Target year - 35		0.68	91	1365			
Target year - 50		0.70	46	684		Target year - 50		0.68	91	1365			
Sum of HUs				2151		Sum of HSUs						4292	
Post-project AAHUs over 50 years				43		Post-project AAHUs over 50 years						86	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			
Sum of HUs						Sum of HSUs						0	
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years				0.0			

Figure 10.1.85 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 223-R, Addis, LA, Levee, Item 223-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.6 FCUs/AAHUs, requiring 1.0 acres of mitigation.



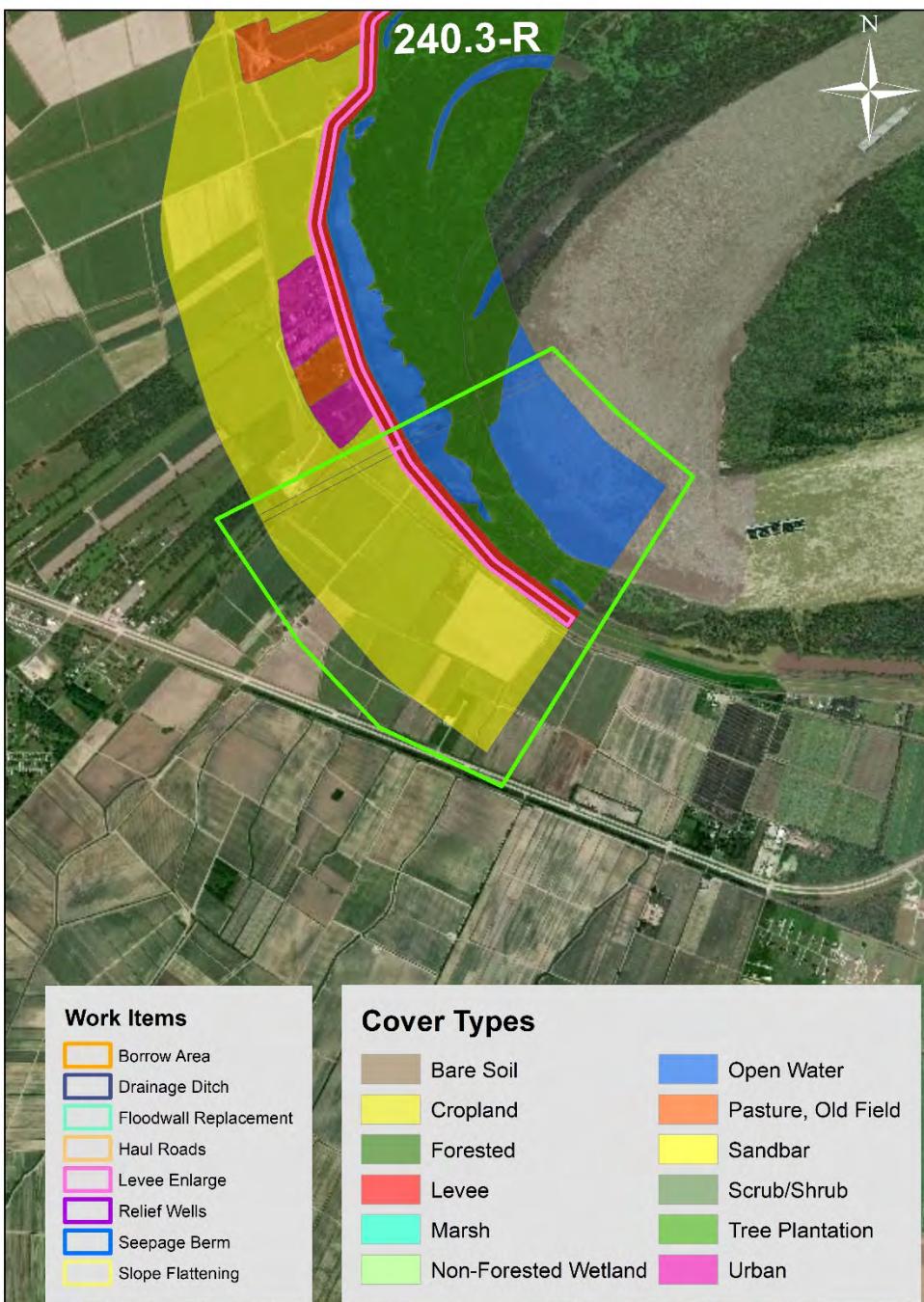
228R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		11	0.48	5		Forest		0	0.46	0			
Levee		22	0.00	0		Levee		13	0.00	0			
Open water		216	0.00	0		Open water		11	0.00	0			
Cropland		0	0.00	0		Cropland		170	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		14	0.00	0		Urban		33	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.51	6	28	Target year - 5			0.49	0			0
Target year - 10			0.64	7	33	Target year - 10			0.61	0			0
Target year - 20			0.70	8	76	Target year - 20			0.68	0			0
Target year - 35			0.70	8	120	Target year - 35			0.68	0			0
Target year - 50			0.70	8	120	Target year - 50			0.68	0			0
Sum of HUs					377	Sum of HSUs							0
Pre-project AAHUs over 50 years						Pre-project AAHUs over 50 years							0
Land cover change						Land cover change							
Forest		0.0				Forest		0.0					
Levee		0.5				Levee		14.8					
Open water		-0.3				Open water		-0.5					
Cropland		0.0				Cropland		-4.5					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		-0.2				Urban		-9.8					
Post-project land cover						Post-project land cover							
Forest		11	0.48	5		Forest		0	0.46	0			
Levee		23	0.00	0		Levee		28	0.00	0			
Open water		216	0.00	0		Open water		10	0.00	0			
Cropland		0	0.00	0		Cropland		165	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		14	0.00	0		Urban		23	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.51	6	28	Target year - 5			0.49	0			0
Target year - 10			0.64	7	33	Target year - 10			0.61	0			0
Target year - 20			0.70	8	76	Target year - 20			0.68	0			0
Target year - 35			0.70	8	120	Target year - 35			0.68	0			0
Target year - 50			0.70	8	120	Target year - 50			0.68	0			0
Sum of HUs					377	Sum of HSUs							0
Post-project AAHUs over 50 years						Post-project AAHUs over 50 years							0
Change in AAHUs over 50 years						Change in AAHUs over 50 years							0.0
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0			0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0			0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0			0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0			0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0			0
Sum of HUs						Sum of HSUs							0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years							0.0

Figure 10.1.86 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 228-R, Port Allen Lock – Levee, LA, Levee, Item 228-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.6 FCUs/AAHUs, requiring 1.0 acres of mitigation.



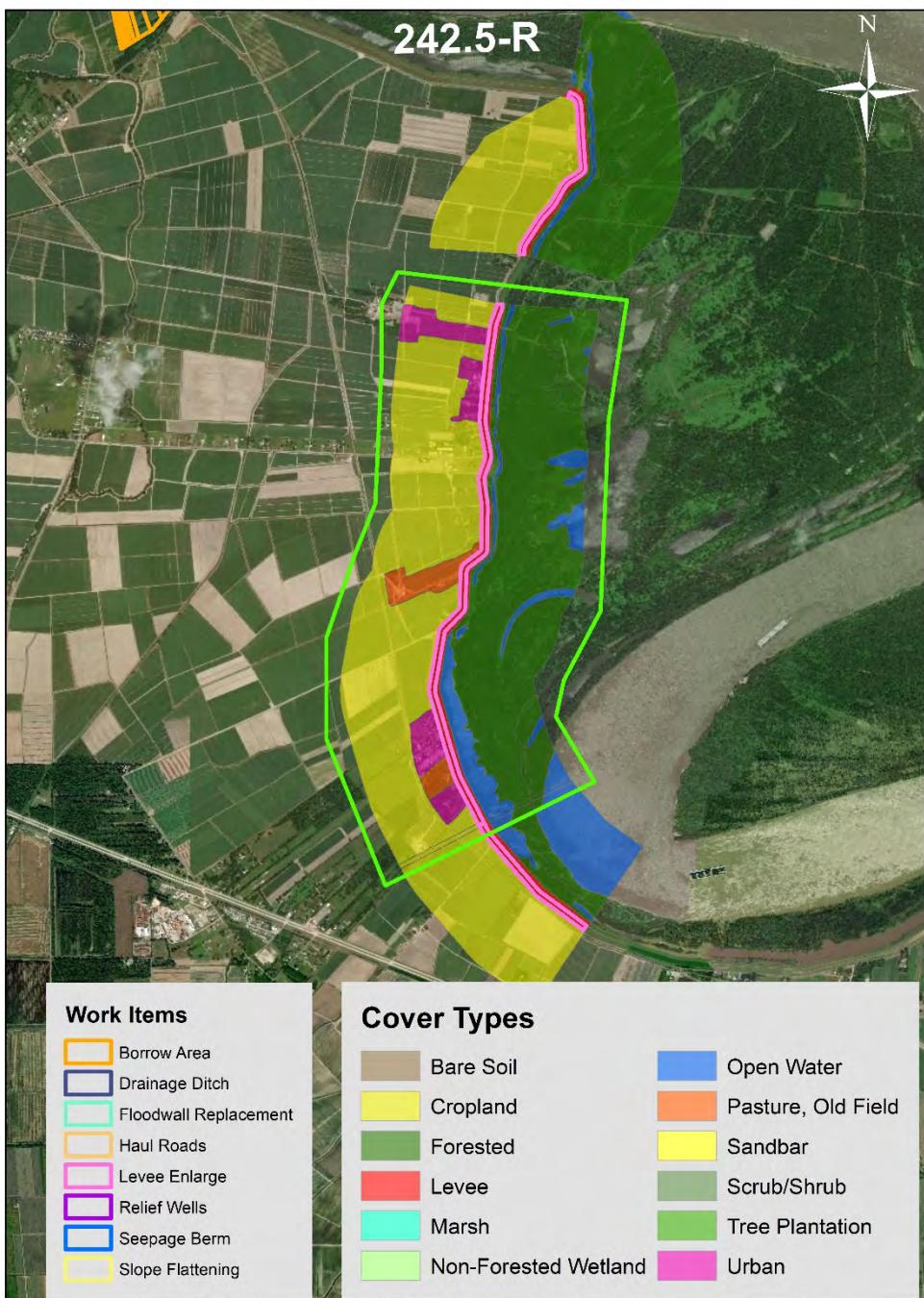
231R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		295	0.48	140		Forest		38	0.46	17			
Levee		97	0.00	0		Levee		94	0.00	0			
Open water		1637	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		548	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		125	0.00	0		Urban		1172	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.51	150	725	Target year - 5			0.49	18	90		
Target year - 10			0.64	188	844	Target year - 10			0.61	23	104		
Target year - 20			0.70	207	1972	Target year - 20			0.68	25	243		
Target year - 35			0.70	207	3099	Target year - 35			0.68	25	382		
Target year - 50			0.70	207	3099	Target year - 50			0.68	25	382		
Sum of HUs					9738	Sum of HSUs					1202		
Pre-project AAHUs over 50 years				195		Pre-project AAHUs over 50 years				24			
Land cover change						Land cover change							
Forest		0.0				Forest		-1.6					
Levee		0.0				Levee		5.1					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		-0.5					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		-3.0					
Post-project land cover						Post-project land cover							
Forest		295	0.48	140		Forest		36	0.46	17			
Levee		97	0.00	0		Levee		99	0.00	0			
Open water		1637	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		548	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		125	0.00	0		Urban		1169	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.51	150	725	Target year - 5			0.49	18	86		
Target year - 10			0.64	188	844	Target year - 10			0.61	22	100		
Target year - 20			0.70	207	1972	Target year - 20			0.68	24	233		
Target year - 35			0.70	207	3099	Target year - 35			0.68	24	366		
Target year - 50			0.70	207	3099	Target year - 50			0.68	24	366		
Sum of HUs					9738	Sum of HUs					1151		
Post-project AAHUs over 50 years				195		Post-project AAHUs over 50 years				23			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-1.0			
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		1.6	0.00	0			
Target year - 5		0.0	0.15	0		0	Target year - 5		1.6	0.15	0	1	
Target year - 10		0.0	0.33	0		0	Target year - 10		1.6	0.33	1	2	
Target year - 20		0.0	0.67	0		0	Target year - 20		1.6	0.67	1	8	
Target year - 35		0.0	0.85	0		0	Target year - 35		1.6	0.85	1	19	
Target year - 50		0.0	0.94	0		0	Target year - 50		1.6	0.94	2	22	
Sum of HUs						0	Sum of HUs					51	
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years						1.0	

Figure 10.1.87 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 231-R, Port Allen, LA, Levee, Item 231-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -6.7 FCUs/AAHUs, requiring 10.7 acres of mitigation.



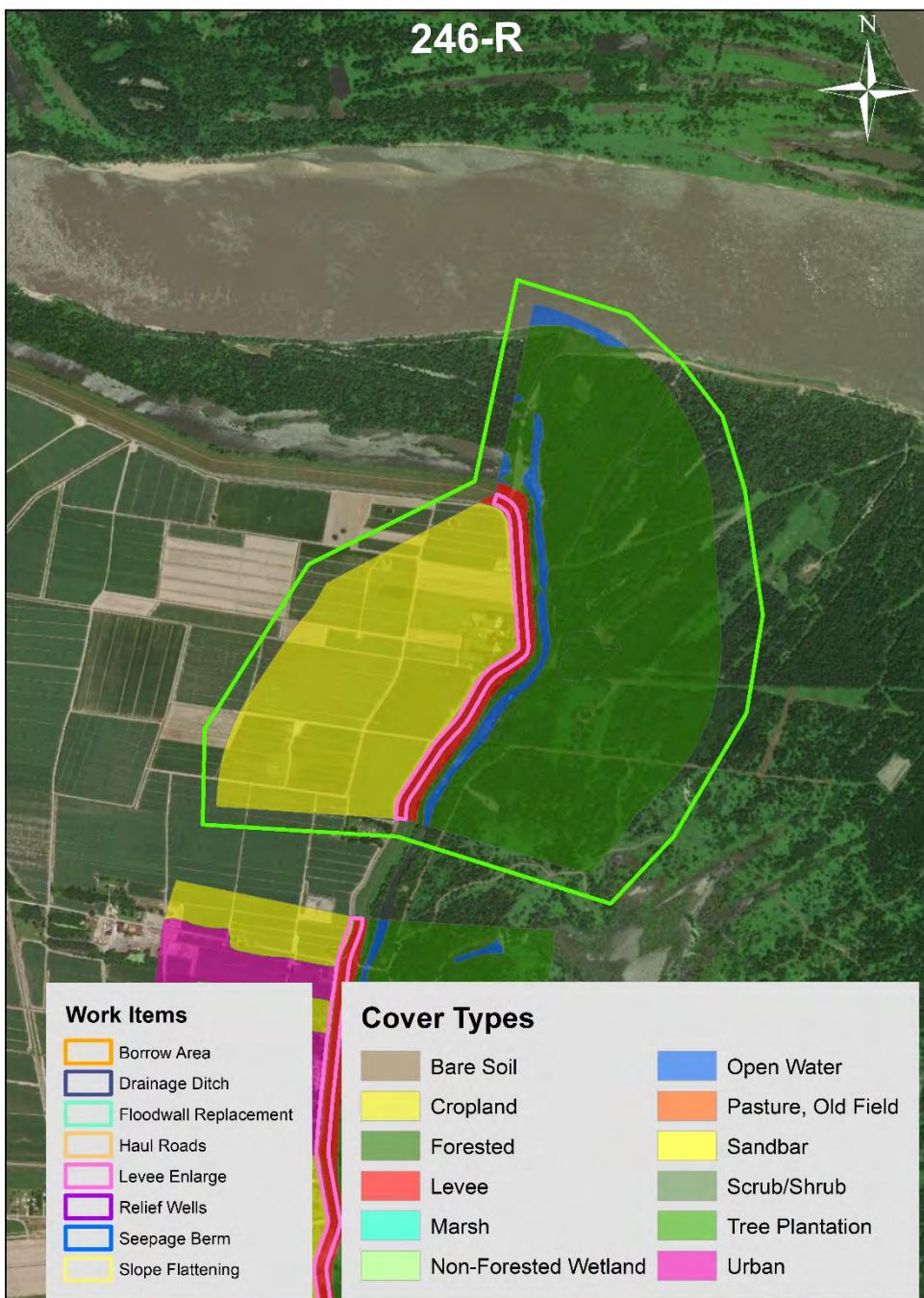
240.3R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		0	0.73	0		Forest		60	0.70	42	
Levee		18	0.00	0		Levee		13	0.00	0	
Open water		0	0.00	0		Open water		132	0.00	0	
Cropland		270	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.78	0	0		Target year - 5		0.75	45	219	
Target year - 10		0.86	0	0		Target year - 10		0.83	50	238	
Target year - 20		0.86	0	0		Target year - 20		0.83	50	498	
Target year - 35		0.86	0	0		Target year - 35		0.83	50	748	
Target year - 50		0.86	0	0		Target year - 50		0.83	50	748	
Sum of HUs						Sum of HSUs				2451	
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years				49	
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.73	0		Forest		60	0.70	42	
Levee		18	0.00	0		Levee		13	0.00	0	
Open water		0	0.00	0		Open water		132	0.00	0	
Cropland		270	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.78	0	0		Target year - 5		0.75	45	219	
Target year - 10		0.86	0	0		Target year - 10		0.83	50	238	
Target year - 20		0.86	0	0		Target year - 20		0.83	50	498	
Target year - 35		0.86	0	0		Target year - 35		0.83	50	748	
Target year - 50		0.86	0	0		Target year - 50		0.83	50	748	
Sum of HUs						Sum of HSUs				2451	
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years				49	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0		Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0		Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0		Target year - 50		0.0	0.94	0	0
Sum of HUs						Sum of HSUs				0	
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years				0.0	

Figure 10.1.88 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 240.3-R, Thomas Point, LA, Levee, Item 240.3-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.3 FCUs/AAHUs, requiring 2.2 acres of mitigation.



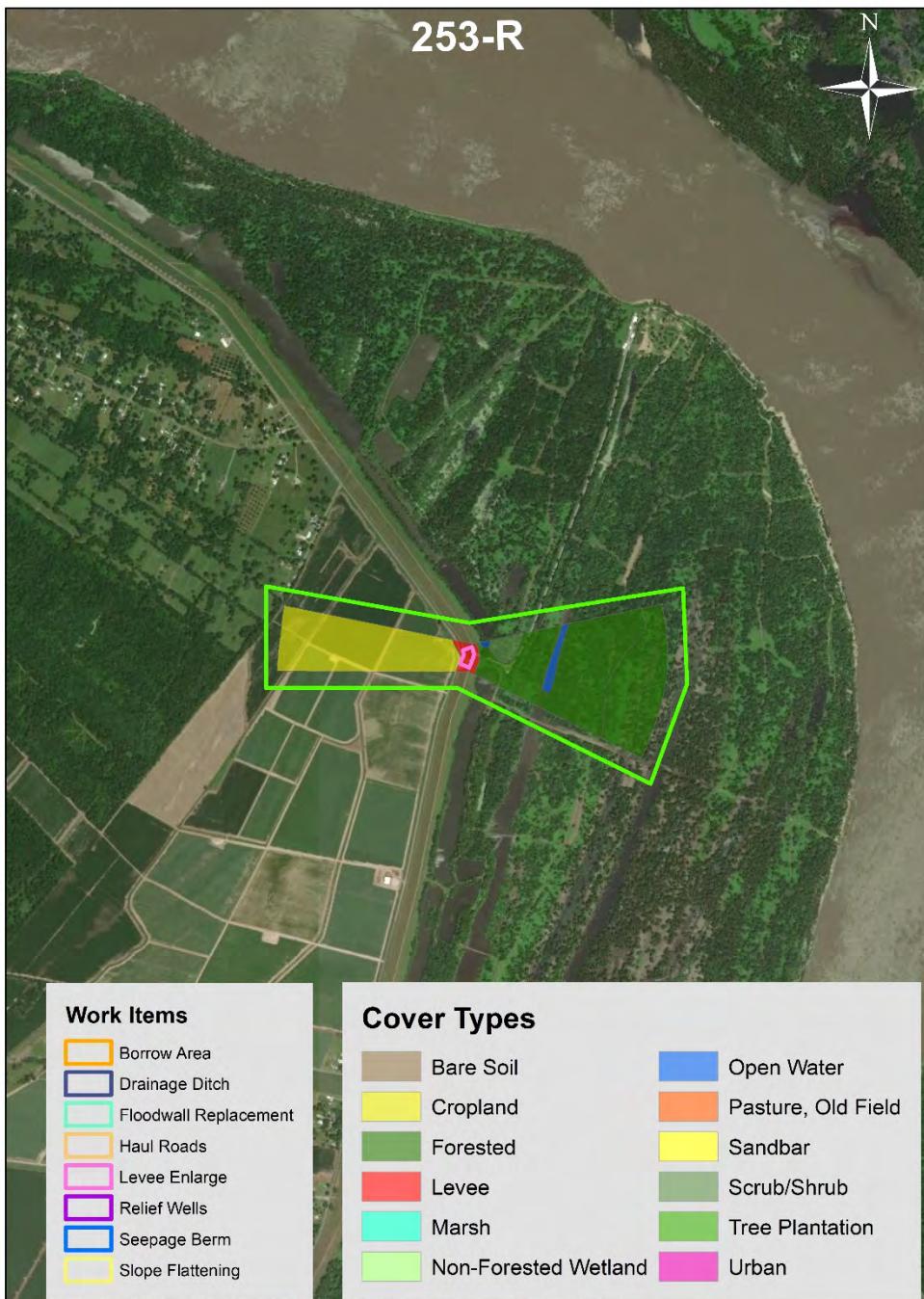
242.5R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		698	0.73	508		Forest		9	0.70	6			
Levee		28	0.00	0		Levee		57	0.00	0			
Open water		125	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		732	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		54	0.00	0			
Urban		0	0.00	0		Urban		103	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.78	544	2628		Target year - 5		0.75	7	33			
Target year - 10		0.86	598	2853		Target year - 10		0.83	8	36			
Target year - 20		0.86	598	5977		Target year - 20		0.83	8	76			
Target year - 35		0.86	598	8966		Target year - 35		0.83	8	114			
Target year - 50		0.86	598	8966		Target year - 50		0.83	8	114			
Sum of HUs				29391		Sum of HSUs					374		
Pre-project AAHUs over 50 years				588		Pre-project AAHUs over 50 years					7		
Land cover change						Land cover change							
Forest		0.0				Forest		-9.2					
Levee		0.0				Levee		6.7					
Open water		0.0				Open water		10.6					
Cropland		0.0				Cropland		-5.2					
Pasture/old field		0.0				Pasture/old field		-0.9					
Urban		0.0				Urban		-2.0					
Post-project land cover						Post-project land cover							
Forest		698	0.73	508		Forest		0	0.70	0			
Levee		28	0.00	0		Levee		63	0.00	0			
Open water		125	0.00	0		Open water		11	0.00	0			
Cropland		0	0.00	0		Cropland		726	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		53	0.00	0			
Urban		0	0.00	0		Urban		101	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.78	544	2628		Target year - 5		0.75	0	0			
Target year - 10		0.86	598	2853		Target year - 10		0.83	0	0			
Target year - 20		0.86	598	5977		Target year - 20		0.83	0	0			
Target year - 35		0.86	598	8966		Target year - 35		0.83	0	0			
Target year - 50		0.86	598	8966		Target year - 50		0.83	0	0			
Sum of HUs				29391		Sum of HUs					0		
Post-project AAHUs over 50 years				588		Post-project AAHUs over 50 years					0		
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-7.5		
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		12.0	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		12.0	0.15	2		4	
Target year - 10		0.0	0.33	0		Target year - 10		12.0	0.33	4		14	
Target year - 20		0.0	0.67	0		Target year - 20		12.0	0.67	8		60	
Target year - 35		0.0	0.85	0		Target year - 35		12.0	0.85	10		136	
Target year - 50		0.0	0.94	0		Target year - 50		12.0	0.94	11		161	
Sum of HUs						Sum of HUs					376		
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					7.5		

Figure 10.1.89 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 242.5-R, Fancy Point, LA, Levee, Item 242.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -8.9 FCUs/AAHUs, requiring 14.3 acres of mitigation.



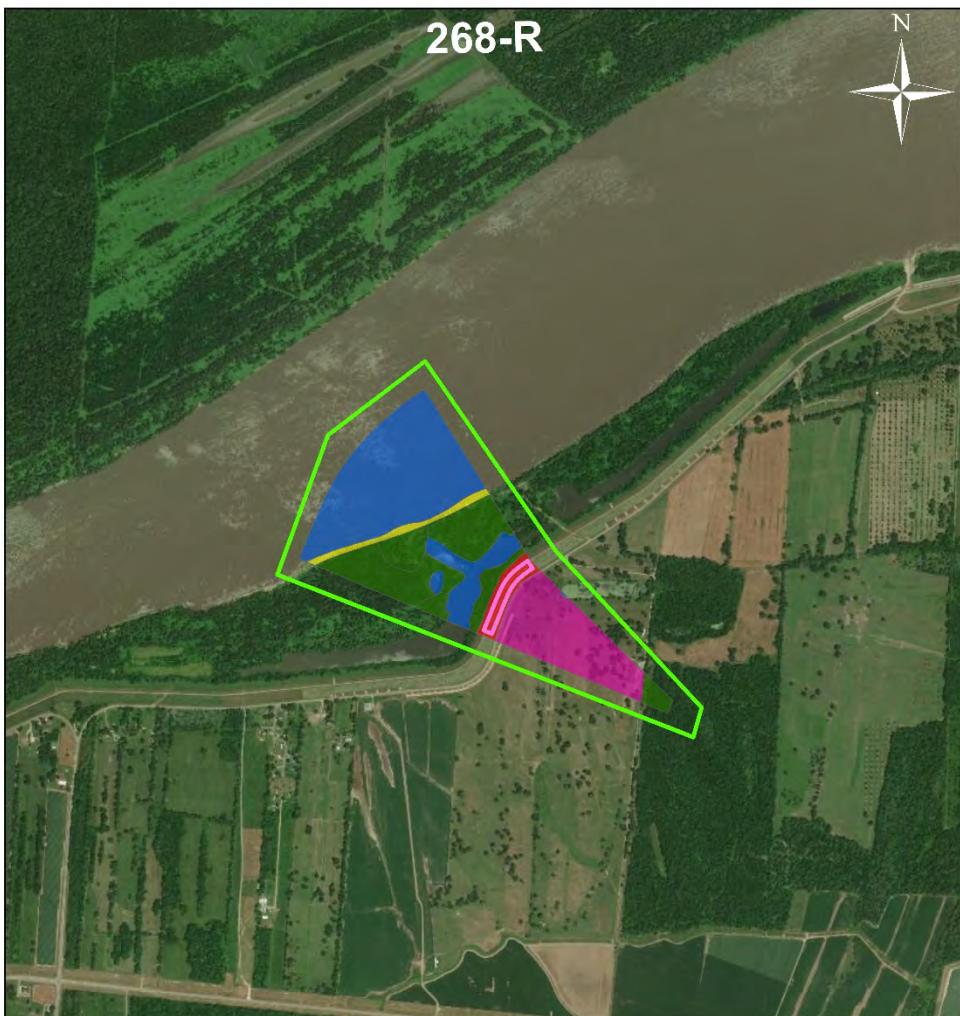
246R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		407	0.73	296		Forest		1	0.70	1	
Levee		14	0.00	0		Levee		19	0.00	0	
Open water		25	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		244	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.78	317		1531	Target year - 5		0.75	1	3	
Target year - 10		0.86	348		1662	Target year - 10		0.83	1	3	
Target year - 20		0.86	348		3483	Target year - 20		0.83	1	7	
Target year - 35		0.86	348		5224	Target year - 35		0.83	1	10	
Target year - 50		0.86	348		5224	Target year - 50		0.83	1	10	
Sum of HUs					17124	Sum of HSUs					33
Pre-project AAHUs over 50 years				342		Pre-project AAHUs over 50 years					1
Land cover change						Land cover change					
Forest		0.0				Forest		-0.8			
Levee		0.0				Levee		0.4			
Open water		0.0				Open water		0.8			
Cropland		0.0				Cropland		-0.4			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		407	0.73	296		Forest		0	0.70	0	
Levee		14	0.00	0		Levee		19	0.00	0	
Open water		25	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		243	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.78	317		1531	Target year - 5		0.75	0	0	0
Target year - 10		0.86	348		1662	Target year - 10		0.83	0	0	0
Target year - 20		0.86	348		3483	Target year - 20		0.83	0	0	0
Target year - 35		0.86	348		5224	Target year - 35		0.83	0	0	0
Target year - 50		0.86	348		5224	Target year - 50		0.83	0	0	0
Sum of HUs				342	17124	Sum of HUs					0
Post-project AAHUs over 50 years				0.0		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-0.7
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		1.0	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		1.0	0.15	0	0
Target year - 10		0.0	0.33	0		Target year - 10		1.0	0.33	0	1
Target year - 20		0.0	0.67	0		Target year - 20		1.0	0.67	1	5
Target year - 35		0.0	0.85	0		Target year - 35		1.0	0.85	1	12
Target year - 50		0.0	0.94	0		Target year - 50		1.0	0.94	1	14
Sum of HUs					0	Sum of HUs					33
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.7

Figure 10.1.90 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 246-R, Smithfield Levee Enlargement, LA, Levee, Item 246-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.1 acres of mitigation.



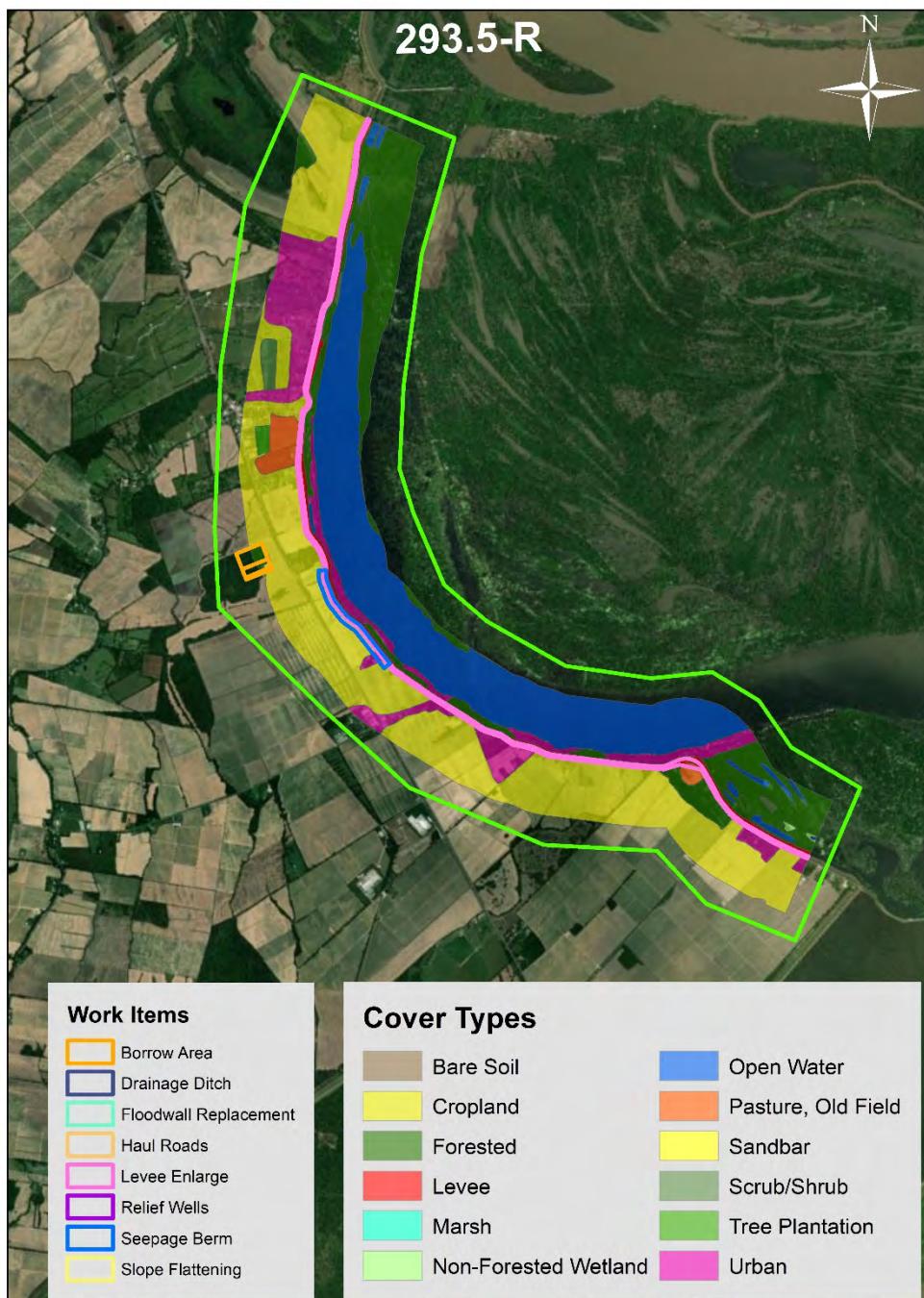
253R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		0	0.73	0		Forest		75	0.70	52	
Levee		2	0.00	0		Levee		1	0.00	0	
Open water		0	0.00	0		Open water		2	0.00	0	
Cropland		37	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.78	0	0	Target year - 5			0.75	56	272
Target year - 10			0.86	0	0	Target year - 10			0.83	62	295
Target year - 20			0.86	0	0	Target year - 20			0.83	62	617
Target year - 35			0.86	0	0	Target year - 35			0.83	62	926
Target year - 50			0.86	0	0	Target year - 50			0.83	62	926
Sum of HUs					0	Sum of HSUs					3036
Pre-project AAHUs over 50 years				0		Pre-project AAHUs over 50 years					61
Land cover change						Land cover change					
Forest		0.0				Forest		-0.9			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		0.9			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.73	0	0	Forest		74	0.70	52	
Levee		2	0.00	0	0	Levee		1	0.00	0	
Open water		0	0.00	0	0	Open water		3	0.00	0	
Cropland		37	0.00	0	0	Cropland		0	0.00	0	
Pasture/old field		0	0.00	0	0	Pasture/old field		0	0.00	0	
Urban		0	0.00	0	0	Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.78	0	0	Target year - 5			0.75	55	268
Target year - 10			0.86	0	0	Target year - 10			0.83	61	291
Target year - 20			0.86	0	0	Target year - 20			0.83	61	610
Target year - 35			0.86	0	0	Target year - 35			0.83	61	915
Target year - 50			0.86	0	0	Target year - 50			0.83	61	915
Sum of HUs					0	Sum of HSUs					3000
Post-project AAHUs over 50 years				0		Post-project AAHUs over 50 years					60
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-0.7
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0	0	Target year - 0		1.2	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		1.2	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		1.2	0.33	0	1
Target year - 20		0.0	0.67	0	0	Target year - 20		1.2	0.67	1	6
Target year - 35		0.0	0.85	0	0	Target year - 35		1.2	0.85	1	13
Target year - 50		0.0	0.94	0	0	Target year - 50		1.2	0.94	1	16
Sum of HUs					0	Sum of HSUs					37
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.7

Figure 10.1.91 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 253-R, Arbroth Levee Enlargement, LA, Levee, Item 253-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.8 FCUs/AAHUs, requiring 1.2 acres of mitigation.



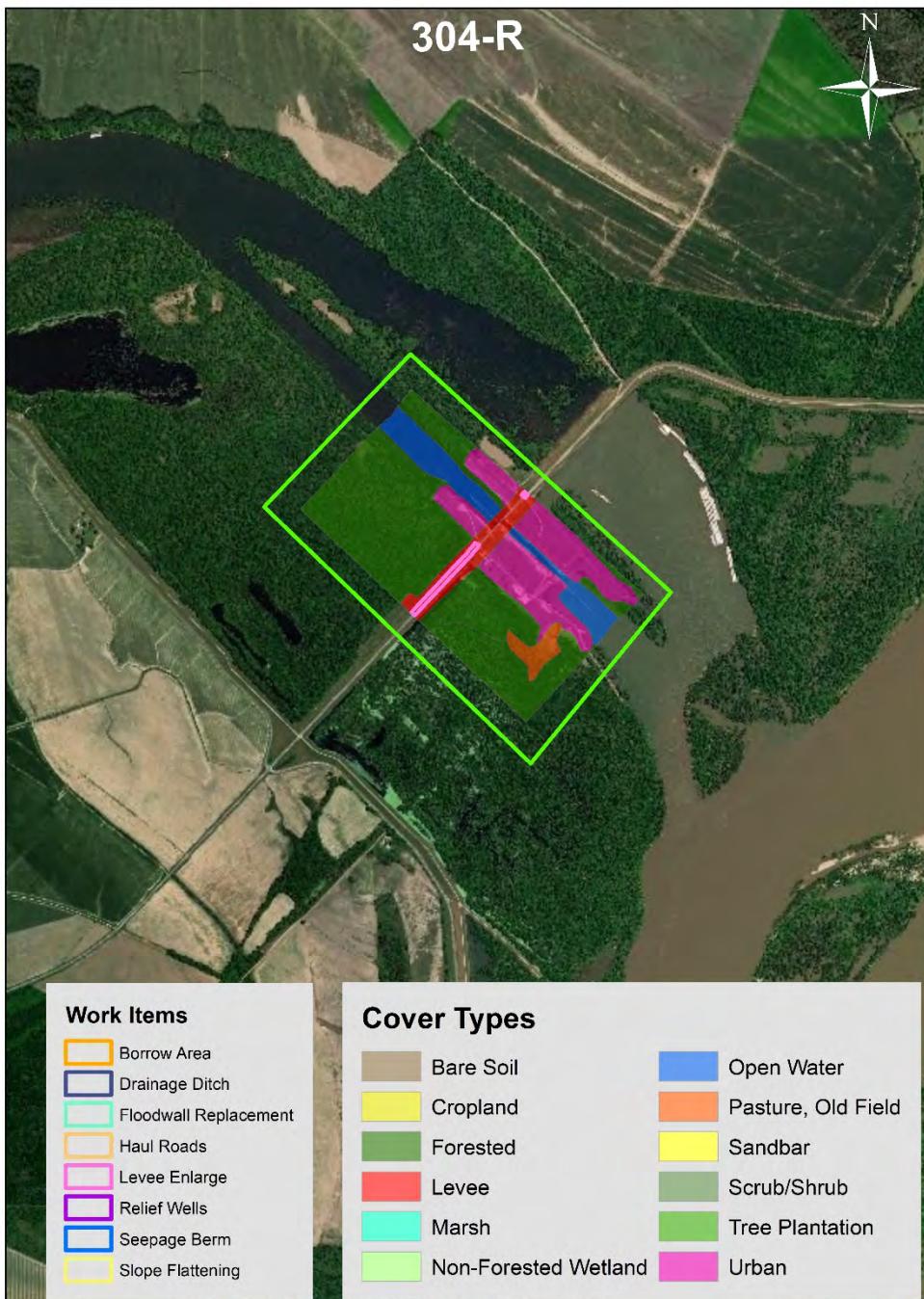
268R				Riverside				Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		119	0.69	82		Forest		0	0.67	0	
Levee		3	0.00	0		Levee		4	0.00	0	
Open water		0	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		1	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		35	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.73	87	423		Target year - 5		0.71	0	0	
Target year - 10		0.81	96	457		Target year - 10		0.78	0	0	
Target year - 20		0.81	96	958		Target year - 20		0.78	0	1	
Target year - 35		0.81	96	1436		Target year - 35		0.78	0	1	
Target year - 50		0.81	96	1436		Target year - 50		0.78	0	1	
Sum of HUs				4710		Sum of HSUs					4
Pre-project AAHUs over 50 years				94		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		-0.1			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		0.9			
Cropland		0.0				Cropland		-0.8			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		119	0.69	82		Forest		0	0.67	0	
Levee		3	0.00	0		Levee		4	0.00	0	
Open water		0	0.00	0		Open water		1	0.00	0	
Cropland		0	0.00	0		Cropland		0	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		35	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.73	87	423		Target year - 5		0.71	0	0	
Target year - 10		0.81	96	457		Target year - 10		0.78	0	0	
Target year - 20		0.81	96	958		Target year - 20		0.78	0	0	
Target year - 35		0.81	96	1436		Target year - 35		0.78	0	0	
Target year - 50		0.81	96	1436		Target year - 50		0.78	0	0	
Sum of HUs				4710		Sum of HSUs					0
Post-project AAHUs over 50 years				94		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					-0.1
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.1	0.00	0	
Target year - 5		0.0	0.15	0		Target year - 5		0.1	0.15	0	
Target year - 10		0.0	0.33	0		Target year - 10		0.1	0.33	0	
Target year - 20		0.0	0.67	0		Target year - 20		0.1	0.67	0	
Target year - 35		0.0	0.85	0		Target year - 35		0.1	0.85	0	
Target year - 50		0.0	0.94	0		Target year - 50		0.1	0.94	0	
Sum of HUs						Sum of HSUs					4
Mitigation AAHUs over 50 years						Mitigation AAHUs over 50 years					0.1

Figure 10.1.92 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 268-R, Pt Coupee Levee Enlargement, LA, Levee, Item 268-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.1 acres of mitigation.



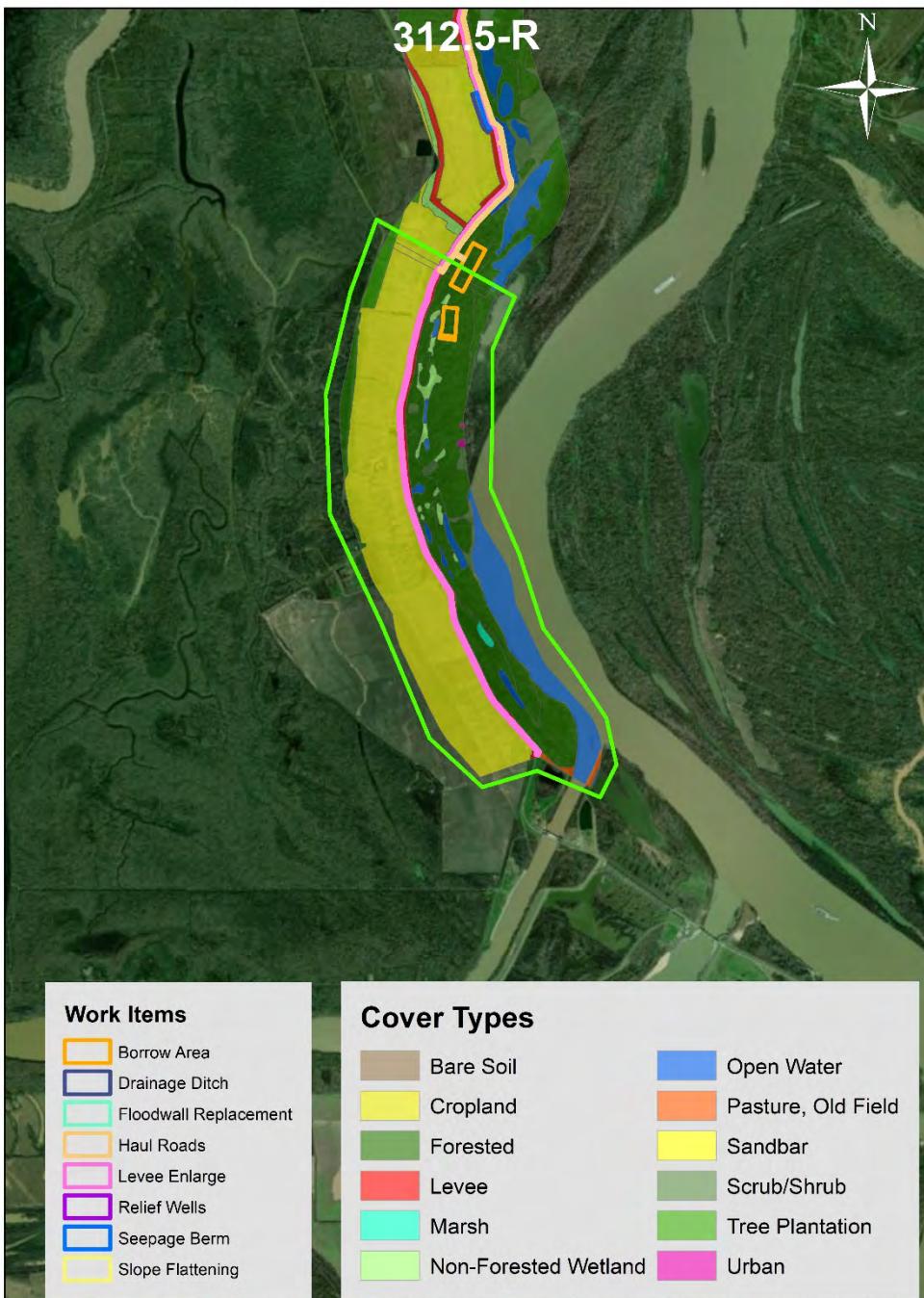
293.5R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest	562	0.79	443			Forest		148	0.76	113	
Levee	151	0.00	0			Levee		138	0.00	0	
Open water	1503	0.00	0			Open water		0	0.00	0	
Cropland	0	0.00	0			Cropland		2055	0.00	0	
Pasture/old field	0	0.00	0			Pasture/old field		90	0.00	0	
Urban	162	0.00	0			Urban		464	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.86	483		2314	Target year - 5		0.83	123	589	
Target year - 10		0.86	483		2416	Target year - 10		0.83	123	615	
Target year - 20		0.86	483		4832	Target year - 20		0.83	123	1230	
Target year - 35		0.86	483		7248	Target year - 35		0.83	123	1844	
Target year - 50		0.86	483		7248	Target year - 50		0.83	123	1844	
Sum of HUs					24057	Sum of HSUs				6122	
Pre-project AAHUs over 50 years				481		Pre-project AAHUs over 50 years				122	
Land cover change						Land cover change					
Forest	0.0					Forest		-20.1			
Levee	0.0					Levee		25.2			
Open water	0.0					Open water		19.8			
Cropland	0.0					Cropland		-20.9			
Pasture/old field	0.0					Pasture/old field		-1.9			
Urban	0.0					Urban		-2.1			
Post-project land cover						Post-project land cover					
Forest	562	0.79	443			Forest		128	0.76	97	
Levee	151	0.00	0			Levee		163	0.00	0	
Open water	1503	0.00	0			Open water		20	0.00	0	
Cropland	0	0.00	0			Cropland		2034	0.00	0	
Pasture/old field	0	0.00	0			Pasture/old field		88	0.00	0	
Urban	162	0.00	0			Urban		462	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.86	483		2314	Target year - 5		0.83	106	509	
Target year - 10		0.86	483		2416	Target year - 10		0.83	106	531	
Target year - 20		0.86	483		4832	Target year - 20		0.83	106	1063	
Target year - 35		0.86	483		7248	Target year - 35		0.83	106	1594	
Target year - 50		0.86	483		7248	Target year - 50		0.83	106	1594	
Sum of HUs					24057	Sum of HSUs				5291	
Post-project AAHUs over 50 years				481		Post-project AAHUs over 50 years				106	
Change in AAHUs over 50 years			0.0			Change in AAHUs over 50 years				-16.6	
Mitigation						Mitigation					
Target year - 0	0.0	0.00	0			Target year - 0		26.6	0.00	0	
Target year - 5	0.0	0.15	0		0	Target year - 5		26.6	0.15	4	10
Target year - 10	0.0	0.33	0		0	Target year - 10		26.6	0.33	9	32
Target year - 20	0.0	0.67	0		0	Target year - 20		26.6	0.67	18	133
Target year - 35	0.0	0.85	0		0	Target year - 35		26.6	0.85	23	303
Target year - 50	0.0	0.94	0		0	Target year - 50		26.6	0.94	25	357
Sum of HUs						Sum of HSUs					835
Mitigation AAHUs over 50 years				0.0		Mitigation AAHUs over 50 years					16.7

Figure 10.1.93 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 293.5-R, Smithland to Lacour 289-298 R, LA, Levee and Berm, Item 293.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -17.2 FCUs/AAHUs, requiring 27.5 acres of mitigation.



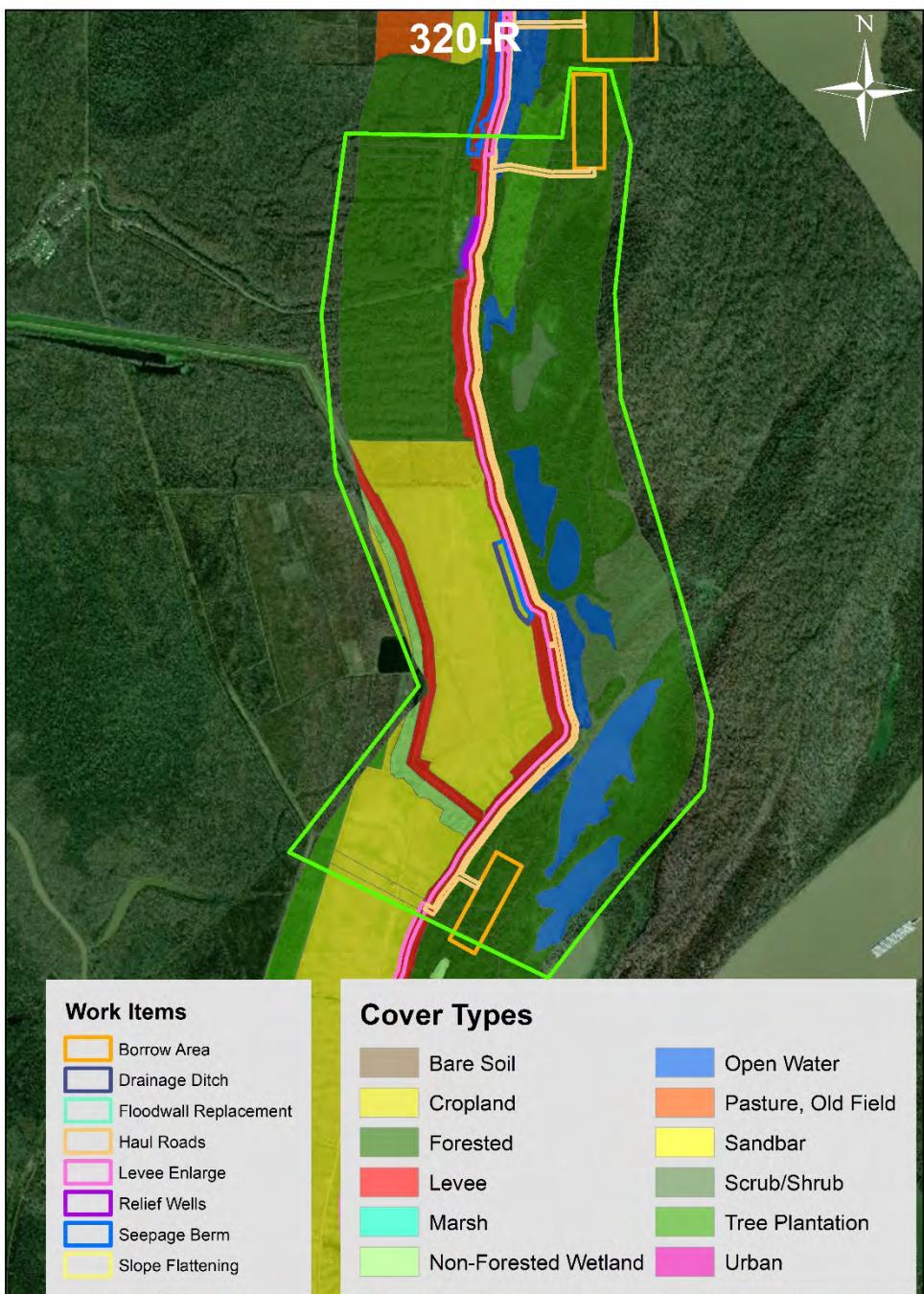
304R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		79	0.62	49		Forest		118	0.60	71			
Levee		13	0.00	0		Levee		11	0.00	0			
Open water		15	0.00	0		Open water		23	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		59	0.00	0		Urban		17	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.65	51	251	Target year - 5			0.63	74	362		
Target year - 10			0.81	64	288	Target year - 10			0.79	93	417		
Target year - 20			0.90	71	674	Target year - 20			0.86	102	973		
Target year - 35			0.90	71	1058	Target year - 35			0.86	102	1529		
Target year - 50			0.90	71	1058	Target year - 50			0.86	102	1529		
Sum of HUs					3330	Sum of HSUs					4811		
Pre-project AAHUs over 50 years				67		Pre-project AAHUs over 50 years				96			
Land cover change						Land cover change							
Forest		-2.0				Forest		0.0					
Levee		0.0				Levee		0.0					
Open water		2.0				Open water		0.0					
Cropland		0.0				Cropland		0.0					
Pasture/old field		0.0				Pasture/old field		0.0					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		77	0.62	48		Forest		118	0.60	71			
Levee		13	0.00	0		Levee		11	0.00	0			
Open water		17	0.00	0		Open water		23	0.00	0			
Cropland		0	0.00	0		Cropland		0	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		59	0.00	0		Urban		17	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.65	50	244	Target year - 5			0.63	74	362		
Target year - 10			0.81	63	281	Target year - 10			0.79	93	417		
Target year - 20			0.90	69	657	Target year - 20			0.86	102	973		
Target year - 35			0.90	69	1032	Target year - 35			0.86	102	1529		
Target year - 50			0.90	69	1032	Target year - 50			0.86	102	1529		
Sum of HUs					3245	Sum of HSUs					4811		
Post-project AAHUs over 50 years				65		Post-project AAHUs over 50 years				96			
Change in AAHUs over 50 years				-1.7		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		2.7	0.00	0		Target year - 0		0.0	0.00	0			
Target year - 5		2.7	0.15	0	1	Target year - 5		0.0	0.15	0	0		
Target year - 10		2.7	0.33	1	3	Target year - 10		0.0	0.33	0	0		
Target year - 20		2.7	0.67	2	14	Target year - 20		0.0	0.67	0	0		
Target year - 35		2.7	0.85	2	31	Target year - 35		0.0	0.85	0	0		
Target year - 50		2.7	0.94	3	36	Target year - 50		0.0	0.94	0	0		
Sum of HUs					85	Sum of HSUs					0		
Mitigation AAHUs over 50 years					1.7	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.94 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 304-R, Old River Lock - Levee, LA, Levee, Item 304-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.7 FCUs/AAHUs, requiring 2.7 acres of mitigation.



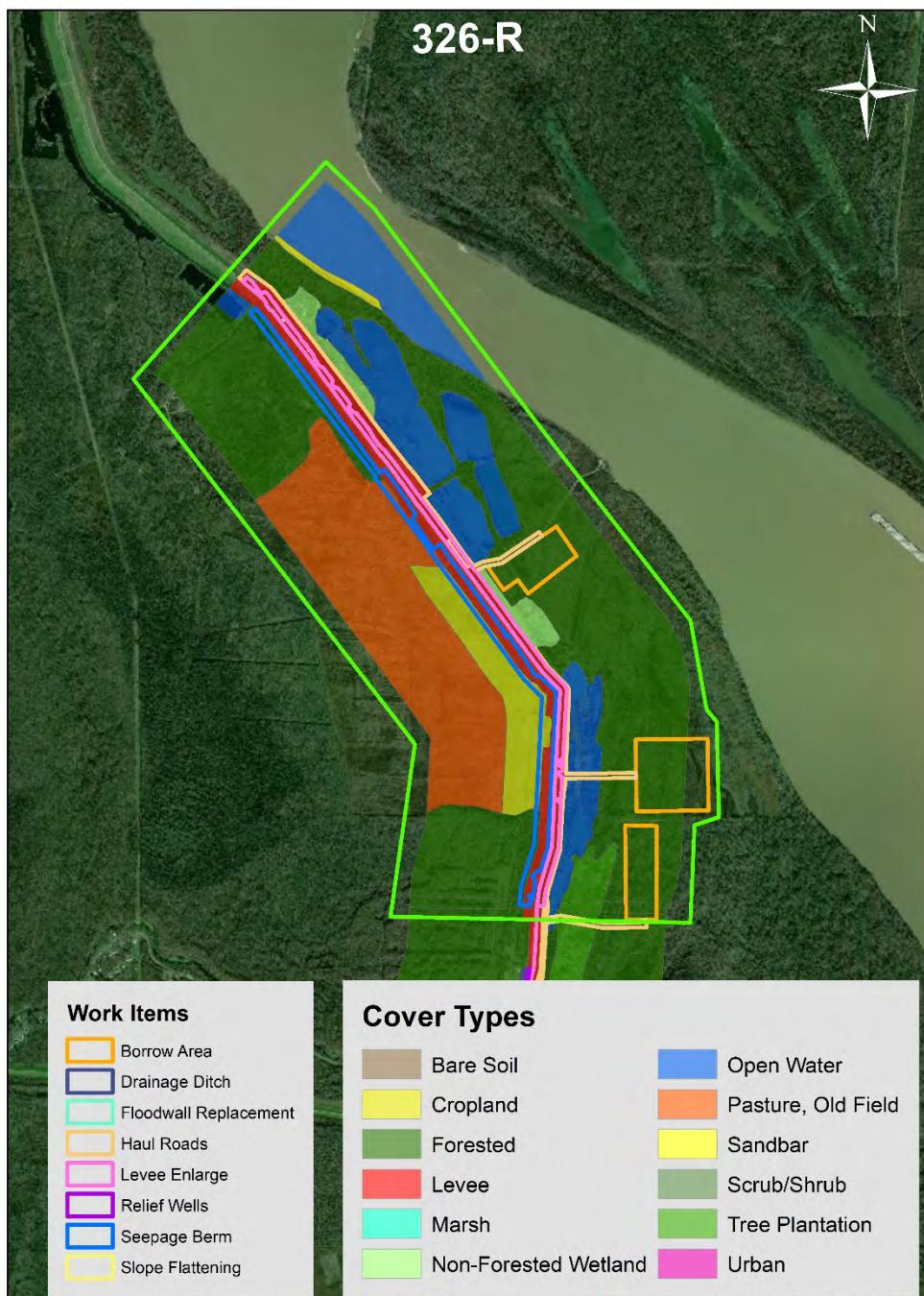
312.5R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		948	0.59	562		Forest		91	0.57	52			
Levee		65	0.00	0		Levee		80	0.00	0			
Open water		315	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		1232	0.00	0			
Pasture/old field		15	0.00	0		Pasture/old field		0	0.00	0			
Urban		3	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.68	649	3029		Target year - 5		0.66	60	281			
Target year - 10		0.75	714	3407		Target year - 10		0.73	66	316			
Target year - 20		0.75	714	7139		Target year - 20		0.73	66	661			
Target year - 35		0.75	714	10708		Target year - 35		0.73	66	992			
Target year - 50		0.75	714	10708		Target year - 50		0.73	66	992			
Sum of HUs				34991		Sum of HSUs					3242		
Pre-project AAHUs over 50 years				700		Pre-project AAHUs over 50 years					65		
Land cover change						Land cover change							
Forest	-15.9					Forest		0.0					
Levee	0.0					Levee		0.0					
Open water	15.9					Open water		0.0					
Cropland	0.0					Cropland		0.0					
Pasture/old field	0.0					Pasture/old field		0.0					
Urban	0.0					Urban		0.0					
Post-project land cover						Post-project land cover							
Forest	932	0.59	553			Forest		91	0.57	52			
Levee	65	0.00	0			Levee		80	0.00	0			
Open water	331	0.00	0			Open water		0	0.00	0			
Cropland	0	0.00	0			Cropland		1232	0.00	0			
Pasture/old field	15	0.00	0			Pasture/old field		0	0.00	0			
Urban	3	0.00	0			Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.68	638	2978		Target year - 5		0.66	60	281			
Target year - 10		0.75	702	3350		Target year - 10		0.73	66	316			
Target year - 20		0.75	702	7019		Target year - 20		0.73	66	661			
Target year - 35		0.75	702	10529		Target year - 35		0.73	66	992			
Target year - 50		0.75	702	10529		Target year - 50		0.73	66	992			
Sum of HUs				34404		Sum of HSUs					3242		
Post-project AAHUs over 50 years				688		Post-project AAHUs over 50 years					65		
Change in AAHUs over 50 years				-11.7		Change in AAHUs over 50 years					0.0		
Mitigation						Mitigation							
Target year - 0	18.8	0.00	0			Target year - 0		0.0	0.00	0			
Target year - 5	18.8	0.15	3		7	Target year - 5		0.0	0.15	0	0		
Target year - 10	18.8	0.33	6		23	Target year - 10		0.0	0.33	0	0		
Target year - 20	18.8	0.67	13		94	Target year - 20		0.0	0.67	0	0		
Target year - 35	18.8	0.85	16		214	Target year - 35		0.0	0.85	0	0		
Target year - 50	18.8	0.94	18		252	Target year - 50		0.0	0.94	0	0		
Sum of HUs					590	Sum of HSUs					0		
Mitigation AAHUs over 50 years					11.8	Mitigation AAHUs over 50 years					0.0		

Figure 10.1.95 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 312.5-R, Combined Lower/Upper 5th 308-317-W, LA, Levee, Item 312.5-R, Louisiana, MVN under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -11.7 FCUs/AAHUs, requiring 18.8 acres of mitigation.



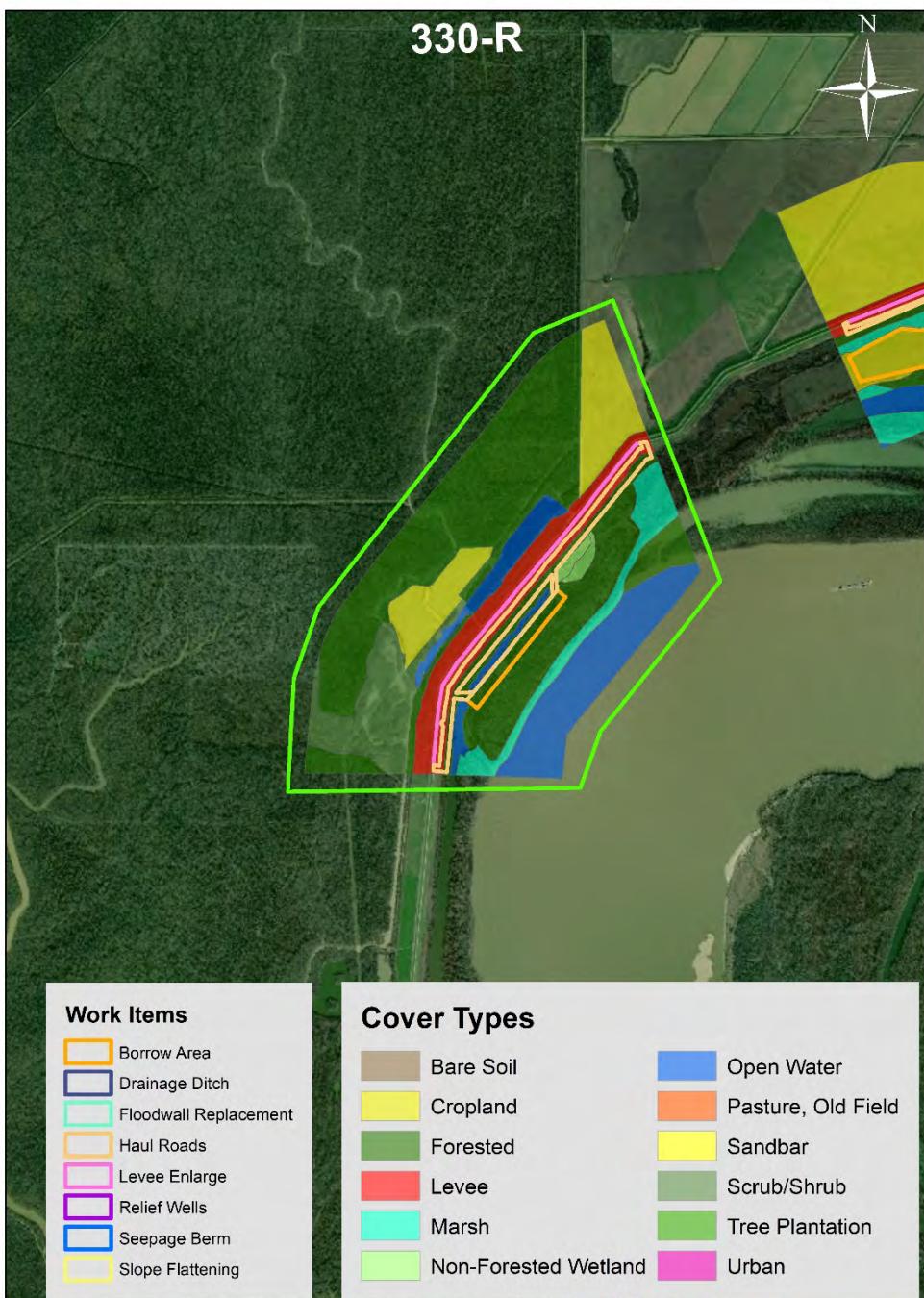
320R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		804	0.30	237		Forest		379	0.28	108			
Levee		66	0.00	0		Levee		128	0.00	0			
Open water		192	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		460	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.30	244	1205	Target year - 5			0.29	111	548		
Target year - 10			0.41	328	1431	Target year - 10			0.39	149	651		
Target year - 20			0.51	411	3693	Target year - 20			0.49	187	1681		
Target year - 35			0.56	452	6469	Target year - 35			0.54	206	2946		
Target year - 50			0.56	452	6777	Target year - 50			0.54	206	3086		
Sum of HUs					19574	Sum of HSUs					8912		
Pre-project AAHUs over 50 years				391		Pre-project AAHUs over 50 years				178			
Land cover change						Land cover change							
Forest		-52.5				Forest		-1.4					
Levee		0.0				Levee		5.6					
Open water		37.0				Open water		0.0					
Cropland		0.0				Cropland		-5.6					
Pasture/old field		15.5				Pasture/old field		1.4					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		752	0.30	222		Forest		378	0.28	108			
Levee		66	0.00	0		Levee		134	0.00	0			
Open water		229	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		454	0.00	0			
Pasture/old field		16	0.00	0		Pasture/old field		1	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.30	229	1126	Target year - 5			0.29	111	546		
Target year - 10			0.41	306	1337	Target year - 10			0.39	149	649		
Target year - 20			0.51	384	3451	Target year - 20			0.49	186	1675		
Target year - 35			0.56	422	6047	Target year - 35			0.54	205	2935		
Target year - 50			0.56	422	6334	Target year - 50			0.54	205	3074		
Sum of HUs					18296	Sum of HUs					8879		
Post-project AAHUs over 50 years				366		Post-project AAHUs over 50 years				178			
Change in AAHUs over 50 years				-25.6		Change in AAHUs over 50 years				-0.7			
Mitigation						Mitigation							
Target year - 0		40.9	0.00	0		Target year - 0		1.1	0.00	0			
Target year - 5		40.9	0.15	6	15	Target year - 5		1.1	0.15	0	0		
Target year - 10		40.9	0.33	13	49	Target year - 10		1.1	0.33	0	1		
Target year - 20		40.9	0.67	27	205	Target year - 20		1.1	0.67	1	5		
Target year - 35		40.9	0.85	35	466	Target year - 35		1.1	0.85	1	12		
Target year - 50		40.9	0.94	38	549	Target year - 50		1.1	0.94	1	14		
Sum of HUs					1284	Sum of HUs					33		
Mitigation AAHUs over 50 years					25.7	Mitigation AAHUs over 50 years					0.7		

Figure 10.1.96 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 320-R, Morville-Black Hawk, LA, Levee Enlargement and Seepage Remediation, Item 320-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -26.3 FCUs/AAHUs, requiring 42.0 acres of mitigation.



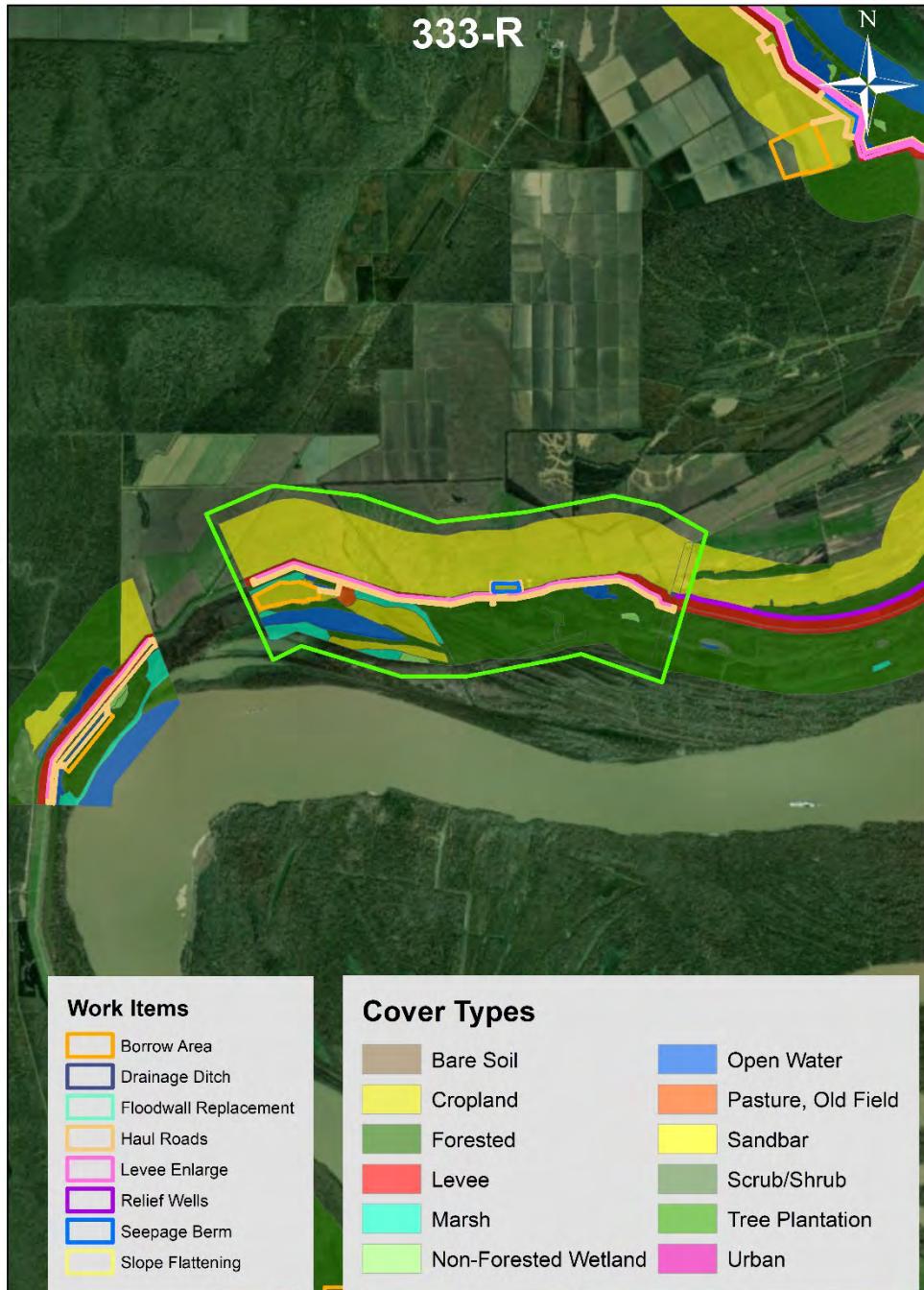
326R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		580	0.30	171		Forest		284	0.28	81			
Levee		69	0.00	0		Levee		102	0.00	0			
Open water		325	0.00	0		Open water		6	0.00	0			
Cropland		0	0.00	0		Cropland		93	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		347	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.30	176		869	Target year - 5		0.29	83		410	
Target year - 10			0.41	237		1032	Target year - 10		0.39	112		487	
Target year - 20			0.51	296		2665	Target year - 20		0.49	140		1258	
Target year - 35			0.56	326		4669	Target year - 35		0.54	154		2204	
Target year - 50			0.56	326		4891	Target year - 50		0.54	154		2309	
Sum of HUs						14128	Sum of HSUs					6669	
Pre-project AAHUs over 50 years				283			Pre-project AAHUs over 50 years			133			
Land cover change						Land cover change							
Forest	-131.1					Forest	-13.5						
Levee	0.0					Levee	28.6						
Open water	122.1					Open water	0.0						
Cropland	0.0					Cropland	-11.3						
Pasture/old field	9.0					Pasture/old field	-3.8						
Urban	0.0					Urban	0.0						
Post-project land cover						Post-project land cover							
Forest	449	0.30	133			Forest	270	0.28	77				
Levee	69	0.00	0			Levee	130	0.00	0				
Open water	447	0.00	0			Open water	6	0.00	0				
Cropland	0	0.00	0			Cropland	81	0.00	0				
Pasture/old field	9	0.00	0			Pasture/old field	343	0.00	0				
Urban	0	0.00	0			Urban	0	0.00	0				
Post-project future conditions						Post-project future conditions							
Target year - 5		0.30	137		673	Target year - 5		0.29	79		391		
Target year - 10		0.41	183		799	Target year - 10		0.39	106		464		
Target year - 20		0.51	230		2063	Target year - 20		0.49	133		1198		
Target year - 35		0.56	252		3614	Target year - 35		0.54	147		2099		
Target year - 50		0.56	252		3786	Target year - 50		0.54	147		2199		
Sum of HUs					10936	Sum of HUs					6352		
Post-project AAHUs over 50 years				219		Post-project AAHUs over 50 years				127			
Change in AAHUs over 50 years				-63.8		Change in AAHUs over 50 years				-6.3			
Mitigation						Mitigation							
Target year - 0	102.1	0.00	0			Target year - 0	10.1	0.00	0				
Target year - 5	102.1	0.15	15		38	Target year - 5	10.1	0.15	2		4		
Target year - 10	102.1	0.33	34		123	Target year - 10	10.1	0.33	3		12		
Target year - 20	102.1	0.67	68		511	Target year - 20	10.1	0.67	7		51		
Target year - 35	102.1	0.85	87		1164	Target year - 35	10.1	0.85	9		116		
Target year - 50	102.1	0.94	96		1371	Target year - 50	10.1	0.94	10		136		
Sum of HUs					3207	Sum of HUs					319		
Mitigation AAHUs over 50 years					64.1	Mitigation AAHUs over 50 years					6.4		

Figure 10.1.97 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 326-R, Morville-Black Hawk, LA, Levee Enlargement and Seepage Remediation, Item 326-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -70.1 FCUs/AAHUs, requiring 112.2 acres of mitigation.



330R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		243	0.30	72		Forest		389	0.28	111			
Levee		39	0.00	0		Levee		69	0.00	0			
Open water		127	0.00	0		Open water		32	0.00	0			
Cropland		0	0.00	0		Cropland		109	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.30	74	365	Target year - 5			0.29	114	562		
Target year - 10			0.41	99	433	Target year - 10			0.39	153	668		
Target year - 20			0.51	124	1118	Target year - 20			0.49	192	1724		
Target year - 35			0.56	137	1959	Target year - 35			0.54	211	3020		
Target year - 50			0.56	137	2052	Target year - 50			0.54	211	3164		
Sum of HUs					5926	Sum of HSUs					9138		
Pre-project AAHUs over 50 years				119		Pre-project AAHUs over 50 years				183			
Land cover change						Land cover change							
Forest		-37.9				Forest			0.0				
Levee		0.0				Levee			0.0				
Open water		16.2				Open water			0.0				
Cropland		0.0				Cropland			0.0				
Pasture/old field		21.7				Pasture/old field			0.0				
Urban		0.0				Urban			0.0				
Post-project land cover						Post-project land cover							
Forest		206	0.30	61		Forest		389	0.28	111			
Levee		39	0.00	0		Levee		69	0.00	0			
Open water		143	0.00	0		Open water		32	0.00	0			
Cropland		0	0.00	0		Cropland		109	0.00	0			
Pasture/old field		22	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5			0.30	62	308	Target year - 5			0.29	114	562		
Target year - 10			0.41	84	366	Target year - 10			0.39	153	668		
Target year - 20			0.51	105	944	Target year - 20			0.49	192	1724		
Target year - 35			0.56	115	1654	Target year - 35			0.54	211	3020		
Target year - 50			0.56	115	1732	Target year - 50			0.54	211	3164		
Sum of HUs					5003	Sum of HUs					9138		
Post-project AAHUs over 50 years				100		Post-project AAHUs over 50 years				183			
Change in AAHUs over 50 years				-18.5		Change in AAHUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0		29.5	0.00	0		Target year - 0			0.0	0.00	0		
Target year - 5		29.5	0.15	4	11	Target year - 5			0.0	0.15	0		0
Target year - 10		29.5	0.33	10	35	Target year - 10			0.0	0.33	0		0
Target year - 20		29.5	0.67	20	148	Target year - 20			0.0	0.67	0		0
Target year - 35		29.5	0.85	25	337	Target year - 35			0.0	0.85	0		0
Target year - 50		29.5	0.94	28	396	Target year - 50			0.0	0.94	0		0
Sum of HUs					927	Sum of HUs					0		
Mitigation AAHUs over 50 years					18.5	Mitigation AAHUs over 50 years					0.0		

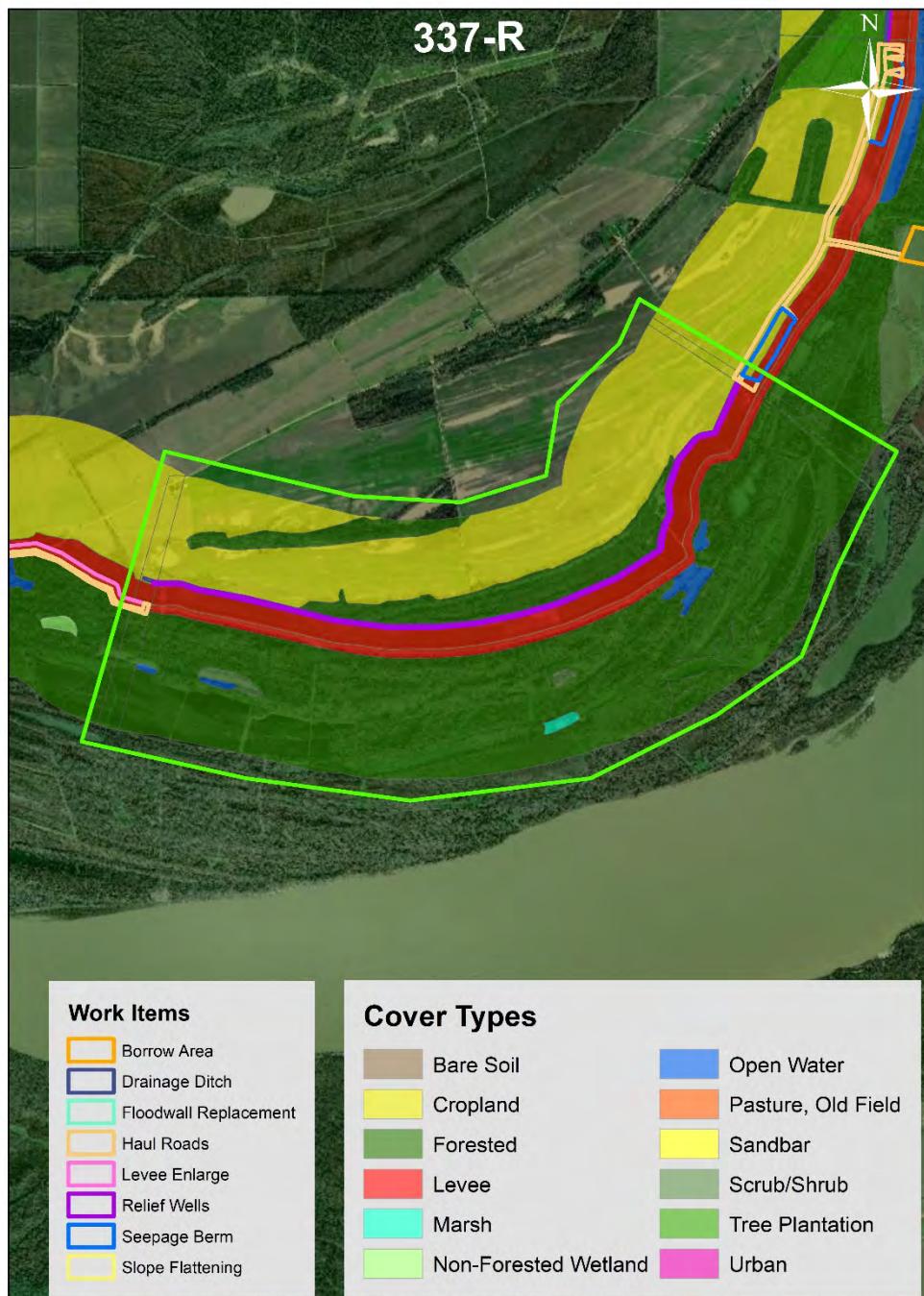
Figure 10.1.98 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 330-R, Morville-Black Hawk, LA, Levee Enlargement, Item 330-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -18.5 FCUs/AAHUs, requiring 29.5 acres of mitigation.



Riverside				Landside					
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	866	0.38	326		Forest	0	0.36	0	
Levee	71	0.00	0		Levee	72	0.00	0	
Open water	106	0.00	0		Open water	0	0.00	0	
Cropland	158	0.00	0		Cropland	1072	0.00	0	
Pasture/old field	11	0.00	0		Pasture/old field	0	0.00	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions				Pre-project future conditions					
Target year - 5		0.41	353	1698	Target year - 5		0.39	0	0
Target year - 10		0.51	443	1989	Target year - 10		0.49	0	0
Target year - 20		0.56	487	4646	Target year - 20		0.54	0	0
Target year - 35		0.56	487	7300	Target year - 35		0.54	0	0
Target year - 50		0.56	487	7300	Target year - 50		0.54	0	0
Sum of HUs				22934	Sum of HSUs				0
Pre-project AAHUs over 50 years			459		Pre-project AAHUs over 50 years			0	
Land cover change				Land cover change					
Forest	-14.3				Forest	0.0			
Levee	0.0				Levee	7.4			
Open water	39.8				Open water	0.0			
Cropland	-41.9				Cropland	-9.8			
Pasture/old field	16.4				Pasture/old field	2.4			
Urban	0.0				Urban	0.0			
Post-project land cover				Post-project land cover					
Forest	852	0.38	321		Forest	0	0.36	0	
Levee	71	0.00	0		Levee	80	0.00	0	
Open water	146	0.00	0		Open water	0	0.00	0	
Cropland	116	0.00	0		Cropland	1063	0.00	0	
Pasture/old field	28	0.00	0		Pasture/old field	2	0.00	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions				Post-project future conditions					
Target year - 5		0.41	347	1670	Target year - 5		0.39	0	0
Target year - 10		0.51	435	1956	Target year - 10		0.49	0	0
Target year - 20		0.56	479	4569	Target year - 20		0.54	0	0
Target year - 35		0.56	479	7180	Target year - 35		0.54	0	0
Target year - 50		0.56	479	7180	Target year - 50		0.54	0	0
Sum of HUs				22555	Sum of HSUs				0
Post-project AAHUs over 50 years			451		Post-project AAHUs over 50 years			0	
Change in AAHUs over 50 years			-7.6		Change in AAHUs over 50 years			0.0	
Mitigation				Mitigation					
Target year - 0	12.1	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	12.1	0.15	2	5	Target year - 5	0.0	0.15	0	0
Target year - 10	12.1	0.33	4	15	Target year - 10	0.0	0.33	0	0
Target year - 20	12.1	0.67	8	61	Target year - 20	0.0	0.67	0	0
Target year - 35	12.1	0.85	10	138	Target year - 35	0.0	0.85	0	0
Target year - 50	12.1	0.94	11	163	Target year - 50	0.0	0.94	0	0
Sum of HUs				380	Sum of HSUs				0
Mitigation AAHUs over 50 years				7.6	Mitigation AAHUs over 50 years				0.0

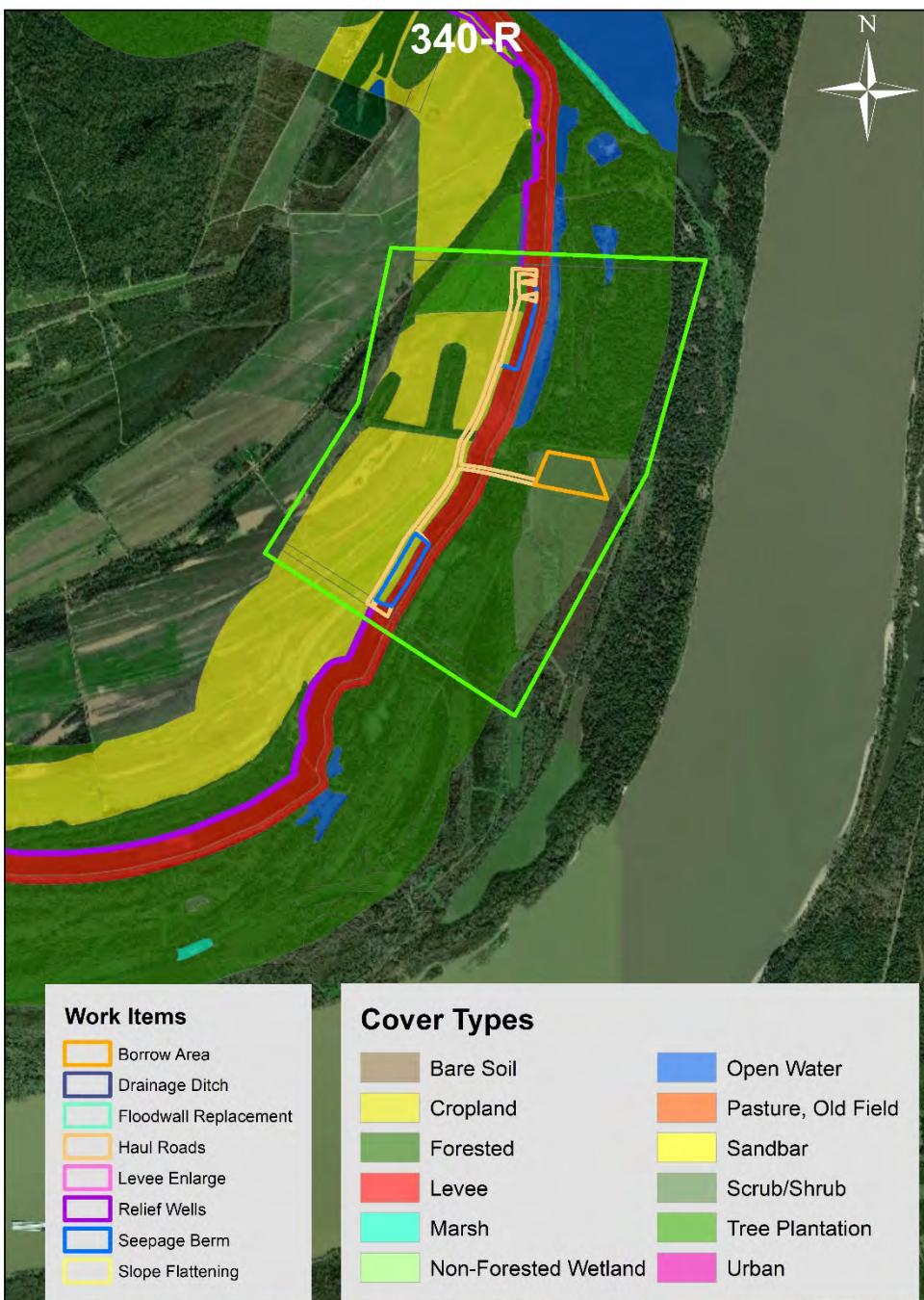
Figure 10.1.99 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 333-R, Morville-Black Hawk, LA, Levee Enlargement and Seepage Remediation, Item 333-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -22.1 FCUs/AAHUs, requiring 35.4 acres of

mitigation.



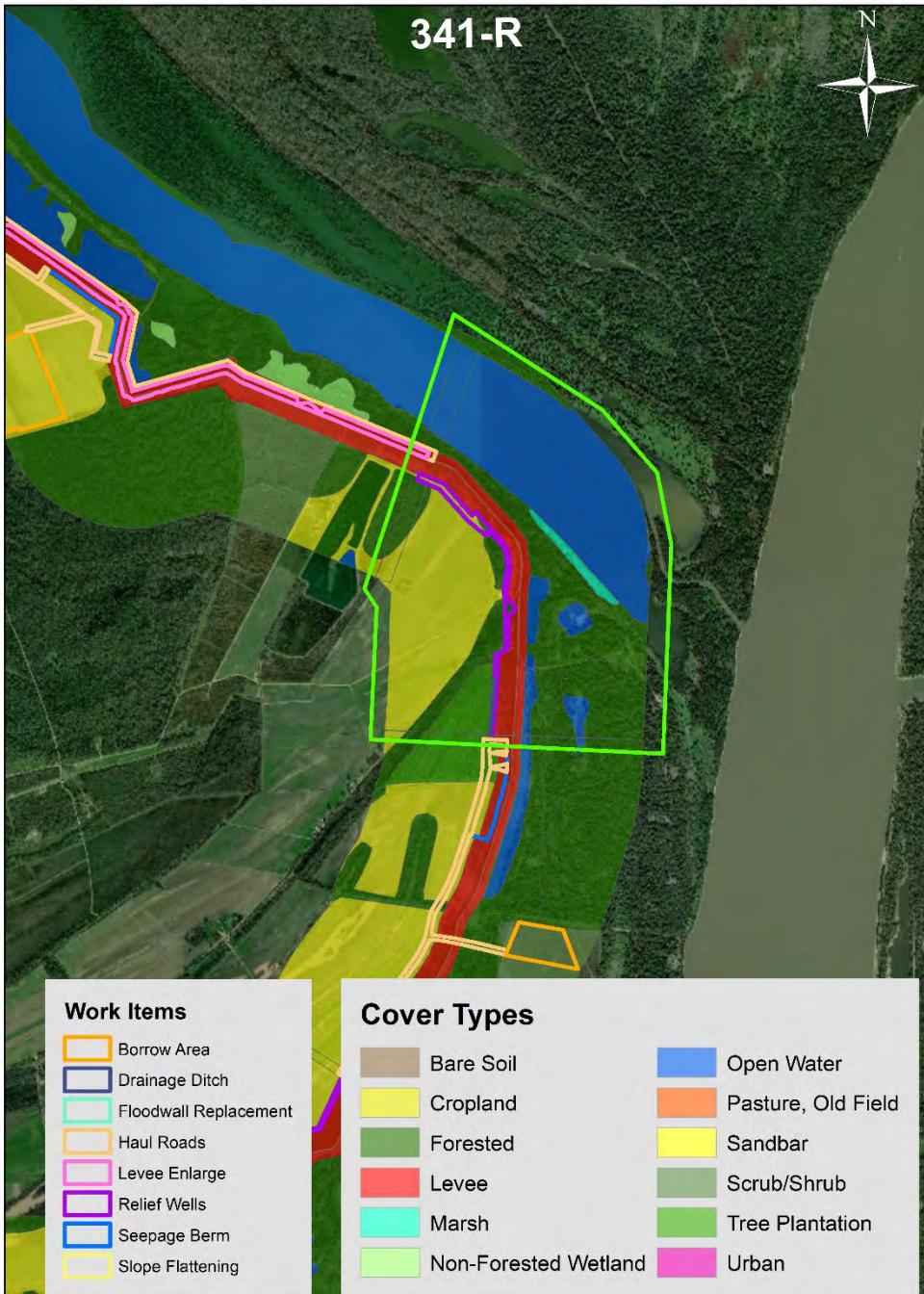
337R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		936	0.78	731		Forest		151	0.75	114			
Levee		62	0.00	0		Levee		163	0.00	0			
Open water		17	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		499	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.78	734		3663	Target year - 5			0.76	114		571	
Target year - 10		0.86	808		3855	Target year - 10			0.83	126		601	
Target year - 20		0.86	808		8076	Target year - 20			0.83	126		1259	
Target year - 35		0.86	808		12114	Target year - 35			0.83	126		1889	
Target year - 50		0.86	808		12114	Target year - 50			0.83	126		1889	
Sum of HUs					39823	Sum of HSUs						6209	
Pre-project AAHUs over 50 years				796		Pre-project AAHUs over 50 years				124			
Land cover change						Land cover change							
Forest		0.0				Forest		-1.2					
Levee		0.0				Levee		0.0					
Open water		0.0				Open water		0.0					
Cropland		0.0				Cropland		-3.4					
Pasture/old field		0.0				Pasture/old field		4.6					
Urban		0.0				Urban		0.0					
Post-project land cover						Post-project land cover							
Forest		936	0.78	731		Forest		150	0.75	113			
Levee		62	0.00	0		Levee		163	0.00	0			
Open water		17	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		496	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		5	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.78	734		3663	Target year - 5			0.76	114		567	
Target year - 10		0.86	808		3855	Target year - 10			0.83	125		596	
Target year - 20		0.86	808		8076	Target year - 20			0.83	125		1249	
Target year - 35		0.86	808		12114	Target year - 35			0.83	125		1874	
Target year - 50		0.86	808		12114	Target year - 50			0.83	125		1874	
Sum of HUs				39823		Sum of HSUs						6160	
Post-project AAHUs over 50 years				796		Post-project AAHUs over 50 years				123			
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years			-1.0				
Mitigation						Mitigation							
Target year - 0		0.0	0.00	0		Target year - 0		1.6	0.00	0			
Target year - 5		0.0	0.15	0		Target year - 5		1.6	0.15	0		1	
Target year - 10		0.0	0.33	0		Target year - 10		1.6	0.33	1		2	
Target year - 20		0.0	0.67	0		Target year - 20		1.6	0.67	1		8	
Target year - 35		0.0	0.85	0		Target year - 35		1.6	0.85	1		18	
Target year - 50		0.0	0.94	0		Target year - 50		1.6	0.94	1		21	
Sum of HUs					0	Sum of HSUs						50	
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years						1.0	

Figure 10.1.100 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 337-R, Morville-Black Hawk, LA, Seepage Remediation, Item 337-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.0 FCUs/AAHUs, requiring 1.6 acres of mitigation.



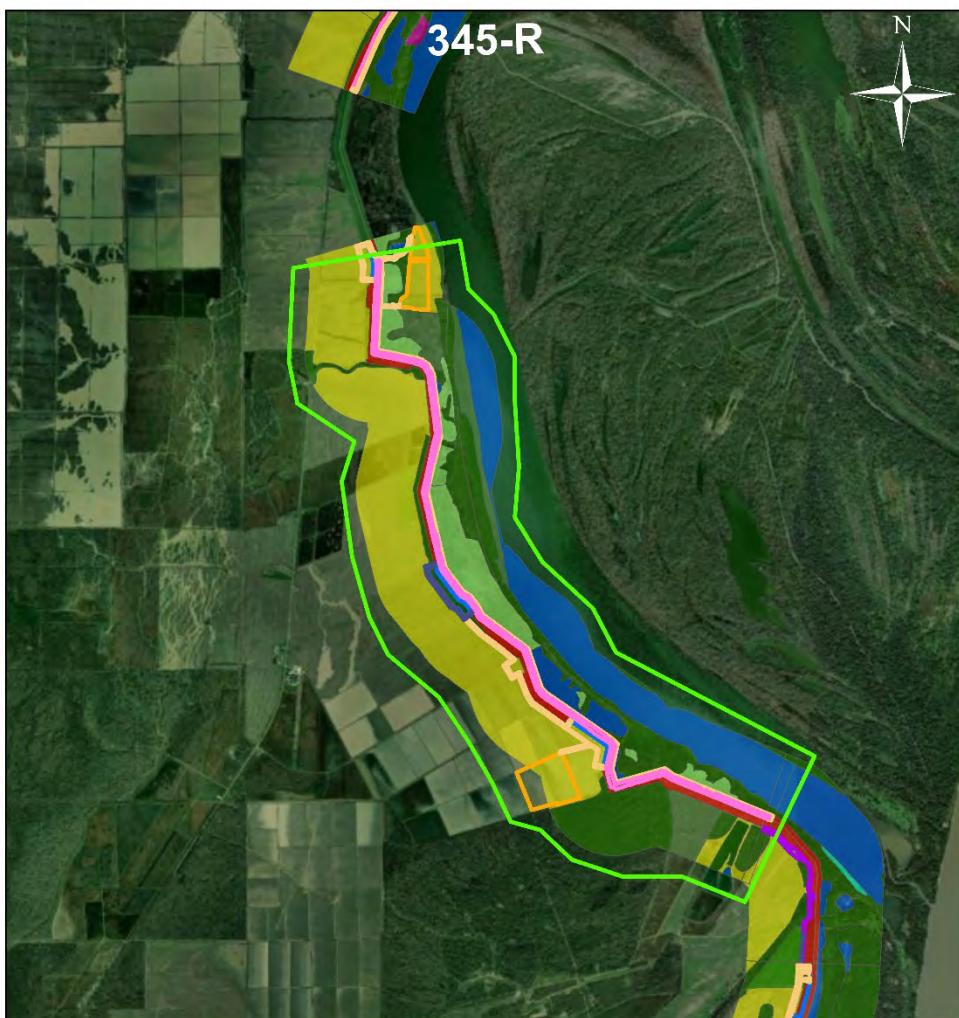
340R		Riverside								Landside			
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs		
Forest		473	0.78	369		Forest		91	0.75	69			
Levee		29	0.00	0		Levee		63	0.00	0			
Open water		22	0.00	0		Open water		0	0.00	0			
Cropland		0	0.00	0		Cropland		283	0.00	0			
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5			0.78	371	1850	Target year - 5			0.76	69	344		
Target year - 10			0.86	408	1947	Target year - 10			0.83	76	362		
Target year - 20			0.86	408	4079	Target year - 20			0.83	76	758		
Target year - 35			0.86	408	6119	Target year - 35			0.83	76	1137		
Target year - 50			0.86	408	6119	Target year - 50			0.83	76	1137		
Sum of HUs					20114	Sum of HSUs					3737		
Pre-project AAHUs over 50 years				402		Pre-project AAHUs over 50 years				75			
Land cover change						Land cover change							
Forest	-41.8					Forest		-5.8					
Levee	0.0					Levee		12.8					
Open water	19.8					Open water		0.0					
Cropland	0.0					Cropland		-27.6					
Pasture/old field	22.0					Pasture/old field		20.6					
Urban	0.0					Urban		0.0					
Post-project land cover						Post-project land cover							
Forest	431	0.78	337			Forest		85	0.75	64			
Levee	29	0.00	0			Levee		75	0.00	0			
Open water	42	0.00	0			Open water		0	0.00	0			
Cropland	0	0.00	0			Cropland		256	0.00	0			
Pasture/old field	22	0.00	0			Pasture/old field		21	0.00	0			
Urban	0	0.00	0			Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.78	338	1687		Target year - 5			0.76	65	322		
Target year - 10		0.86	372	1775		Target year - 10			0.83	71	339		
Target year - 20		0.86	372	3718		Target year - 20			0.83	71	710		
Target year - 35		0.86	372	5577		Target year - 35			0.83	71	1064		
Target year - 50		0.86	372	5577		Target year - 50			0.83	71	1064		
Sum of HUs				18335		Sum of HSUs					3499		
Post-project AAHUs over 50 years			367			Post-project AAHUs over 50 years				70			
Change in AAHUs over 50 years			-35.6			Change in AAHUs over 50 years				-4.8			
Mitigation						Mitigation							
Target year - 0	56.9	0.00	0			Target year - 0		7.6	0.00	0			
Target year - 5	56.9	0.15	9	21		Target year - 5		7.6	0.15	1	3		
Target year - 10	56.9	0.33	19	68		Target year - 10		7.6	0.33	3	9		
Target year - 20	56.9	0.67	38	285		Target year - 20		7.6	0.67	5	38		
Target year - 35	56.9	0.85	48	649		Target year - 35		7.6	0.85	6	87		
Target year - 50	56.9	0.94	54	764		Target year - 50		7.6	0.94	7	102		
Sum of HUs				1788		Sum of HSUs					239		
Mitigation AAHUs over 50 years				35.8		Mitigation AAHUs over 50 years					4.8		

Figure 10.1.101 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 340-R, Morville-Black Hawk, LA, Seepage Remediation, Item 340-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -40.6 FCUs/AAHUs, requiring 64.9 acres of mitigation.



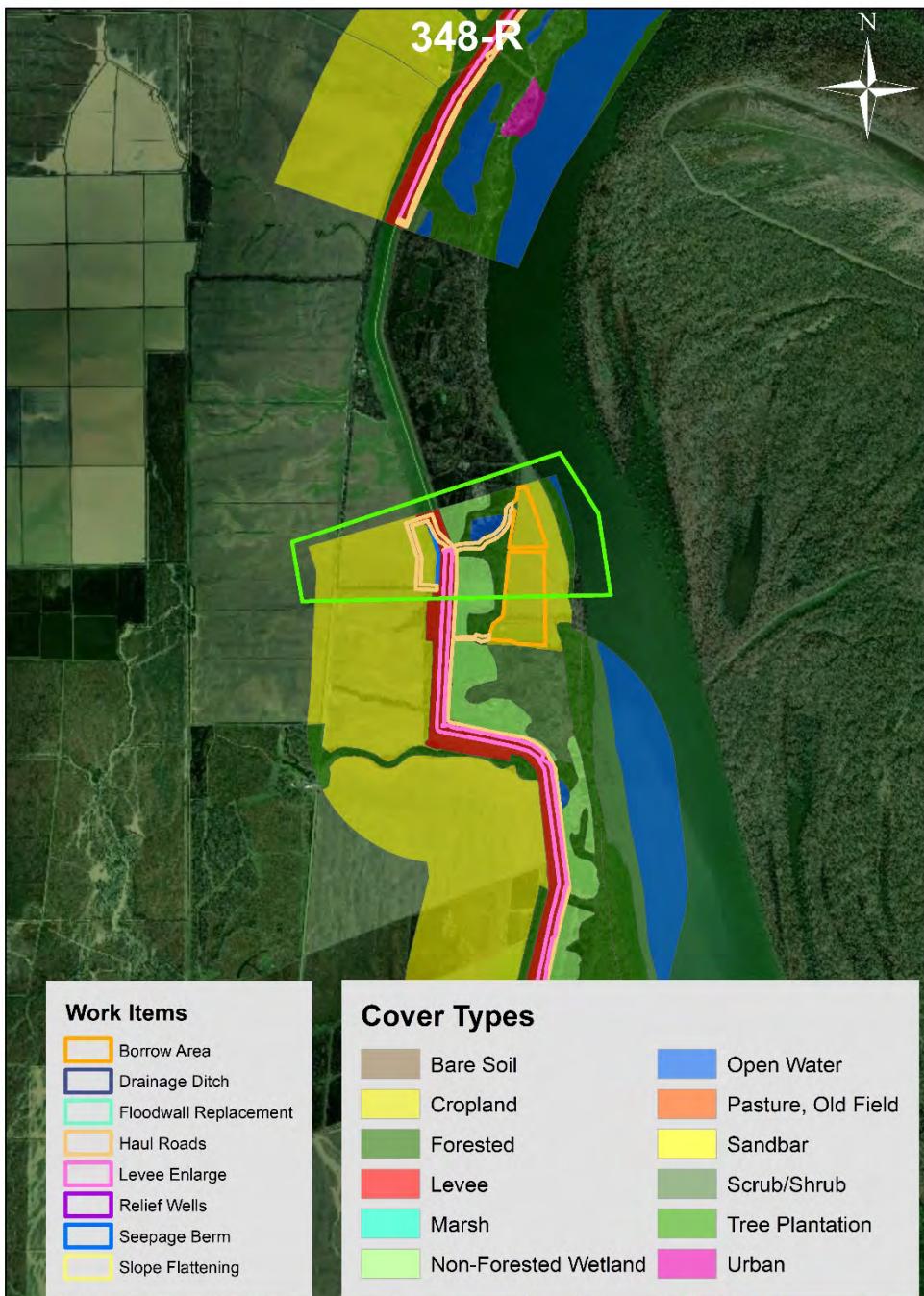
341R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		199	0.78	155		Forest		74	0.75	55	
Levee		37	0.00	0		Levee		50	0.00	0	
Open water		276	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		171	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.78	156	778	Target year - 5			0.76	56	278
Target year - 10			0.86	171	818	Target year - 10			0.83	61	293
Target year - 20			0.86	171	1714	Target year - 20			0.83	61	613
Target year - 35			0.86	171	2571	Target year - 35			0.83	61	919
Target year - 50			0.86	171	2571	Target year - 50			0.83	61	919
Sum of HUs					8452	Sum of HSUs					3022
Pre-project AAHUs over 50 years				169		Pre-project AAHUs over 50 years				60	
Land cover change						Land cover change					
Forest		0.0				Forest		-9.4			
Levee		0.0				Levee		0.0			
Open water		0.0				Open water		0.0			
Cropland		0.0				Cropland		-4.6			
Pasture/old field		0.0				Pasture/old field		14.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		199	0.78	155		Forest		64	0.75	48	
Levee		37	0.00	0		Levee		50	0.00	0	
Open water		276	0.00	0		Open water		0	0.00	0	
Cropland		0	0.00	0		Cropland		167	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		14	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.78	156	778	Target year - 5			0.76	49	243
Target year - 10			0.86	171	818	Target year - 10			0.83	53	255
Target year - 20			0.86	171	1714	Target year - 20			0.83	53	535
Target year - 35			0.86	171	2571	Target year - 35			0.83	53	802
Target year - 50			0.86	171	2571	Target year - 50			0.83	53	802
Sum of HUs					8452	Sum of HUs					2636
Post-project AAHUs over 50 years				169		Post-project AAHUs over 50 years				53	
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years				-7.7	
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		12.4	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		12.4	0.15	2	5
Target year - 10		0.0	0.33	0	0	Target year - 10		12.4	0.33	4	15
Target year - 20		0.0	0.67	0	0	Target year - 20		12.4	0.67	8	62
Target year - 35		0.0	0.85	0	0	Target year - 35		12.4	0.85	10	141
Target year - 50		0.0	0.94	0	0	Target year - 50		12.4	0.94	12	166
Sum of HUs					0	Sum of HUs					388
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					7.8

Figure 10.1.102 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 341-R, Morville-Black Hawk, LA, Seepage Remediation, Item 341-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -7.7 FCUs/AAHUs, requiring 12.4 acres of mitigation.



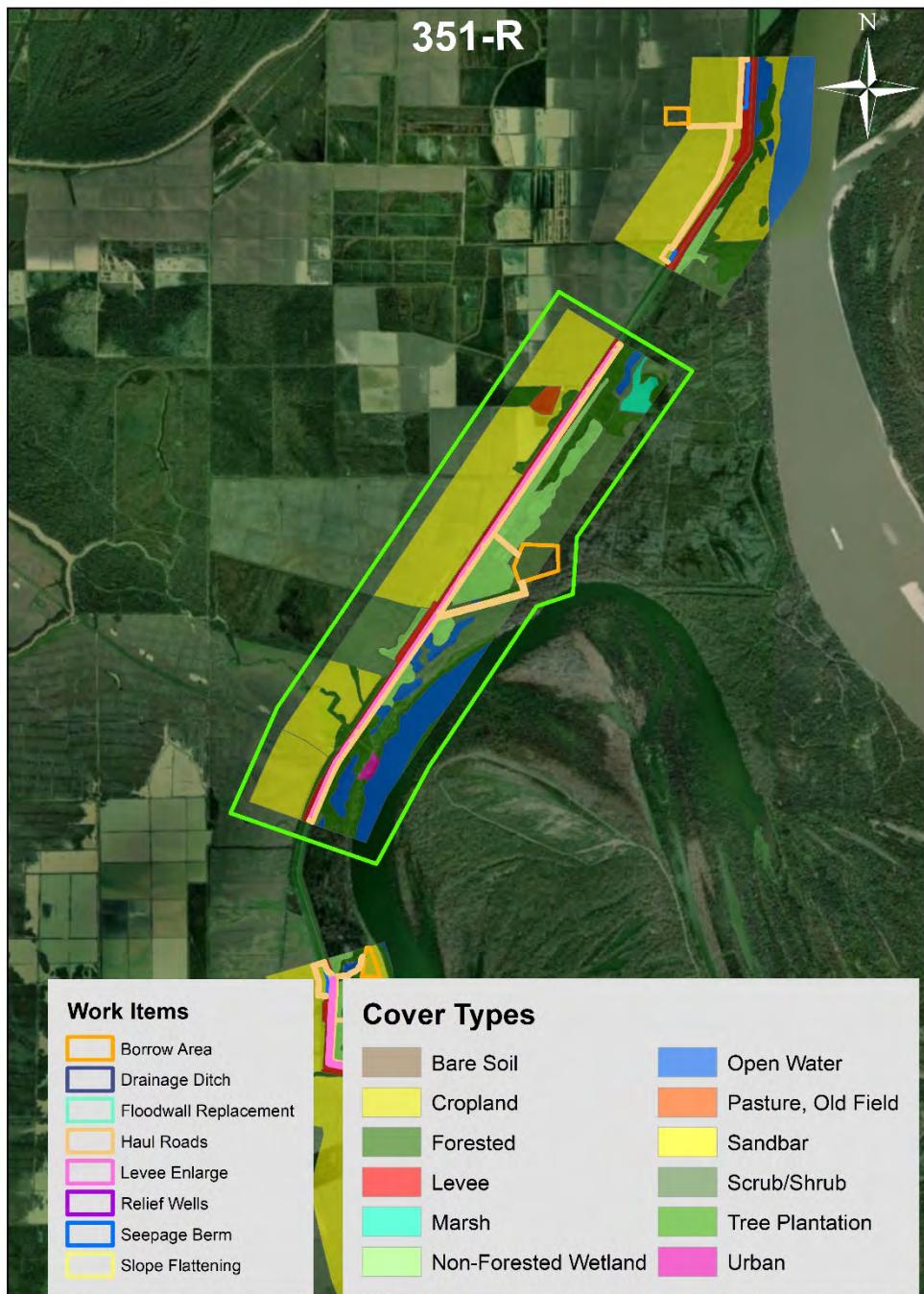
345R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		893	0.52	466		Forest		447	0.50	225	
Levee		160	0.00	0		Levee		195	0.00	0	
Open water		688	0.00	0		Open water		2	0.00	0	
Cropland		85	0.00	0		Cropland		1393	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.56	502	2420	Target year - 5			0.54	242	1168
Target year - 10			0.56	502	2510	Target year - 10			0.54	242	1211
Target year - 20			0.56	502	5020	Target year - 20			0.54	242	2422
Target year - 35			0.56	502	7530	Target year - 35			0.54	242	3634
Target year - 50			0.56	502	7530	Target year - 50			0.54	242	3634
Sum of HUs					25011	Sum of HSUs					12069
Pre-project AAHUs over 50 years				500		Pre-project AAHUs over 50 years				241	
Land cover change						Land cover change					
Forest		-6.4				Forest		-15.9			
Levee		0.1				Levee		26.3			
Open water		35.9				Open water		63.5			
Cropland		-36.4				Cropland		####			
Pasture/old field		6.8				Pasture/old field		28.9			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		887	0.52	463		Forest		431	0.50	217	
Levee		160	0.00	0		Levee		222	0.00	0	
Open water		724	0.00	0		Open water		65	0.00	0	
Cropland		49	0.00	0		Cropland		1290	0.00	0	
Pasture/old field		7	0.00	0		Pasture/old field		29	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.56	498	2403	Target year - 5			0.54	234	1126
Target year - 10			0.56	498	2492	Target year - 10			0.54	234	1168
Target year - 20			0.56	498	4984	Target year - 20			0.54	234	2336
Target year - 35			0.56	498	7476	Target year - 35			0.54	234	3504
Target year - 50			0.56	498	7476	Target year - 50			0.54	234	3504
Sum of HUs					24832	Sum of HUs					11639
Post-project AAHUs over 50 years				497		Post-project AAHUs over 50 years				233	
Change in AAHUs over 50 years				-3.6		Change in AAHUs over 50 years				-8.6	
Mitigation						Mitigation					
Target year - 0		5.7	0.00	0		Target year - 0		13.7	0.00	0	
Target year - 5		5.7	0.15	1	2	Target year - 5		13.7	0.15	2	5
Target year - 10		5.7	0.33	2	7	Target year - 10		13.7	0.33	5	16
Target year - 20		5.7	0.67	4	29	Target year - 20		13.7	0.67	9	69
Target year - 35		5.7	0.85	5	65	Target year - 35		13.7	0.85	12	157
Target year - 50		5.7	0.94	5	77	Target year - 50		13.7	0.94	13	185
Sum of HUs					180	Sum of HUs					432
Mitigation AAHUs over 50 years					3.6	Mitigation AAHUs over 50 years					8.6

Figure 10.1.103 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 345-R, Morville-Black Hawk, LA, Levee Enlargement and Seepage Remediation, Item 345-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -12.2 FCUs/AAHUs, requiring 19.4 acres of mitigation.



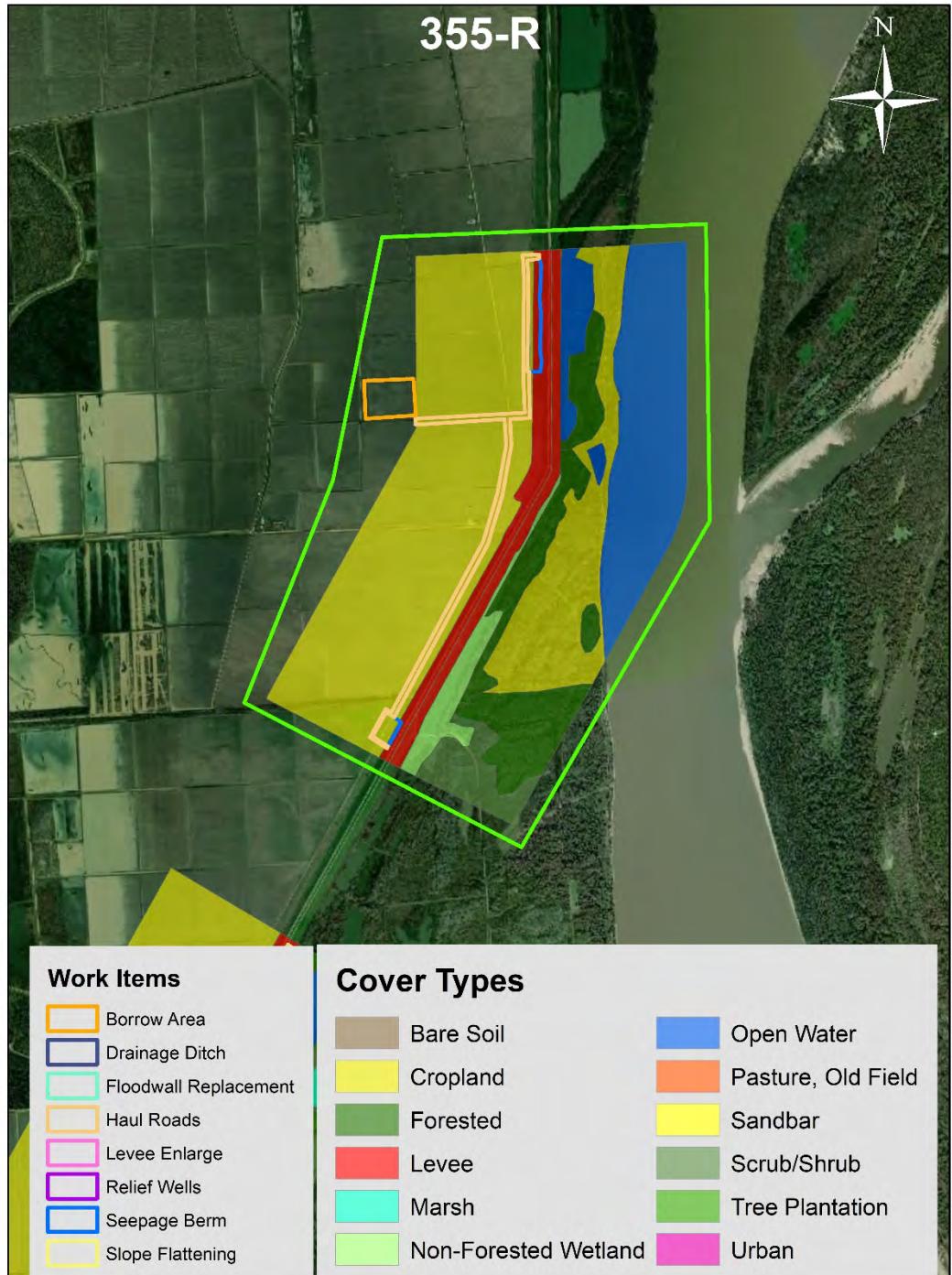
348R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		893	0.61	544		Forest		447	0.59	262	
Levee		160	0.00	0		Levee		195	0.00	0	
Open water		688	0.00	0		Open water		2	0.00	0	
Cropland		85	0.00	0		Cropland		1393	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.61	549	2732	Target year - 5			0.59	265	1319
Target year - 10			0.68	604	2883	Target year - 10			0.65	291	1391
Target year - 20			0.68	604	6039	Target year - 20			0.65	291	2914
Target year - 35			0.68	604	9059	Target year - 35			0.65	291	4371
Target year - 50			0.68	604	9059	Target year - 50			0.65	291	4371
Sum of HUs					29773	Sum of HSUs					14367
Pre-project AAHUs over 50 years				595		Pre-project AAHUs over 50 years				287	
Land cover change						Land cover change					
Forest		-4.8				Forest		0.0			
Levee		0.0				Levee		9.2			
Open water		12.9				Open water		0.0			
Cropland		-12.0				Cropland		-13.3			
Pasture/old field		3.9				Pasture/old field		4.1			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		889	0.61	541		Forest		447	0.59	262	
Levee		160	0.00	0		Levee		204	0.00	0	
Open water		701	0.00	0		Open water		2	0.00	0	
Cropland		73	0.00	0		Cropland		1380	0.00	0	
Pasture/old field		4	0.00	0		Pasture/old field		4	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.61	546	2718	Target year - 5			0.59	265	1319
Target year - 10			0.68	601	2867	Target year - 10			0.65	291	1391
Target year - 20			0.68	601	6007	Target year - 20			0.65	291	2914
Target year - 35			0.68	601	9010	Target year - 35			0.65	291	4371
Target year - 50			0.68	601	9010	Target year - 50			0.65	291	4371
Sum of HUs					29613	Sum of HSUs					14367
Post-project AAHUs over 50 years				592		Post-project AAHUs over 50 years				287	
Change in AAHUs over 50 years				-3.2		Change in AAHUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		5.1	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		5.1	0.15	1	2	Target year - 5		0.0	0.15	0	0
Target year - 10		5.1	0.33	2	6	Target year - 10		0.0	0.33	0	0
Target year - 20		5.1	0.67	3	26	Target year - 20		0.0	0.67	0	0
Target year - 35		5.1	0.85	4	58	Target year - 35		0.0	0.85	0	0
Target year - 50		5.1	0.94	5	69	Target year - 50		0.0	0.94	0	0
Sum of HUs					161	Sum of HSUs					0
Mitigation AAHUs over 50 years				3.2		Mitigation AAHUs over 50 years					0.0

Figure 10.1.104 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 348-R, Morville-Black Hawk, LA, Seepage Remediation, Item 348-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -3.2 FCUs/AAHUs, requiring 5.1 acres of mitigation.



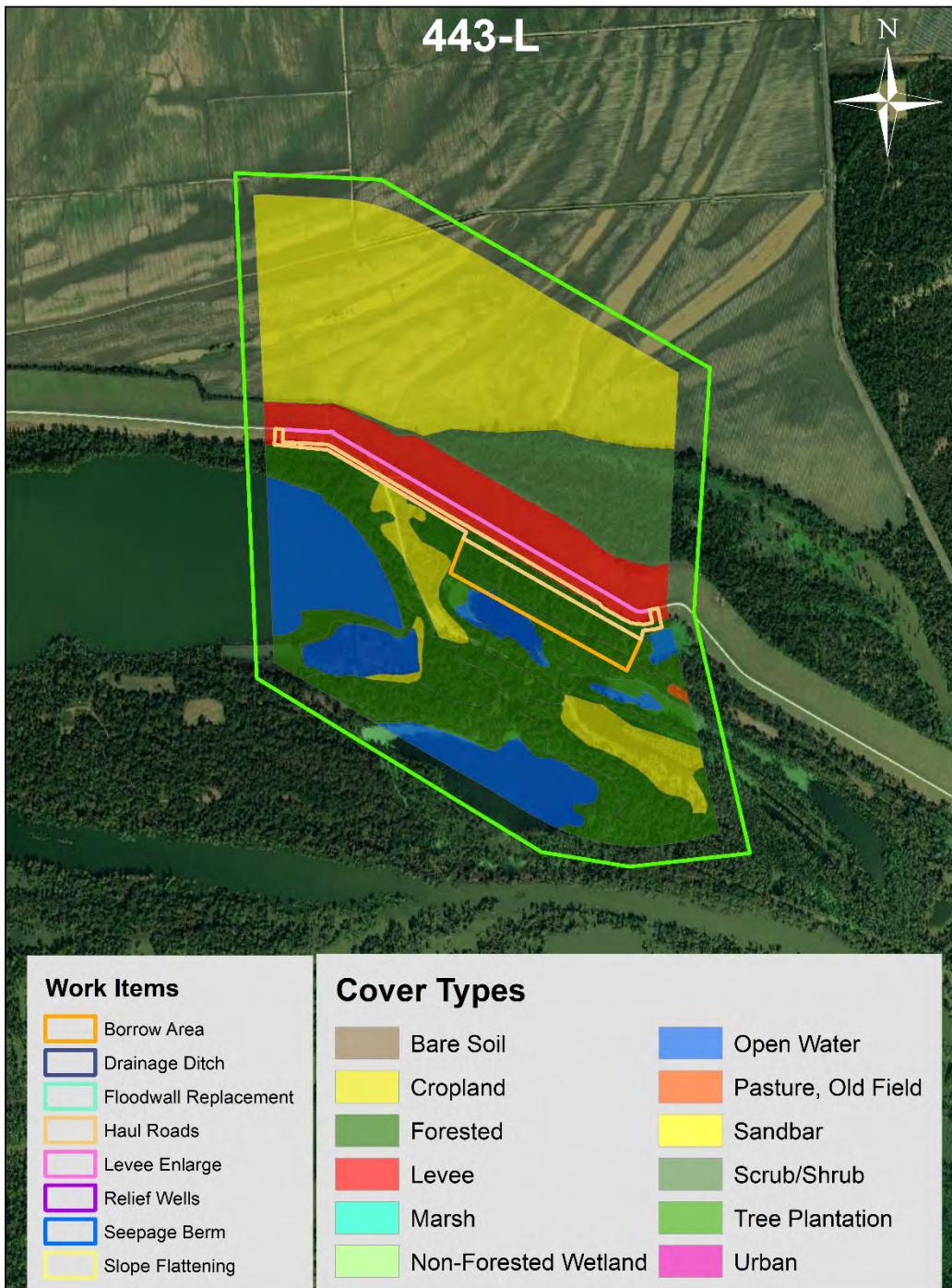
351R		Riverside				Landside			
Pre-project land cover	Acres	HSI	HUs	HUs btw yrs	Pre-project land cover	Acres	HSI	HUs	HUs btw yrs
Forest	1008	0.61	613		Forest	251	0.59	147	
Levee	120	0.00	0		Levee	135	0.00	0	
Open water	312	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	1050	0.00	0	
Pasture/old field	0	0.00	0		Pasture/old field	23	0.00	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.61	619	3082	Target year - 5		0.59	149	739
Target year - 10		0.68	681	3251	Target year - 10		0.65	163	780
Target year - 20		0.68	681	6811	Target year - 20		0.65	163	1634
Target year - 35		0.68	681	10217	Target year - 35		0.65	163	2451
Target year - 50		0.68	681	10217	Target year - 50		0.65	163	2451
Sum of HUs				33579	Sum of HSUs				8055
Pre-project AAHUs over 50 years			672		Pre-project AAHUs over 50 years			161	
Land cover change					Land cover change				
Forest	-68.4				Forest	0.0			
Levee	0.0				Levee	0.0			
Open water	53.3				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	15.1				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	939	0.61	572		Forest	251	0.59	147	
Levee	120	0.00	0		Levee	135	0.00	0	
Open water	366	0.00	0		Open water	0	0.00	0	
Cropland	0	0.00	0		Cropland	1050	0.00	0	
Pasture/old field	15	0.00	0		Pasture/old field	23	0.00	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.61	577	2873	Target year - 5		0.59	149	739
Target year - 10		0.68	635	3031	Target year - 10		0.65	163	780
Target year - 20		0.68	635	6349	Target year - 20		0.65	163	1634
Target year - 35		0.68	635	9524	Target year - 35		0.65	163	2451
Target year - 50		0.68	635	9524	Target year - 50		0.65	163	2451
Sum of HUs				31299	Sum of HUs				8055
Post-project AAHUs over 50 years			626		Post-project AAHUs over 50 years			161	
Change in AAHUs over 50 years			-45.6		Change in AAHUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	72.9	0.00	0		Target year - 0	0.0	0.00	0	
Target year - 5	72.9	0.15	11	27	Target year - 5	0.0	0.15	0	0
Target year - 10	72.9	0.33	24	88	Target year - 10	0.0	0.33	0	0
Target year - 20	72.9	0.67	49	365	Target year - 20	0.0	0.67	0	0
Target year - 35	72.9	0.85	62	832	Target year - 35	0.0	0.85	0	0
Target year - 50	72.9	0.94	69	979	Target year - 50	0.0	0.94	0	0
Sum of HUs				2290	Sum of HUs				0
Mitigation AAHUs over 50 years				45.8	Mitigation AAHUs over 50 years				0.0

Figure 10.1.105 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 351-R, Morville-Black Hawk, LA, Levee Enlargement, Item 351-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -45.6 FCUs/AAHUs, requiring 72.9 acres of mitigation.



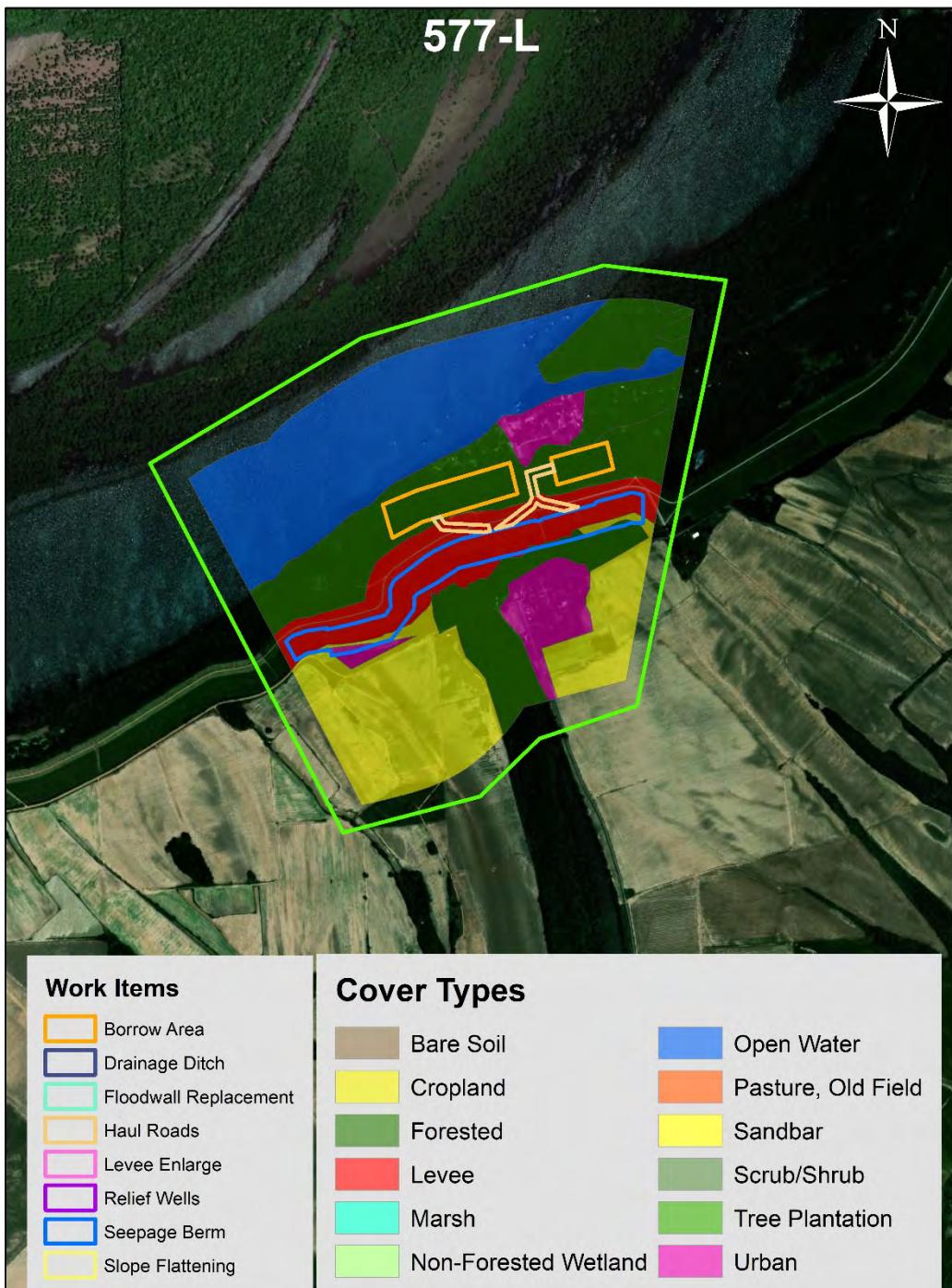
355R		Riverside				Landside					
Pre-project land cover		Acres	HSI	HUs	HUs btw yrs	Pre-project land cover		Acres	HSI	HUs	HUs btw yrs
Forest		213	0.56	119		Forest		0	0.54	0	
Levee		41	0.00	0		Levee		62	0.00	0	
Open water		232	0.00	0		Open water		0	0.00	0	
Cropland		155	0.00	0		Cropland		515	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		0	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.56	119	596	Target year - 5			0.54	0	0
Target year - 10			0.56	119	596	Target year - 10			0.54	0	0
Target year - 20			0.56	119	1192	Target year - 20			0.54	0	0
Target year - 35			0.56	119	1788	Target year - 35			0.54	0	0
Target year - 50			0.56	119	1788	Target year - 50			0.54	0	0
Sum of HUs					5961	Sum of HSUs					0
Pre-project AAHUs over 50 years				119		Pre-project AAHUs over 50 years					0
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		7.9			
Open water		0.0				Open water		14.6			
Cropland		0.0				Cropland		-48.0			
Pasture/old field		0.0				Pasture/old field		25.5			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		213	0.56	119		Forest		0	0.54	0	
Levee		41	0.00	0		Levee		70	0.00	0	
Open water		232	0.00	0		Open water		15	0.00	0	
Cropland		155	0.00	0		Cropland		467	0.00	0	
Pasture/old field		0	0.00	0		Pasture/old field		26	0.00	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.56	119	596	Target year - 5			0.54	0	0
Target year - 10			0.56	119	596	Target year - 10			0.54	0	0
Target year - 20			0.56	119	1192	Target year - 20			0.54	0	0
Target year - 35			0.56	119	1788	Target year - 35			0.54	0	0
Target year - 50			0.56	119	1788	Target year - 50			0.54	0	0
Sum of HUs					5961	Sum of HSUs					0
Post-project AAHUs over 50 years				119		Post-project AAHUs over 50 years					0
Change in AAHUs over 50 years				0.0		Change in AAHUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.0	0.00	0		Target year - 0		0.0	0.00	0	
Target year - 5		0.0	0.15	0	0	Target year - 5		0.0	0.15	0	0
Target year - 10		0.0	0.33	0	0	Target year - 10		0.0	0.33	0	0
Target year - 20		0.0	0.67	0	0	Target year - 20		0.0	0.67	0	0
Target year - 35		0.0	0.85	0	0	Target year - 35		0.0	0.85	0	0
Target year - 50		0.0	0.94	0	0	Target year - 50		0.0	0.94	0	0
Sum of HUs					0	Sum of HSUs					0
Mitigation AAHUs over 50 years					0.0	Mitigation AAHUs over 50 years					0.0

Figure 10.1.106 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 355-R, Morville-Black Hawk, LA, Seepage Remediation, Item 355-R, Louisiana, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -8.2 FCUs/AAHUs, requiring 13.1 acres of mitigation.



433L		Riverside								Landside			
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs		
Forest		185	0.86	160		Forest		60	0.93	55			
Levee		21	0.00	0		Levee		53	0.00	0			
Open water		98	0.00	0		Open water		0	0.00	0			
Cropland		39	0.20	8		Cropland		222	0.15	33			
Pasture/old field		1	0.20	0		Pasture/old field		0	0.15	0			
Urban		0	0.00	0		Urban		0	0.00	0			
Pre-project future conditions						Pre-project future conditions							
Target year - 5		0.88	171		847	Target year - 5		0.93	89	444			
Target year - 10		0.90	174		862	Target year - 10		0.93	89	444			
Target year - 20		0.91	177		1754	Target year - 20		0.93	89	888			
Target year - 35		0.91	177		2652	Target year - 35		0.93	89	1332			
Target year - 50		0.91	177		2652	Target year - 50		0.93	89	1332			
Sum of FCUs					8768	Sum of FCUs					4439		
Pre-project AAFCUs over 50 years				175		Pre-project AAFCUs over 50 years				89			
Land cover change						Land cover change							
Forest	-51.7					Forest		0.0					
Levee	0.0					Levee		0.0					
Open water	45.2					Open water		0.0					
Cropland	0.0					Cropland		0.0					
Pasture/old field	6.5					Pasture/old field		0.0					
Urban	0.0					Urban		0.0					
Post-project land cover						Post-project land cover							
Forest	134	0.86	115			Forest		60	0.93	55			
Levee	21	0.00	0			Levee		53	0.00	0			
Open water	143	0.00	0			Open water		0	0.00	0			
Cropland	39	0.20	8			Cropland		222	0.15	33			
Pasture/old field	7	0.20	1			Pasture/old field		0	0.15	0			
Urban	0	0.00	0			Urban		0	0.00	0			
Post-project future conditions						Post-project future conditions							
Target year - 5		0.88	127		629	Target year - 5		0.93	89	444			
Target year - 10		0.90	129		639	Target year - 10		0.93	89	444			
Target year - 20		0.91	131		1299	Target year - 20		0.93	89	888			
Target year - 35		0.91	131		1965	Target year - 35		0.93	89	1332			
Target year - 50		0.91	131		1965	Target year - 50		0.93	89	1332			
Sum of FCUs					6497	Sum of FCUs					4439		
Post-project AAFCUs over 50 years				130		Post-project AAFCUs over 50 years				89			
Change in AAFCUs over 50 years				-45.4		Change in AAFCUs over 50 years				0.0			
Mitigation						Mitigation							
Target year - 0	63.0	0.17	11.02			Target year - 0		0.0	0.17	0.00			
Target year - 5	63.0	0.28	17.72		72	Target year - 5		0.0	0.28	0.00	0		
Target year - 10	63.0	0.59	37.27		137	Target year - 10		0.0	0.59	0.00	0		
Target year - 20	63.0	0.78	49.37		433	Target year - 20		0.0	0.78	0.00	0		
Target year - 35	63.0	0.89	55.82		789	Target year - 35		0.0	0.89	0.00	0		
Target year - 50	63.0	0.90	56.43		842	Target year - 50		0.0	0.90	0.00	0		
Sum of FCUs					2273	Sum of FCUs					0		
Mitigation AAFCUs over 50 years					45.5	Mitigation AAFCUs over 50 years					0.0		

Figure 10.1.107 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 443-L, Brunswick-Halpino, MS, Levee Enlargement and Seepage Remediation, Item 443-L, Mississippi, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -45.4 FCUs/AAHUs, requiring 63.0 acres of mitigation.



577L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		186	0.88	164		Forest		59	0.97	58	
Levee		26	0.00	0		Levee		73	0.00	0	
Open water		222	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		167	0.15	25	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		18	0.00	0		Urban		39	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.90	167		830	Target year - 5		0.97	83	413
Target year - 10			0.92	171		845	Target year - 10		0.97	83	413
Target year - 20			0.93	174		1720	Target year - 20		0.97	83	826
Target year - 35			0.93	174		2603	Target year - 35		0.97	83	1239
Target year - 50			0.93	174		2603	Target year - 50		0.97	83	1239
Sum of FCUs						8601	Sum of FCUs				4132
Pre-project AAFCUs over 50 years				172			Pre-project AAFCUs over 50 years			83	
Land cover change						Land cover change					
Forest		-30.9				Forest		-1.8			
Levee		0.0				Levee		7.2			
Open water		29.1				Open water		0.0			
Cropland		0.0				Cropland		-3.9			
Pasture/old field		1.8				Pasture/old field		0.0			
Urban		0.0				Urban		-1.5			
Post-project land cover						Post-project land cover					
Forest		155	0.88	137		Forest		58	0.97	56	
Levee		26	0.00	0		Levee		80	0.00	0	
Open water		251	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		164	0.15	25	
Pasture/old field		2	0.20	0		Pasture/old field		0	0.15	0	
Urban		18	0.00	0		Urban		37	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.90	140		694	Target year - 5		0.97	80	402
Target year - 10			0.92	143		706	Target year - 10		0.97	80	402
Target year - 20			0.93	145		1438	Target year - 20		0.97	80	803
Target year - 35			0.93	145		2176	Target year - 35		0.97	80	1205
Target year - 50			0.93	145		2176	Target year - 50		0.97	80	1205
Sum of FCUs						7191	Sum of FCUs				4015
Post-project AAFCUs over 50 years				144			Post-project AAFCUs over 50 years			80	
Change in AAFCUs over 50 years				-28.2			Change in AAFCUs over 50 years			-2.3	
Mitigation						Mitigation					
Target year - 0		39.1	0.17	6.84		Target year - 0		3.2	0.17	0.57	
Target year - 5		39.1	0.28	11.00		45	Target year - 5	3.2	0.28	0.91	4
Target year - 10		39.1	0.59	23.14		85	Target year - 10	3.2	0.59	1.91	7
Target year - 20		39.1	0.78	30.65		269	Target year - 20	3.2	0.78	2.53	22
Target year - 35		39.1	0.89	34.65		490	Target year - 35	3.2	0.89	2.86	40
Target year - 50		39.1	0.90	35.03		523	Target year - 50	3.2	0.90	2.90	43
Sum of FCUs						1411	Sum of FCUs				117
Mitigation AAFCUs over 50 years						28.2	Mitigation AAFCUs over 50 years				2.3

Figure 10.1.108 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 577-L, Bolivar, MS, Seepage Remediation, Item 577-L, Mississippi, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -30.5 FCUs/AAHUs, requiring 42.3 acres of mitigation.



Work Items

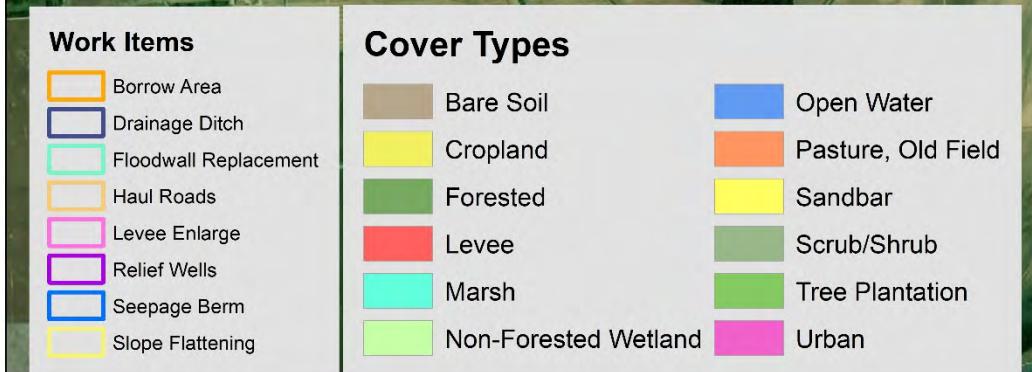
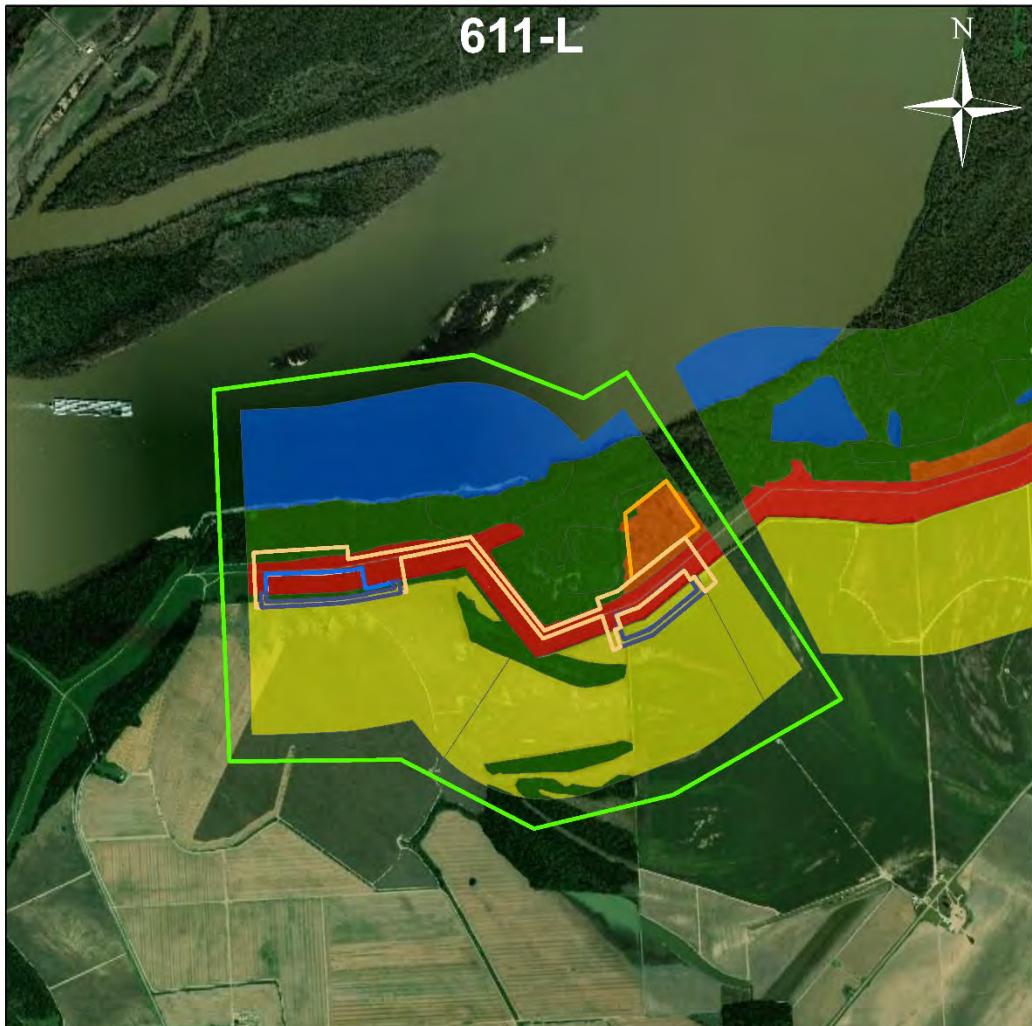
- Borrow Area
- Drainage Ditch
- Floodwall Replacement
- Haul Roads
- Levee Enlarge
- Relief Wells
- Seepage Berm
- Slope Flattening

Cover Types

- | | |
|----------------------|--------------------|
| Bare Soil | Open Water |
| Cropland | Pasture, Old Field |
| Forested | Sandbar |
| Levee | Scrub/Shrub |
| Marsh | Tree Plantation |
| Non-Forested Wetland | Urban |

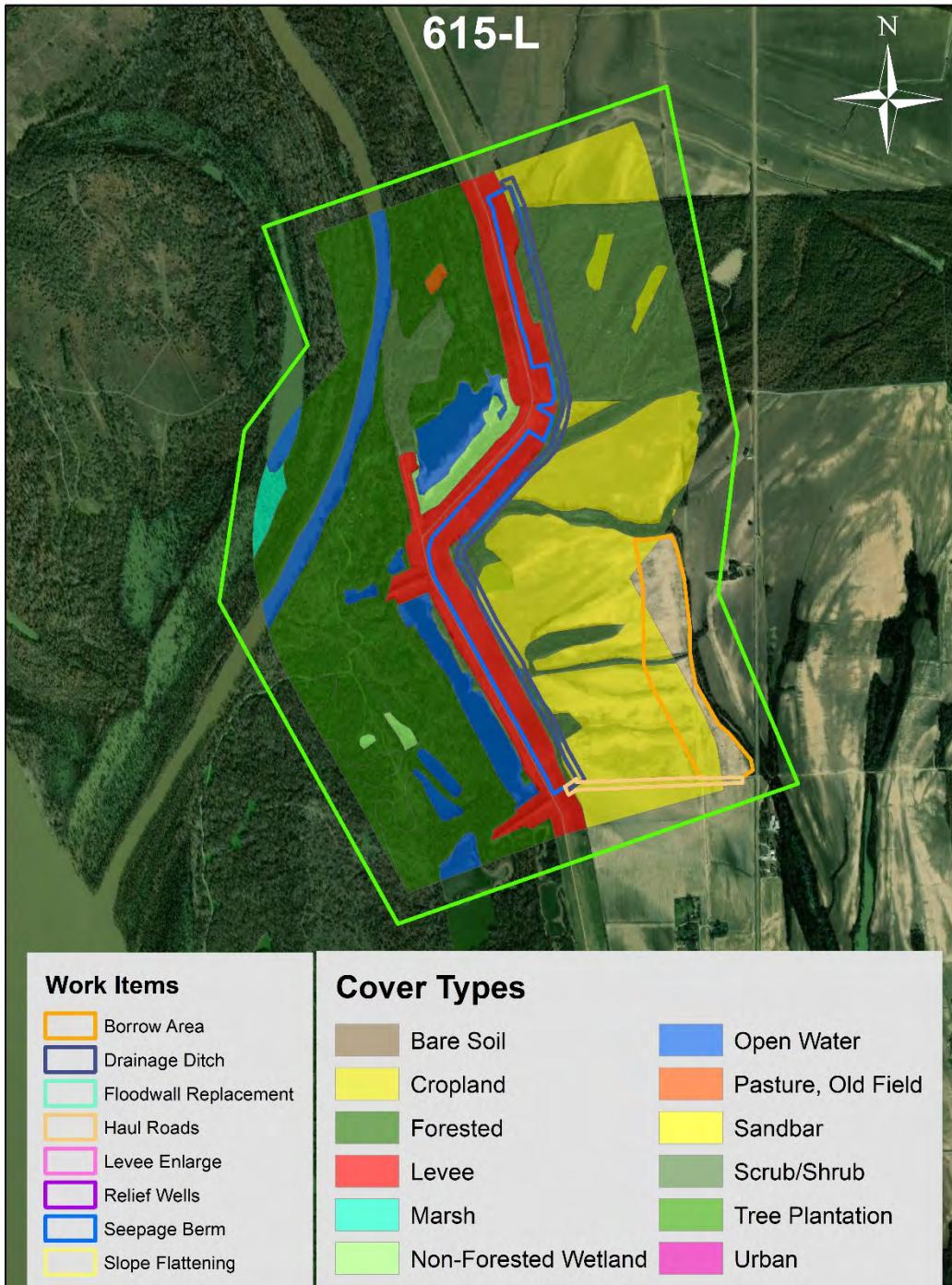
587L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		443	0.88	391		Forest		64	0.97	62	
Levee		36	0.00	0		Levee		52	0.00	0	
Open water		79	0.00	0		Open water		0	0.00	0	
Cropland		4	0.20	1		Cropland		298	0.15	45	
Pasture/old field		19	0.20	4		Pasture/old field		49	0.15	7	
Urban		0	0.00	0		Urban		119	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.90	403		1998	Target year - 5		0.97	115	573
Target year - 10			0.92	411		2035	Target year - 10		0.97	115	573
Target year - 20			0.93	418		4142	Target year - 20		0.97	115	1146
Target year - 35			0.93	418		6267	Target year - 35		0.97	115	1719
Target year - 50			0.93	418		6267	Target year - 50		0.97	115	1719
Sum of FCUs						20708	Sum of FCUs				5730
Pre-project AAFCUs over 50 years				414			Pre-project AAFCUs over 50 years				115
Land cover change						Land cover change					
Forest		-24.2					Forest		-5.2		
Levee		0.0					Levee		43.5		
Open water		21.7					Open water		0.0		
Cropland		0.0					Cropland		-21.6		
Pasture/old field		2.8					Pasture/old field		-12.1		
Urban		0.0					Urban		-4.6		
Post-project land cover						Post-project land cover					
Forest		419	0.88	370			Forest		59	0.97	57
Levee		36	0.00	0			Levee		96	0.00	0
Open water		101	0.00	0			Open water		0	0.00	0
Cropland		4	0.20	1			Cropland		277	0.15	42
Pasture/old field		22	0.20	4			Pasture/old field		37	0.15	6
Urban		0	0.00	0			Urban		114	0.00	0
Post-project future conditions						Post-project future conditions					
Target year - 5			0.90	382		1893	Target year - 5		0.97	105	523
Target year - 10			0.92	389		1928	Target year - 10		0.97	105	523
Target year - 20			0.93	396		3924	Target year - 20		0.97	105	1045
Target year - 35			0.93	396		5937	Target year - 35		0.97	105	1568
Target year - 50			0.93	396		5937	Target year - 50		0.97	105	1568
Sum of FCUs						19618	Sum of FCUs				5225
Post-project AAFCUs over 50 years				392			Post-project AAFCUs over 50 years				105
Change in AAFCUs over 50 years				-21.8			Change in AAFCUs over 50 years				-10.1
Mitigation						Mitigation					
Target year - 0		30.2	0.17	5.29			Target year - 0		14.0	0.17	2.45
Target year - 5		30.2	0.28	8.51		34	Target year - 5		14.0	0.28	3.94
Target year - 10		30.2	0.59	17.89		66	Target year - 10		14.0	0.59	8.28
Target year - 20		30.2	0.78	23.70		208	Target year - 20		14.0	0.78	10.98
Target year - 35		30.2	0.89	26.80		379	Target year - 35		14.0	0.89	12.41
Target year - 50		30.2	0.90	27.09		404	Target year - 50		14.0	0.90	12.54
Sum of FCUs						1091	Sum of FCUs				505
Mitigation AAFCUs over 50 years						21.8	Mitigation AAFCUs over 50 years				10.1

Figure 10.1.109 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 587-L, Rosedale, MS, Seepage Remediation, Item 587-L, Mississippi, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -31.9 FCUs/AAHUs, requiring 44.3 acres of mitigation.



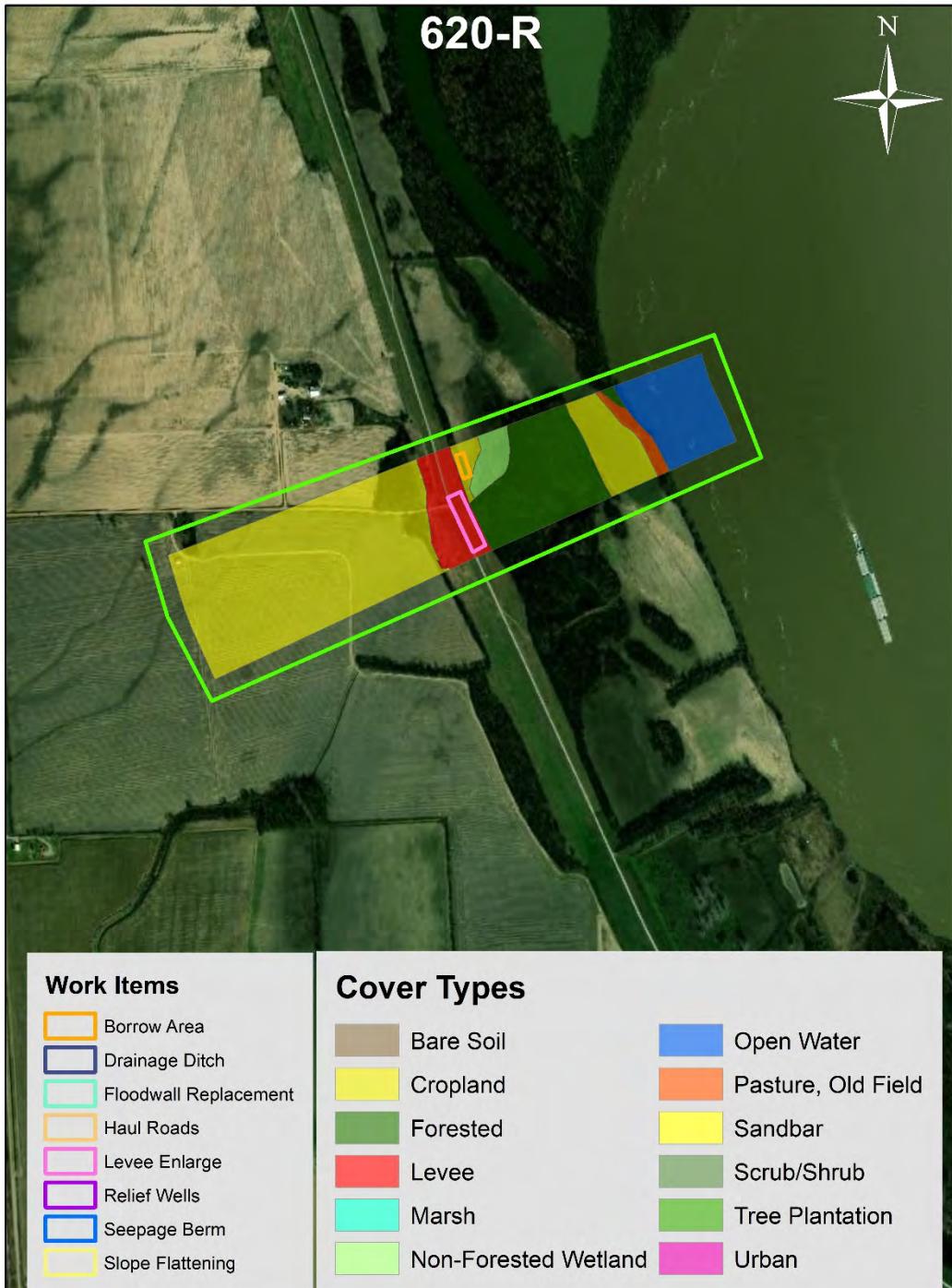
611L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		207	0.99	205		Forest		61	0.99	60	
Levee		44	0.00	0		Levee		73	0.00	0	
Open water		223	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		477	0.15	71	
Pasture/old field		34	0.20	7		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.99	212	1058	Target year - 5			0.99	132	658
Target year - 10			0.99	212	1058	Target year - 10			0.99	132	658
Target year - 20			0.99	212	2117	Target year - 20			0.99	132	1316
Target year - 35			0.99	212	3175	Target year - 35			0.99	132	1974
Target year - 50			0.99	212	3175	Target year - 50			0.99	132	1974
Sum of FCUs					10583	Sum of FCUs					6579
Pre-project AAFCUs over 50 years				212		Pre-project AAFCUs over 50 years				132	
Land cover change						Land cover change					
Forest		-8.3				Forest		-5.7			
Levee		0.0				Levee		21.9			
Open water		25.4				Open water		0.0			
Cropland		0.0				Cropland		-19.8			
Pasture/old field		-17.1				Pasture/old field		3.6			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		199	0.99	197		Forest		55	0.99	54	
Levee		44	0.00	0		Levee		95	0.00	0	
Open water		249	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		457	0.15	69	
Pasture/old field		17	0.20	3		Pasture/old field		4	0.15	1	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.99	200	1000	Target year - 5			0.99	124	618
Target year - 10			0.99	200	1000	Target year - 10			0.99	124	618
Target year - 20			0.99	200	2000	Target year - 20			0.99	124	1235
Target year - 35			0.99	200	3000	Target year - 35			0.99	124	1853
Target year - 50			0.99	200	3000	Target year - 50			0.99	124	1853
Sum of FCUs					10001	Sum of FCUs					6176
Post-project AAFCUs over 50 years				200		Post-project AAFCUs over 50 years				124	
Change in AAFCUs over 50 years				-11.6		Change in AAFCUs over 50 years				-8.1	
Mitigation						Mitigation					
Target year - 0		16.1	0.17	2.82		Target year - 0		11.2	0.17	1.96	
Target year - 5		16.1	0.28	4.54	18	Target year - 5		11.2	0.28	3.15	13
Target year - 10		16.1	0.59	9.55	35	Target year - 10		11.2	0.59	6.62	24
Target year - 20		16.1	0.78	12.65	111	Target year - 20		11.2	0.78	8.77	77
Target year - 35		16.1	0.89	14.30	202	Target year - 35		11.2	0.89	9.92	140
Target year - 50		16.1	0.90	14.45	216	Target year - 50		11.2	0.90	10.03	150
Sum of FCUs					582	Sum of FCUs					404
Mitigation AAFCUs over 50 years					11.6	Mitigation AAFCUs over 50 years					8.1

Figure 10.1.110 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 611-L, Deeson-Gunnison, MS, Seepage Remediation, Item 611-L, Mississippi, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -26.7 FCUs/AAHUs, requiring 37.0 acres of mitigation.



Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	464	0.99	459		Forest	198	0.99	196	
Levee	61	0.00	0		Levee	90	0.00	0	
Open water	105	0.00	0		Open water	0	0.00	0	
Cropland	0	0.20	0		Cropland	372	0.15	56	
Pasture/old field	2	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	459	2296	Target year - 5		0.99	252	1259
Target year - 10		0.99	459	2296	Target year - 10		0.99	252	1259
Target year - 20		0.99	459	4592	Target year - 20		0.99	252	2517
Target year - 35		0.99	459	6889	Target year - 35		0.99	252	3776
Target year - 50		0.99	459	6889	Target year - 50		0.99	252	3776
Sum of FCUs				22962	Sum of FCUs				12586
Pre-project AAFCUs over 50 years			459		Pre-project AAFCUs over 50 years			252	
Land cover change					Land cover change				
Forest	0.0				Forest	-38.7			
Levee	0.0				Levee	46.0			
Open water	0.0				Open water	55.2			
Cropland	0.0				Cropland	-73.7			
Pasture/old field	0.0				Pasture/old field	11.2			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	464	0.99	459		Forest	159	0.99	158	
Levee	61	0.00	0		Levee	136	0.00	0	
Open water	105	0.00	0		Open water	55	0.00	0	
Cropland	0	0.20	0		Cropland	298	0.15	45	
Pasture/old field	2	0.20	0		Pasture/old field	11	0.15	2	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	459	2296	Target year - 5		0.99	204	1020
Target year - 10		0.99	459	2296	Target year - 10		0.99	204	1020
Target year - 20		0.99	459	4592	Target year - 20		0.99	204	2040
Target year - 35		0.99	459	6889	Target year - 35		0.99	204	3060
Target year - 50		0.99	459	6889	Target year - 50		0.99	204	3060
Sum of FCUs				22962	Sum of FCUs				10202
Post-project AAFCUs over 50 years			459		Post-project AAFCUs over 50 years			204	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			-47.7	
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	66.1	0.17	11.57	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	66.1	0.28	18.60	75
Target year - 10	0.0	0.59	0.00	0	Target year - 10	66.1	0.59	39.12	144
Target year - 20	0.0	0.78	0.00	0	Target year - 20	66.1	0.78	51.83	455
Target year - 35	0.0	0.89	0.00	0	Target year - 35	66.1	0.89	58.59	828
Target year - 50	0.0	0.90	0.00	0	Target year - 50	66.1	0.90	59.23	884
Sum of FCUs				0	Sum of FCUs				2386
Mitigation AAFCUs over 50 years				0.0	Mitigation AAFCUs over 50 years				47.7

Figure 10.1.111 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 615-L, Cessions, MS, Seepage Remediation, Item 615-L, Mississippi, MVK under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -92.9 FCUs/AAHUs, requiring 128.8 acres of mitigation.



615L		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	23	0.99	23		Forest	0	0.99	0	
Levee	4	0.00	0		Levee	5	0.00	0	
Open water	14	0.00	0		Open water	0	0.00	0	
Cropland	10	0.20	2		Cropland	58	0.15	9	
Pasture/old field	2	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	26	128	Target year - 5		0.99	9	43
Target year - 10		0.99	26	128	Target year - 10		0.99	9	43
Target year - 20		0.99	26	256	Target year - 20		0.99	9	87
Target year - 35		0.99	26	383	Target year - 35		0.99	9	130
Target year - 50		0.99	26	383	Target year - 50		0.99	9	130
Sum of FCUs				1278	Sum of FCUs				433
Pre-project AAFCUs over 50 years			26		Pre-project AAFCUs over 50 years			9	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.0			
Open water	0.3				Open water	0.0			
Cropland	-0.3				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	23	0.99	23		Forest	0	0.99	0	
Levee	4	0.00	0		Levee	5	0.00	0	
Open water	14	0.00	0		Open water	0	0.00	0	
Cropland	10	0.20	2		Cropland	58	0.15	9	
Pasture/old field	2	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	26	128	Target year - 5		0.99	9	43
Target year - 10		0.99	26	128	Target year - 10		0.99	9	43
Target year - 20		0.99	26	255	Target year - 20		0.99	9	87
Target year - 35		0.99	26	383	Target year - 35		0.99	9	130
Target year - 50		0.99	26	383	Target year - 50		0.99	9	130
Sum of FCUs				1275	Sum of FCUs				433
Post-project AAFCUs over 50 years			26		Post-project AAFCUs over 50 years			9	
Change in AAFCUs over 50 years			-0.1		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.1	0.17	0.01		Target year - 0	0.0	0.17	0.00	
Target year - 5	0.1	0.28	0.02	0	Target year - 5	0.0	0.28	0.00	0
Target year - 10	0.1	0.59	0.05	0	Target year - 10	0.0	0.59	0.00	0
Target year - 20	0.1	0.78	0.07	1	Target year - 20	0.0	0.78	0.00	0
Target year - 35	0.1	0.89	0.07	1	Target year - 35	0.0	0.89	0.00	0
Target year - 50	0.1	0.90	0.07	1	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				3	Sum of FCUs				0
Mitigation AAFCUs over 50 years				0.1	Mitigation AAFCUs over 50 years				0.0

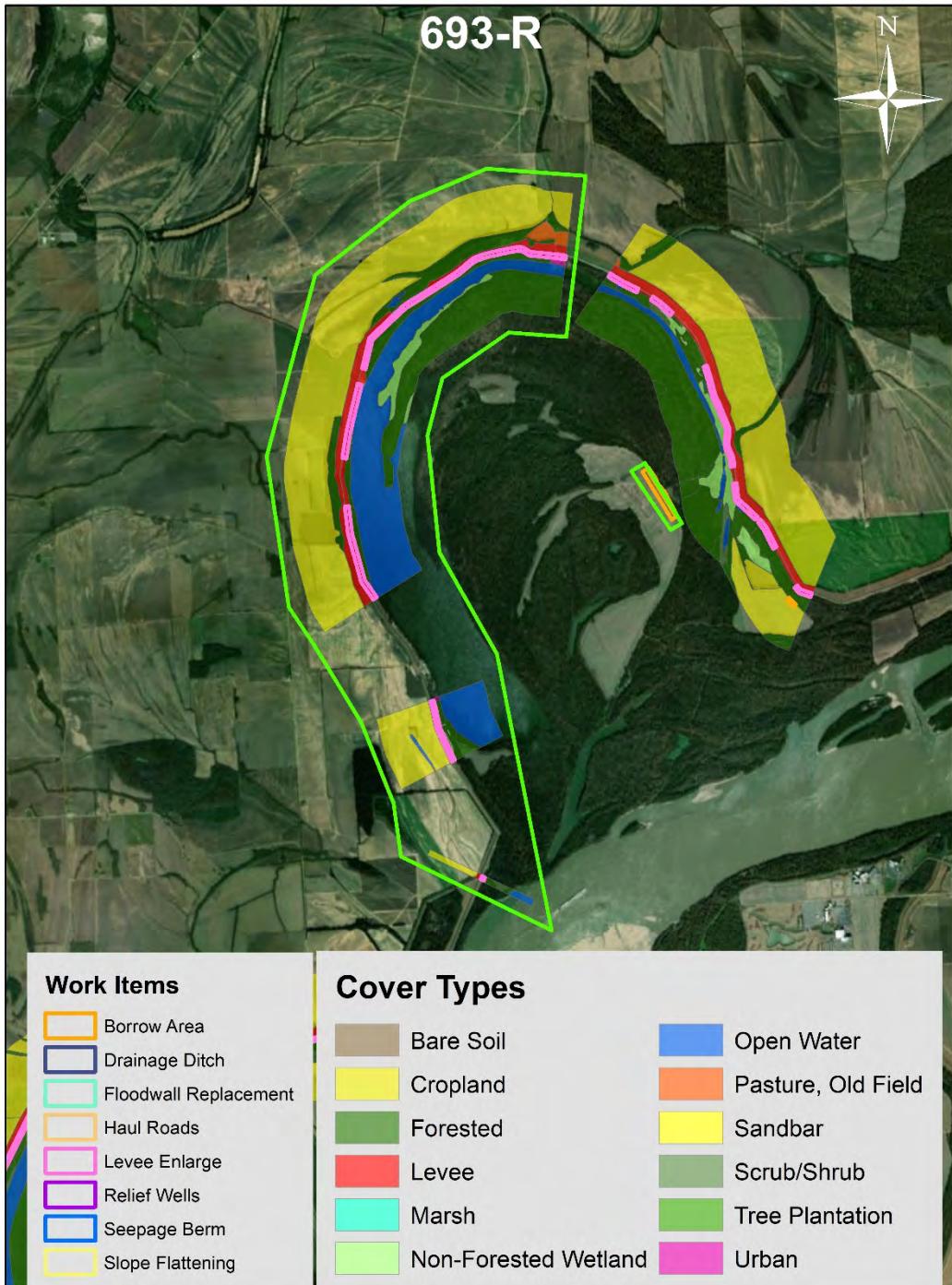
Figure 10.1.112 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 620-R, Elaine to Laconia Circle Levee, AR (48/4+00S to 48/8+90S), Item 620-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.4 FCUs/AAHUs, requiring 0.5 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

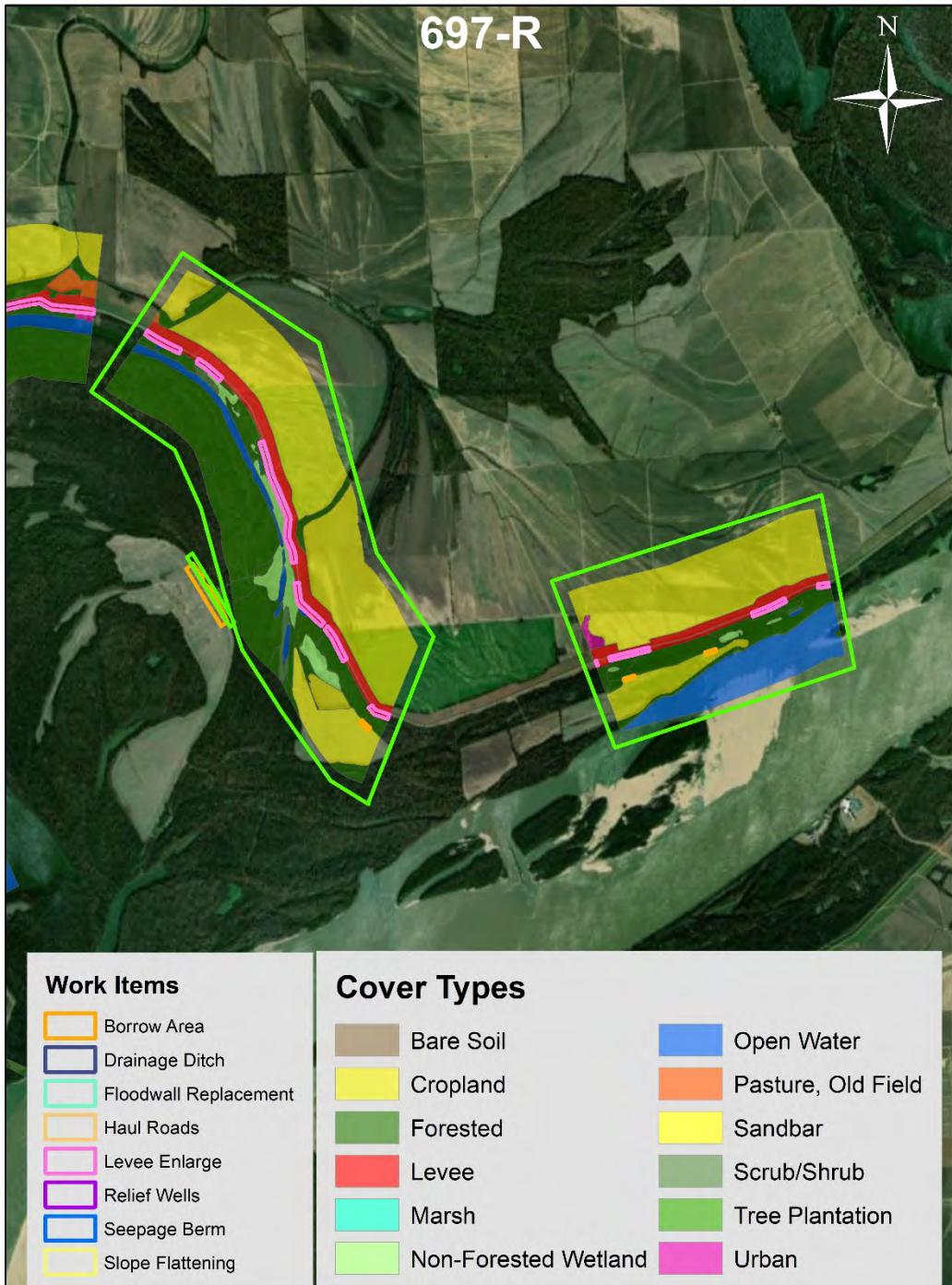
682R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	1252	0.99	1240		Forest	419	0.99	415	
Levee	163	0.00	0		Levee	344	0.00	0	
Open water	479	0.00	0		Open water	6	0.00	0	
Cropland	990	0.20	198		Cropland	1182	0.15	177	
Pasture/old field	136	0.20	27		Pasture/old field	148	0.15	22	
Urban	0	0.00	0		Urban	22	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	1465	7325	Target year - 5		0.99	614	3072
Target year - 10		0.99	1465	7325	Target year - 10		0.99	614	3072
Target year - 20		0.99	1465	14649	Target year - 20		0.99	614	6144
Target year - 35		0.99	1465	21974	Target year - 35		0.99	614	9217
Target year - 50		0.99	1465	21974	Target year - 50		0.99	614	9217
Sum of FCUs				73247	Sum of FCUs				30722
Pre-project AAFCUs over 50 years			1465		Pre-project AAFCUs over 50 years			614	
Land cover change					Land cover change				
Forest	-16.3				Forest	0.0			
Levee	16.1				Levee	0.0			
Open water	20.8				Open water	0.0			
Cropland	-18.6				Cropland	0.0			
Pasture/old field	-2.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	1236	0.99	1224		Forest	419	0.99	415	
Levee	179	0.00	0		Levee	344	0.00	0	
Open water	500	0.00	0		Open water	6	0.00	0	
Cropland	972	0.20	194		Cropland	1182	0.15	177	
Pasture/old field	134	0.20	27		Pasture/old field	148	0.15	22	
Urban	0	0.00	0		Urban	22	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	1445	7223	Target year - 5		0.99	614	3072
Target year - 10		0.99	1445	7223	Target year - 10		0.99	614	3072
Target year - 20		0.99	1445	14447	Target year - 20		0.99	614	6144
Target year - 35		0.99	1445	21670	Target year - 35		0.99	614	9217
Target year - 50		0.99	1445	21670	Target year - 50		0.99	614	9217
Sum of FCUs				72234	Sum of FCUs				30722
Post-project AAFCUs over 50 years			1445		Post-project AAFCUs over 50 years			614	
Change in AAFCUs over 50 years			-20.3		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	28.1	0.17	4.92		Target year - 0	0.0	0.17	0.00	
Target year - 5	28.1	0.28	7.90	32	Target year - 5	0.0	0.28	0.00	0
Target year - 10	28.1	0.59	####	61	Target year - 10	0.0	0.59	0.00	0
Target year - 20	28.1	0.78	####	193	Target year - 20	0.0	0.78	0.00	0
Target year - 35	28.1	0.89	####	352	Target year - 35	0.0	0.89	0.00	0
Target year - 50	28.1	0.90	####	375	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				1014	Sum of FCUs				0
Mitigation AAFCUs over 50 years				20.3	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.113 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 682-R, MO-AR State Line to St. Francis Levee Part 5, AR (198/0+00 to 210/30+00), Item 682-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -31.2 FCUs/AAHUs, requiring 43.3 acres of mitigation.



693R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	566	0.99	561		Forest	161	0.99	160	
Levee	101	0.00	0		Levee	143	0.00	0	
Open water	639	0.00	0		Open water	7	0.00	0	
Cropland	13	0.20	3		Cropland	1348	0.15	202	
Pasture/old field	0	0.20	0		Pasture/old field	25	0.15	4	
Urban	6	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	563	2817	Target year - 5		0.99	366	1828
Target year - 10		0.99	563	2817	Target year - 10		0.99	366	1828
Target year - 20		0.99	563	5633	Target year - 20		0.99	366	3655
Target year - 35		0.99	563	8450	Target year - 35		0.99	366	5483
Target year - 50		0.99	563	8450	Target year - 50		0.99	366	5483
Sum of FCUs				28166	Sum of FCUs				18276
Pre-project AAFCUs over 50 years			563		Pre-project AAFCUs over 50 years			366	
Land cover change					Land cover change				
Forest	-3.2				Forest	0.0			
Levee	3.2				Levee	0.0			
Open water	13.4				Open water	0.0			
Cropland	-13.4				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	563	0.99	557		Forest	161	0.99	160	
Levee	104	0.00	0		Levee	143	0.00	0	
Open water	653	0.00	0		Open water	7	0.00	0	
Cropland	0	0.20	0		Cropland	1348	0.15	202	
Pasture/old field	0	0.20	0		Pasture/old field	25	0.15	4	
Urban	6	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	557	2787	Target year - 5		0.99	366	1828
Target year - 10		0.99	557	2787	Target year - 10		0.99	366	1828
Target year - 20		0.99	557	5575	Target year - 20		0.99	366	3655
Target year - 35		0.99	557	8362	Target year - 35		0.99	366	5483
Target year - 50		0.99	557	8362	Target year - 50		0.99	366	5483
Sum of FCUs				27873	Sum of FCUs				18276
Post-project AAFCUs over 50 years			557		Post-project AAFCUs over 50 years			366	
Change in AAFCUs over 50 years			-5.8		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	8.1	0.17	1.42		Target year - 0	0.0	0.17	0.00	
Target year - 5	8.1	0.28	2.28	9	Target year - 5	0.0	0.28	0.00	0
Target year - 10	8.1	0.59	4.80	18	Target year - 10	0.0	0.59	0.00	0
Target year - 20	8.1	0.78	6.36	56	Target year - 20	0.0	0.78	0.00	0
Target year - 35	8.1	0.89	7.19	102	Target year - 35	0.0	0.89	0.00	0
Target year - 50	8.1	0.90	7.26	108	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				293	Sum of FCUs				0
Mitigation AAFCUs over 50 years				5.9	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.114 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 693-R, MO-AR State Line to St.Francis Levee Part 4, AR (190/0+00 to 198/0+00), Item 693-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -16.5 FCUs/AAHUs, requiring 22.9 acres of mitigation.



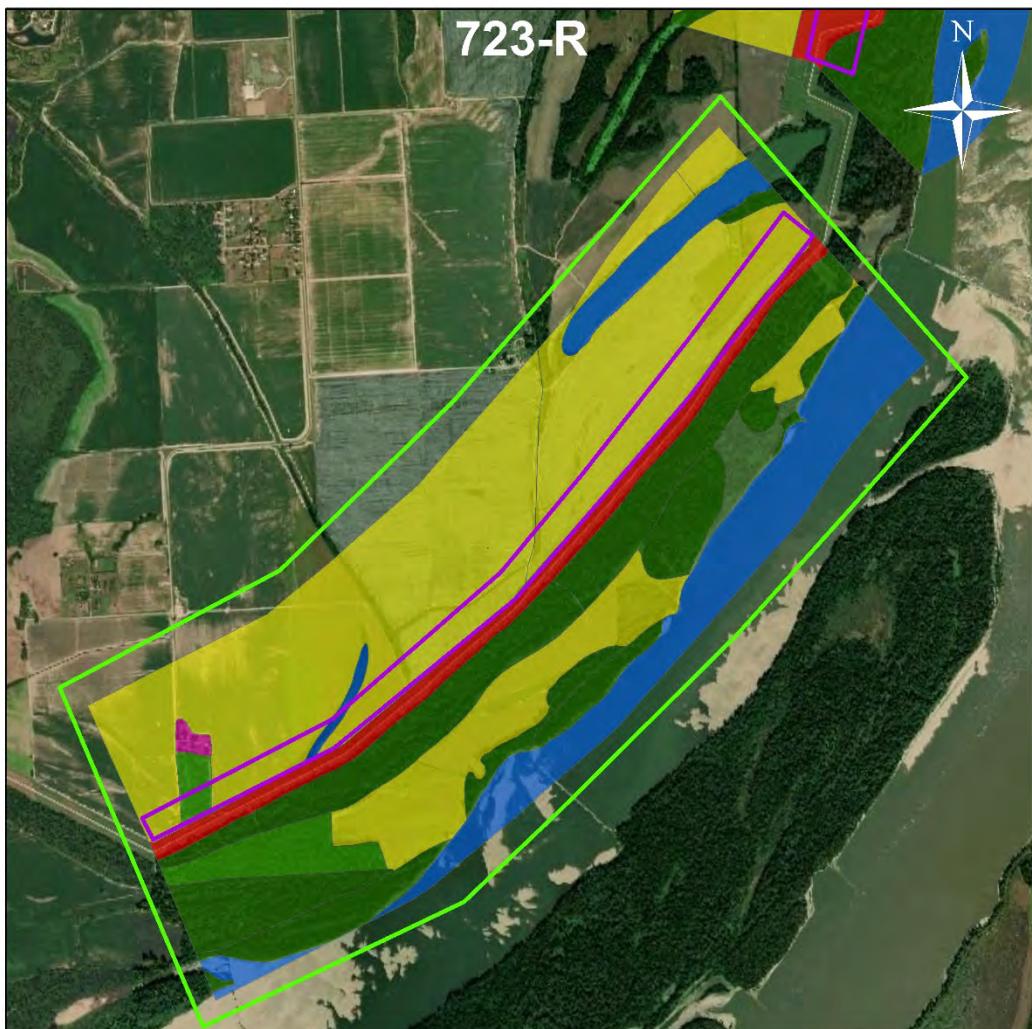
697R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	677	0.95	640		Forest	43	0.99	43	
Levee	80	0.00	0		Levee	210	0.00	0	
Open water	323	0.00	0		Open water	0	0.00	0	
Cropland	254	0.20	51		Cropland	1346	0.15	202	
Pasture/old field	0	0.20	0		Pasture/old field	1	0.15	0	
Urban	0	0.00	0		Urban	10	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.96	702	3480	Target year - 5		0.99	245	1225
Target year - 10		0.98	712	3535	Target year - 10		0.99	245	1225
Target year - 20		0.99	723	7179	Target year - 20		0.99	245	2449
Target year - 35		0.99	723	10851	Target year - 35		0.99	245	3674
Target year - 50		0.99	723	10851	Target year - 50		0.99	245	3674
Sum of FCUs				35896	Sum of FCUs				12247
Pre-project AAFCUs over 50 years			718		Pre-project AAFCUs over 50 years			245	
Land cover change					Land cover change				
Forest	-16.2				Forest	0.0			
Levee	14.6				Levee	0.0			
Open water	8.8				Open water	0.0			
Cropland	-8.7				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	661	0.95	625		Forest	43	0.99	43	
Levee	94	0.00	0		Levee	210	0.00	0	
Open water	332	0.00	0		Open water	0	0.00	0	
Cropland	245	0.20	49		Cropland	1346	0.15	202	
Pasture/old field	0	0.20	0		Pasture/old field	1	0.15	0	
Urban	0	0.00	0		Urban	10	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.96	684	3394	Target year - 5		0.99	245	1225
Target year - 10		0.98	695	3448	Target year - 10		0.99	245	1225
Target year - 20		0.99	706	7002	Target year - 20		0.99	245	2449
Target year - 35		0.99	706	10583	Target year - 35		0.99	245	3674
Target year - 50		0.99	706	10583	Target year - 50		0.99	245	3674
Sum of FCUs				35011	Sum of FCUs				12247
Post-project AAFCUs over 50 years			700		Post-project AAFCUs over 50 years			245	
Change in AAFCUs over 50 years			-17.7		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	24.6	0.17	4.30		Target year - 0	0.0	0.17	0.00	
Target year - 5	24.6	0.28	6.91	28	Target year - 5	0.0	0.28	0.00	0
Target year - 10	24.6	0.59	14.53	54	Target year - 10	0.0	0.59	0.00	0
Target year - 20	24.6	0.78	19.25	169	Target year - 20	0.0	0.78	0.00	0
Target year - 35	24.6	0.89	21.76	308	Target year - 35	0.0	0.89	0.00	0
Target year - 50	24.6	0.90	22.00	328	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				886	Sum of FCUs				0
Mitigation AAFCUs over 50 years				17.7	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.115 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 697-R, MO-AR State Line to St. Francis Levee Part 3 , AR (183/0+00 to 190/0+00), Item 697-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -23.6 FCUs/AAHUs, requiring 32.7 acres of mitigation.



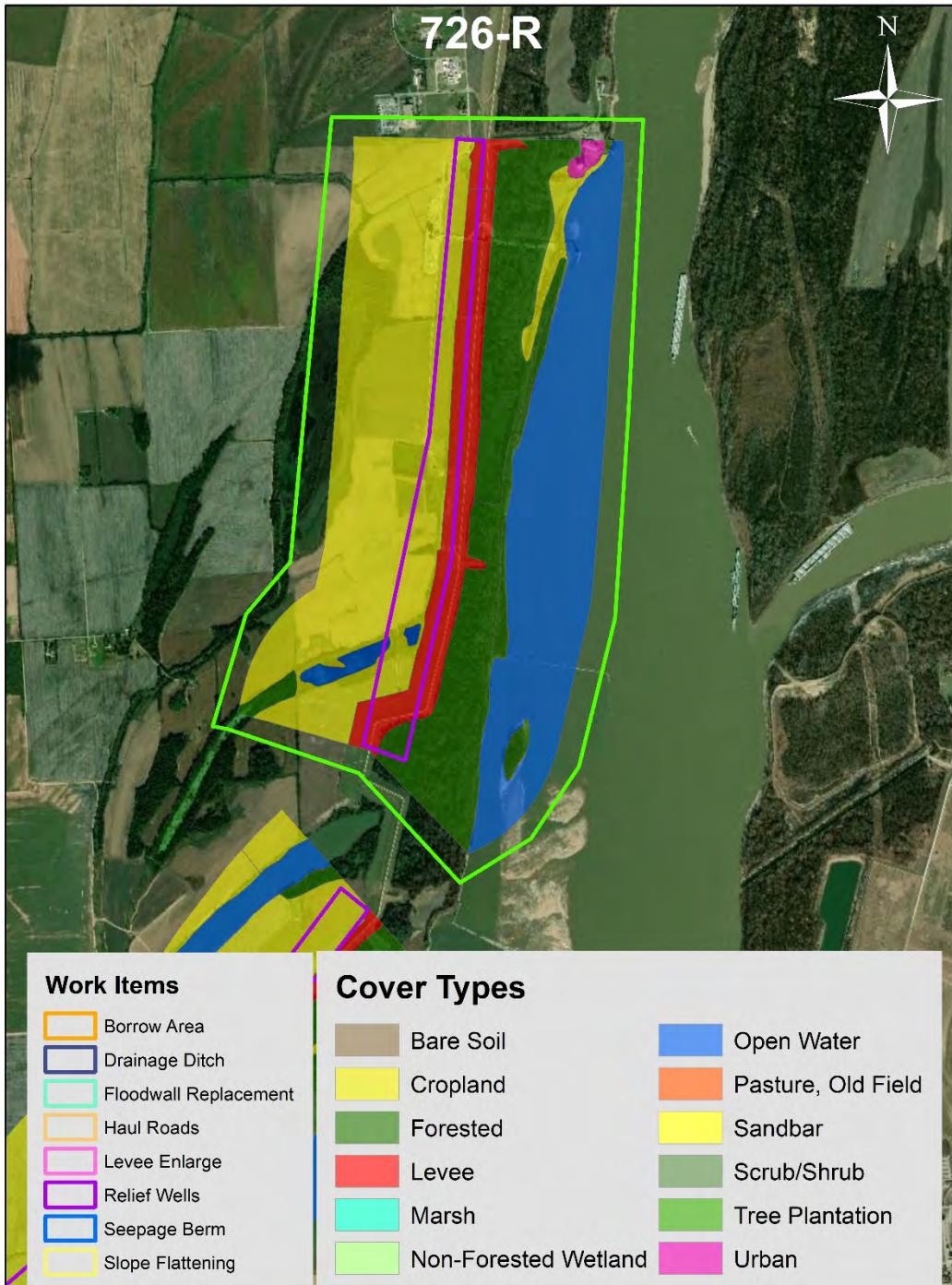
705R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	317	0.86	274		Forest	3	0.95	3	
Levee	40	0.00	0		Levee	66	0.00	0	
Open water	10	0.00	0		Open water	0	0.00	0	
Cropland	275	0.20	55		Cropland	468	0.15	70	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.88	334	1657	Target year - 5		0.95	73	364
Target year - 10		0.90	339	1682	Target year - 10		0.95	73	364
Target year - 20		0.91	344	3415	Target year - 20		0.95	73	728
Target year - 35		0.91	344	5160	Target year - 35		0.95	73	1092
Target year - 50		0.91	344	5160	Target year - 50		0.95	73	1092
Sum of FCUs				17074	Sum of FCUs				3640
Pre-project AAFCUs over 50 years			341		Pre-project AAFCUs over 50 years			73	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	19.0			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	-19.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	317	0.86	274		Forest	3	0.95	3	
Levee	40	0.00	0		Levee	85	0.00	0	
Open water	10	0.00	0		Open water	0	0.00	0	
Cropland	275	0.20	55		Cropland	449	0.15	67	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.88	334	1657	Target year - 5		0.95	70	350
Target year - 10		0.90	339	1682	Target year - 10		0.95	70	350
Target year - 20		0.91	344	3415	Target year - 20		0.95	70	700
Target year - 35		0.91	344	5160	Target year - 35		0.95	70	1049
Target year - 50		0.91	344	5160	Target year - 50		0.95	70	1049
Sum of FCUs				17074	Sum of FCUs				3498
Post-project AAFCUs over 50 years			341		Post-project AAFCUs over 50 years			70	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			-2.8	
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	4.0	0.17	0.69	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	4.0	0.28	1.11	5
Target year - 10	0.0	0.59	0.00	0	Target year - 10	4.0	0.59	2.34	9
Target year - 20	0.0	0.78	0.00	0	Target year - 20	4.0	0.78	3.10	27
Target year - 35	0.0	0.89	0.00	0	Target year - 35	4.0	0.89	3.50	49
Target year - 50	0.0	0.90	0.00	0	Target year - 50	4.0	0.90	3.54	53
Sum of FCUs				0	Sum of FCUs				143
Mitigation AAFCUs over 50 years				0.0	Mitigation AAFCUs over 50 years				2.9

Figure 10.1.116 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 705-R, Horseshoe Lake, AR, Item 705-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.8 FCUs/AAHUs, requiring 4.0 acres of mitigation.



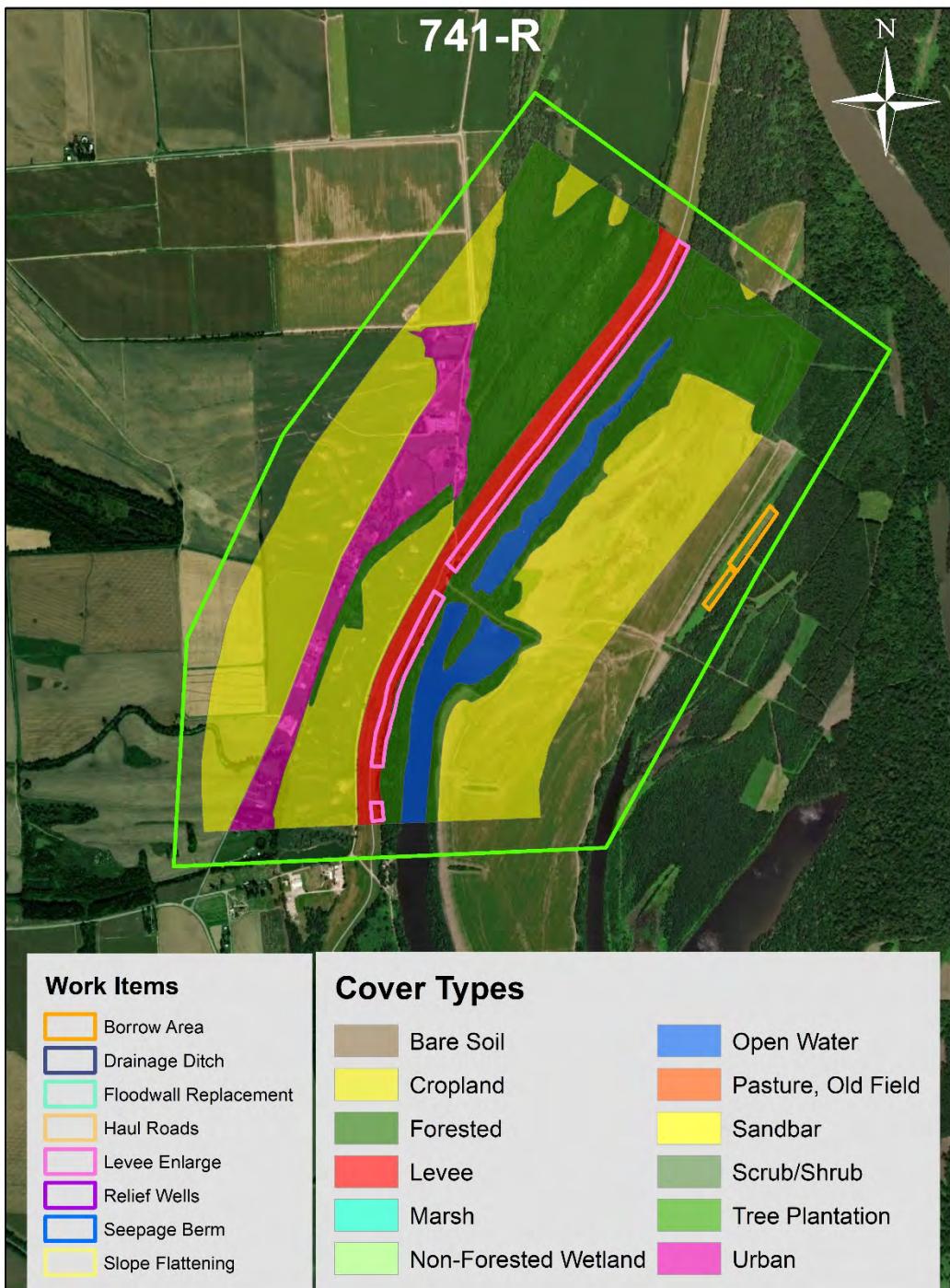
Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	Pre-project land cover	Acres	FCI	FCUs
Forest	441	0.95	419	Forest	21	0.92	19
Levee	82	0.00	0	Levee	49	0.00	0
Open water	241	0.00	0	Open water	59	0.00	0
Cropland	176	0.20	35	Cropland	786	0.15	118
Pasture/old field	0	0.20	0	Pasture/old field	0	0.15	0
Urban	0	0.00	0	Urban	6	0.00	0
Pre-project future conditions	Pre-project future conditions						
Target year - 5		0.95	454	2271	Target year - 5	0.92	137
Target year - 10		0.95	454	2271	Target year - 10	0.92	137
Target year - 20		0.95	454	4542	Target year - 20	0.92	137
Target year - 35		0.95	454	6813	Target year - 35	0.92	137
Target year - 50		0.95	454	6813	Target year - 50	0.92	137
Sum of FCUs				22711	Sum of FCUs		6849
Pre-project AAFCUs over 50 years			454	Pre-project AAFCUs over 50 years			137
Land cover change	Land cover change						
Forest	0.0			Forest	-5.7		
Levee	0.0			Levee	172.9		
Open water	0.0			Open water	-3.2		
Cropland	0.0			Cropland	-164.0		
Pasture/old field	0.0			Pasture/old field	0.0		
Urban	0.0			Urban	0.0		
Post-project land cover	Post-project land cover						
Forest	441	0.95	419	Forest	15	0.92	14
Levee	82	0.00	0	Levee	222	0.00	0
Open water	241	0.00	0	Open water	56	0.00	0
Cropland	176	0.20	35	Cropland	622	0.15	93
Pasture/old field	0	0.20	0	Pasture/old field	0	0.15	0
Urban	0	0.00	0	Urban	6	0.00	0
Post-project future conditions	Post-project future conditions						
Target year - 5		0.95	454	2271	Target year - 5	0.92	107
Target year - 10		0.95	454	2271	Target year - 10	0.92	107
Target year - 20		0.95	454	4542	Target year - 20	0.92	107
Target year - 35		0.95	454	6813	Target year - 35	0.92	107
Target year - 50		0.95	454	6813	Target year - 50	0.92	107
Sum of FCUs				22711	Sum of FCUs		5357
Post-project AAFCUs over 50 years			454	Post-project AAFCUs over 50 years			107
Change in AAFCUs over 50 years			0.0	Change in AAFCUs over 50 years			-29.8
Mitigation	Mitigation						
Target year - 0	0.0	0.17	0.00	Target year - 0	41.4	0.17	7.24
Target year - 5	0.0	0.28	0.00	0 Target year - 5	41.4	0.28	11.64
Target year - 10	0.0	0.59	0.00	0 Target year - 10	41.4	0.59	24.48
Target year - 20	0.0	0.78	0.00	0 Target year - 20	41.4	0.78	32.43
Target year - 35	0.0	0.89	0.00	0 Target year - 35	41.4	0.89	36.67
Target year - 50	0.0	0.90	0.00	0 Target year - 50	41.4	0.90	37.07
Sum of FCUs				0 Sum of FCUs			1493
Mitigation AAFCUs over 50 years			0.0	Mitigation AAFCUs over 50 years			29.9

Figure 10.1.117 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 723-R, West Memphis, AR Seepage Remediation, Item 723-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -29.8 FCUs/AAHUs, requiring 41.4 acres of mitigation.



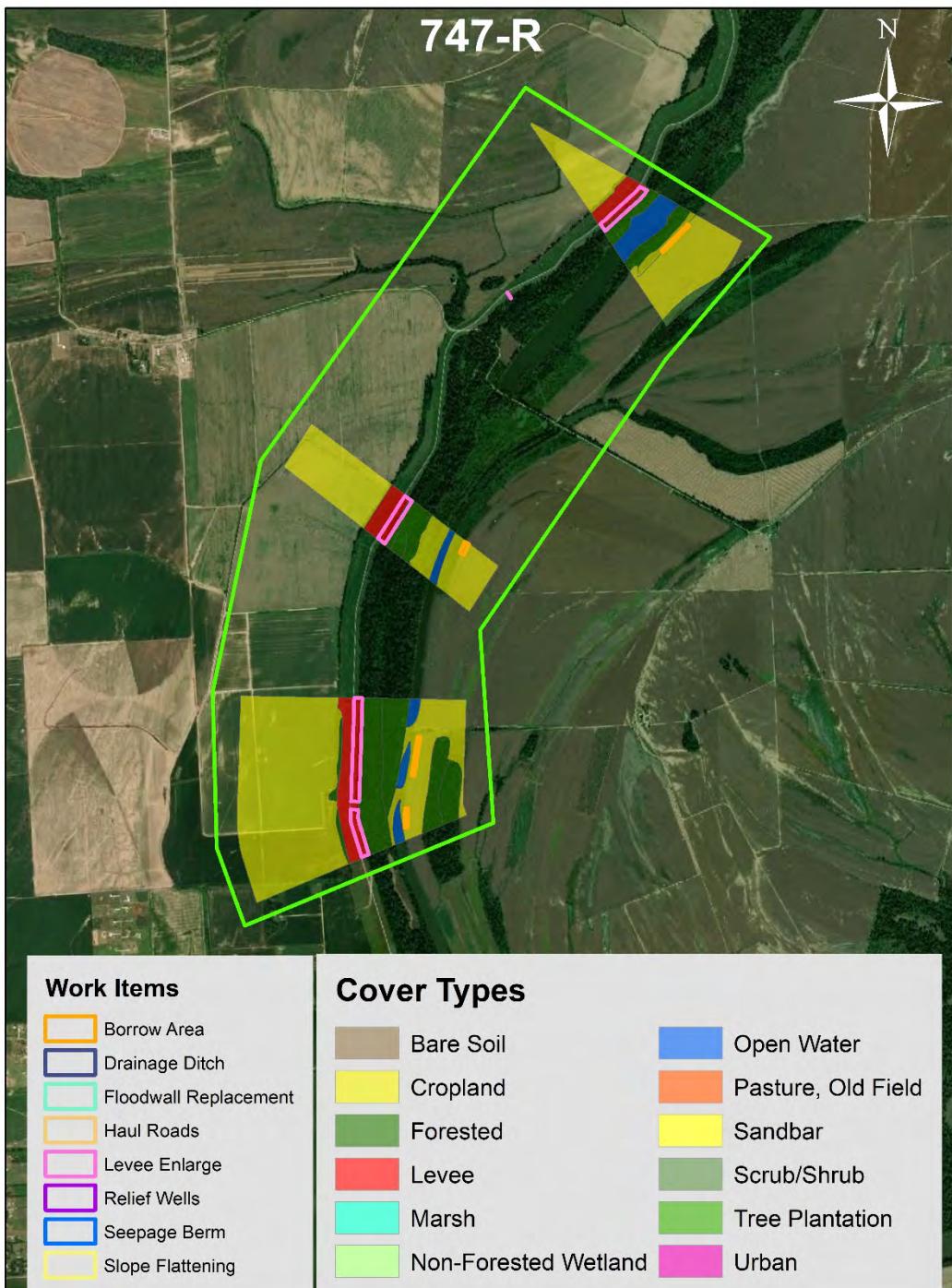
726R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		302	0.95	287		Forest		9	0.99	8	
Levee		68	0.00	0		Levee		151	0.00	0	
Open water		369	0.00	0		Open water		14	0.00	0	
Cropland		23	0.20	5		Cropland		542	0.15	81	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		7	0.00	0		Urban		0	0.00	0	
Pre-project future conditions		Pre-project future conditions									
Target year - 5			0.95	291	1457	Target year - 5			0.99	90	449
Target year - 10			0.95	291	1457	Target year - 10			0.99	90	449
Target year - 20			0.95	291	2914	Target year - 20			0.99	90	898
Target year - 35			0.95	291	4370	Target year - 35			0.99	90	1347
Target year - 50			0.95	291	4370	Target year - 50			0.99	90	1347
Sum of FCUs					14568	Sum of FCUs					4489
Pre-project AAFCUs over 50 years				291		Pre-project AAFCUs over 50 years					90
Land cover change		Land cover change									
Forest	-6.5					Forest		0.0			
Levee	6.5					Levee		102.5			
Open water	0.0					Open water		-2.4			
Cropland	0.0					Cropland		-100.1			
Pasture/old field	0.0					Pasture/old field		0.0			
Urban	0.0					Urban		0.0			
Post-project land cover		Post-project land cover									
Forest	295	0.95	281			Forest		9	0.99	8	
Levee	75	0.00	0			Levee		253	0.00	0	
Open water	369	0.00	0			Open water		12	0.00	0	
Cropland	23	0.20	5			Cropland		442	0.15	66	
Pasture/old field	0	0.20	0			Pasture/old field		0	0.15	0	
Urban	7	0.00	0			Urban		0	0.00	0	
Post-project future conditions		Post-project future conditions									
Target year - 5			0.95	285	1426	Target year - 5			0.99	75	374
Target year - 10			0.95	285	1426	Target year - 10			0.99	75	374
Target year - 20			0.95	285	2852	Target year - 20			0.99	75	748
Target year - 35			0.95	285	4278	Target year - 35			0.99	75	1121
Target year - 50			0.95	285	4278	Target year - 50			0.99	75	1121
Sum of FCUs					14259	Sum of FCUs					3738
Post-project AAFCUs over 50 years				285		Post-project AAFCUs over 50 years					75
Change in AAFCUs over 50 years				-6.2		Change in AAFCUs over 50 years					-15.0
Mitigation		Mitigation									
Target year - 0	8.6	0.17	1.50			Target year - 0		20.8	0.17	3.64	
Target year - 5	8.6	0.28	2.41		10	Target year - 5		20.8	0.28	5.86	24
Target year - 10	8.6	0.59	5.07		19	Target year - 10		20.8	0.59	12.32	45
Target year - 20	8.6	0.78	6.71		59	Target year - 20		20.8	0.78	16.32	143
Target year - 35	8.6	0.89	7.59		107	Target year - 35		20.8	0.89	18.45	261
Target year - 50	8.6	0.90	7.67		114	Target year - 50		20.8	0.90	18.65	278
Sum of FCUs					309	Sum of FCUs					751
Mitigation AAFCUs over 50 years					6.2	Mitigation AAFCUs over 50 years					15.0

Figure 10.1.118 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 726-R, West Memphis, AR Re-Evaluation, Item 726-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -21.2 FCUs/AAHUs, requiring 29.4 acres of mitigation.



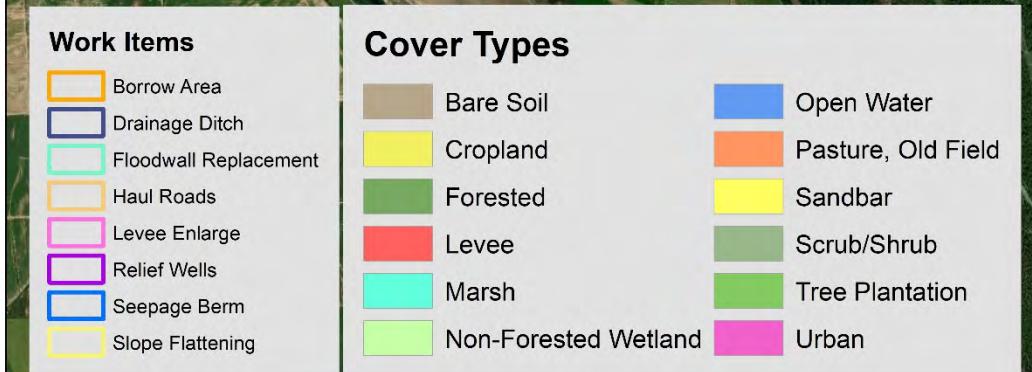
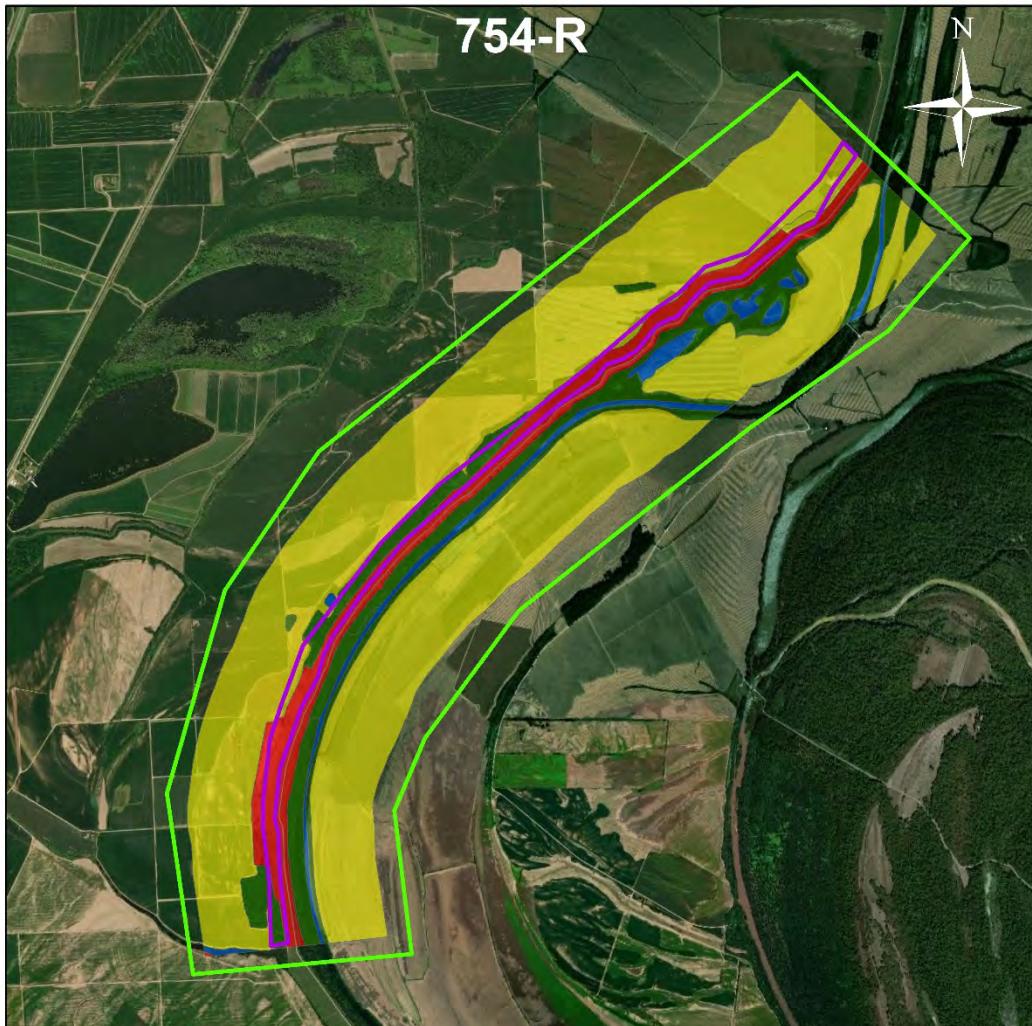
741R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	195	0.99	193		Forest	178	0.99	177	
Levee	36	0.00	0		Levee	54	0.00	0	
Open water	65	0.00	0		Open water	0	0.00	0	
Cropland	249	0.20	50		Cropland	311	0.15	47	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	92	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	243	1216	Target year - 5		0.99	223	1116
Target year - 10		0.99	243	1216	Target year - 10		0.99	223	1116
Target year - 20		0.99	243	2433	Target year - 20		0.99	223	2233
Target year - 35		0.99	243	3649	Target year - 35		0.99	223	3349
Target year - 50		0.99	243	3649	Target year - 50		0.99	223	3349
Sum of FCUs				12163	Sum of FCUs				11163
Pre-project AAFCUs over 50 years			243		Pre-project AAFCUs over 50 years			223	
Land cover change					Land cover change				
Forest	-7.1				Forest	0.0			
Levee	6.3				Levee	0.0			
Open water	5.5				Open water	0.0			
Cropland	-4.7				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	188	0.99	186		Forest	178	0.99	177	
Levee	42	0.00	0		Levee	54	0.00	0	
Open water	71	0.00	0		Open water	0	0.00	0	
Cropland	244	0.20	49		Cropland	311	0.15	47	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	92	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	235	1176	Target year - 5		0.99	223	1116
Target year - 10		0.99	235	1176	Target year - 10		0.99	223	1116
Target year - 20		0.99	235	2353	Target year - 20		0.99	223	2233
Target year - 35		0.99	235	3529	Target year - 35		0.99	223	3349
Target year - 50		0.99	235	3529	Target year - 50		0.99	223	3349
Sum of FCUs				11765	Sum of FCUs				11163
Post-project AAFCUs over 50 years			235		Post-project AAFCUs over 50 years			223	
Change in AAFCUs over 50 years			-8.0		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	11.1	0.17	1.93		Target year - 0	0.0	0.17	0.00	
Target year - 5	11.1	0.28	3.11	13	Target year - 5	0.0	0.28	0.00	0
Target year - 10	11.1	0.59	6.54	24	Target year - 10	0.0	0.59	0.00	0
Target year - 20	11.1	0.78	8.66	76	Target year - 20	0.0	0.78	0.00	0
Target year - 35	11.1	0.89	9.79	138	Target year - 35	0.0	0.89	0.00	0
Target year - 50	11.1	0.90	9.90	148	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				399	Sum of FCUs				0
Mitigation AAFCUs over 50 years				8.0	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.119 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 741-R, MO-AR State Line to St. Francis River Levee Part 2, AR (145/0+00t o 147/0+00), Item 741-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -10.3 FCUs/AAHUs, requiring 14.3 acres of mitigation.



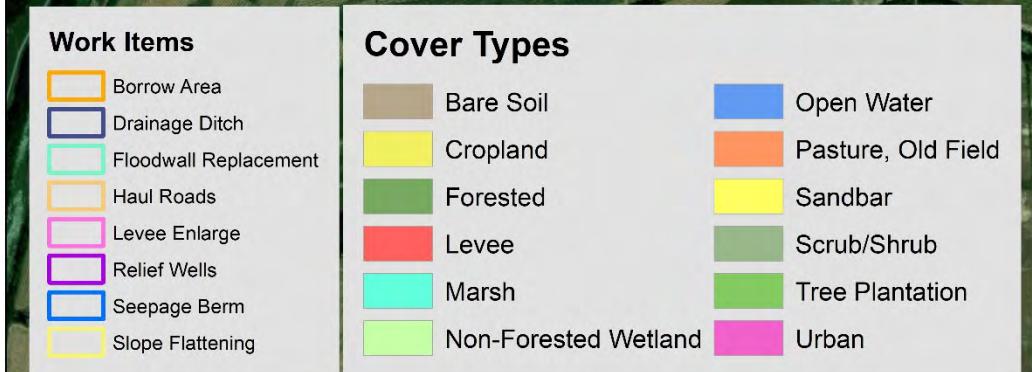
747R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	134	0.99	133		Forest	5	0.91	4	
Levee	22	0.00	0		Levee	40	0.00	0	
Open water	33	0.00	0		Open water	0	0.00	0	
Cropland	168	0.20	34		Cropland	300	0.15	45	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.99	166	832	Target year - 5		0.91	49	247
Target year - 10		0.99	166	832	Target year - 10		0.91	49	247
Target year - 20		0.99	166	1664	Target year - 20		0.91	49	494
Target year - 35		0.99	166	2495	Target year - 35		0.91	49	741
Target year - 50		0.99	166	2495	Target year - 50		0.91	49	741
Sum of FCUs				8318	Sum of FCUs				2471
Pre-project AAFCUs over 50 years			166		Pre-project AAFCUs over 50 years			49	
Land cover change					Land cover change				
Forest	-5.4				Forest	0.0			
Levee	5.4				Levee	0.0			
Open water	3.4				Open water	0.0			
Cropland	-3.4				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	129	0.99	127		Forest	5	0.91	4	
Levee	27	0.00	0		Levee	40	0.00	0	
Open water	37	0.00	0		Open water	0	0.00	0	
Cropland	165	0.20	33		Cropland	300	0.15	45	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.99	160	802	Target year - 5		0.91	49	247
Target year - 10		0.99	160	802	Target year - 10		0.91	49	247
Target year - 20		0.99	160	1603	Target year - 20		0.91	49	494
Target year - 35		0.99	160	2405	Target year - 35		0.91	49	741
Target year - 50		0.99	160	2405	Target year - 50		0.91	49	741
Sum of FCUs				8017	Sum of FCUs				2471
Post-project AAFCUs over 50 years			160		Post-project AAFCUs over 50 years			49	
Change in AAFCUs over 50 years			-6.0		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	8.4	0.17	1.46		Target year - 0	0.0	0.17	0.00	
Target year - 5	8.4	0.28	2.35	10	Target year - 5	0.0	0.28	0.00	0
Target year - 10	8.4	0.59	4.94	18	Target year - 10	0.0	0.59	0.00	0
Target year - 20	8.4	0.78	6.55	57	Target year - 20	0.0	0.78	0.00	0
Target year - 35	8.4	0.89	7.40	105	Target year - 35	0.0	0.89	0.00	0
Target year - 50	8.4	0.90	7.48	112	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				302	Sum of FCUs				0
Mitigation AAFCUs over 50 years				6.0	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.120 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 747-R, MO-AR State Line - St .Francis River Levee Part 1, AR (134/0+00 to 138/0+00), Item747-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -8.5 FCUs/AAHUs, requiring 11.8 acres of mitigation.



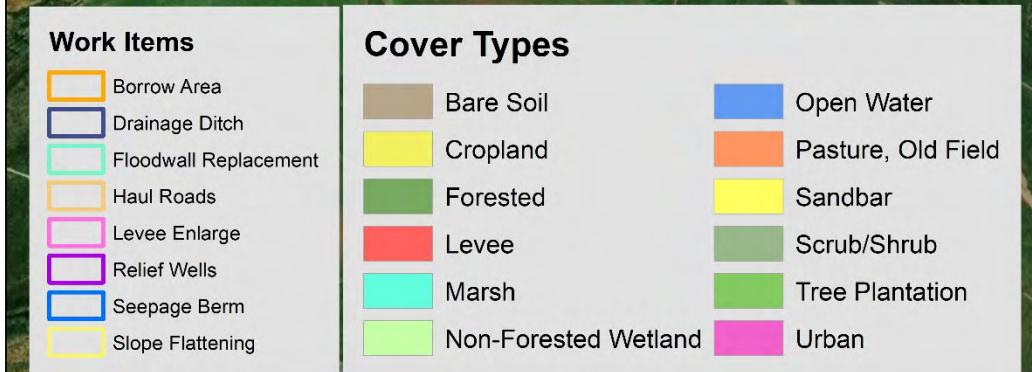
Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	354	1.00	354		Forest	118	1.00	118	
Levee	93	0.00	0		Levee	277	0.00	0	
Open water	113	0.00	0		Open water	6	0.00	0	
Cropland	1073	0.20	215		Cropland	1364	0.15	205	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		1.00	568	2841	Target year - 5		1.00	322	1611
Target year - 10		1.00	568	2841	Target year - 10		1.00	322	1611
Target year - 20		1.00	568	5682	Target year - 20		1.00	322	3223
Target year - 35		1.00	568	8522	Target year - 35		1.00	322	4834
Target year - 50		1.00	568	8522	Target year - 50		1.00	322	4834
Sum of FCUs				28408	Sum of FCUs				16113
Pre-project AAFCUs over 50 years			568		Pre-project AAFCUs over 50 years			322	
Land cover change					Land cover change				
Forest	0.0				Forest	-71.7			
Levee	0.0				Levee	130.4			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	-58.7			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	354	1.00	354		Forest	46	1.00	46	
Levee	93	0.00	0		Levee	407	0.00	0	
Open water	113	0.00	0		Open water	6	0.00	0	
Cropland	1073	0.20	215		Cropland	1306	0.15	196	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		1.00	568	2841	Target year - 5		1.00	242	1209
Target year - 10		1.00	568	2841	Target year - 10		1.00	242	1209
Target year - 20		1.00	568	5682	Target year - 20		1.00	242	2418
Target year - 35		1.00	568	8522	Target year - 35		1.00	242	3626
Target year - 50		1.00	568	8522	Target year - 50		1.00	242	3626
Sum of FCUs				28408	Sum of FCUs				12088
Post-project AAFCUs over 50 years			568		Post-project AAFCUs over 50 years			242	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			-80.5	
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	111.7	0.17	19.54	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	111.7	0.28	31.40	127
Target year - 10	0.0	0.59	0.00	0	Target year - 10	111.7	0.59	66.04	244
Target year - 20	0.0	0.78	0.00	0	Target year - 20	111.7	0.78	87.49	768
Target year - 35	0.0	0.89	0.00	0	Target year - 35	111.7	0.89	98.91	1398
Target year - 50	0.0	0.90	0.00	0	Target year - 50	111.7	0.90	99.99	1492
Sum of FCUs				0	Sum of FCUs				4028
Mitigation AAFCUs over 50 years				0.0	Mitigation AAFCUs over 50 years				80.6

Figure 10.1.121 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 754-R, St. Thomas, AR Berm Re-evaluation, Item 754-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -80.5 FCUs/AAHUs, requiring 111.7 acres of mitigation.



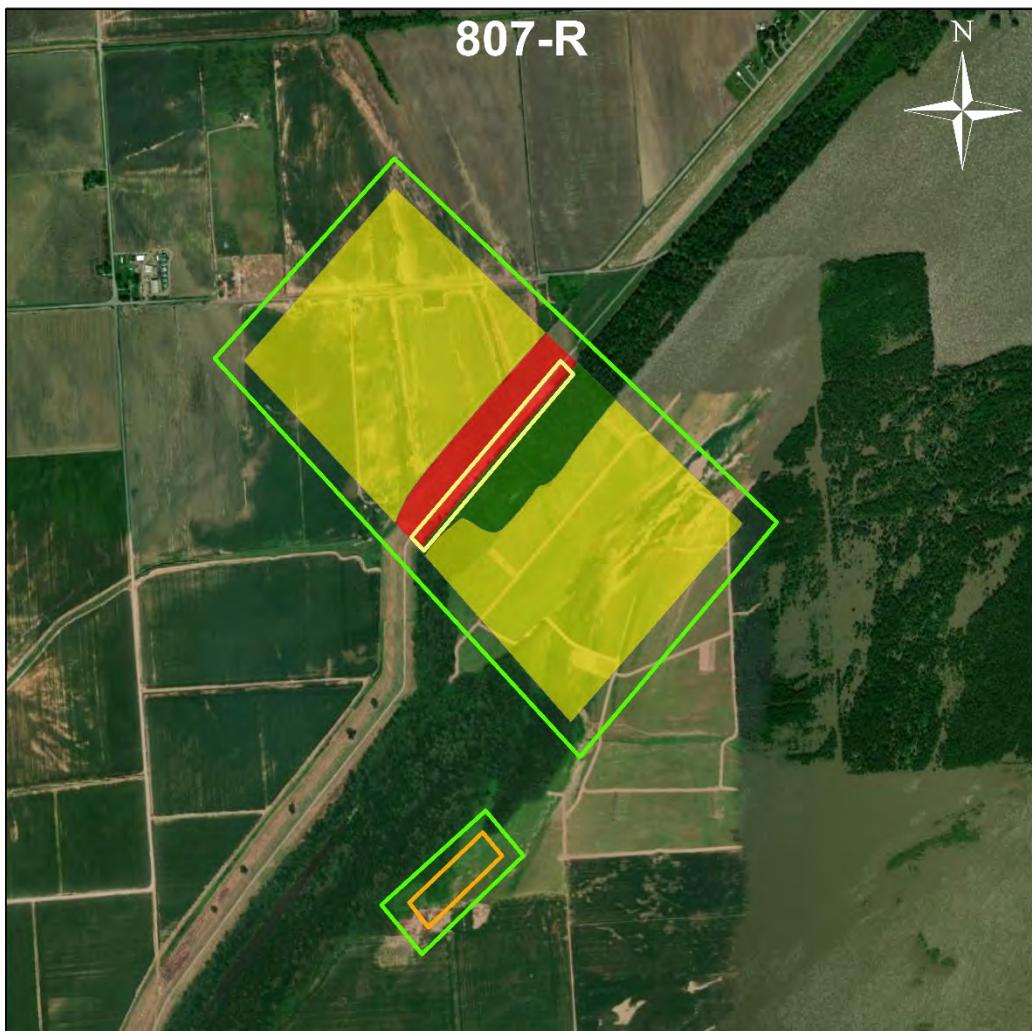
762R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		58	0.96	56		Forest		66	0.96	64	
Levee		11	0.00	0		Levee		35	0.00	0	
Open water		23	0.00	0		Open water		0	0.00	0	
Cropland		222	0.20	44		Cropland		353	0.15	53	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.96	100	500	Target year - 5			0.96	116	582
Target year - 10			0.96	100	500	Target year - 10			0.96	116	582
Target year - 20			0.96	100	999	Target year - 20			0.96	116	1164
Target year - 35			0.96	100	1499	Target year - 35			0.96	116	1746
Target year - 50			0.96	100	1499	Target year - 50			0.96	116	1746
Sum of FCUs					4996	Sum of FCUs					5821
Pre-project AAFCUs over 50 years				100		Pre-project AAFCUs over 50 years				116	
Land cover change						Land cover change					
Forest		-15.7				Forest		0.0			
Levee		13.9				Levee		0.0			
Open water		19.7				Open water		0.0			
Cropland		-17.8				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		42	0.96	41		Forest		66	0.96	64	
Levee		25	0.00	0		Levee		35	0.00	0	
Open water		43	0.00	0		Open water		0	0.00	0	
Cropland		204	0.20	41		Cropland		353	0.15	53	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.96	81	406	Target year - 5			0.96	116	582
Target year - 10			0.96	81	406	Target year - 10			0.96	116	582
Target year - 20			0.96	81	813	Target year - 20			0.96	116	1164
Target year - 35			0.96	81	1219	Target year - 35			0.96	116	1746
Target year - 50			0.96	81	1219	Target year - 50			0.96	116	1746
Sum of FCUs					4065	Sum of FCUs					5821
Post-project AAFCUs over 50 years				81		Post-project AAFCUs over 50 years				116	
Change in AAFCUs over 50 years				-18.6		Change in AAFCUs over 50 years				0.0	
Mitigation						Mitigation					
Target year - 0		25.8	0.17	4.52		Target year - 0		0.0	0.17	0.00	
Target year - 5		25.8	0.28	7.27	29	Target year - 5		0.0	0.28	0.00	0
Target year - 10		25.8	0.59	####	56	Target year - 10		0.0	0.59	0.00	0
Target year - 20		25.8	0.78	####	178	Target year - 20		0.0	0.78	0.00	0
Target year - 35		25.8	0.89	####	324	Target year - 35		0.0	0.89	0.00	0
Target year - 50		25.8	0.90	####	345	Target year - 50		0.0	0.90	0.00	0
Sum of FCUs					932	Sum of FCUs					0
Mitigation AAFCUs over 50 years					18.6	Mitigation AAFCUs over 50 years					0.0

Figure 10.1.122 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 762-R, Pecan Point, AR Slope Flattening (116/40+00 to 117/45+00), Item 762-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -25.2 FCUs/AAHUs, requiring 35.0 acres of mitigation.



766R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	111	0.90	99		Forest	0	0.79	0	
Levee	10	0.00	0		Levee	14	0.00	0	
Open water	12	0.00	0		Open water	0	0.00	0	
Cropland	83	0.20	17		Cropland	240	0.15	36	
Pasture/old field	1	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.90	116	582	Target year - 5		0.79	36	180
Target year - 10		0.90	116	582	Target year - 10		0.79	36	180
Target year - 20		0.90	116	1164	Target year - 20		0.79	36	360
Target year - 35		0.90	116	1746	Target year - 35		0.79	36	540
Target year - 50		0.90	116	1746	Target year - 50		0.79	36	540
Sum of FCUs				5819	Sum of FCUs				1800
Pre-project AAFCUs over 50 years			116		Pre-project AAFCUs over 50 years			36	
Land cover change					Land cover change				
Forest	-4.3				Forest	0.0			
Levee	4.7				Levee	0.0			
Open water	13.0				Open water	0.0			
Cropland	-13.0				Cropland	0.0			
Pasture/old field	-0.4				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	106	0.90	96		Forest	0	0.79	0	
Levee	15	0.00	0		Levee	14	0.00	0	
Open water	25	0.00	0		Open water	0	0.00	0	
Cropland	70	0.20	14		Cropland	240	0.15	36	
Pasture/old field	1	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.90	110	549	Target year - 5		0.79	36	180
Target year - 10		0.90	110	549	Target year - 10		0.79	36	180
Target year - 20		0.90	110	1098	Target year - 20		0.79	36	360
Target year - 35		0.90	110	1647	Target year - 35		0.79	36	540
Target year - 50		0.90	110	1647	Target year - 50		0.79	36	540
Sum of FCUs				5491	Sum of FCUs				1800
Post-project AAFCUs over 50 years			110		Post-project AAFCUs over 50 years			36	
Change in AAFCUs over 50 years			-6.6		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	9.1	0.17	1.59		Target year - 0	0.0	0.17	0.00	
Target year - 5	9.1	0.28	2.55	10	Target year - 5	0.0	0.28	0.00	0
Target year - 10	9.1	0.59	5.37	20	Target year - 10	0.0	0.59	0.00	0
Target year - 20	9.1	0.78	7.12	62	Target year - 20	0.0	0.78	0.00	0
Target year - 35	9.1	0.89	8.05	114	Target year - 35	0.0	0.89	0.00	0
Target year - 50	9.1	0.90	8.14	121	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				328	Sum of FCUs				0
Mitigation AAFCUs over 50 years				6.6	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.123 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 766-R, Wilson, AR Slope Flattening (100/0+00 to 100/36+00), Item 766-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -9.4 FCUs/AAHUs, requiring 13.0 acres of mitigation.



Work Items

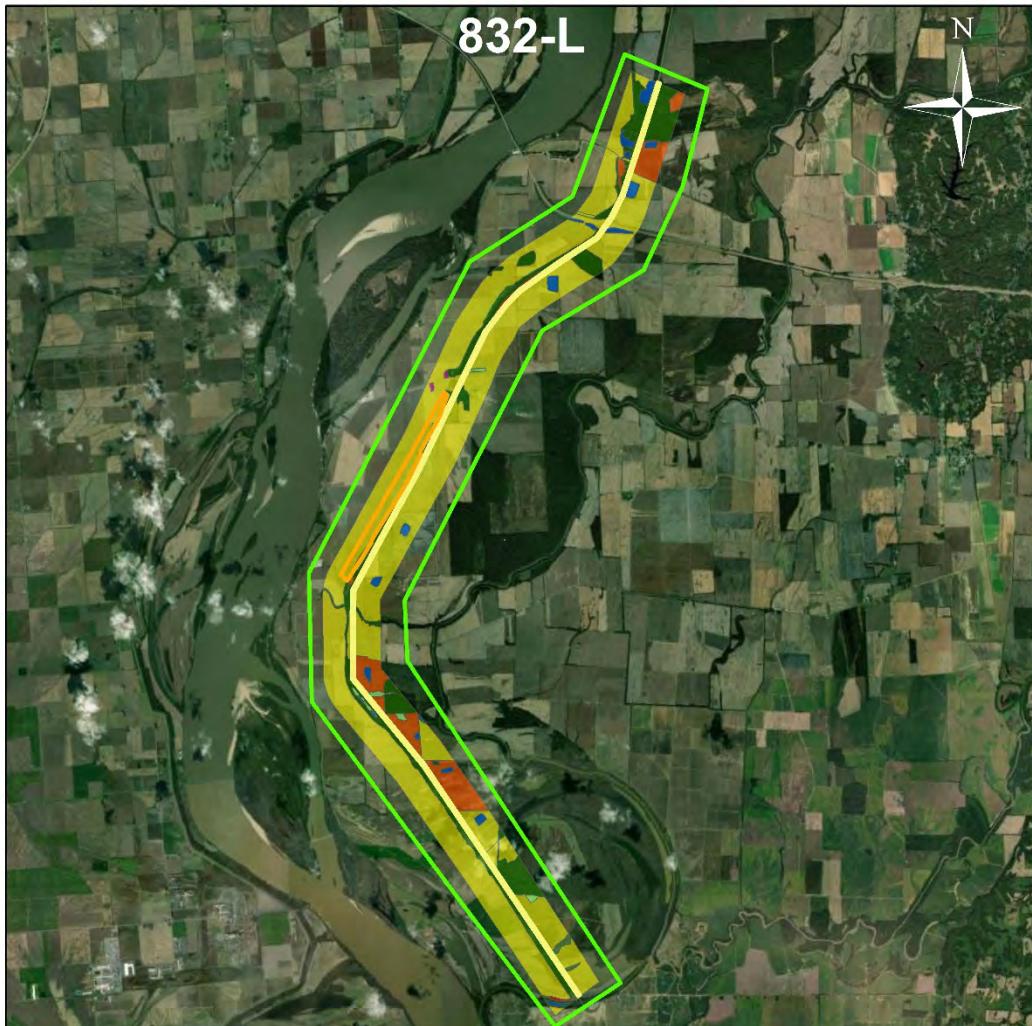
- Borrow Area
- Drainage Ditch
- Floodwall Replacement
- Haul Roads
- Levee Enlarge
- Relief Wells
- Seepage Berm
- Slope Flattening

Cover Types

- | | | | |
|---|----------------------|--|--------------------|
| | Bare Soil | □ | Open Water |
| | Cropland | □ | Pasture, Old Field |
| | Forested | □ | Sandbar |
| | Levee | □ | Scrub/Shrub |
| | Marsh | □ | Tree Plantation |
| | Non-Forested Wetland | □ | Urban |

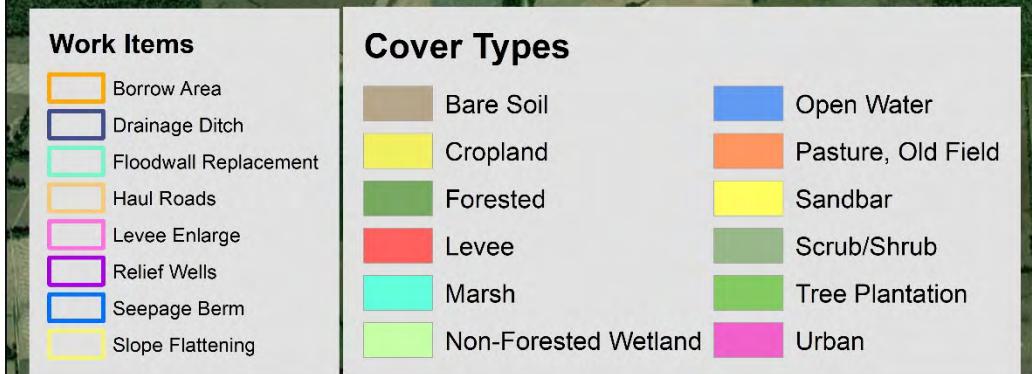
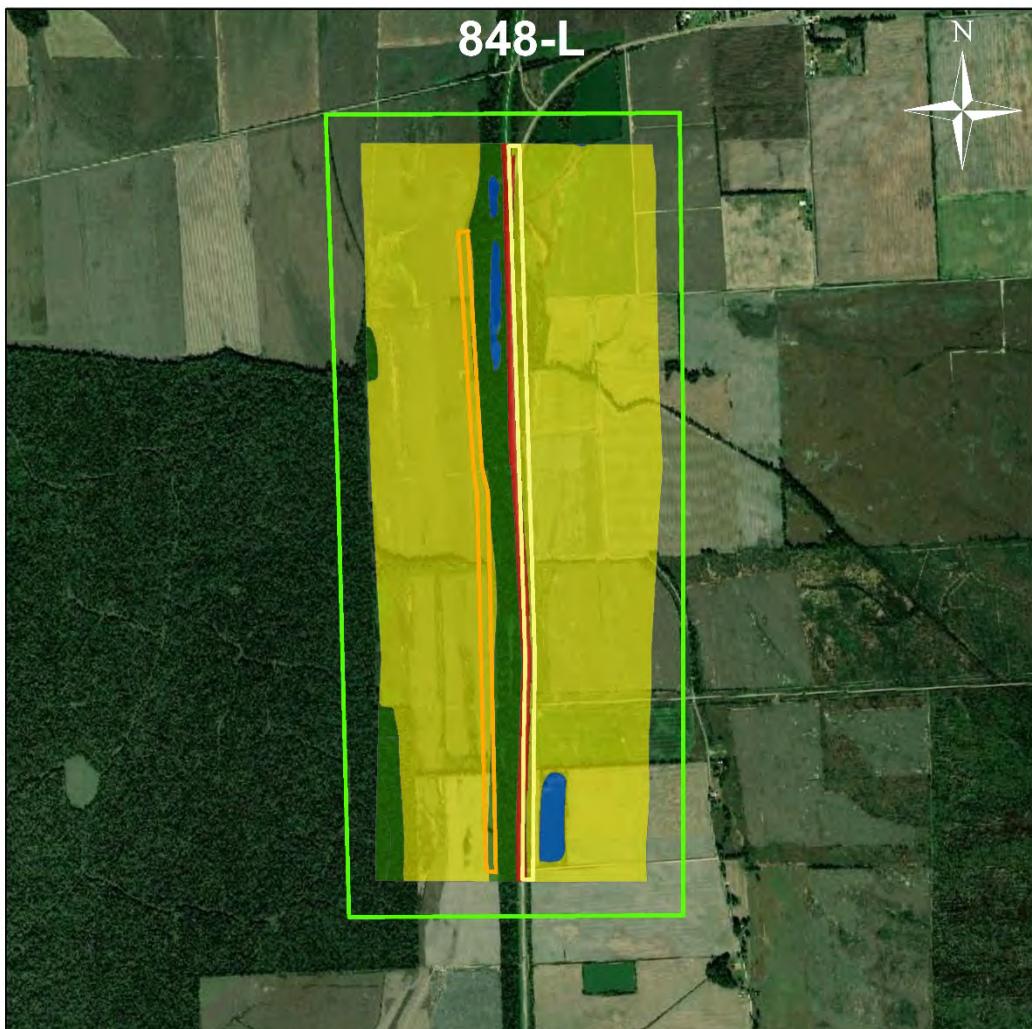
807R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	28	0.91	25		Forest	0	0.95	0	
Levee	8	0.00	0		Levee	21	0.00	0	
Open water	0	0.00	0		Open water	0	0.00	0	
Cropland	138	0.20	28		Cropland	134	0.15	20	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.91	53	265	Target year - 5		0.95	20	100
Target year - 10		0.91	53	265	Target year - 10		0.95	20	100
Target year - 20		0.91	53	530	Target year - 20		0.95	20	201
Target year - 35		0.91	53	795	Target year - 35		0.95	20	301
Target year - 50		0.91	53	795	Target year - 50		0.95	20	301
Sum of FCUs				2648	Sum of FCUs				1003
Pre-project AAFCUs over 50 years			53		Pre-project AAFCUs over 50 years			20	
Land cover change					Land cover change				
Forest	-2.9				Forest	0.0			
Levee	2.9				Levee	0.0			
Open water	8.5				Open water	0.0			
Cropland	-8.5				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	25	0.91	23		Forest	0	0.95	0	
Levee	11	0.00	0		Levee	21	0.00	0	
Open water	9	0.00	0		Open water	0	0.00	0	
Cropland	129	0.20	26		Cropland	134	0.15	20	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.91	49	243	Target year - 5		0.95	20	100
Target year - 10		0.91	49	243	Target year - 10		0.95	20	100
Target year - 20		0.91	49	486	Target year - 20		0.95	20	201
Target year - 35		0.91	49	729	Target year - 35		0.95	20	301
Target year - 50		0.91	49	729	Target year - 50		0.95	20	301
Sum of FCUs				2432	Sum of FCUs				1003
Post-project AAFCUs over 50 years			49		Post-project AAFCUs over 50 years			20	
Change in AAFCUs over 50 years			-4.3		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	6.0	0.17	1.05		Target year - 0	0.0	0.17	0.00	
Target year - 5	6.0	0.28	1.69	7	Target year - 5	0.0	0.28	0.00	0
Target year - 10	6.0	0.59	3.56	13	Target year - 10	0.0	0.59	0.00	0
Target year - 20	6.0	0.78	4.72	41	Target year - 20	0.0	0.78	0.00	0
Target year - 35	6.0	0.89	5.33	75	Target year - 35	0.0	0.89	0.00	0
Target year - 50	6.0	0.90	5.39	80	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				217	Sum of FCUs				0
Mitigation AAFCUs over 50 years				4.3	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.124 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 807-R, Barfield, AR Slope Flattening (61/0+00 to 61/25+00), Item 807-R, Arkansas, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -9.3 FCUs/AAHUs, requiring 12.9 acres of mitigation.



Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	760	0.93	707		Forest	1044	0.97	1012	
Levee	209	0.00	0		Levee	248	0.00	0	
Open water	156	0.00	0		Open water	97	0.00	0	
Cropland	3366	0.20	673		Cropland	4140	0.15	621	
Pasture/old field	819	0.20	164		Pasture/old field	29	0.15	4	
Urban	4	0.00	0		Urban	10	0.00	0	
Pre-project future conditions				Pre-project future conditions					
Target year - 5		0.93	1544	7718	Target year - 5		0.97	1638	8189
Target year - 10		0.93	1544	7718	Target year - 10		0.97	1638	8189
Target year - 20		0.93	1544	15435	Target year - 20		0.97	1638	16378
Target year - 35		0.93	1544	23153	Target year - 35		0.97	1638	24567
Target year - 50		0.93	1544	23153	Target year - 50		0.97	1638	24567
Sum of FCUs				77176	Sum of FCUs				81889
Pre-project AAFCUs over 50 years			1544		Pre-project AAFCUs over 50 years			1638	
Land cover change				Land cover change					
Forest	-17.4			Forest		-41.3			
Levee	193.3			Levee		1.0			
Open water	0.0			Open water		323.1			
Cropland	-122.8			Cropland		-282.8			
Pasture/old field	-51.3			Pasture/old field		0.0			
Urban	-1.8			Urban		0.0			
Post-project land cover				Post-project land cover					
Forest	743	0.93	691		Forest	1002	0.97	972	
Levee	402	0.00	0	Levee	249	0.00	0		
Open water	156	0.00	0	Open water	421	0.00	0		
Cropland	3243	0.20	649		Cropland	3858	0.15	579	
Pasture/old field	767	0.20	153		Pasture/old field	29	0.15	4	
Urban	2	0.00	0	Urban	10	0.00	0		
Post-project future conditions				Post-project future conditions					
Target year - 5		0.93	1493	7463	Target year - 5		0.97	1555	7777
Target year - 10		0.93	1493	7463	Target year - 10		0.97	1555	7777
Target year - 20		0.93	1493	14925	Target year - 20		0.97	1555	15553
Target year - 35		0.93	1493	22388	Target year - 35		0.97	1555	23330
Target year - 50		0.93	1493	22388	Target year - 50		0.97	1555	23330
Sum of FCUs				74626	Sum of FCUs				77765
Post-project AAFCUs over 50 years			1493		Post-project AAFCUs over 50 years			1555	
Change in AAFCUs over 50 years			-51.0		Change in AAFCUs over 50 years			-82.5	
Mitigation				Mitigation					
Target year - 0	70.7	0.17	12.38		Target year - 0	114.4	0.17	20.01	
Target year - 5	70.7	0.28	19.89	81	Target year - 5	114.4	0.28	32.17	130
Target year - 10	70.7	0.59	41.84	154	Target year - 10	114.4	0.59	67.66	250
Target year - 20	70.7	0.78	55.43	486	Target year - 20	114.4	0.78	89.64	787
Target year - 35	70.7	0.89	62.67	886	Target year - 35	114.4	0.89	101.34	1432
Target year - 50	70.7	0.90	63.35	945	Target year - 50	114.4	0.90	102.44	1528
Sum of FCUs				2552	Sum of FCUs				4127
Mitigation AAFCUs over 50 years				51.0	Mitigation AAFCUs over 50 years				82.5

Figure 10.1.125 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 832-L, Great River Road Slope Flattening, TN (20/0+00 to 37/0+00), Item 832-L, Tennessee, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -133.5 FCUs/AAHUs, requiring 185.1 acres of mitigation.



848L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		0	0.93	0		Forest		155	0.97	151	
Levee		20	0.00	0		Levee		28	0.00	0	
Open water		14	0.00	0		Open water		10	0.00	0	
Cropland		633	0.20	127		Cropland		519	0.15	78	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.93	127		633 Target year - 5			0.97	228	1142
Target year - 10			0.93	127		633 Target year - 10			0.97	228	1142
Target year - 20			0.93	127		1267 Target year - 20			0.97	228	2285
Target year - 35			0.93	127		1900 Target year - 35			0.97	228	3427
Target year - 50			0.93	127		1900 Target year - 50			0.97	228	3427
Sum of FCUs						633 Sum of FCUs					11424
Pre-project AAFCUs over 50 years				127		Pre-project AAFCUs over 50 years				228	
Land cover change						Land cover change					
Forest		0.0				Forest		-6.1			
Levee		34.1				Levee		0.0			
Open water		0.0				Open water		41.4			
Cropland		-34.1				Cropland		-35.3			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.93	0		Forest		149	0.97	145	
Levee		54	0.00	0		Levee		28	0.00	0	
Open water		14	0.00	0		Open water		52	0.00	0	
Cropland		599	0.20	120		Cropland		484	0.15	73	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.93	120		599 Target year - 5			0.97	217	1086
Target year - 10			0.93	120		599 Target year - 10			0.97	217	1086
Target year - 20			0.93	120		1198 Target year - 20			0.97	217	2173
Target year - 35			0.93	120		1798 Target year - 35			0.97	217	3259
Target year - 50			0.93	120		1798 Target year - 50			0.97	217	3259
Sum of FCUs						5992 Sum of FCUs					10863
Post-project AAFCUs over 50 years				120		Post-project AAFCUs over 50 years				217	
Change in AAFCUs over 50 years				-6.8		Change in AAFCUs over 50 years				-11.2	
Mitigation						Mitigation					
Target year - 0		9.5	0.17	1.65		Target year - 0		15.6	0.17	2.72	
Target year - 5		9.5	0.28	2.66		11 Target year - 5		15.6	0.28	4.37	
Target year - 10		9.5	0.59	5.59		21 Target year - 10		15.6	0.59	9.20	
Target year - 20		9.5	0.78	7.41		65 Target year - 20		15.6	0.78	12.18	
Target year - 35		9.5	0.89	8.38		118 Target year - 35		15.6	0.89	13.78	
Target year - 50		9.5	0.90	8.47		126 Target year - 50		15.6	0.90	13.93	
Sum of FCUs						341 Sum of FCUs					561
Mitigation AAFCUs over 50 years						6.8 Mitigation AAFCUs over 50 years					11.2

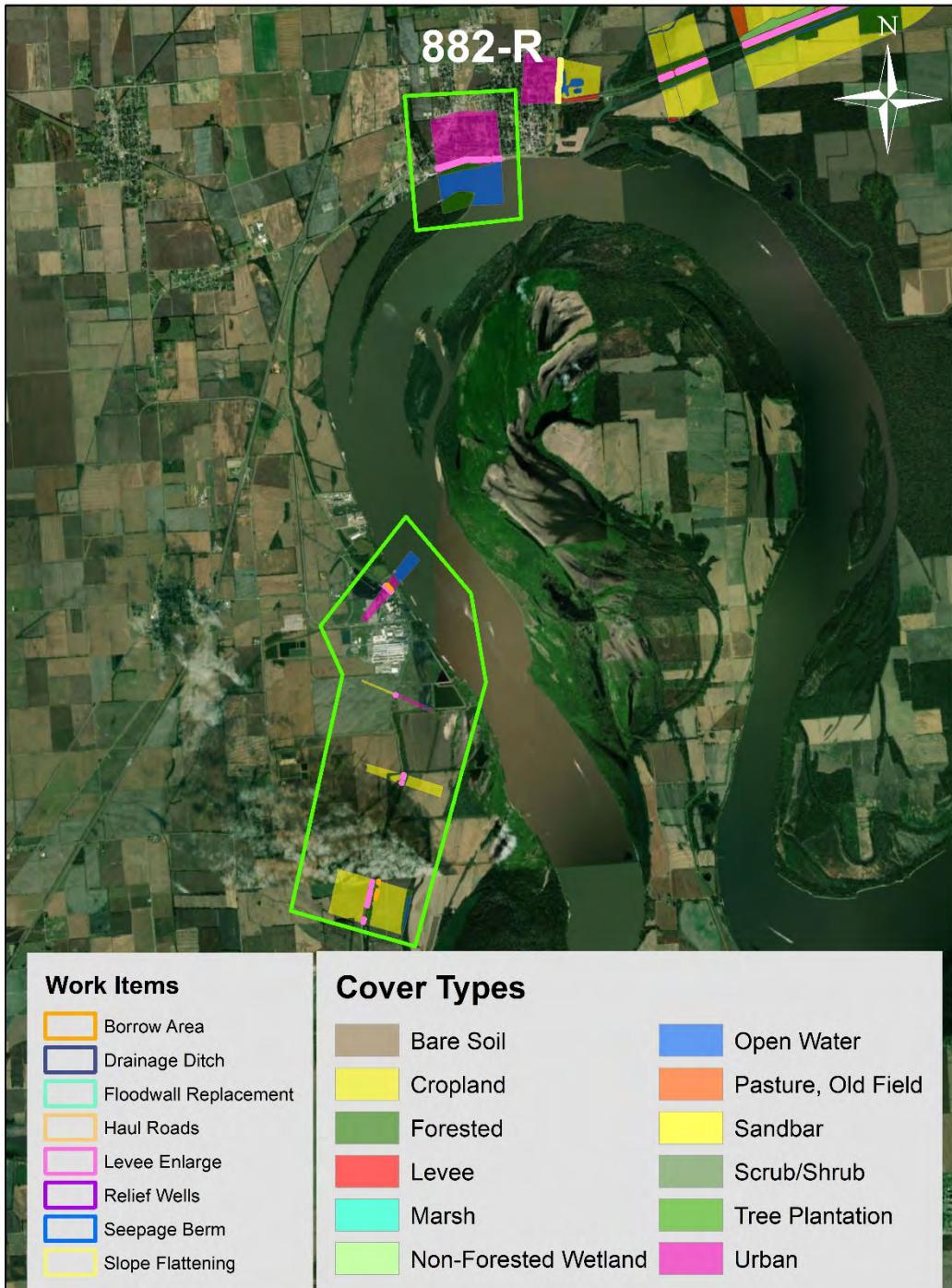
Figure 10.1.126 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 848-L, Great River Road Slope Flattening, TN (12/45+00 to 15/0+00), Item 848-L, Tennessee, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -43.4 FCUs/AAHUs, requiring 60.2 acres of mitigation.



Work Items	Cover Types
Borrow Area	Bare Soil
Drainage Ditch	Open Water
Floodwall Replacement	Pasture, Old Field
Haul Roads	Sandbar
Levee Enlarge	Scrub/Shrub
Relief Wells	Tree Plantation
Seepage Berm	Non-Forested Wetland
Slope Flattening	Urban

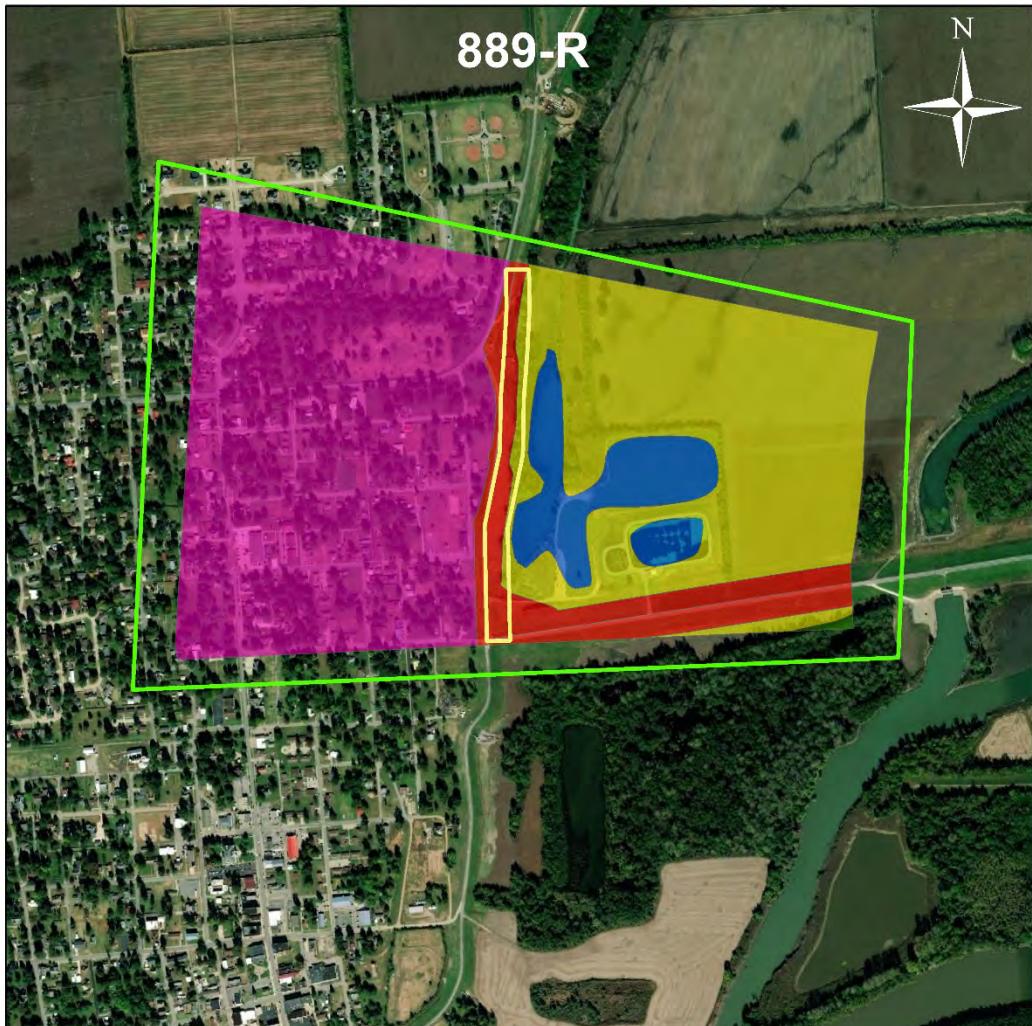
877R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	13	0.92	12		Forest	0	0.92	0	
Levee	3	0.00	0		Levee	3	0.00	0	
Open water	0	0.00	0		Open water	0	0.00	0	
Cropland	43	0.20	9		Cropland	52	0.15	8	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.92	21	103	Target year - 5		0.92	8	39
Target year - 10		0.92	21	103	Target year - 10		0.92	8	39
Target year - 20		0.92	21	205	Target year - 20		0.92	8	78
Target year - 35		0.92	21	308	Target year - 35		0.92	8	116
Target year - 50		0.92	21	308	Target year - 50		0.92	8	116
Sum of FCUs				1027	Sum of FCUs				388
Pre-project AAFCUs over 50 years			21		Pre-project AAFCUs over 50 years			8	
Land cover change					Land cover change				
Forest	-0.3				Forest	0.0			
Levee	0.1				Levee	0.0			
Open water	0.7				Open water	0.0			
Cropland	-0.5				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	13	0.92	12		Forest	0	0.92	0	
Levee	3	0.00	0		Levee	3	0.00	0	
Open water	1	0.00	0		Open water	0	0.00	0	
Cropland	43	0.20	9		Cropland	52	0.15	8	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.92	20	101	Target year - 5		0.92	8	39
Target year - 10		0.92	20	101	Target year - 10		0.92	8	39
Target year - 20		0.92	20	202	Target year - 20		0.92	8	78
Target year - 35		0.92	20	303	Target year - 35		0.92	8	116
Target year - 50		0.92	20	303	Target year - 50		0.92	8	116
Sum of FCUs				1009	Sum of FCUs				388
Post-project AAFCUs over 50 years			20		Post-project AAFCUs over 50 years			8	
Change in AAFCUs over 50 years			-0.4		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.5	0.17	0.09		Target year - 0	0.0	0.17	0.00	
Target year - 5	0.5	0.28	0.15	1	Target year - 5	0.0	0.28	0.00	0
Target year - 10	0.5	0.59	0.31	1	Target year - 10	0.0	0.59	0.00	0
Target year - 20	0.5	0.78	0.41	4	Target year - 20	0.0	0.78	0.00	0
Target year - 35	0.5	0.89	0.46	7	Target year - 35	0.0	0.89	0.00	0
Target year - 50	0.5	0.90	0.47	7	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				19	Sum of FCUs				0
Mitigation AAFCUs over 50 years				0.4	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.127 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 877-R, New Madrid, MO to MO-AR Levee, MO (2/0+00S to 2/30+00S), Item 877-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.7 FCUs/AAHUs, requiring 1.0 acres of mitigation.



882R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	36	0.90	32		Forest	5	0.98	5	
Levee	5	0.00	0		Levee	7	0.00	0	
Open water	38	0.00	0		Open water	0	0.00	0	
Cropland	148	0.20	30		Cropland	155	0.15	23	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	22	0.00	0		Urban	27	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.91	62	309	Target year - 5		0.98	28	139
Target year - 10		0.93	63	311	Target year - 10		0.98	28	139
Target year - 20		0.94	63	628	Target year - 20		0.98	28	279
Target year - 35		0.94	63	947	Target year - 35		0.98	28	418
Target year - 50		0.94	63	947	Target year - 50		0.98	28	418
Sum of FCUs				3142	Sum of FCUs				1394
Pre-project AAFCUs over 50 years			63		Pre-project AAFCUs over 50 years			28	
Land cover change					Land cover change				
Forest	-7.1				Forest	0.0			
Levee	11.3				Levee	0.0			
Open water	1.1				Open water	0.0			
Cropland	-0.6				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	-4.7				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	28	0.90	25		Forest	5	0.98	5	
Levee	16	0.00	0		Levee	7	0.00	0	
Open water	39	0.00	0		Open water	0	0.00	0	
Cropland	148	0.20	30		Cropland	155	0.15	23	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	17	0.00	0		Urban	27	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.91	55	276	Target year - 5		0.98	28	139
Target year - 10		0.93	56	278	Target year - 10		0.98	28	139
Target year - 20		0.94	56	561	Target year - 20		0.98	28	279
Target year - 35		0.94	56	845	Target year - 35		0.98	28	418
Target year - 50		0.94	56	845	Target year - 50		0.98	28	418
Sum of FCUs				2804	Sum of FCUs				1394
Post-project AAFCUs over 50 years			56		Post-project AAFCUs over 50 years			28	
Change in AAFCUs over 50 years			-6.8		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	9.4	0.17	1.64		Target year - 0	0.0	0.17	0.00	
Target year - 5	9.4	0.28	2.64	11	Target year - 5	0.0	0.28	0.00	0
Target year - 10	9.4	0.59	5.54	20	Target year - 10	0.0	0.59	0.00	0
Target year - 20	9.4	0.78	7.34	64	Target year - 20	0.0	0.78	0.00	0
Target year - 35	9.4	0.89	8.30	117	Target year - 35	0.0	0.89	0.00	0
Target year - 50	9.4	0.90	8.39	125	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				338	Sum of FCUs				0
Mitigation AAFCUs over 50 years				6.8	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.128 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 882-R, New Madrid, MO to MO-AR Levee, MO (5/0+00N to 0/0+00), Item 882-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -7.2 FCUs/AAHUs, requiring 10.0 acres of mitigation.



Work Items		Cover Types	
Borrow Area		Bare Soil	Open Water
Drainage Ditch		Cropland	Pasture, Old Field
Floodwall Replacement		Forested	Sandbar
Haul Roads		Levee	Scrub/Shrub
Levee Enlarge		Marsh	Tree Plantation
Relief Wells		Non-Forested Wetland	Urban
Seepage Berm			
Slope Flattening			

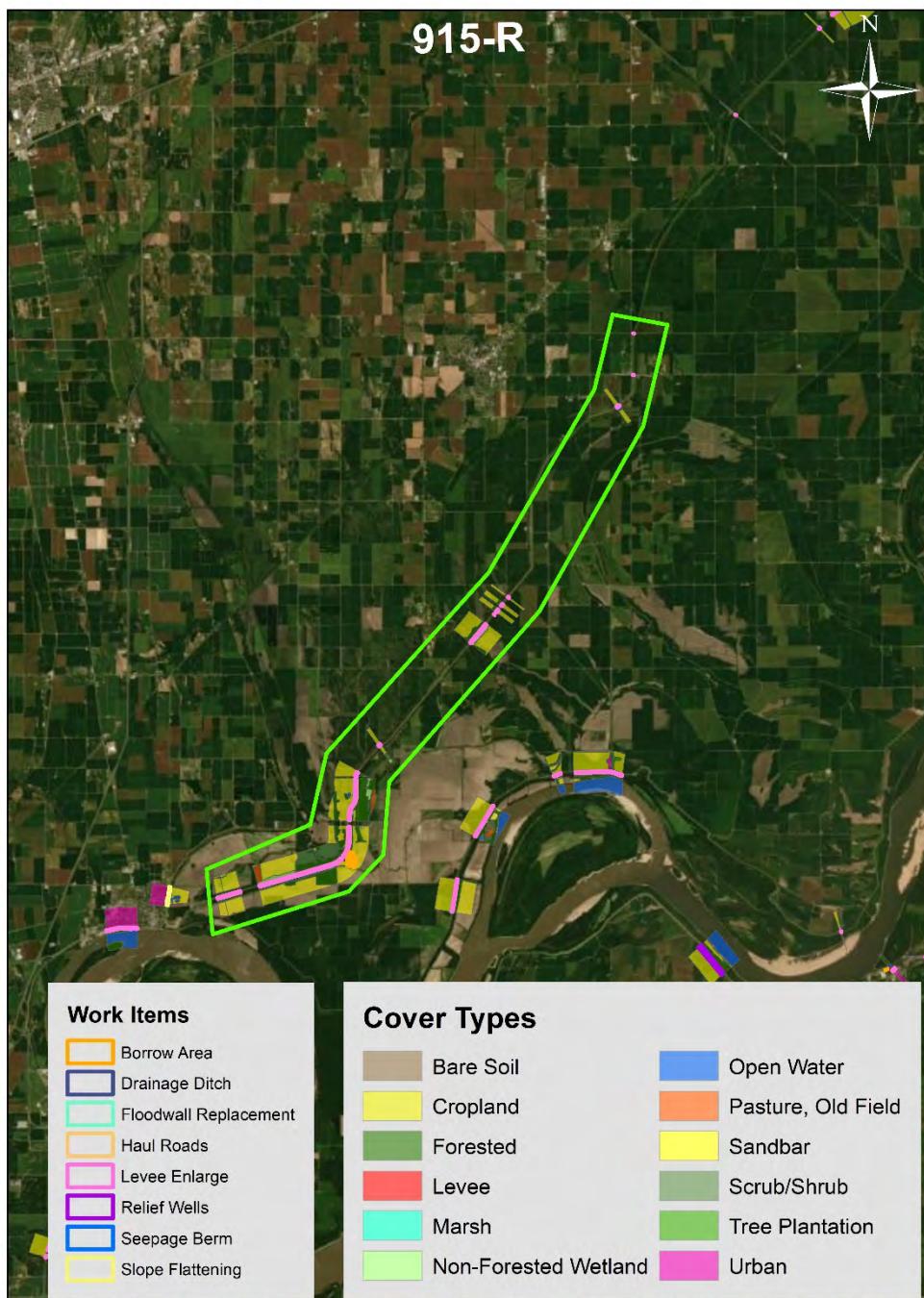
889R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	0	0.90	0		Forest	0	0.98	0	
Levee	7	0.00	0		Levee	18	0.00	0	
Open water	0	0.00	0		Open water	21	0.00	0	
Cropland	2	0.20	0		Cropland	97	0.15	15	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	133	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.91	1	4	Target year - 5		0.98	15	73
Target year - 10		0.93	1	4	Target year - 10		0.98	15	73
Target year - 20		0.94	1	8	Target year - 20		0.98	15	145
Target year - 35		0.94	1	12	Target year - 35		0.98	15	218
Target year - 50		0.94	1	12	Target year - 50		0.98	15	218
Sum of FCUs				39	Sum of FCUs				726
Pre-project AAFCUs over 50 years			1		Pre-project AAFCUs over 50 years			15	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	2.6			
Open water	0.0				Open water	9.3			
Cropland	0.0				Cropland	-11.9			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	0	0.90	0		Forest	0	0.98	0	
Levee	7	0.00	0		Levee	21	0.00	0	
Open water	0	0.00	0		Open water	30	0.00	0	
Cropland	2	0.20	0		Cropland	85	0.15	13	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	133	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.91	1	4	Target year - 5		0.98	13	64
Target year - 10		0.93	1	4	Target year - 10		0.98	13	64
Target year - 20		0.94	1	8	Target year - 20		0.98	13	127
Target year - 35		0.94	1	12	Target year - 35		0.98	13	191
Target year - 50		0.94	1	12	Target year - 50		0.98	13	191
Sum of FCUs				39	Sum of FCUs				637
Post-project AAFCUs over 50 years			1		Post-project AAFCUs over 50 years			13	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			-1.8	
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	2.5	0.17	0.43	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	2.5	0.28	0.70	3
Target year - 10	0.0	0.59	0.00	0	Target year - 10	2.5	0.59	1.46	5
Target year - 20	0.0	0.78	0.00	0	Target year - 20	2.5	0.78	1.94	17
Target year - 35	0.0	0.89	0.00	0	Target year - 35	2.5	0.89	2.19	31
Target year - 50	0.0	0.90	0.00	0	Target year - 50	2.5	0.90	2.22	33
Sum of FCUs				0	Sum of FCUs				89
Mitigation AAFCUs over 50 years			0.0		Mitigation AAFCUs over 50 years			1.8	

Figure 10.1.129 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 889-R, Farrenburg Levee, MO Slope Flattening (1/50+00 to 2/21+00), Item 889-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.7 FCUs/AAHUs, requiring 2.3 acres of mitigation.



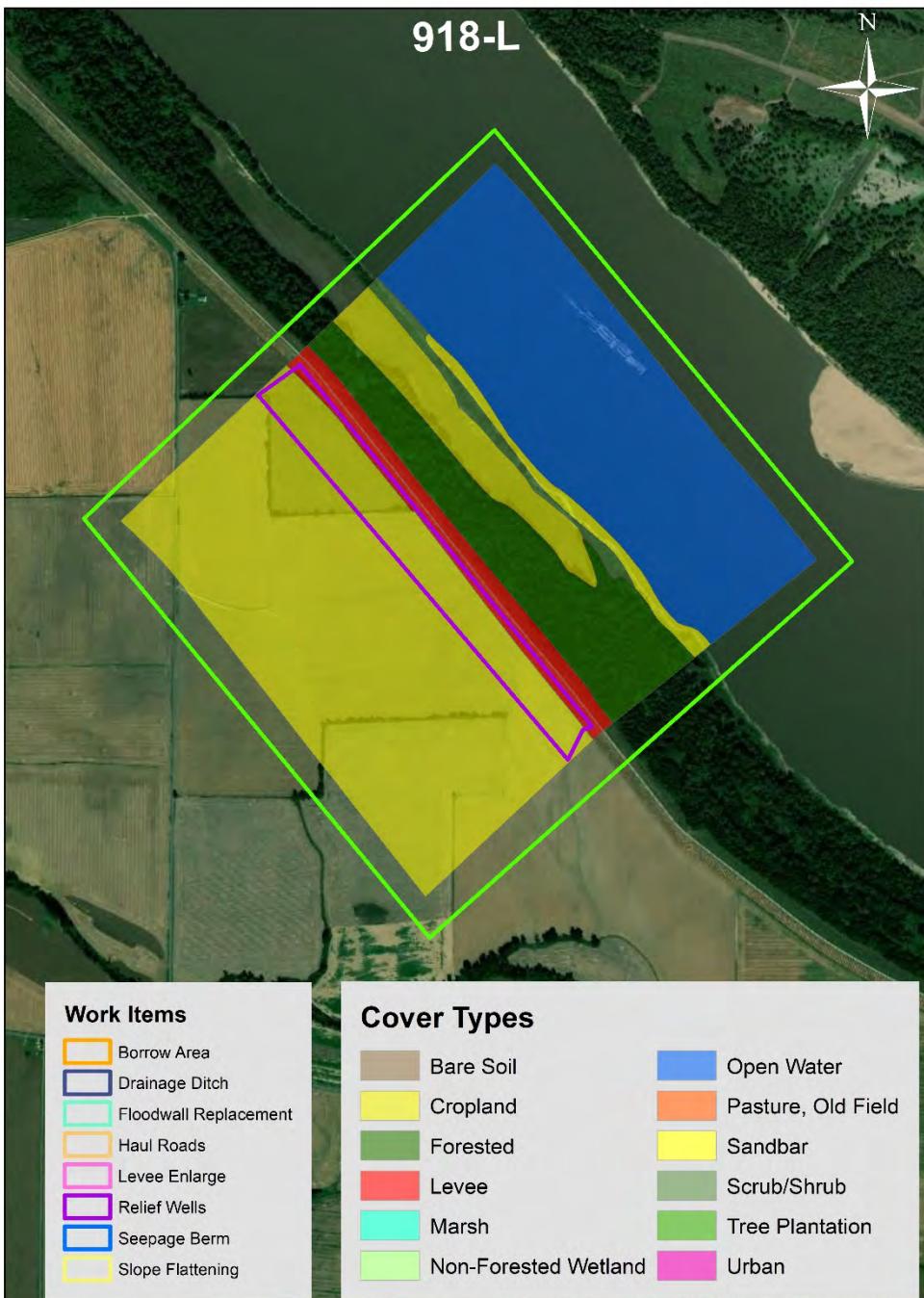
902L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		6	0.90	5		Forest		0	0.98	0	
Levee		1	0.00	0		Levee		1	0.00	0	
Open water		0	0.00	0		Open water		0	0.00	0	
Cropland		47	0.20	9		Cropland		16	0.15	2	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5			0.91	15	72	Target year - 5			0.98	2	12
Target year - 10			0.93	15	73	Target year - 10			0.98	2	12
Target year - 20			0.94	15	147	Target year - 20			0.98	2	23
Target year - 35			0.94	15	221	Target year - 35			0.98	2	35
Target year - 50			0.94	15	221	Target year - 50			0.98	2	35
Sum of FCUs					733	Sum of FCUs					116
Pre-project AAFCUs over 50 years					15	Pre-project AAFCUs over 50 years					2
Land cover change						Land cover change					
Forest		-0.2				Forest		0.0			
Levee		0.7				Levee		0.0			
Open water		0.2				Open water		0.0			
Cropland		-0.7				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		6	0.90	5		Forest		0	0.98	0	
Levee		2	0.00	0		Levee		1	0.00	0	
Open water		0	0.00	0		Open water		0	0.00	0	
Cropland		46	0.20	9		Cropland		16	0.15	2	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5			0.91	14	71	Target year - 5			0.98	2	12
Target year - 10			0.93	14	71	Target year - 10			0.98	2	12
Target year - 20			0.94	14	143	Target year - 20			0.98	2	23
Target year - 35			0.94	14	216	Target year - 35			0.98	2	35
Target year - 50			0.94	14	216	Target year - 50			0.98	2	35
Sum of FCUs					717	Sum of FCUs					116
Post-project AAFCUs over 50 years					14	Post-project AAFCUs over 50 years					2
Change in AAFCUs over 50 years					-0.3	Change in AAFCUs over 50 years					0.0
Mitigation						Mitigation					
Target year - 0		0.5	0.17	0.08		Target year - 0		0.0	0.17	0.00	
Target year - 5		0.5	0.28	0.13		1 Target year - 5		0.0	0.28	0.00	0
Target year - 10		0.5	0.59	0.27		1 Target year - 10		0.0	0.59	0.00	0
Target year - 20		0.5	0.78	0.36		3 Target year - 20		0.0	0.78	0.00	0
Target year - 35		0.5	0.89	0.40		6 Target year - 35		0.0	0.89	0.00	0
Target year - 50		0.5	0.90	0.41		6 Target year - 50		0.0	0.90	0.00	0
Sum of FCUs					16	Sum of FCUs					0
Mitigation AAFCUs over 50 years					0.3	Mitigation AAFCUs over 50 years					0.0

Figure 10.1.130 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 902-L, Lake No. 9 – KY-TN State Line, TN (21/3+80 to 21/7+30), Item 902-L, Tennessee, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.3 FCUs/AAHUs, requiring 0.5 acres of mitigation.



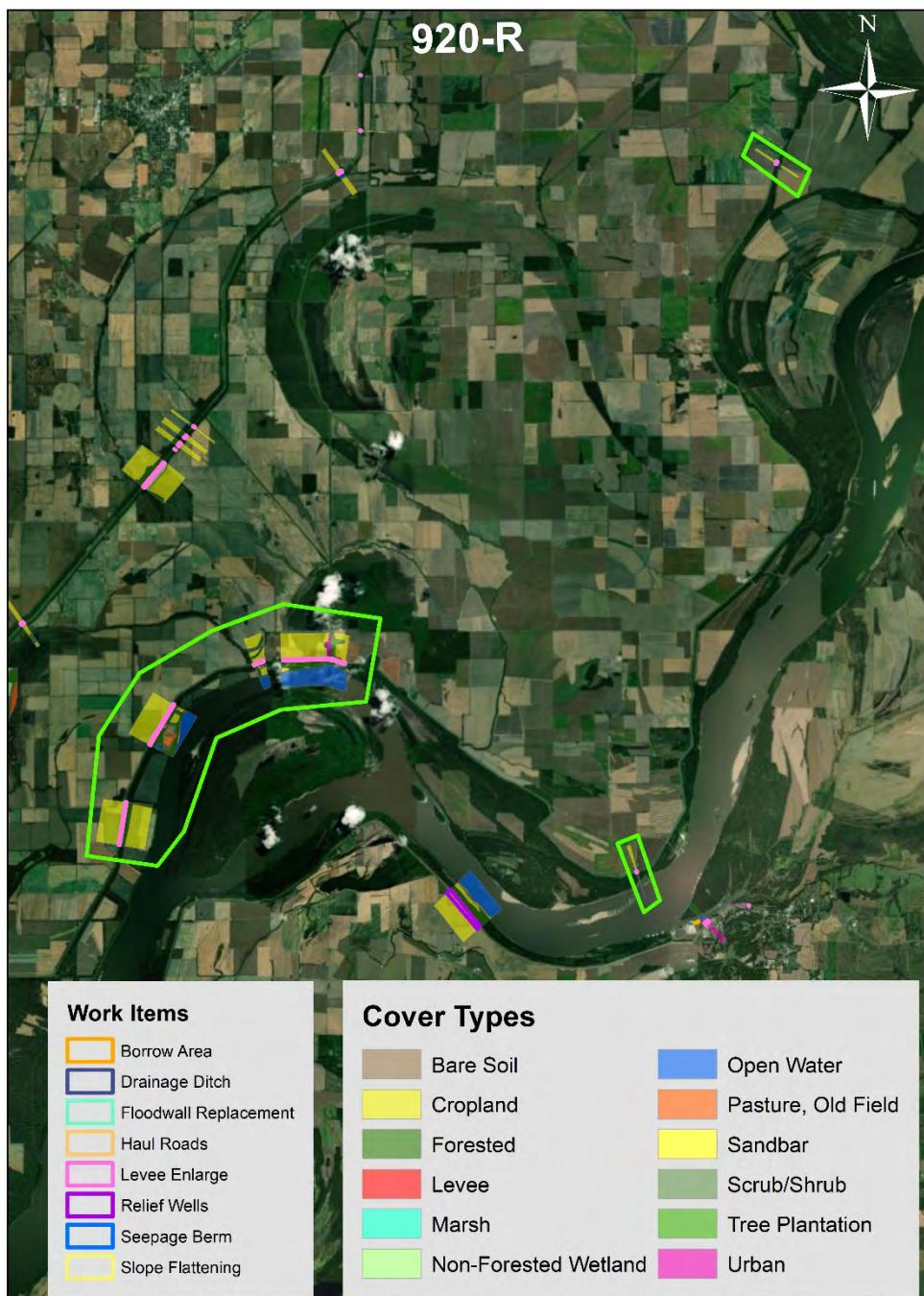
915R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		0	0.90	0		Forest		1188	0.99	1176	
Levee		0	0.00	0		Levee		224	0.00	0	
Open water		0	0.00	0		Open water		71	0.00	0	
Cropland		0	0.20	0		Cropland		2159	0.15	324	
Pasture/old field		0	0.20	0		Pasture/old field		64	0.15	10	
Urban		0	0.00	0		Urban		0	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.92	0	0		Target year - 5		0.99	1510	7549	
Target year - 10		0.93	0	0		Target year - 10		0.99	1510	7549	
Target year - 20		0.95	0	0		Target year - 20		0.99	1510	15098	
Target year - 35		0.95	0	0		Target year - 35		0.99	1510	22647	
Target year - 50		0.95	0	0		Target year - 50		0.99	1510	22647	
Sum of FCUs						Sum of FCUs				75490	
Pre-project AAFCUs over 50 years				0		Pre-project AAFCUs over 50 years				1510	
Land cover change						Land cover change					
Forest		0.0				Forest		-17.6			
Levee		0.0				Levee		18.3			
Open water		0.0				Open water		16.7			
Cropland		0.0				Cropland		-17.4			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.90	0		Forest		1171	0.99	1159	
Levee		0	0.00	0		Levee		243	0.00	0	
Open water		0	0.00	0		Open water		88	0.00	0	
Cropland		0	0.20	0		Cropland		2141	0.15	321	
Pasture/old field		0	0.20	0		Pasture/old field		64	0.15	10	
Urban		0	0.00	0		Urban		0	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.92	0	0		Target year - 5		0.99	1490	7449	
Target year - 10		0.93	0	0		Target year - 10		0.99	1490	7449	
Target year - 20		0.95	0	0		Target year - 20		0.99	1490	14898	
Target year - 35		0.95	0	0		Target year - 35		0.99	1490	22346	
Target year - 50		0.95	0	0		Target year - 50		0.99	1490	22346	
Sum of FCUs						Sum of FCUs				74488	
Post-project AAFCUs over 50 years				0		Post-project AAFCUs over 50 years				1490	
Change in AAFCUs over 50 years				0.0		Change in AAFCUs over 50 years				-20.0	
Mitigation						Mitigation					
Target year - 0		0.0	0.17	0.00		Target year - 0		27.8	0.17	4.86	
Target year - 5		0.0	0.28	0.00		Target year - 5		27.8	0.28	7.81	32
Target year - 10		0.0	0.59	0.00		Target year - 10		27.8	0.59	16.43	61
Target year - 20		0.0	0.78	0.00		Target year - 20		27.8	0.78	21.77	191
Target year - 35		0.0	0.89	0.00		Target year - 35		27.8	0.89	24.62	348
Target year - 50		0.0	0.90	0.00		Target year - 50		27.8	0.90	24.88	371
Sum of FCUs						Sum of FCUs				1002	
Mitigation AAFCUs over 50 years				0.0		Mitigation AAFCUs over 50 years				20.0	

Figure 10.1.131 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 915-R, Birds Point – New Madrid Setback, MO (12/32+00 to 36/0+00), Item 915-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -22.6 FCUs/AAHUs, requiring 31.4 acres of mitigation.



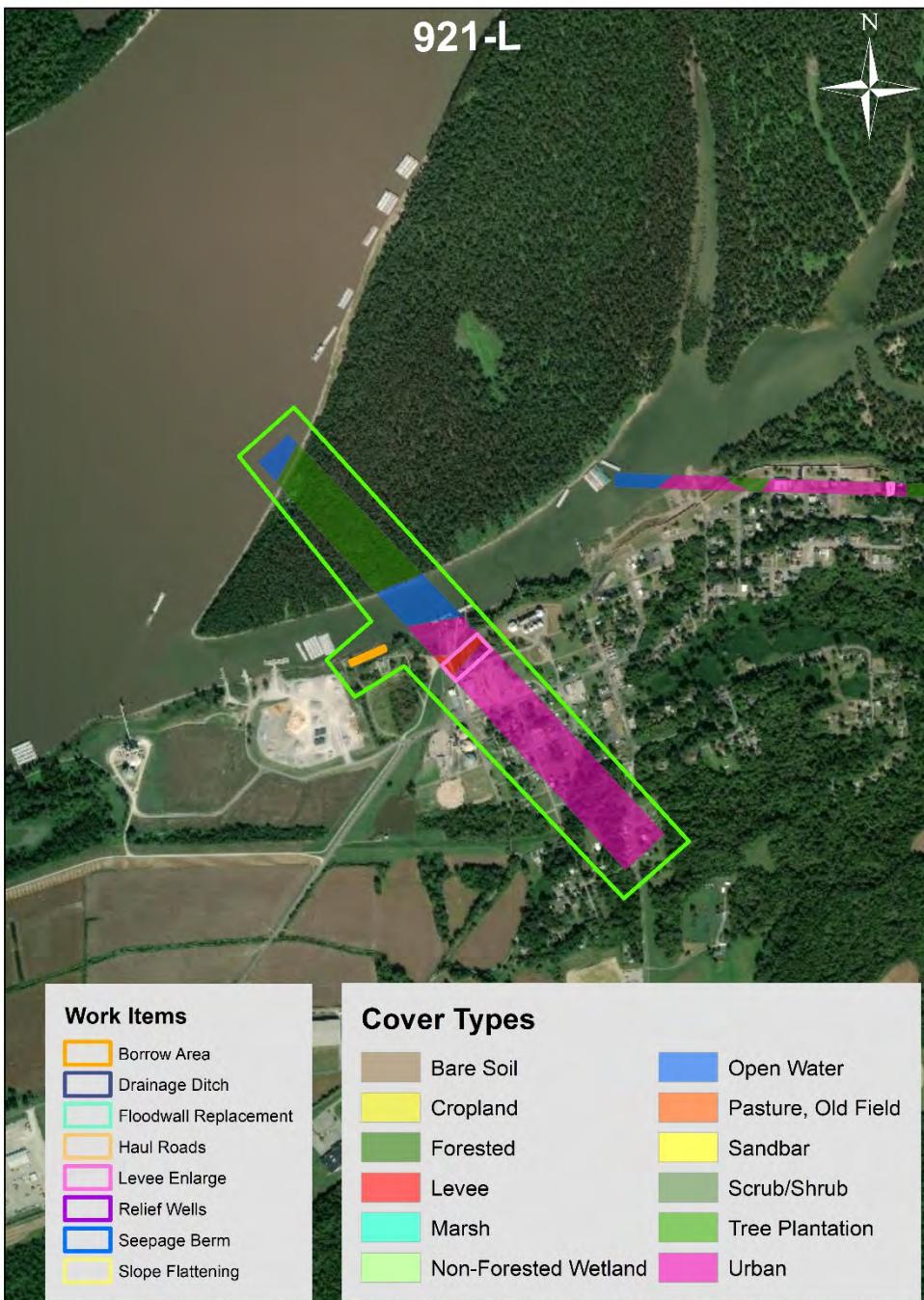
918L		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	80	0.90	72		Forest	0	0.98	0	
Levee	14	0.00	0		Levee	12	0.00	0	
Open water	162	0.00	0		Open water	0	0.00	0	
Cropland	29	0.20	6		Cropland	231	0.15	35	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.91	79	391	Target year - 5		0.98	35	173
Target year - 10		0.93	80	398	Target year - 10		0.98	35	173
Target year - 20		0.94	81	808	Target year - 20		0.98	35	346
Target year - 35		0.94	81	1221	Target year - 35		0.98	35	520
Target year - 50		0.94	81	1221	Target year - 50		0.98	35	520
Sum of FCUs				4040	Sum of FCUs				1732
Pre-project AAFCUs over 50 years				81	Pre-project AAFCUs over 50 years				35
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	39.3			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	-39.3			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	80	0.90	72		Forest	0	0.98	0	
Levee	14	0.00	0		Levee	52	0.00	0	
Open water	162	0.00	0		Open water	0	0.00	0	
Cropland	29	0.20	6		Cropland	192	0.15	29	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.91	79	391	Target year - 5		0.98	29	144
Target year - 10		0.93	80	398	Target year - 10		0.98	29	144
Target year - 20		0.94	81	808	Target year - 20		0.98	29	287
Target year - 35		0.94	81	1221	Target year - 35		0.98	29	431
Target year - 50		0.94	81	1221	Target year - 50		0.98	29	431
Sum of FCUs				4040	Sum of FCUs				1437
Post-project AAFCUs over 50 years				81	Post-project AAFCUs over 50 years				29
Change in AAFCUs over 50 years				0.0	Change in AAFCUs over 50 years				-5.9
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	8.2	0.17	1.43	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	8.2	0.28	2.30	9
Target year - 10	0.0	0.59	0.00	0	Target year - 10	8.2	0.59	4.84	18
Target year - 20	0.0	0.78	0.00	0	Target year - 20	8.2	0.78	6.41	56
Target year - 35	0.0	0.89	0.00	0	Target year - 35	8.2	0.89	7.24	102
Target year - 50	0.0	0.90	0.00	0	Target year - 50	8.2	0.90	7.32	109
Sum of FCUs					Sum of FCUs				295
Mitigation AAFCUs over 50 years				0.0	Mitigation AAFCUs over 50 years				5.9

Figure 10.1.132 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 918-L, Island 8 Parcel 3, KY (4/0+00 to 5/20+00), Item 918-L, Kentucky, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -5.9 FCUs/AAHUs, requiring 8.2 acres of mitigation.



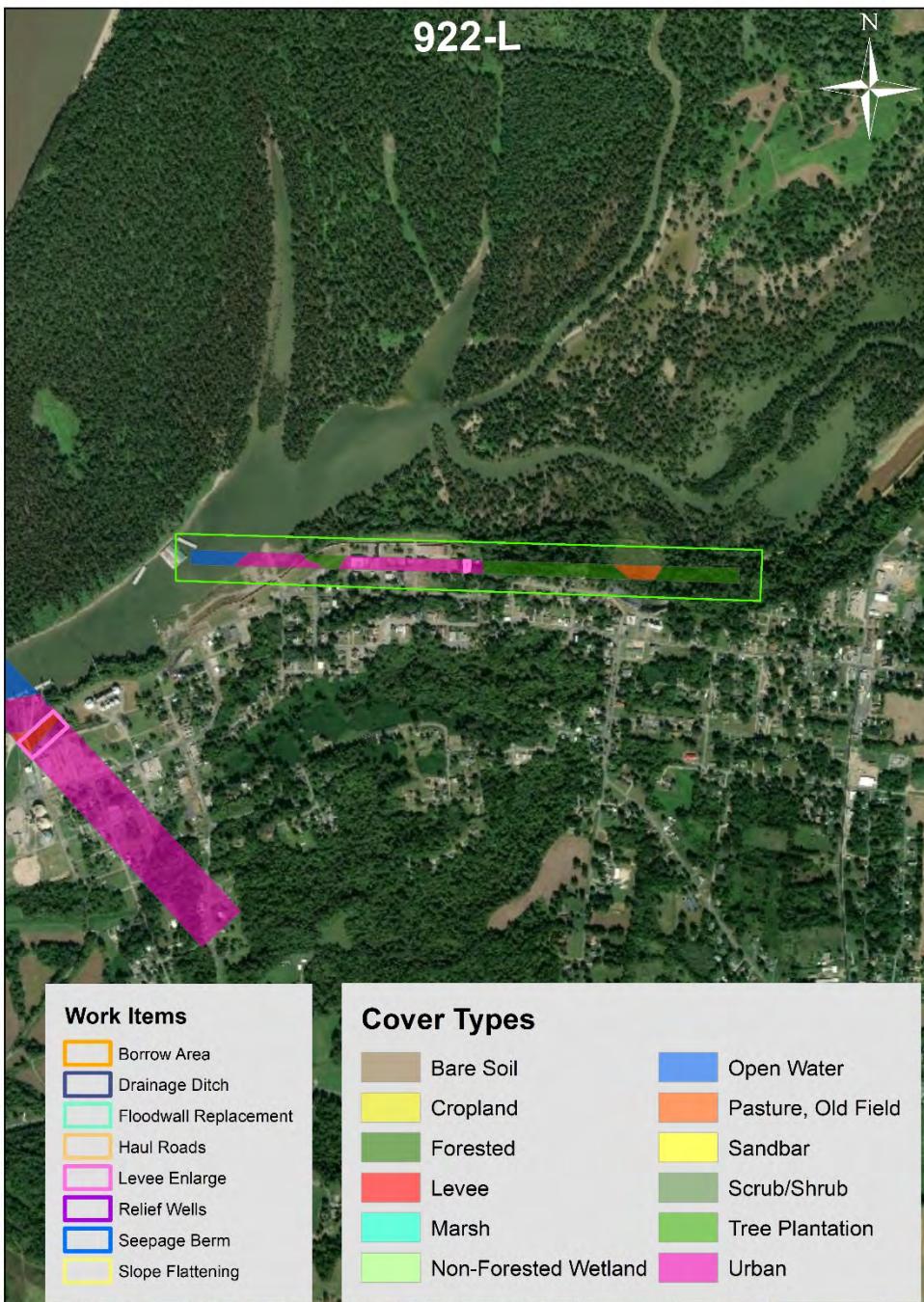
920R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest	314	0.90	283			Forest		39	0.98	38	
Levee	43	0.00	0			Levee		29	0.00	0	
Open water	342	0.00	0			Open water		22	0.00	0	
Cropland	236	0.20	47			Cropland		871	0.15	131	
Pasture/old field	25	0.20	5			Pasture/old field		0	0.15	0	
Urban	0	0.00	0			Urban		25	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.92	340		1687	Target year - 5		0.98	169	843	
Target year - 10		0.93	345		1712	Target year - 10		0.98	169	843	
Target year - 20		0.95	350		3474	Target year - 20		0.98	169	1687	
Target year - 35		0.95	350		5248	Target year - 35		0.98	169	2530	
Target year - 50		0.95	350		5248	Target year - 50		0.98	169	2530	
Sum of FCUs					17370	Sum of FCUs				8434	
Pre-project AAFCUs over 50 years						Pre-project AAFCUs over 50 years					
Land cover change						Land cover change					
Forest	-11.2					Forest		0.0			
Levee	11.2					Levee		0.0			
Open water	0.0					Open water		9.1			
Cropland	0.0					Cropland		-9.1			
Pasture/old field	0.0					Pasture/old field		0.0			
Urban	0.0					Urban		0.0			
Post-project land cover						Post-project land cover					
Forest	302	0.90	273			Forest		39	0.98	38	
Levee	54	0.00	0			Levee		29	0.00	0	
Open water	342	0.00	0			Open water		31	0.00	0	
Cropland	236	0.20	47			Cropland		862	0.15	129	
Pasture/old field	25	0.20	5			Pasture/old field		0	0.15	0	
Urban	0	0.00	0			Urban		25	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.92	330		1637	Target year - 5		0.98	167	837	
Target year - 10		0.93	334		1660	Target year - 10		0.98	167	837	
Target year - 20		0.95	339		3369	Target year - 20		0.98	167	1673	
Target year - 35		0.95	339		5089	Target year - 35		0.98	167	2510	
Target year - 50		0.95	339		5089	Target year - 50		0.98	167	2510	
Sum of FCUs					16843	Sum of FCUs				8365	
Post-project AAFCUs over 50 years						Post-project AAFCUs over 50 years					
Change in AAFCUs over 50 years						Change in AAFCUs over 50 years					
Mitigation						Mitigation					
Target year - 0	14.6	0.17	2.56			Target year - 0		1.9	0.17	0.33	
Target year - 5	14.6	0.28	4.11		17	Target year - 5		1.9	0.28	0.53	2
Target year - 10	14.6	0.59	8.65		32	Target year - 10		1.9	0.59	1.12	4
Target year - 20	14.6	0.78	11.46		101	Target year - 20		1.9	0.78	1.48	13
Target year - 35	14.6	0.89	12.95		183	Target year - 35		1.9	0.89	1.68	24
Target year - 50	14.6	0.90	13.09		195	Target year - 50		1.9	0.90	1.70	25
Sum of FCUs					528	Sum of FCUs				68	
Mitigation AAFCUs over 50 years					10.6	Mitigation AAFCUs over 50 years				1.4	

Figure 10.1.133 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 920-R, Birds Point - New Madrid Frontline Levee, MO (43/21+00 to 87/0+00), Item 920-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -19.1 FCUs/AAHUs, requiring 26.5 acres of mitigation.



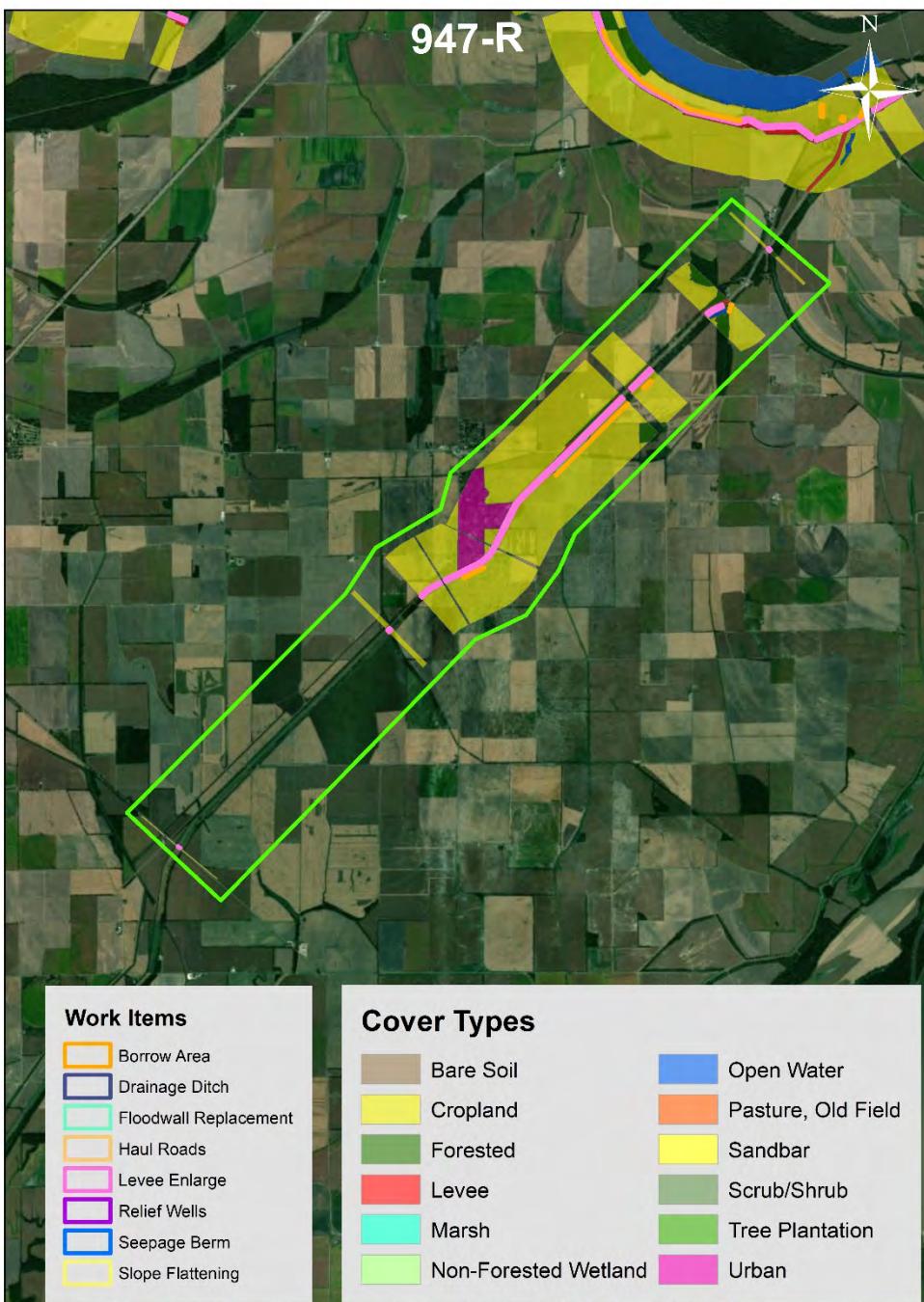
921L		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		15	0.90	14		Forest		0	0.98	0	
Levee		0	0.00	0		Levee		1	0.00	0	
Open water		7	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		0	0.15	0	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		4	0.00	0		Urban		28	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.91	14		69	Target year - 5		0.98	0	0	
Target year - 10		0.93	14		70	Target year - 10		0.98	0	0	
Target year - 20		0.94	14		143	Target year - 20		0.98	0	0	
Target year - 35		0.94	14		216	Target year - 35		0.98	0	0	
Target year - 50		0.94	14		216	Target year - 50		0.98	0	0	
Sum of FCUs					715	Sum of FCUs					0
Pre-project AAFCUs over 50 years						Pre-project AAFCUs over 50 years					
Land cover change						Land cover change					
Forest		0.0				Forest		0.0			
Levee		0.0				Levee		0.9			
Open water		0.3				Open water		0.0			
Cropland		0.0				Cropland		0.0			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		-0.3				Urban		-0.9			
Post-project land cover						Post-project land cover					
Forest		15	0.90	14		Forest		0	0.98	0	
Levee		0	0.00	0		Levee		2	0.00	0	
Open water		7	0.00	0		Open water		0	0.00	0	
Cropland		0	0.20	0		Cropland		0	0.15	0	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		4	0.00	0		Urban		28	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.91	14		69	Target year - 5		0.98	0	0	
Target year - 10		0.93	14		70	Target year - 10		0.98	0	0	
Target year - 20		0.94	14		143	Target year - 20		0.98	0	0	
Target year - 35		0.94	14		216	Target year - 35		0.98	0	0	
Target year - 50		0.94	14		216	Target year - 50		0.98	0	0	
Sum of FCUs					715	Sum of FCUs					0
Post-project AAFCUs over 50 years						Post-project AAFCUs over 50 years					
Change in AAFCUs over 50 years						Change in AAFCUs over 50 years					
Mitigation						Mitigation					
Target year - 0		0.0	0.17	0.00		Target year - 0		0.0	0.17	0.00	
Target year - 5		0.0	0.28	0.00		Target year - 5		0.0	0.28	0.00	0
Target year - 10		0.0	0.59	0.00		Target year - 10		0.0	0.59	0.00	0
Target year - 20		0.0	0.78	0.00		Target year - 20		0.0	0.78	0.00	0
Target year - 35		0.0	0.89	0.00		Target year - 35		0.0	0.89	0.00	0
Target year - 50		0.0	0.90	0.00		Target year - 50		0.0	0.90	0.00	0
Sum of FCUs						Sum of FCUs					0
Mitigation AAFCUs over 50 years					0.0	Mitigation AAFCUs over 50 years					0.0

Figure 10.1.134 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 921-L, Hickman Levee Grade Raise, KY, Item 921-L, Kentucky, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



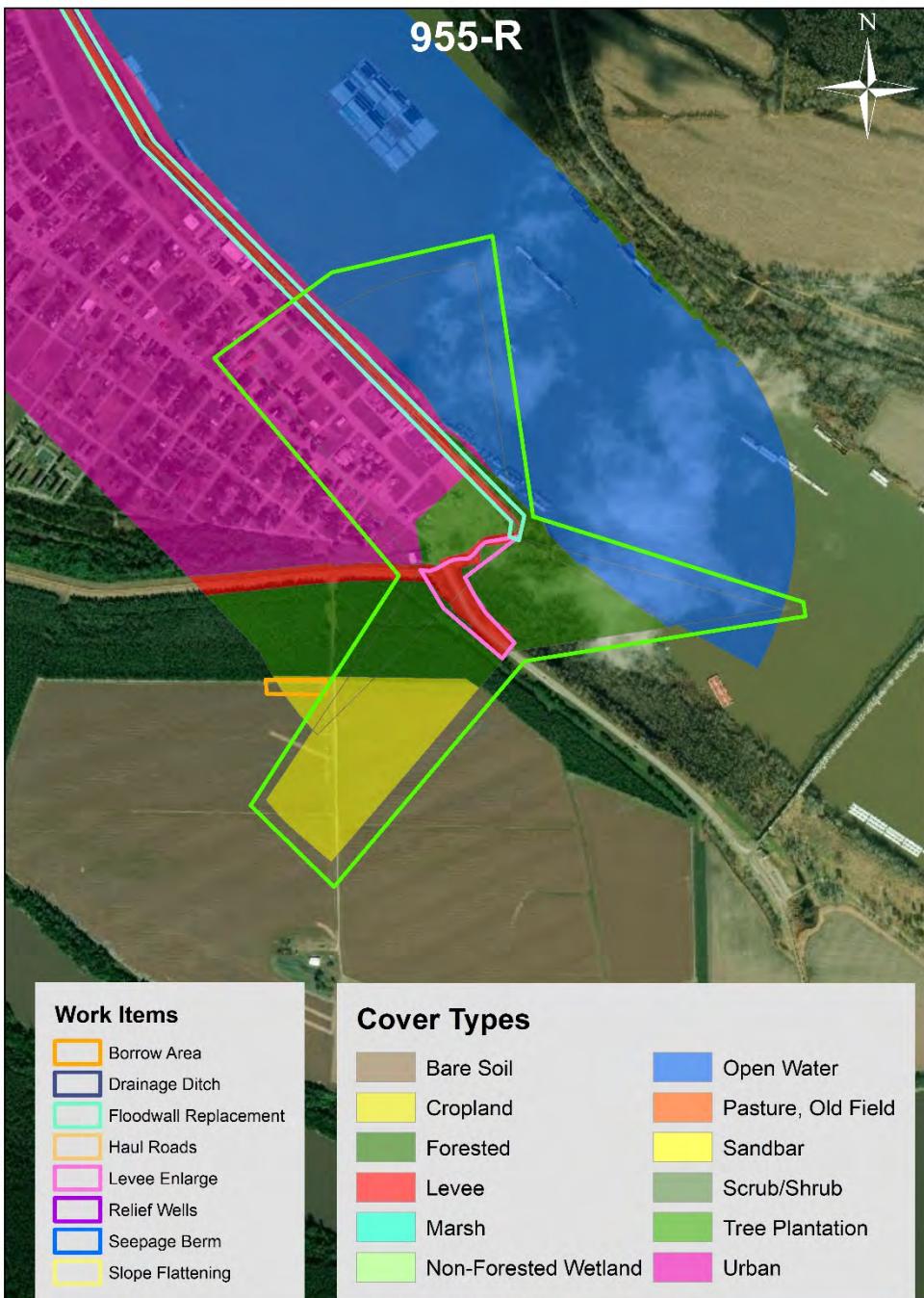
922L		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	6	0.90	6		Forest	1	0.98	1	
Levee	0	0.00	0		Levee	0	0.00	0	
Open water	0	0.00	0		Open water	2	0.00	0	
Cropland	0	0.20	0		Cropland	0	0.15	0	
Pasture/old field	1	0.20	0		Pasture/old field	0	0.15	0	
Urban	1	0.00	0		Urban	6	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.91	6	30	Target year - 5		0.98	1	4
Target year - 10		0.93	6	30	Target year - 10		0.98	1	4
Target year - 20		0.94	6	61	Target year - 20		0.98	1	9
Target year - 35		0.94	6	92	Target year - 35		0.98	1	13
Target year - 50		0.94	6	92	Target year - 50		0.98	1	13
Sum of FCUs				305	Sum of FCUs				44
Pre-project AAFCUs over 50 years			6		Pre-project AAFCUs over 50 years			1	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.1				Levee	0.0			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	-0.1				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	6	0.90	6		Forest	1	0.98	1	
Levee	0	0.00	0		Levee	0	0.00	0	
Open water	0	0.00	0		Open water	2	0.00	0	
Cropland	0	0.20	0		Cropland	0	0.15	0	
Pasture/old field	1	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	6	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.91	6	30	Target year - 5		0.98	1	4
Target year - 10		0.93	6	30	Target year - 10		0.98	1	4
Target year - 20		0.94	6	61	Target year - 20		0.98	1	9
Target year - 35		0.94	6	92	Target year - 35		0.98	1	13
Target year - 50		0.94	6	92	Target year - 50		0.98	1	13
Sum of FCUs				305	Sum of FCUs				44
Post-project AAFCUs over 50 years			6		Post-project AAFCUs over 50 years			1	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.0	0.17	0.00		Target year - 0	0.0	0.17	0.00	
Target year - 5	0.0	0.28	0.00	0	Target year - 5	0.0	0.28	0.00	0
Target year - 10	0.0	0.59	0.00	0	Target year - 10	0.0	0.59	0.00	0
Target year - 20	0.0	0.78	0.00	0	Target year - 20	0.0	0.78	0.00	0
Target year - 35	0.0	0.89	0.00	0	Target year - 35	0.0	0.89	0.00	0
Target year - 50	0.0	0.90	0.00	0	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				0	Sum of FCUs				0
Mitigation AAFCUs over 50 years				0.0	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.135 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 922-L, Hickman Floodwall Embankment Tie-in, KY, Item 922-L, Kentucky, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



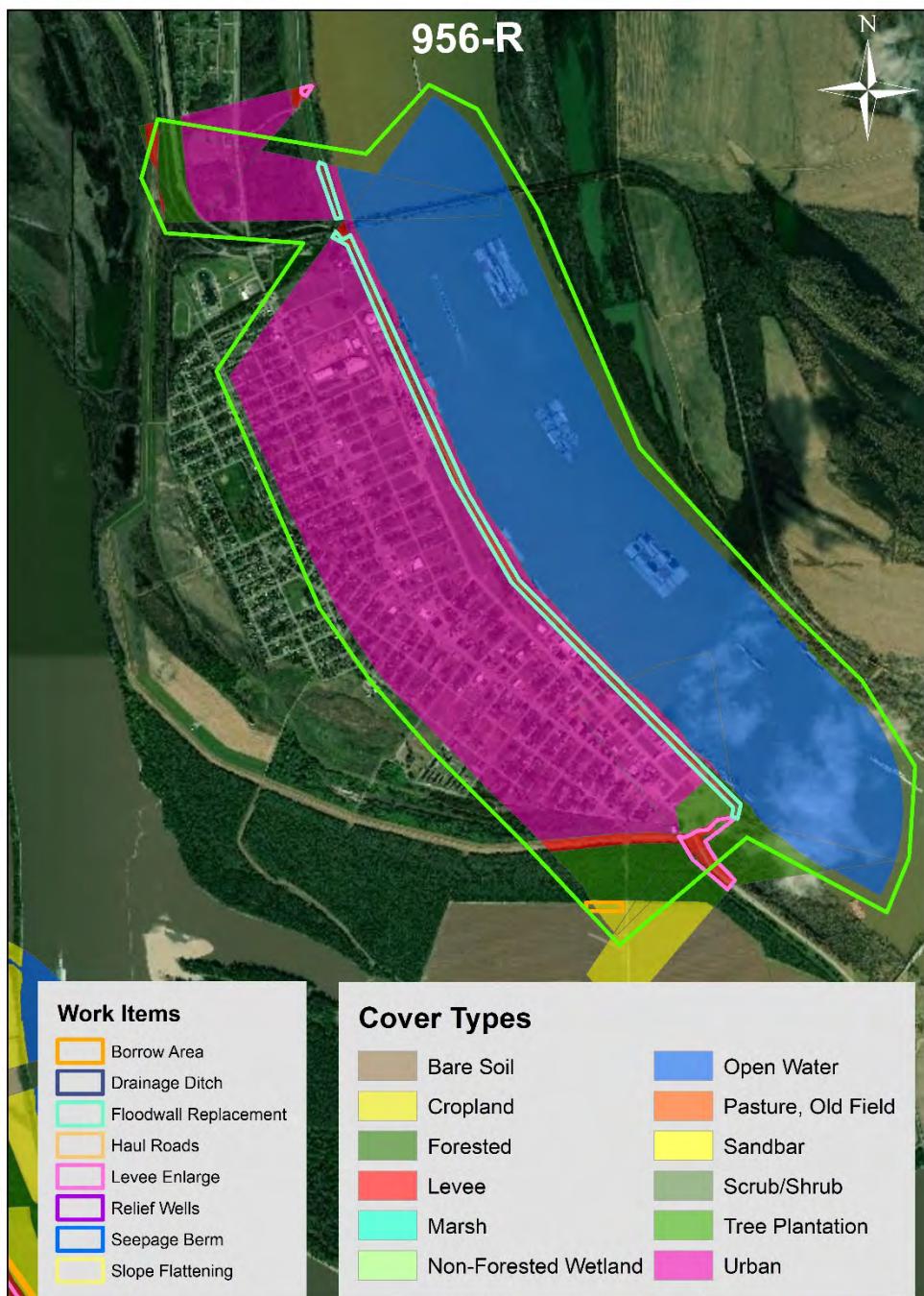
947R		Riverside				Landside					
Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover		Acres	FCI	FCUs	FCUs btw yrs
Forest		0	0.90	0		Forest		90	0.99	89	
Levee		0	0.00	0		Levee		98	0.00	0	
Open water		0	0.00	0		Open water		6	0.00	0	
Cropland		0	0.20	0		Cropland		1821	0.15	273	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		166	0.00	0	
Pre-project future conditions						Pre-project future conditions					
Target year - 5		0.92	0	0		Target year - 5		0.99	362	1809	
Target year - 10		0.93	0	0		Target year - 10		0.99	362	1809	
Target year - 20		0.95	0	0		Target year - 20		0.99	362	3618	
Target year - 35		0.95	0	0		Target year - 35		0.99	362	5427	
Target year - 50		0.95	0	0		Target year - 50		0.99	362	5427	
Sum of FCUs						Sum of FCUs				18091	
Pre-project AAFCUs over 50 years				0		Pre-project AAFCUs over 50 years				362	
Land cover change						Land cover change					
Forest		0.0				Forest		-5.4			
Levee		0.0				Levee		16.5			
Open water		0.0				Open water		8.2			
Cropland		0.0				Cropland		-19.3			
Pasture/old field		0.0				Pasture/old field		0.0			
Urban		0.0				Urban		0.0			
Post-project land cover						Post-project land cover					
Forest		0	0.90	0		Forest		84	0.99	83	
Levee		0	0.00	0		Levee		115	0.00	0	
Open water		0	0.00	0		Open water		14	0.00	0	
Cropland		0	0.20	0		Cropland		1802	0.15	270	
Pasture/old field		0	0.20	0		Pasture/old field		0	0.15	0	
Urban		0	0.00	0		Urban		166	0.00	0	
Post-project future conditions						Post-project future conditions					
Target year - 5		0.92	0	0		Target year - 5		0.99	354	1768	
Target year - 10		0.93	0	0		Target year - 10		0.99	354	1768	
Target year - 20		0.95	0	0		Target year - 20		0.99	354	3536	
Target year - 35		0.95	0	0		Target year - 35		0.99	354	5304	
Target year - 50		0.95	0	0		Target year - 50		0.99	354	5304	
Sum of FCUs						Sum of FCUs				17679	
Post-project AAFCUs over 50 years				0		Post-project AAFCUs over 50 years				354	
Change in AAFCUs over 50 years			0.0			Change in AAFCUs over 50 years				-8.2	
Mitigation						Mitigation					
Target year - 0		0.0	0.17	0.00		Target year - 0		11.4	0.17	2.00	
Target year - 5		0.0	0.28	0.00		Target year - 5		11.4	0.28	3.21	13
Target year - 10		0.0	0.59	0.00		Target year - 10		11.4	0.59	6.76	25
Target year - 20		0.0	0.78	0.00		Target year - 20		11.4	0.78	8.96	79
Target year - 35		0.0	0.89	0.00		Target year - 35		11.4	0.89	10.13	143
Target year - 50		0.0	0.90	0.00		Target year - 50		11.4	0.90	10.24	153
Sum of FCUs						Sum of FCUs				412	
Mitigation AAFCUs over 50 years				0.0		Mitigation AAFCUs over 50 years				8.2	

Figure 10.1.136 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 947-R, Birds Point – New Madrid Setback, MO (0/0+00 to 12/32+00), Item 947-R, Missouri, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -7.6 FCUs/AAHUs, requiring 10.6 acres of mitigation.



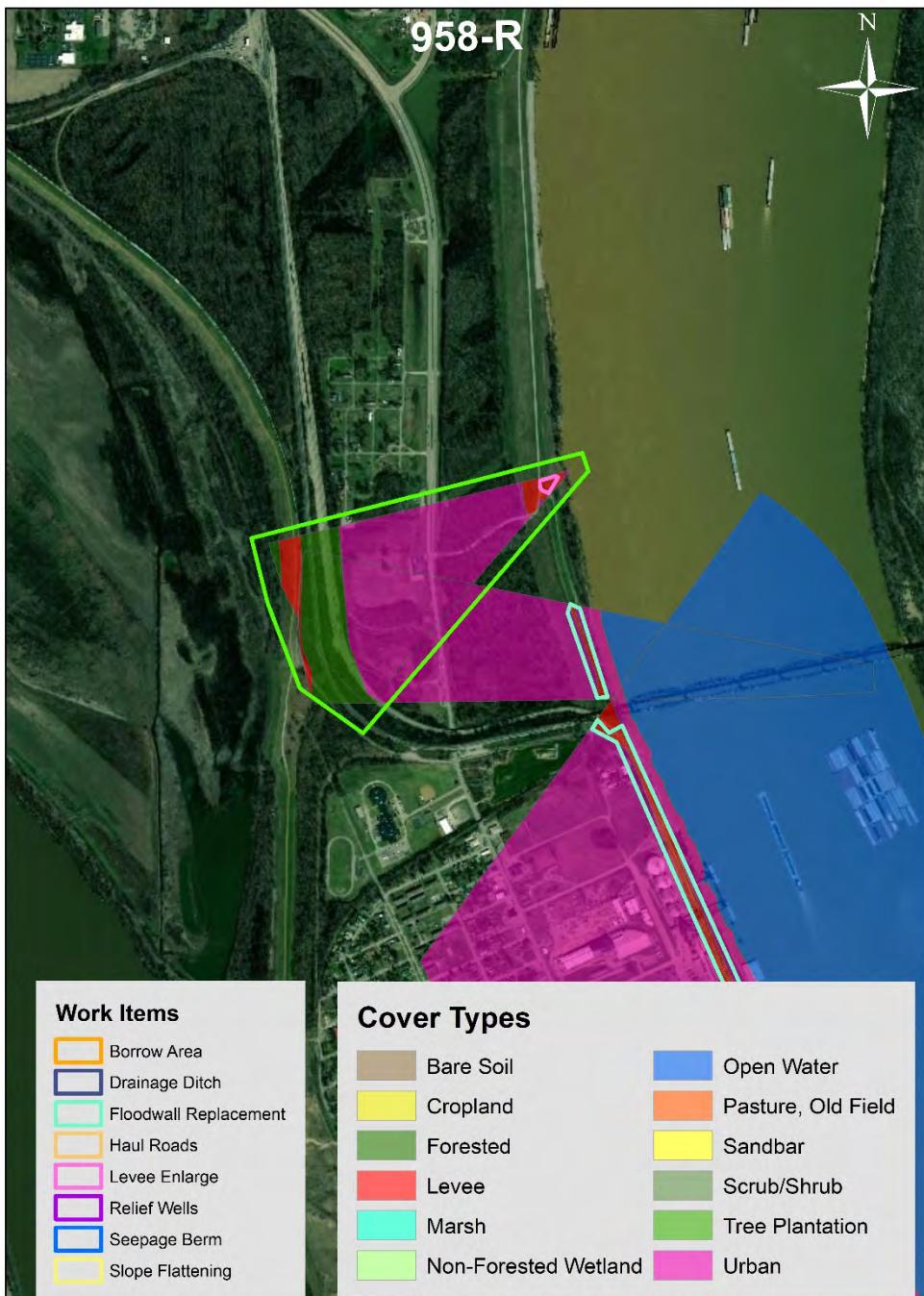
955R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	47	0.84	39		Forest	10	0.94	10	
Levee	9	0.00	0		Levee	4	0.00	0	
Open water	46	0.00	0		Open water	0	0.00	0	
Cropland	42	0.20	8		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	48	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.86	48	240	Target year - 5		0.94	10	48
Target year - 10		0.87	49	244	Target year - 10		0.94	10	48
Target year - 20		0.89	50	495	Target year - 20		0.94	10	96
Target year - 35		0.89	50	747	Target year - 35		0.94	10	144
Target year - 50		0.89	50	747	Target year - 50		0.94	10	144
Sum of FCUs				2473	Sum of FCUs				479
Pre-project AAFCUs over 50 years			49		Pre-project AAFCUs over 50 years			10	
Land cover change					Land cover change				
Forest	-0.6				Forest	0.0			
Levee	0.6				Levee	0.0			
Open water	1.8				Open water	0.0			
Cropland	-1.8				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	46	0.84	39		Forest	10	0.94	10	
Levee	10	0.00	0		Levee	4	0.00	0	
Open water	48	0.00	0		Open water	0	0.00	0	
Cropland	40	0.20	8		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	48	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.86	47	236	Target year - 5		0.94	10	48
Target year - 10		0.87	48	239	Target year - 10		0.94	10	48
Target year - 20		0.89	49	486	Target year - 20		0.94	10	96
Target year - 35		0.89	49	734	Target year - 35		0.94	10	144
Target year - 50		0.89	49	734	Target year - 50		0.94	10	144
Sum of FCUs				2428	Sum of FCUs				479
Post-project AAFCUs over 50 years			49		Post-project AAFCUs over 50 years			10	
Change in AAFCUs over 50 years			-0.9		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	1.2	0.17	0.22		Target year - 0	0.0	0.17	0.00	
Target year - 5	1.2	0.28	0.35	1	Target year - 5	0.0	0.28	0.00	0
Target year - 10	1.2	0.59	0.73	3	Target year - 10	0.0	0.59	0.00	0
Target year - 20	1.2	0.78	0.97	8	Target year - 20	0.0	0.78	0.00	0
Target year - 35	1.2	0.89	1.09	15	Target year - 35	0.0	0.89	0.00	0
Target year - 50	1.2	0.90	1.10	16	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				44	Sum of FCUs				0
Mitigation AAFCUs over 50 years				0.9	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.137 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 955-R, Fish Market Gate/High 51 Closure, IL, Item 955-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.1 FCUs/AAHUs, requiring 2.9 acres of mitigation.



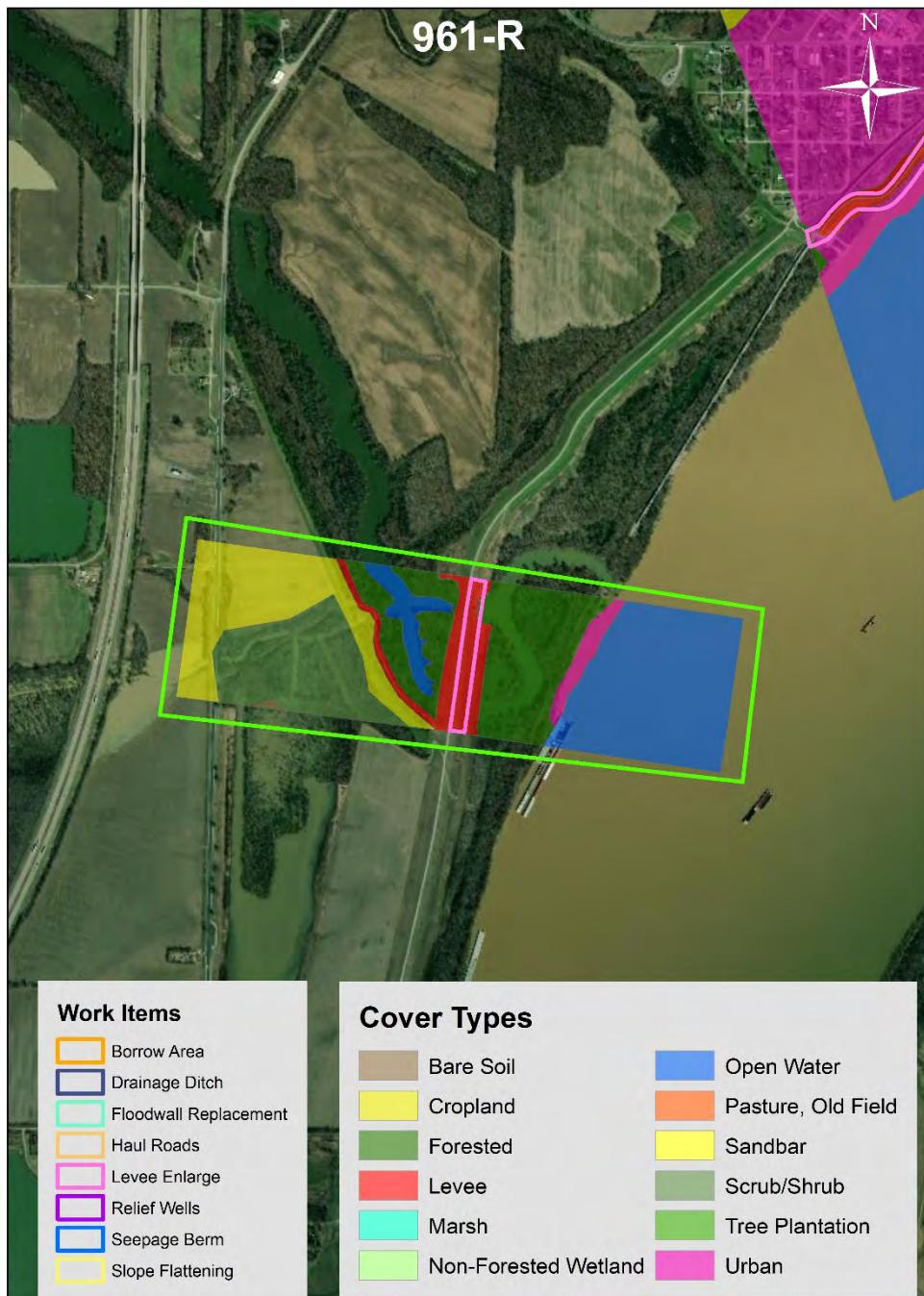
956R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	41	0.84	34		Forest	25	0.94	23	
Levee	13	0.00	0		Levee	24	0.00	0	
Open water	754	0.00	0		Open water	0	0.00	0	
Cropland	7	0.20	1		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	39	0.00	0		Urban	656	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.86	36	179	Target year - 5		0.94	23	116
Target year - 10		0.87	37	182	Target year - 10		0.94	23	116
Target year - 20		0.89	37	371	Target year - 20		0.94	23	231
Target year - 35		0.89	37	562	Target year - 35		0.94	23	347
Target year - 50		0.89	37	562	Target year - 50		0.94	23	347
Sum of FCUs				1856	Sum of FCUs				1156
Pre-project AAFCUs over 50 years			37		Pre-project AAFCUs over 50 years			23	
Land cover change					Land cover change				
Forest	-1.8				Forest	-0.9			
Levee	18.3				Levee	17.2			
Open water	0.0				Open water	0.0			
Cropland	0.0				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	-16.5				Urban	-16.3			
Post-project land cover					Post-project land cover				
Forest	39	0.84	33		Forest	24	0.94	22	
Levee	32	0.00	0		Levee	41	0.00	0	
Open water	754	0.00	0		Open water	0	0.00	0	
Cropland	7	0.20	1		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	22	0.00	0		Urban	640	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.86	35	172	Target year - 5		0.94	22	111
Target year - 10		0.87	35	175	Target year - 10		0.94	22	111
Target year - 20		0.89	36	355	Target year - 20		0.94	22	223
Target year - 35		0.89	36	538	Target year - 35		0.94	22	334
Target year - 50		0.89	36	538	Target year - 50		0.94	22	334
Sum of FCUs				1777	Sum of FCUs				1114
Post-project AAFCUs over 50 years			36		Post-project AAFCUs over 50 years			22	
Change in AAFCUs over 50 years			-1.6		Change in AAFCUs over 50 years			-0.8	
Mitigation					Mitigation				
Target year - 0	2.2	0.17	0.38		Target year - 0	1.2	0.17	0.21	
Target year - 5	2.2	0.28	0.62	3	Target year - 5	1.2	0.28	0.33	1
Target year - 10	2.2	0.59	1.30	5	Target year - 10	1.2	0.59	0.69	3
Target year - 20	2.2	0.78	1.72	15	Target year - 20	1.2	0.78	0.92	8
Target year - 35	2.2	0.89	1.95	28	Target year - 35	1.2	0.89	1.04	15
Target year - 50	2.2	0.90	1.97	29	Target year - 50	1.2	0.90	1.05	16
Sum of FCUs				79	Sum of FCUs				42
Mitigation AAFCUs over 50 years				1.6	Mitigation AAFCUs over 50 years				0.8

Figure 10.1.138 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 956-R, Cairo, IL Floodwall, Item 956-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -2.4 FCUs/AAHUs, requiring 3.4 acres of mitigation.



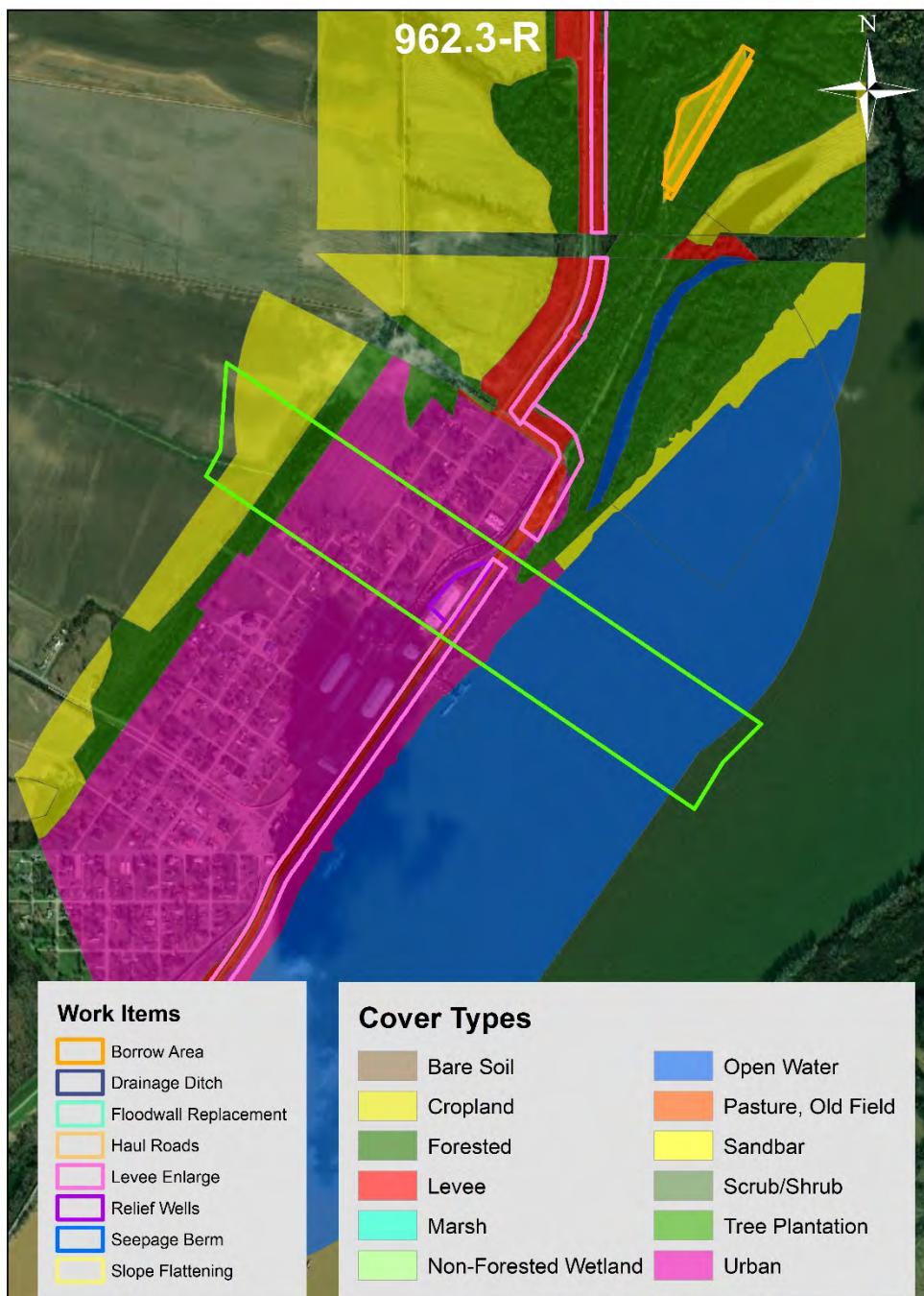
958R		Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	0	0.96	0		Forest	13	0.91	12	
Levee	1	0.00	0		Levee	4	0.00	0	
Open water	0	0.00	0		Open water	0	0.00	0	
Cropland	0	0.20	0		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	44	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.96	0	0	Target year - 5		0.91	12	59
Target year - 10		0.96	0	0	Target year - 10		0.91	12	59
Target year - 20		0.96	0	0	Target year - 20		0.91	12	118
Target year - 35		0.96	0	0	Target year - 35		0.91	12	177
Target year - 50		0.96	0	0	Target year - 50		0.91	12	177
Sum of FCUs				1	Sum of FCUs				592
Pre-project AAFCUs over 50 years			0		Pre-project AAFCUs over 50 years			12	
Land cover change					Land cover change				
Forest	0.0				Forest	0.0			
Levee	0.0				Levee	0.0			
Open water	0.1				Open water	0.0			
Cropland	-0.1				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	0	0.96	0		Forest	13	0.91	12	
Levee	1	0.00	0		Levee	4	0.00	0	
Open water	0	0.00	0		Open water	0	0.00	0	
Cropland	0	0.20	0		Cropland	0	0.15	0	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	0	0.00	0		Urban	44	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.96	0	0	Target year - 5		0.91	12	59
Target year - 10		0.96	0	0	Target year - 10		0.91	12	59
Target year - 20		0.96	0	0	Target year - 20		0.91	12	118
Target year - 35		0.96	0	0	Target year - 35		0.91	12	177
Target year - 50		0.96	0	0	Target year - 50		0.91	12	177
Sum of FCUs				0	Sum of FCUs				592
Post-project AAFCUs over 50 years			0		Post-project AAFCUs over 50 years			12	
Change in AAFCUs over 50 years		0.0			Change in AAFCUs over 50 years		0.0		
Mitigation					Mitigation				
Target year - 0	0.03	0.17	0.00		Target year - 0	0.0	0.17	0.00	
Target year - 5	0.03	0.28	0.01	0	Target year - 5	0.0	0.28	0.00	0
Target year - 10	0.03	0.59	0.02	0	Target year - 10	0.0	0.59	0.00	0
Target year - 20	0.03	0.78	0.02	0	Target year - 20	0.0	0.78	0.00	0
Target year - 35	0.03	0.89	0.02	0	Target year - 35	0.0	0.89	0.00	0
Target year - 50	0.03	0.90	0.02	0	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				1	Sum of FCUs				0
Mitigation AAFCUs over 50 years			0.0		Mitigation AAFCUs over 50 years				0.0

Figure 10.1.139 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 958-R, Mound City to Cairo, IL 7/50+00 to 8/4+00, Item 958-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



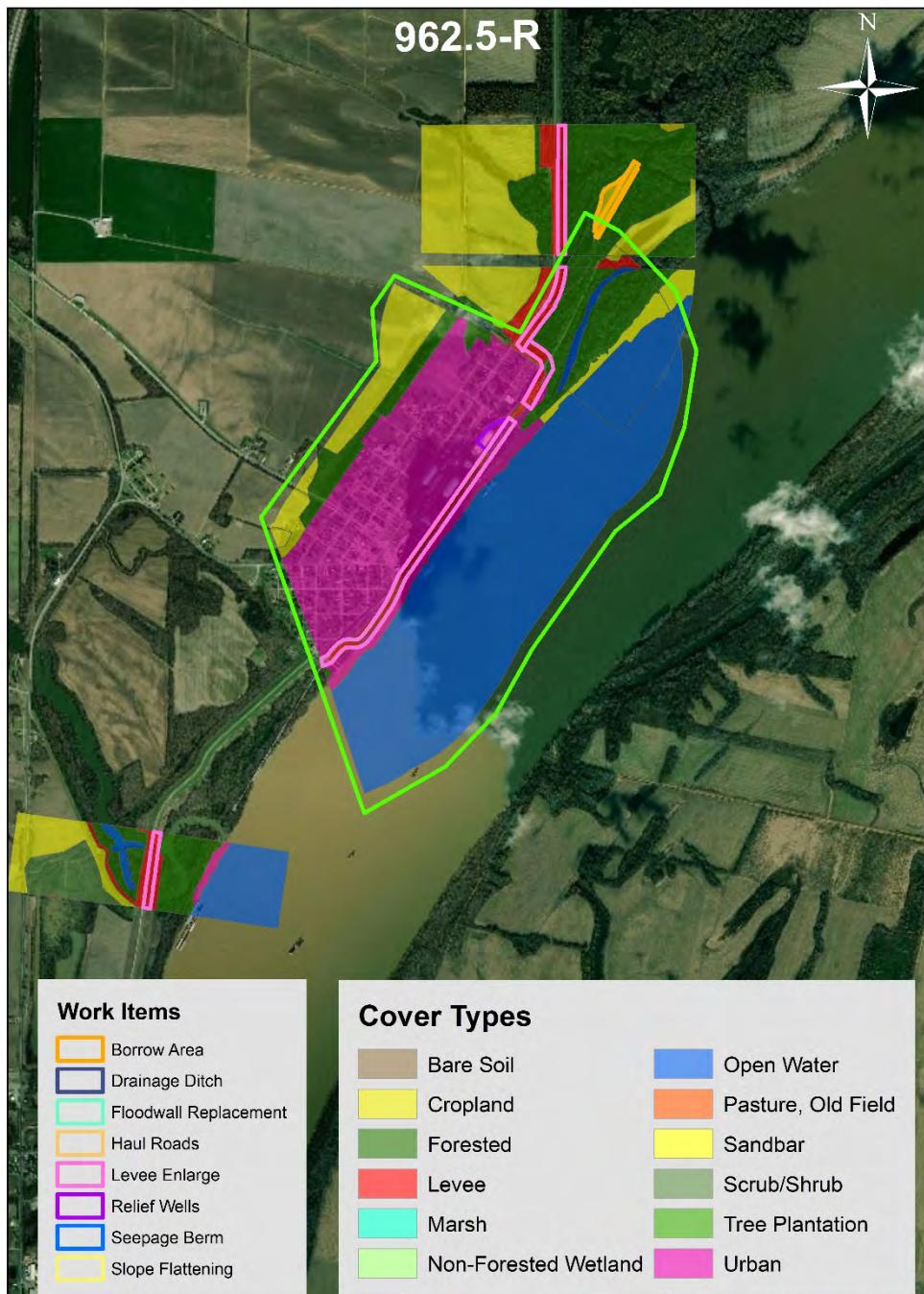
Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs
Forest	29	0.96	28		Forest	42	0.91	39	
Levee	8	0.00	0		Levee	7	0.00	0	
Open water	49	0.00	0		Open water	7	0.00	0	
Cropland	1	0.20	0		Cropland	33	0.15	5	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	4	0.00	0		Urban	0	0.00	0	
Pre-project future conditions					Pre-project future conditions				
Target year - 5		0.96	28	138	Target year - 5		0.91	44	218
Target year - 10		0.96	28	138	Target year - 10		0.91	44	218
Target year - 20		0.96	28	277	Target year - 20		0.91	44	436
Target year - 35		0.96	28	415	Target year - 35		0.91	44	654
Target year - 50		0.96	28	415	Target year - 50		0.91	44	654
Sum of FCUs				1384	Sum of FCUs				2180
Pre-project AAFCUs over 50 years			28		Pre-project AAFCUs over 50 years			44	
Land cover change					Land cover change				
Forest	-0.5				Forest	0.0			
Levee	0.2				Levee	0.0			
Open water	0.9				Open water	0.0			
Cropland	-0.6				Cropland	0.0			
Pasture/old field	0.0				Pasture/old field	0.0			
Urban	0.0				Urban	0.0			
Post-project land cover					Post-project land cover				
Forest	28	0.96	27		Forest	42	0.91	39	
Levee	8	0.00	0		Levee	7	0.00	0	
Open water	49	0.00	0		Open water	7	0.00	0	
Cropland	0	0.20	0		Cropland	33	0.15	5	
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0	
Urban	4	0.00	0		Urban	0	0.00	0	
Post-project future conditions					Post-project future conditions				
Target year - 5		0.96	27	135	Target year - 5		0.91	44	218
Target year - 10		0.96	27	135	Target year - 10		0.91	44	218
Target year - 20		0.96	27	271	Target year - 20		0.91	44	436
Target year - 35		0.96	27	406	Target year - 35		0.91	44	654
Target year - 50		0.96	27	406	Target year - 50		0.91	44	654
Sum of FCUs				1354	Sum of FCUs				2180
Post-project AAFCUs over 50 years			27		Post-project AAFCUs over 50 years			44	
Change in AAFCUs over 50 years			-0.6		Change in AAFCUs over 50 years			0.0	
Mitigation					Mitigation				
Target year - 0	0.8	0.17	0.15		Target year - 0	0.0	0.17	0.00	
Target year - 5	0.8	0.28	0.23	1	Target year - 5	0.0	0.28	0.00	0
Target year - 10	0.8	0.59	0.49	2	Target year - 10	0.0	0.59	0.00	0
Target year - 20	0.8	0.78	0.65	6	Target year - 20	0.0	0.78	0.00	0
Target year - 35	0.8	0.89	0.74	10	Target year - 35	0.0	0.89	0.00	0
Target year - 50	0.8	0.90	0.75	11	Target year - 50	0.0	0.90	0.00	0
Sum of FCUs				30	Sum of FCUs				0
Mitigation AAFCUs over 50 years				0.6	Mitigation AAFCUs over 50 years				0.0

Figure 10.1.140 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 961-R, Mound City to Cairo, IL Levee 4/30+00 to 5/7+00, Item 961-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -1.1 FCUs/AAHUs, requiring 1.5 acres of mitigation.



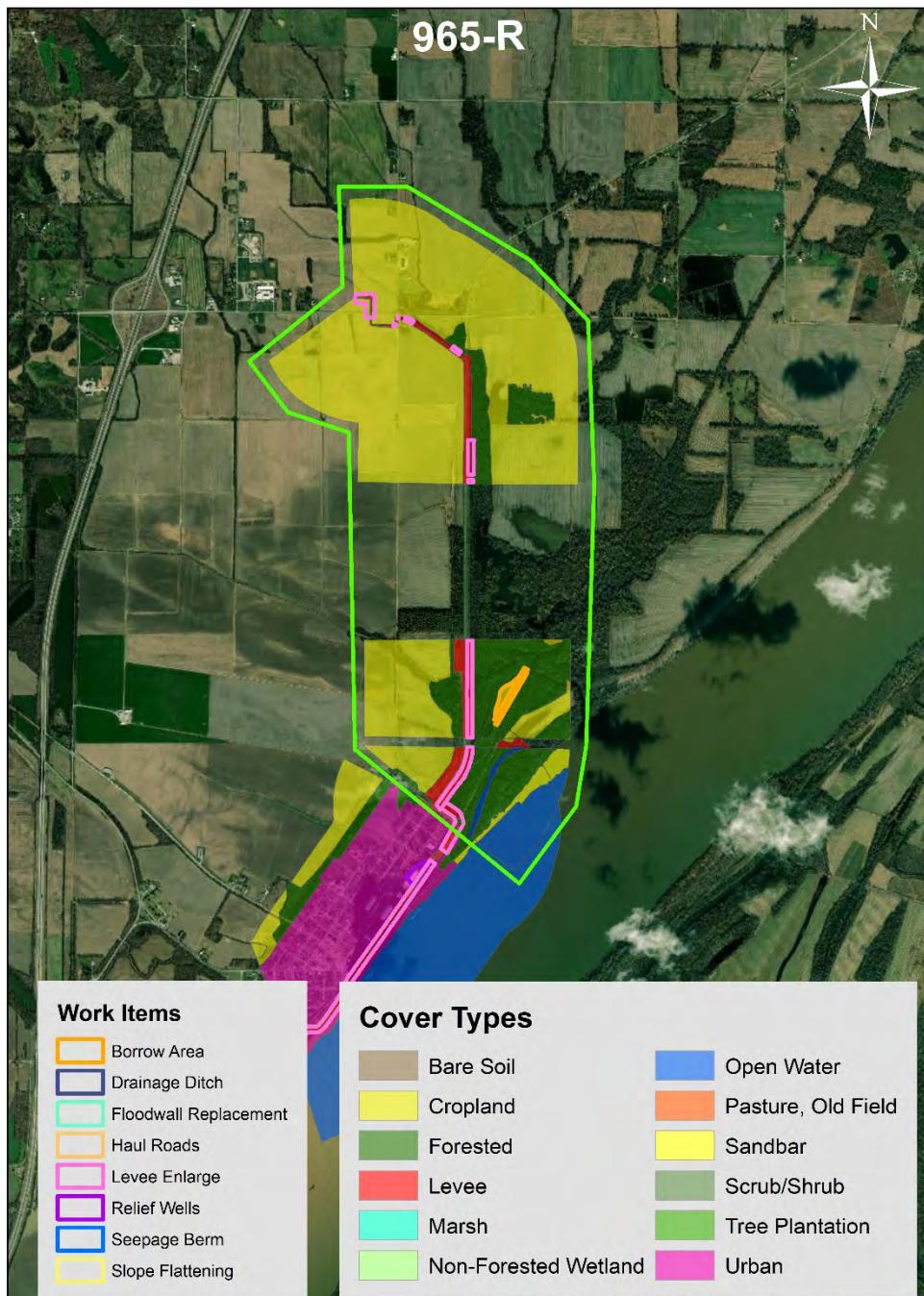
Riverside				Landside					
Pre-project land cover	Acres	FCI	FCUs	Pre-project land cover	Acres	FCI	FCUs		
Forest	93	0.91	85	Forest	37	0.84	31		
Levee	23	0.00	0	Levee	13	0.00	0		
Open water	489	0.00	0	Open water	0	0.00	0		
Cropland	2	0.20	0	Cropland	62	0.15	9		
Pasture/old field	0	0.20	0	Pasture/old field	0	0.15	0		
Urban	42	0.00	0	Urban	281	0.00	0		
Pre-project future conditions				Pre-project future conditions					
Target year - 5		0.93	87	431	Target year - 5		0.84	40	200
Target year - 10		0.94	88	438	Target year - 10		0.84	40	200
Target year - 20		0.96	90	892	Target year - 20		0.84	40	401
Target year - 35		0.96	90	1349	Target year - 35		0.84	40	601
Target year - 50		0.96	90	1349	Target year - 50		0.84	40	601
Sum of FCUs				4459	Sum of FCUs				2004
Pre-project AAFCUs over 50 years			89		Pre-project AAFCUs over 50 years			40	
Land cover change				Land cover change					
Forest	0.0			Forest	0.0				
Levee	0.0			Levee	2.4				
Open water	0.0			Open water	0.0				
Cropland	0.0			Cropland	0.0				
Pasture/old field	0.0			Pasture/old field	0.0				
Urban	0.0			Urban	-2.4				
Post-project land cover				Post-project land cover					
Forest	93	0.91	85	Forest	37	0.84	31		
Levee	23	0.00	0	Levee	16	0.00	0		
Open water	489	0.00	0	Open water	0	0.00	0		
Cropland	2	0.20	0	Cropland	62	0.15	9		
Pasture/old field	0	0.20	0	Pasture/old field	0	0.15	0		
Urban	42	0.00	0	Urban	278	0.00	0		
Post-project future conditions				Post-project future conditions					
Target year - 5		0.93	87	431	Target year - 5		0.84	40	200
Target year - 10		0.94	88	438	Target year - 10		0.84	40	200
Target year - 20		0.96	90	892	Target year - 20		0.84	40	401
Target year - 35		0.96	90	1349	Target year - 35		0.84	40	601
Target year - 50		0.96	90	1349	Target year - 50		0.84	40	601
Sum of FCUs				4459	Sum of FCUs				2004
Post-project AAFCUs over 50 years			89		Post-project AAFCUs over 50 years			40	
Change in AAFCUs over 50 years			0.0		Change in AAFCUs over 50 years			0.0	
Mitigation				Mitigation					
Target year - 0	0.0	0.17	0.00	Target year - 0	0.0	0.17	0.00		
Target year - 5	0.0	0.28	0.00	Target year - 5	0.0	0.28	0.00	0	
Target year - 10	0.0	0.59	0.00	Target year - 10	0.0	0.59	0.00	0	
Target year - 20	0.0	0.78	0.00	Target year - 20	0.0	0.78	0.00	0	
Target year - 35	0.0	0.89	0.00	Target year - 35	0.0	0.89	0.00	0	
Target year - 50	0.0	0.90	0.00	Target year - 50	0.0	0.90	0.00	0	
Sum of FCUs				Sum of FCUs				0	
Mitigation AAFCUs over 50 years			0.0	Mitigation AAFCUs over 50 years				0.0	

Figure 10.1.141 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 962.3-R, North Mound City, IL Sump, Item 962.3-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -0.0 FCUs/AAHUs, requiring 0.0 acres of mitigation.



962.5R				Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs		
Forest	93	0.91	85		Forest	37	0.84	31			
Levee	23	0.00	0		Levee	13	0.00	0			
Open water	489	0.00	0		Open water	0	0.00	0			
Cropland	6	0.20	1		Cropland	62	0.15	9			
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0			
Urban	42	0.00	0		Urban	281	0.00	0			
Pre-project future conditions				Pre-project future conditions							
Target year - 5		0.93	88	435	Target year - 5		0.84	40	200		
Target year - 10		0.94	89	443	Target year - 10		0.84	40	200		
Target year - 20		0.96	91	900	Target year - 20		0.84	40	401		
Target year - 35		0.96	91	1361	Target year - 35		0.84	40	601		
Target year - 50		0.96	91	1361	Target year - 50		0.84	40	601		
Sum of FCUs				4501	Sum of FCUs				2004		
Pre-project AAFCUs over 50 years			90		Pre-project AAFCUs over 50 years				40		
Land cover change				Land cover change							
Forest	-1.5				Forest		0.0				
Levee	13.0				Levee		0.0				
Open water	3.8				Open water		0.0				
Cropland	-3.7				Cropland		0.0				
Pasture/old field	0.0				Pasture/old field		0.0				
Urban	-11.6				Urban		0.0				
Post-project land cover				Post-project land cover							
Forest	92	0.91	84		Forest	37	0.84	31			
Levee	36	0.00	0		Levee	13	0.00	0			
Open water	493	0.00	0		Open water	0	0.00	0			
Cropland	2	0.20	0		Cropland	62	0.15	9			
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0			
Urban	30	0.00	0		Urban	281	0.00	0			
Post-project future conditions				Post-project future conditions							
Target year - 5		0.93	86	425	Target year - 5		0.84	40	200		
Target year - 10		0.94	87	432	Target year - 10		0.84	40	200		
Target year - 20		0.96	89	878	Target year - 20		0.84	40	401		
Target year - 35		0.96	89	1329	Target year - 35		0.84	40	601		
Target year - 50		0.96	89	1329	Target year - 50		0.84	40	601		
Sum of FCUs				4392	Sum of FCUs				2004		
Post-project AAFCUs over 50 years			88		Post-project AAFCUs over 50 years				40		
Change in AAFCUs over 50 years			-2.2		Change in AAFCUs over 50 years				0.0		
Mitigation				Mitigation							
Target year - 0	3.0	0.17	0.53		Target year - 0	0.0	0.17	0.00			
Target year - 5	3.0	0.28	0.85	3	Target year - 5	0.0	0.28	0.00	0		
Target year - 10	3.0	0.59	1.78	7	Target year - 10	0.0	0.59	0.00	0		
Target year - 20	3.0	0.78	2.36	21	Target year - 20	0.0	0.78	0.00	0		
Target year - 35	3.0	0.89	2.67	38	Target year - 35	0.0	0.89	0.00	0		
Target year - 50	3.0	0.90	2.69	40	Target year - 50	0.0	0.90	0.00	0		
Sum of FCUs				109	Sum of FCUs				0		
Mitigation AAFCUs over 50 years				2.2	Mitigation AAFCUs over 50 years				0.0		

Figure 10.1.142 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 962.5-R, Mound City to Cairo, IL Levee 2/26+00 to 4/0+00, Item 962.5-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -5.0 FCUs/AAHUs, requiring 6.9 acres of mitigation.



965R				Riverside				Landside			
Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs	Pre-project land cover	Acres	FCI	FCUs	FCUs btw yrs		
Forest	252	0.88	222		Forest	24	0.84	20			
Levee	26	0.00	0		Levee	37	0.00	0			
Open water	57	0.00	0		Open water	0	0.00	0			
Cropland	494	0.20	99		Cropland	487	0.15	73			
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0			
Urban	0	0.00	0		Urban	0	0.00	0			
Pre-project future conditions				Pre-project future conditions							
Target year - 5		0.89	324	1612	Target year - 5		0.84	93	464		
Target year - 10		0.91	328	1632	Target year - 10		0.84	93	464		
Target year - 20		0.93	332	3304	Target year - 20		0.84	93	928		
Target year - 35		0.93	332	4986	Target year - 35		0.84	93	1392		
Target year - 50		0.93	332	4986	Target year - 50		0.84	93	1392		
Sum of FCUs				16521	Sum of FCUs				4640		
Pre-project AAFCUs over 50 years			330		Pre-project AAFCUs over 50 years				93		
Land cover change				Land cover change							
Forest	-3.9				Forest	0.0					
Levee	5.3				Levee	2.1					
Open water	3.2				Open water	0.0					
Cropland	-4.6				Cropland	-2.1					
Pasture/old field	0.0				Pasture/old field	0.0					
Urban	0.0				Urban	0.0					
Post-project land cover				Post-project land cover							
Forest	249	0.88	218		Forest	24	0.84	20			
Levee	31	0.00	0		Levee	39	0.00	0			
Open water	61	0.00	0		Open water	0	0.00	0			
Cropland	489	0.20	98		Cropland	484	0.15	73			
Pasture/old field	0	0.20	0		Pasture/old field	0	0.15	0			
Urban	0	0.00	0		Urban	0	0.00	0			
Post-project future conditions				Post-project future conditions							
Target year - 5		0.89	320	1590	Target year - 5		0.84	92	462		
Target year - 10		0.91	324	1610	Target year - 10		0.84	92	462		
Target year - 20		0.93	328	3259	Target year - 20		0.84	92	925		
Target year - 35		0.93	328	4918	Target year - 35		0.84	92	1387		
Target year - 50		0.93	328	4918	Target year - 50		0.84	92	1387		
Sum of FCUs				16296	Sum of FCUs				4624		
Post-project AAFCUs over 50 years			326		Post-project AAFCUs over 50 years				92		
Change in AAFCUs over 50 years			-4.5		Change in AAFCUs over 50 years				-0.3		
Mitigation				Mitigation							
Target year - 0	6.2	0.17	1.09		Target year - 0	0.4	0.17	0.08			
Target year - 5	6.2	0.28	1.75	7	Target year - 5	0.4	0.28	0.12	0		
Target year - 10	6.2	0.59	3.69	14	Target year - 10	0.4	0.59	0.26	1		
Target year - 20	6.2	0.78	4.89	43	Target year - 20	0.4	0.78	0.34	3		
Target year - 35	6.2	0.89	5.53	78	Target year - 35	0.4	0.89	0.39	5		
Target year - 50	6.2	0.90	5.59	83	Target year - 50	0.4	0.90	0.39	6		
Sum of FCUs				225	Sum of FCUs				16		
Mitigation AAFCUs over 50 years				4.5	Mitigation AAFCUs over 50 years				0.3		

Figure 10.1.143 Visual representation (top) and land cover, assessment, and mitigation results (bottom) for levee work item 965-R, Mound City to Cairo, IL Levee 0/0+00 to 2/26+00, Item 965-R, Illinois, MVM under pre-project (baseline) conditions and Alternative 3 (Avoid and Minimize) post-project conditions. Alternative 2 (Traditional Construction) would result in a decrease of -6.8 FCUs/AAHUs, requiring 9.4 acres of mitigation.

A10-9 ATTACHMENT 2: Summary tables reporting land cover changes, FCU/HU values, and mitigation requirements under Alternative 2 - Traditional Construction.

Table A10-2.1 Summary of land cover changes under Alternative 2 - Traditional Construction
(count of levee Work Items displaying a change).

	Riverside	Landside
Brackish marsh		
No change	143	142
Decrease	0	1
Increase	0	0
Cropland		
No change	111	84
Decrease	32	59
Increase	0	0
Forest		
No change	58	99
Decrease	85	44
Increase	0	0
Intermediate marsh		
No change	143	143
Decrease	0	0
Increase	0	0
Levee		
No change	106	50
Decrease	0	1
Increase	36	92
Open water		
No change	57	109
Decrease	0	3
Increase	86	31
Pasture		
No change	128	112
Decrease	3	17
Increase	12	14
Urban		
No change	126	78
Decrease	17	65
Increase	0	0

Table A10-2.2 Summary of riverside land cover changes in each State under Alternative 2 - Traditional Construction (count of Work Items displaying a change).

	Arkansas	Illinois	Kentucky	Louisiana	Mississippi	Missouri	Tennessee
Brackish marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Cropland							
Decrease	6	1	0	20	0	3	2
Increase	0	0	0	0	0	0	0
Forest							
Decrease	10	5	0	56	5	6	3
Increase	0	0	0	0	0	0	0
Intermediate marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Levee							
Decrease	0	0	0	0	0	0	0
Increase	8	5	1	15	0	5	2
Open water							
Decrease	0	0	0	0	0	0	0
Increase	9	4	1	59	5	6	2
Pasture							
Decrease	1	0	0	0	1	0	1
Increase	1	0	0	8	3	0	0
Saline Marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Urban							
Decrease	0	2	2	11	0	1	1
Increase	0	0	0	0	0	0	0

Table A10-2.3 Summary of landside land cover changes in each State under Alternative 2 - Traditional Construction (count of Work Items displaying a change).

	Arkansas	Illinois	Kentucky	Louisiana	Mississippi	Missouri	Tennessee
Brackish marsh							
Decrease	0	0	0	1	0	0	0
Increase	0	0	0	0	0	0	0
Cropland							
Decrease	4	1	1	44	4	3	2
Increase	0	0	0	0	0	0	0
Forest							
Decrease	2	1	0	34	4	2	1
Increase	0	0	0	0	0	0	0
Intermediate marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Levee							
Decrease	0	0	0	1	0	0	0
Increase	0	3	2	77	4	4	2
Open water							
Decrease	2	0	0	1	0	0	0
Increase	0	1	0	26	0	3	1
Pasture							
Decrease	0	0	0	16	1	0	0
Increase	4	0	0	8	2	0	0
Saline Marsh							
Decrease	0	0	0	0	0	0	0
Increase	0	0	0	0	0	0	0
Urban							
Decrease	0	3	1	58	2	1	0
Increase	0	0	0	0	0	0	0

Table A10-2.4 Summary of land cover changes in each USACE District under Alternative 2 - Traditional Construction (count of Work Items displaying a change). MVK = Vicksburg District; MVM = Memphis District; MVN = New Orleans District.

Riverside						
	MVK	MVM	MVN	MVK	MVM	MVN
Brackish marsh						
Decrease	0	0	0	0	0	1
Increase	0	0	0	0	0	0
Cropland						
Decrease	3	12	17	13	11	35
Increase	0	0	0	0	0	0
Forest						
Decrease	14	24	47	10	6	28
Increase	0	0	0	0	0	0
Intermediate marsh						
Decrease	0	0	0	0	0	0
Increase	0	0	0	0	0	0
Levee						
Decrease	0	0	0	0	0	1
Increase	1	21	14	11	11	70
Open water						
Decrease	0	0	1	0	2	1
Increase	14	22	50	1	5	25
Pasture						
Decrease	1	2	0	2	0	15
Increase	11	1	0	10	4	0
Saline Marsh						
Decrease	0	0	0	0	0	0
Increase	0	0	0	0	0	0
Urban						
Decrease	0	6	11	2	5	58
Increase	0	0	0	0	0	0

Table A10-2.5 Land cover under Alternative 2 - Traditional Construction (acres).

Land cover	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Brackish marsh	0	491	0	486
Cropland	10977	50741	10685	49008
Forest	25867	17568	24840	17252
Intermediate marsh	0	320	0	320
Levee	4863	6912	5280	8017
Open water	58196	1012	59102	1532
Pasture	1122	6640	1183	6655
Saline marsh	0	211	0	211
Urban	1778	28612	1712	28411

Table A10-2.6 Summary of land cover classes within the assessment areas under Alternative 2 - Traditional Construction (acres).

Land cover	Riverside	Landside	Total
Brackish marsh	0	-5	-5
Cropland	-292	-1733	-2025
Forest	-1027	-316	-1343
Intermediate marsh	0	0	0
Levee	417	1105	1522
Open water	906	519	1426
Pasture	61	15	76
Saline marsh	0	0	0
Urban	-65	-200	-265

Table A10-2.7 Land cover classes assessed within each State under Alternative 2 - Traditional Construction (acres). R = Riverside; L = Landside.

	Without-project		With-project		Mississippi	Without-project		With-project	
	R	L	R	L		R	L	R	L
Arkansas					Cropland	43	1499	43	1434
Cropland	3659	8431	3631	8090	Forest	1485	442	1306	391
Forest	4487	1023	4348	945	Levee	189	341	189	459
Levee	717	1408	790	1833	Open water	727	0	904	0
Open water	2322	92	2416	87	Pasture	55	49	58	52
Pasture	140	174	139	174	Urban	18	158	18	152
Urban	13	130	13	130	Total	2517	2488	2517	2488
Total	11338	11258	11337	11258					
Illinois					Missouri				
Cropland	545	643	543	641	Cropland	1809	7636	1760	7595
Forest	559	187	542	186	Forest	704	1321	622	1295
Levee	102	102	139	124	Levee	160	539	241	583
Open water	1884	7	1894	7	Open water	1079	133	1133	162
Pasture	0	0	0	0	Pasture	43	64	43	64
Urban	127	1310	99	1291	Urban	30	575	25	569
Total	3217	2249	3217	2249	Total	3823	10268	3823	10268
Kentucky					Tennessee				
Cropland	29	231	29	192	Cropland	3931	4789	3808	4472
Forest	102	1	102	1	Forest	921	1044	862	1002
Levee	14	14	14	54	Levee	238	269	432	304
Open water	169	2	170	2	Open water	166	111	207	434
Pasture	1	0	1	0	Pasture	819	29	767	29
Urban	4	34	4	33	Urban	4	10	2	10
Total	320	281	320	281	Total	6078	6251	6078	6251
Louisiana									
Brackish marsh	0	491	0	486					
Cropland	962	27512	872	26584					
Forest	17609	13551	17058	13431					
Intermediate marsh	0	320	0	320					
Levee	3444	4240	3475	4661					
Open water	51848	668	52378	841					
Pasture/old field	65	6323	176	6335					
Saline Marsh	0	211	0	211					
Urban	1583	26396	1553	26227					
Total	75511	79711	75512	79097					

Table A10-2.8 Land cover changes assessed within each State under Alternative 2 - Traditional Construction (acres).

Arkansas	Riverside	Landside	Mississippi	Riverside	Landside
Cropland	-28	-342	Cropland	0	-65
Forest	-139	-77	Forest	-179	-50
Levee	72	425	Levee	0	119
Open water	94	-6	Open water	176	0
Pasture	-1	0	Pasture	3	3
Urban	0	0	Urban	0	-6
Illinois			Missouri		
Cropland	-2	-2	Cropland	-49	-40
Forest	-17	-1	Forest	-82	-26
Levee	37	22	Levee	81	44
Open water	10	0	Open water	55	29
Pasture	0	0	Pasture	0	0
Urban	-28	-19	Urban	-5	-6
Kentucky			Tennessee		
Cropland	0	-39	Cropland	-124	-317
Forest	0	0	Forest	-59	-41
Levee	0	40	Levee	194	35
Open water	0	0	Open water	41	323
Pasture	0	0	Pasture	-51	0
Urban	0	-1	Urban	-2	0
Louisiana					
Brackish marsh	0	-5			
Cropland	-90	-927			
Forest	-551	-120			
Intermediate marsh	0	0			
Levee	32	421			
Open water	530	173			
Pasture	110	12			
Saline Marsh	0	0			
Urban	-30	-168			

Table A10-2.9 Land cover classes assessed in each USACE District under Alternative 2 - Traditional Construction (acres).

	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Vicksburg				
Cropland	526	8522	462	8260
Forest	8593	2954	8015	2856
Levee	1043	1575	1043	1791
Open water	3711	41	4240	105
Pasture	67	420	180	520
Urban	18	158	18	152
Total	13957	13669	13957	13684
Memphis				
Cropland	9972	21730	9770	20990
Forest	6773	3576	6476	3430
Levee	1231	2331	1615	2896
Open water	5620	344	5820	691
Pasture	1002	268	950	268
Urban	177	2058	142	2032
Total	24775	30307	24774	30307
New Orleans				
Brackish marsh	0	491	0	486
Cropland	479	20489	453	19759
Forest	10501	11038	10349	10966
Intermediate marsh	0	320	0	320
Levee	2590	3006	2621	3329
Open water	48864	627	49042	736
Pasture/old field	54	5952	54	5867
Saline Marsh	0	211	0	211
Urban	1583	26396	1553	26227
Total	64070	68530	64071	67901

Table A10-2.10 Land cover Land cover changes assessed within each USACE District under Alternative 2 - Traditional Construction (acres).

	Riverside	Landside
Vicksburg		
Cropland	-63	-262
Forest	-579	-97
Levee	0	216
Open water	529	64
Pasture	113	100
Urban	0	-6
Memphis		
Cropland	-202	-740
Forest	-297	-146
Levee	385	565
Open water	200	347
Pasture	-52	0
Urban	-35	-26
New Orleans		
Brackish marsh	0	-5
Cropland	-27	-730
Forest	-152	-72
Intermediate marsh	0	0
Levee	32	324
Open water	178	109
Pasture	0	-85
Saline marsh	0	0
Urban	-30	-168

Table A10-2.11 Land cover classes assessed using each methodology under the Alternative 2 - Traditional Construction (acres).

HGM	Without-project		With-project	
	Riverside	Landside	Riverside	Landside
Cropland	10015	23229	9813	22424
Forest	8258	4017	7782	3821
Levee	1420	2672	1804	3356
Open water	6347	344	6724	691
Pasture	1057	317	1008	320
Urban	195	2216	160	2184
Total	27292	32795	27291	32795
WVA				
Brackish marsh	0	491	0	486
Cropland	962	27512	872	26584
Forest	17609	13551	17058	13431
Intermediate marsh	0	320	0	320
Levee	3444	4240	3475	4661
Open water	51848	668	52378	841
Pasture/old field	65	6323	176	6335
Saline Marsh	0	211	0	211
Urban	1583	26396	1553	26227
Total	75511	79711	75512	79097

Table A10-2.12 Land cover class changes assessed using each methodology under the Alternative 2 - Traditional Construction (acres).

HGM	Riverside	Landside
Cropland	-202	-806
Forest	-476	-196
Levee	385	684
Open water	377	347
Pasture	-49	3
Urban	-35	-32
WVA		
Brackish marsh	0	-5
Cropland	-90	-927
Forest	-551	-120
Intermediate marsh	0	0
Levee	32	421
Open water	530	173
Pasture	110	12
Saline Marsh	0	0
Urban	30	168

Table A10-2.13 Summary of wetland FCU/HU results in each State under Alternative 2 - Traditional Construction.

State	Without-project FCU/HU		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
Arkansas	256557	115026	249527	108615
Illinois	31337	13056	30526	12998
Kentucky	5060	1776	5060	1481
Louisiana	608400	493128	591748	488954
Mississippi	71622	33166	63198	30220
Missouri	57104	125920	47614	121538
Tennessee	90320	86755	85838	82375
Total	1120401	868825	1073512	846181

Table A10-2.14 Summary of wetland FCU/HU changes and mitigation requirements in each State under Alternative 2 - Traditional Construction.

State	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
Arkansas	-7030	-6411	195	178
Illinois	-811	-58	22	2
Kentucky	0	-295	0	8
Louisiana	-16652	-4174	532	134
Mississippi	-8424	-2945	234	82
Missouri	-9490	-4382	100	44
Tennessee	-4482	-4380	124	121
Total	-46889	-22644	1207	569

Table A10-2.15 Summary of wetland FCU/HU results in each USACE District under Alternative 2 - Traditional Construction.

District	Without-project FCU/HU		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
Vicksburg	296895	105342	277153	100944
Memphis	440378	342532	418565	327007
New Orleans	383127	420951	377793	418230
Total	1120401	868825	1073512	846181

Table A10-2.16 Summary of wetland FCI/FCU changes and mitigation requirements in each USACE District under Alternative 2 - Traditional Construction.

District	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
Vicksburg	-19743	-4398	596	128
Memphis	-21813	-15525	441	354
New Orleans	-5334	-2721	170	87
Total	-46889	-22644	1207	569

Table A10-2.17 Summary of wetland FCU/HU results by assessment methodology under Alternative 2 - Traditional Construction.

Method	Without-project FCU/HU		With-project FCU/HU	
	Riverside	Landside	Riverside	Landside
HGM	512000	375698	481764	357227
WVA	608400	493128	591748	488954
Total	1120401	868825	1073512	846181

Table A10-2.18 Summary of wetland FCI/FCU changes and mitigation requirements by assessment method under Alternative 2 - Traditional Construction.

Method	Change in FCU/HSI		Mitigation requirement (ac)	
	Riverside	Landside	Riverside	Landside
HGM	-30237	-18470	675	435
WVA	-16652	-4174	532	134
Total	-46889	-22644	1207	569