Appendix G
Detailed Project Descriptions

PROJECT: BBA Mitigation, Albania North BLH-Wet Creation and Swamp Restoration, St. Mary Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to a total of approximately 332 acres of wet bottomland hardwoods (BLH-wet) habitat along with restoration of up to a total of approximately 633 acres of swamp habitat as compensatory mitigation for some of the BLH and swamp impacts resulting from construction of BBA projects. The BLH creation areas and swamp restoration areas (mitigation areas) would be located in existing agricultural fields at the Albania North mitigation site. This site is located northeast of the town of Jeanerette adjacent to the north bank of Bayou Teche in St. Mary Parish. The western edge of the site borders Iberia Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper 0.5 foot of soil throughout all of BLH mitigation areas AN-2 and AN-3 to establish an appropriate hydroperiod for BLH-wet plant species. The swamp mitigation areas AN-1, AN-3, and AN-5 should not require such degrading. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas, establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Any existing berms on the property would also likely be removed if these restrict sheetflow runoff into the mitigation site, unless doing so would adversely affect off-site properties.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in mitigation areas AN-2 and AN-4 following completion of the initial earthwork. Native canopy and midstory plants typical of swamp habitats would be installed in mitigation areas AN-1, AN-3, and AN-5 after initial earthwork is finished. Note that the planted acreage of the mitigation area AN-1 or AN-5 would be reduced by the Contractor's staging area. Similarly, it is likely that the planted acreage of all the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

BLH – Area AN-2: 285 AC
BLH – Area AN-4: 47 AC
Swamp – Area AN-1: 234 AC
Swamp – Area AN-3: 138 AC
Swamp – Area AN-5: 261 AC

PROPOSED PLANTING:

Assumed total plantings within the swamp mitigation areas (approximate):

Mitigation Area	Canopy Seedlings	Midstory Seedlings
AN-1	127,530	31,824
AN-3	75,210	18,768
AN-5	142,245	35,496
Total	**344,985**	**86,088**

Assumed total plantings within the BLH-wet mitigation areas (approximate):

Mitigation Area	Canopy Seedlings	Midstory Seedlings
AN-2	155,325	38,760
AN-4	25,615	6,392
Total	**180,940**	**45,152**

Assume both swamp and BLH canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings per acre).

Assume both swamp and BLH mid-story plants species will be installed on a 16ft by 20ft grid (136 seedlings per acre).

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50’ to 100’ to guide mowing operations.

DEGRADE AREAS:

All BLH mitigation areas would be degraded to a depth of 0.5 ft. below the soil surface to obtain proper hydrology for BLH habitat.

BLH – Area AN-2: Degrade approximately 229,900 CY.

BLH - Area AN-4: Degrade approximately 37,913 CY.

Degrade material would be used to fill unnecessary existing drainage ditches throughout the site. All remaining degraded material would be hauled off-site to a Contractor-provided upland disposal area, assume 15 mile one way haul. Truck wheel washing rack(s) would be installed in the mitigation site where trucks exit the site onto public roads.

DEMOLITION:

Existing structures located in proposed mitigation area AN-5 may be required to be demolished. All demolished materials would be hauled off by the contractor to a Government approved disposal site.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related earthwork activities would likely start around early August 2020 and continue until roughly August 2021. Initial planting activities would likely be conducted in January 2022 through mid-March 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would be as follows:

From the south, access to the site would be attained via Route LA-87 (Old Jeanerette Road). Various existing dirt roads extend northward from LA-87 into the project site and would be used for access. This includes Carpenter Street, which would be preserved as would be Lake Palourde Street (the far north end of Carpenter Street).

STAGING:

A staging area would only be permitted within mitigation area AN-1 or mitigation area AN-5, although it could extend into adjacent areas not slated for mitigation work that are located within the property boundary. The Contractor would determine where within the mitigation area to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation area to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

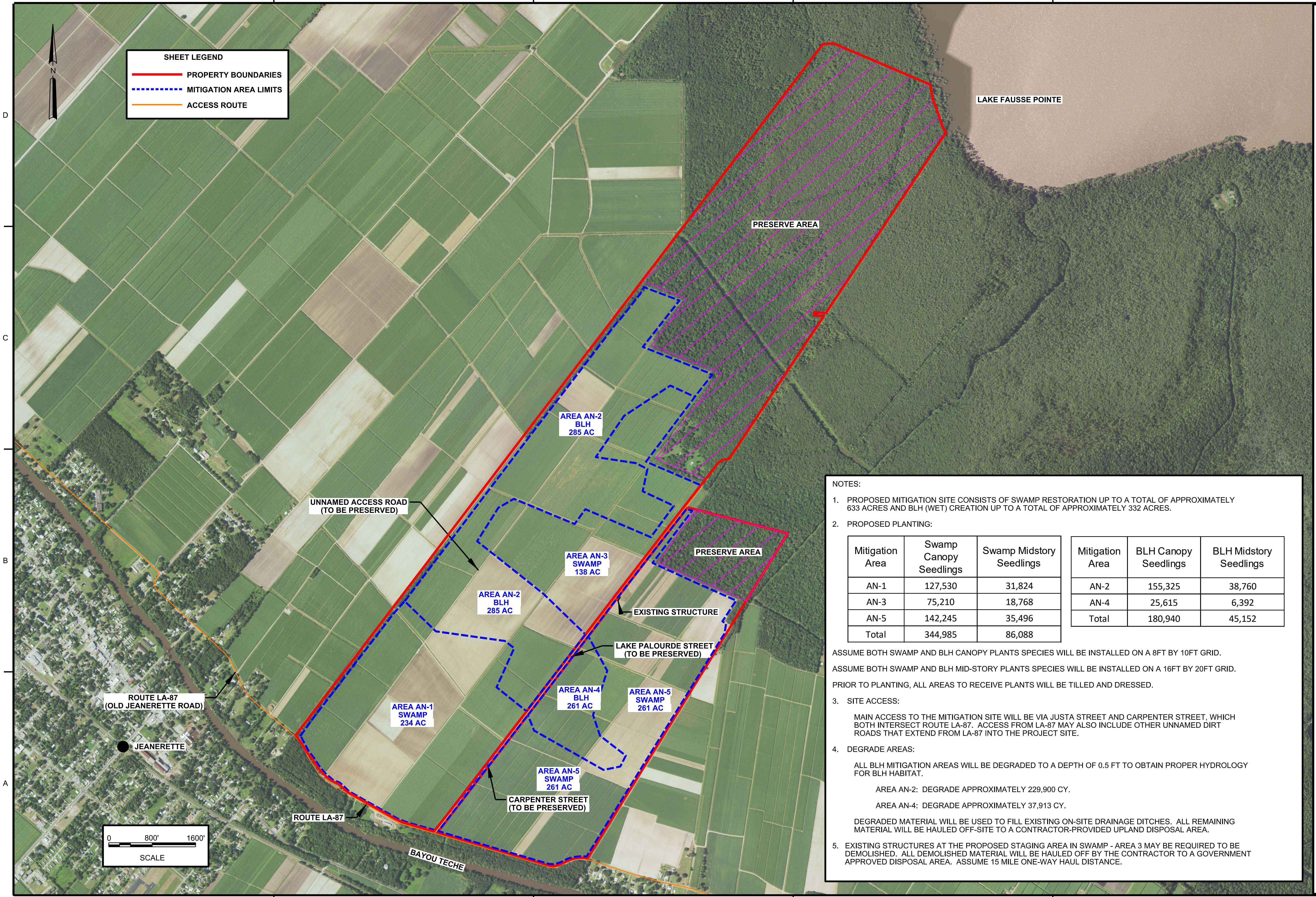
Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Demolition: Backhoes with grapple and hammer attachments, bulldozer, front loaders, and on/off road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, potentially marsh buggies, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITE CONSISTS OF SWAMP RESTORATION UP TO A TOTAL OF APPROXIMATELY 633 ACRES AND BLH (WET) CREATION UP TO A TOTAL OF APPROXIMATELY 332 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	Swamp Canopy Seedlings	Swamp Midstory Seedlings
AN-1	127,530	31,824
AN-3	75,210	18,768
AN-5	142,245	35,496
Total	344,985	86,088

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
AN-2	155,325	38,760
AN-4	25,615	6,392
Total	180,940	45,152

ASSUME BOTH SWAMP AND BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BOTH SWAMP AND BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

MAIN ACCESS TO THE MITIGATION SITE WILL BE VIA JUSTA STREET AND CARPENTER STREET, WHICH BOTH INTERSECT ROUTE LA-87. ACCESS FROM LA-87 MAY ALSO INCLUDE OTHER UNNAMED DIRT ROADS THAT EXTEND FROM LA-87 INTO THE PROJECT SITE.

4. DEGRADE AREAS:

ALL BLH MITIGATION AREAS WILL BE DEGRADED TO A DEPTH OF 0.5 FT TO OBTAIN PROPER HYDROLOGY FOR BLH HABITAT.

AREA AN-2: DEGRADE APPROXIMATELY 229,900 CY.

AREA AN-4: DEGRADE APPROXIMATELY 37,913 CY.

DEGRADED MATERIAL WILL BE USED TO FILL EXISTING ON-SITE DRAINAGE DITCHES. ALL REMAINING MATERIAL WILL BE HAULED OFF-SITE TO A CONTRACTOR-PROVIDED UPLAND DISPOSAL AREA.

5. EXISTING STRUCTURES AT THE PROPOSED STAGING AREA IN SWAMP - AREA 3 MAY BE REQUIRED TO BE DEMOLISHED. ALL DEMOLISHED MATERIAL WILL BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED DISPOSAL AREA. ASSUME 15 MILE ONE-WAY HAUL DISTANCE.

US Army Corps of Engineers
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 08-02-2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

BBA MITIGATION,
BLH-WET CREATION AND SWAMP RESTORATION
ST. MARY PARISH, LA.

ALBANIA NORTH MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Albania South BLH-Wet Creation and Swamp Restoration, St. Mary Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 111 acres of wet bottomland hardwoods (BLH-wet) habitat and restoration of up to approximately 81 acres of swamp habitat as compensatory mitigation for some of the BLH and swamp impacts resulting from construction of BBA projects. The BLH creation area and swamp restoration area (the mitigation areas) would be located in existing agricultural fields at the Albania South mitigation site. This site is located just south of Bayou Teche and just southeast of the town of Jeanerette in St. Mary Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper 0.5 to 1.0 foot of soil throughout all of mitigation area AS-2 to establish an appropriate hydroperiod for BLH-wet plant species. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas, establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed (filled) to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the AS-2 mitigation area following completion of the initial earthwork, while native canopy and midstory plants typical of swamp habitats would be installed in the AS-1 mitigation area. Note that the planted acreage of the mitigation area AS-2 would be reduced by the Contractor's staging area. Similarly, it is likely that the planted acreage both mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

BLH – Area AS-2: 111 AC
Swamp – Area AS-1: 81 AC

PROPOSED PLANTING:

Assumed total plantings within the mitigation areas (approximate):

Swamp Canopy: Approximately 44,145 seedlings. (545 seedlings per acre)

Swamp Midstory: Approximately 11,016 seedlings. (136 seedlings per acre)

BLH Canopy: Approximately 60,495 seedlings. (545 seedlings per acre)

BLH Midstory: Approximately 15,096 seedlings. (136 seedlings per acre)

Assume both swamp and BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume both swamp and BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

Mitigation area AS-2 would be degraded to a depth of 0.5 ft. – 1.0 ft. to obtain proper hydrology for BLH habitat.

BLH - Area AS-2: Degrade approximately 178,645 CY (based on degrading 1.0 foot)

Degrade material would be used to fill existing drainage ditches throughout the site. All remaining degraded material would be hauled off-site to a Contractor-provided upland disposal area, assume 15 mile one way haul. A truck tire washing rack would be installed on-site where dump trucks exit the site onto paved public roads.

DEMOLITION:

No existing structures appear to be present within the mitigation site, hence no demolition activities should be necessary.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related earthwork activities would likely start around early August 2020 and continue until roughly November 2021. Initial planting activities would likely be conducted in January 2022 through mid-February 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would be as follows:

From the south, use US-90 to Pepper Road and then onto Albania Road. There is also a dirt road off US-90 that runs along the entire east side of the mitigation site.

From the north, use Route LA-182 to either the dirt road along the east side of the site or to Albania Road. Several existing unpaved roads intersect Albania road as well as the eastern road and run throughout the site.

STAGING:

A staging area would only be permitted within mitigation area AS-2, although it could extend into adjacent non-mitigation areas within the property boundary. The Contractor would determine where within area AS-2 limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

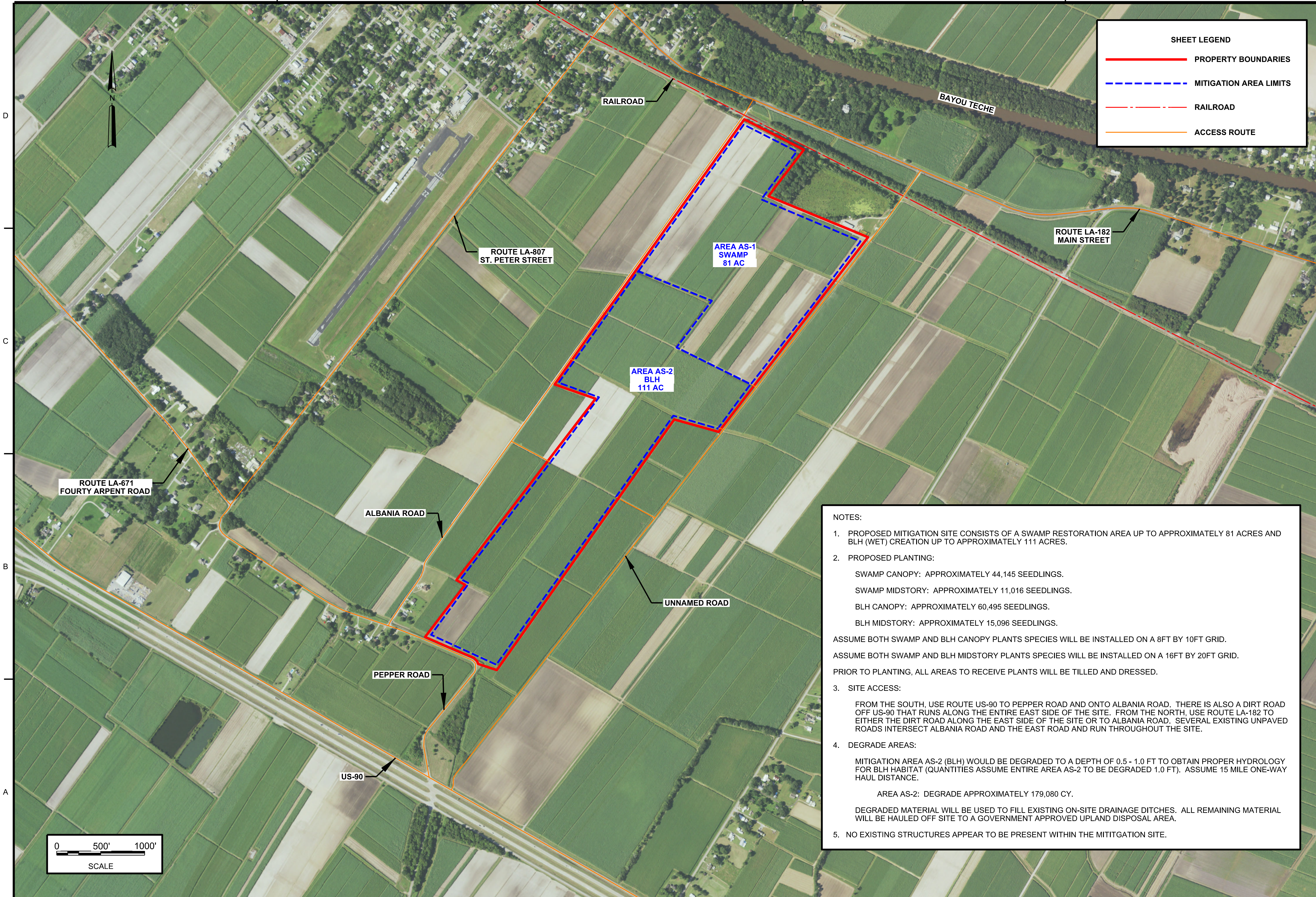
EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, front loaders, off road and on road dump trucks.

Planting Preparation: Tractor with harrow, bulldozers, and backhoe.

Planting: Pickup trucks and/or ATVs, skid loader with auger, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITE CONSISTS OF A SWAMP RESTORATION AREA UP TO APPROXIMATELY 81 ACRES AND BLH (WET) CREATION UP TO APPROXIMATELY 111 ACRES.
2. PROPOSED PLANTING:

   SWAMP CANOPY: APPROXIMATELY 44,145 SEEDLINGS.

   SWAMP MIDSTORY: APPROXIMATELY 11,016 SEEDLINGS.

   BLH CANOPY: APPROXIMATELY 60,495 SEEDLINGS.

   BLH MIDSTORY: APPROXIMATELY 15,096 SEEDLINGS.

   ASSUME BOTH SWAMP AND BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

   ASSUME BOTH SWAMP AND BLH MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

   PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.
3. SITE ACCESS:

   FROM THE SOUTH, USE ROUTE US-90 TO PEPPER ROAD AND ONTO ALBANIA ROAD. THERE IS ALSO A DIRT ROAD OFF US-90 THAT RUNS ALONG THE ENTIRE EAST SIDE OF THE SITE. FROM THE NORTH, USE ROUTE LA-182 TO EITHER THE DIRT ROAD ALONG THE EAST SIDE OF THE SITE OR TO ALBANIA ROAD. SEVERAL EXISTING UNPAVED ROADS INTERSECT ALBANIA ROAD AND THE EAST ROAD AND RUN THROUGHOUT THE SITE.
4. DEGRADE AREAS:

   MITIGATION AREA AS-2 (BLH) WOULD BE DEGRADED TO A DEPTH OF 0.5 - 1.0 FT TO OBTAIN PROPER HYDROLOGY FOR BLH HABITAT (QUANTITIES ASSUME ENTIRE AREA AS-2 TO BE DEGRADED 1.0 FT). ASSUME 15 MILE ONE-WAY HAUL DISTANCE.

   AREA AS-2: DEGRADE APPROXIMATELY 179,080 CY.

   DEGRADED MATERIAL WILL BE USED TO FILL EXISTING ON-SITE DRAINAGE DITCHES. ALL REMAINING MATERIAL WILL BE HAULED OFF SITE TO A GOVERNMENT APPROVED UPLAND DISPOSAL SITE.
5. NO EXISTING STRUCTURES APPEAR TO BE PRESENT WITHIN THE MITITGATION SITE.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR		DATE:
DWN BY: M.J.T.	CKD BY: J.A.B	SOLICITATION NO.:
SUBMITTED BY: M.J.T.		CONTRACT NO.:
PLOT SCALE:	PLOT DATE: 08-02-2019	FILE NUMBER:
SIZE: ANSI D	FILE NAME:	

BBA MITIGATION,
SWAMP RESTORATION AND BLH-WET CREATION
ST. MARY PARISH, LA.

ALBANIA SOUTH MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Amite BLH-Wet Creation/Restoration, East Feliciana Parish & St. Helena Parish, Louisiana

GENERAL SOW:

The proposed project involves creation and restoration of up to a total of approximately 369 acres of wet bottomland hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation/restoration areas (mitigation areas) would be located in previously mined lands within 6 mitigation sites (AM1 through AM6), cumulatively referred to as the Amite mitigation sites. These sites run in a roughly north/south band roughly 6 miles long. Sites AM1 and AM2 (the northern-most sites) are situated on the west side of the Amite River between LA-960 and LA-448 near Boeneke Road and Par Road 6-134 in East Feliciana Parish. Sites AM3 through AM6 are situated on the east side of the Amite River beginning west of the intersection of LA-37 and LA-448 and continuing southward between the Amite River on the west and LA-37 on the east until just west of the intersection of LA-37 and LA-63, in St. Helena Parish.

Required earthwork would mainly consist of removal (excavation; scraping; degrading) remnant spoil material (sand, sediments, gravel) in various portions of each of the 6 mitigation sites in an effort to establish an appropriate hydroperiod for BLH-wet plant species. Most of the material removed would be disposed of within portions of existing mine pit lakes adjacent to or near the mitigations sites (see enclosed drawings). Some of the material removed may be used to help achieve desired grades within some of the mitigation areas that have undesirably low soil surface elevations.

Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas, establishment of dirt access roads within some of the mitigation areas, and tillage of soil in the mitigation areas. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Any existing earthen berms or dikes a particular mitigation site that hinder sheetflow runoff and/or the exchange of water within areas of the site or between off-site lands and waters would be removed or gapped as long as this is allowed by LDEQ and would not adversely affect water levels and flow on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the mitigation areas following completion of the initial earthwork, including application of any necessary lime and fertilizers and incorporation of organic matter into the upper soil layer. Note that the planted acreage of a few mitigation areas would be reduced by the Contractor's staging areas. Similarly, it is likely that the planted acreage of most of the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

MITIGATION AREA	ACRES
AM1 Mitigation Site	
AM1-A	15.1
AM1-B	3.4
AM1-C	1.4
AM1-D	8.4
AM1-E	33.0
AM1-F	2.3
Total	***63.6***
AM2 Mitigation Site	
AM2-A	71.4
AM3 Mitigation Site	
AM3-A	25.3
AM4 Mitigation Site	
AM4-A	15.2
AM4-B	5.4
AM4-C	7.3
AM4-D	18.9
Total	***46.8***
AM5 Mitigation Site	
AM5-A	11.0
AM5-B	17.0
AM5-C	6.1
AM5-D	20.8
AM5-E	2.7
Total	***57.6***
AM6 Mitigation Site	
AM6-A	16.8
AM6-B	13.3
AM6-C	8.4
AM6-D	65.4
Total	***103.9***
GRAND TOTAL	**368.6**

PROPOSED PLANTINGS:

Assumed initial total plantings within the mitigation areas (approximate):

MITIGATION AREA	CANOPY SEEDLINGS	MIDSTORY SEEDLINGS
AM1 Mitigation Site		
AM1-A	8,230	2,054
AM1-B	1,853	462
AM1-C	763	190
AM1-D	4,578	1,142
AM1-E	17,985	4,488
AM1-F	1,254	313
Total	***34,662***	***8,650***
AM2 Mitigation Site		
AM2-A	38,913	9,710
AM3 Mitigation Site		
AM3-A	13,789	3,441
AM4 Mitigation Site		
AM4-A	8,284	2,067
AM4-B	2,943	734
AM4-C	3,979	993
AM4-D	10,301	2,570
Total	***25,506***	***6,365***
AM5 Mitigation Site		
AM5-A	5,995	1,496
AM5-B	9,265	2,312
AM5-C	3,325	830
AM5-D	11,336	2,829
AM5-E	1,472	367
Total	***31,392***	***7,834***
AM6 Mitigation Site		
AM6-A	9,156	2,285
AM6-B	7,249	1,809
AM6-C	4,578	1,142
AM6-D	35,643	8,894
Total	***56,626***	***14,130***
GRAND TOTAL	**200,887**	**50,130**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings/acre).

Assume BLH mid-story plants species will be installed on a 16ft by 20ft grid (136 seedlings/acre).

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50’ to 100’ to guide mowing operations.

DEGRADE AREAS:

The US Fish & Wildlife Service estimated that the following maximum elevations (target elevations) were desirable at the mitigation sites to help ensure the creation/restoration of appropriate site conditions to support BLH-wet habitat. This was accomplished by estimating elevations in existing BLH-wet habitats in close proximity to each mitigation site, and using LiDAR topography, aerial photography, and National Wetlands Inventory mapping for the region.

MITIGATION SITE	TARGET ELEV. (feet NAVD88)
AM1	140
AM2	145
AM3	126
AM4	127
AM5	125
AM6	120

The enclosed drawings indicate the estimated limits of areas that would have to be degraded within each of the six mitigation sites. The following table provides, for each mitigation site, the number of areas to be degraded (excavated/scraped), the total acreage to be degraded (approximate), a very rough estimation of the range in depths of required degrading (excavation), and a general estimation of the total cubic yards of material that would need to be removed during the degrading process.

Mitigation Site	Number of Areas Degraded	Total Acres Degraded	Range in Depth of Excavation (feet)	Total Cubic Yards Removed
AM1	8	24.2	1.5 to 15	263,941
AM2	3	27.2	1 to 1.5	62,275
AM3	5	16.9	1.5 to 12	171,094
AM4	7	25.3	1.5 to 10	203,925
AM5	5	21.0	3 to 10	264,587
AM6	5	19.3	1 to 13	206,345
Totals	**33**	**133.9**		**1,172,167**

On-site surveys and sampling would be necessary prior to completing construction plans that would more accurately reflect limits of areas to be degraded and the volume of material that would be generated by such earthwork. Further field investigations would also have to be conducted to determine the final desired target elevations for each mitigation site.

DISPOSAL AREAS:

As discussed, the majority of the material excavated during the degrading work discussed above would be disposed of in portions of man-made mine pit lakes adjacent to or near the mitigation sites. The enclosed drawings show the estimated limits of the mine pit lake disposal areas required. The table below provides the approximate acreage of each mine pit lake disposal area.

DISPOSAL AREA	ACRES
AM1 Mitigation Site	
D1-A	14.8
AM2 Mitigation Site	
D2-A	5.0
D2-B	6.0
Total	***11.0***
AM3 Mitigation Site	
n/a	n/a
AM4 Mitigation Site	
D4-A	13.3
AM5 Mitigation Site	
D5-A	16.5
D5-B	6.3
D5-C	1.4
Total	***24.1***
AM6 Mitigation Site	
D6-A	18.6
GRAND TOTAL	**81.8**

Note that all material degraded within mitigation area AM3 would be disposed of at mitigation area AM5 within disposal areas D5-A and/or D5-B.

The limits of the mine pit lake disposal areas depicted were based on the following assumptions: (1) Quantity of material to be disposed is equal to that listed in the preceding degrade table; (2) Mine pit lake side slopes are approximately 1:1; (3) Mine pit lakes are 20 feet deep (a conservatively shallow estimate). With additional survey data for the affected mine pit lakes and a more accurate estimate of the quantity of material requiring disposal, it is anticipated that the acreage encompassed by many of the proposed mine pit lake disposal areas may be reduced significantly.

Note that a substantial amount of vegetation debris would be generated during the degrading activities and other clearing, grubbing, and tilling work necessary to prepare the mitigation areas for planting. This debris would mainly be segregated and burned on-site, although some saplings and trees may be placed in the mine pit lakes near the disposal area to help form underwater fish habitat.

DEMOLITION:

There does not appear to be any permanent structures within any of the mitigation sites. Thus, no demolition activities are anticipated.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related earthwork activities would likely start around early August 2020 and continue until roughly July 2021. Initial planting activities would likely be conducted in January 2022 through February 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the mitigation sites would be as follows:

Access to Sites AM1 and AM2 –
Use LA-960/Gilead Road, turn east on Boeneke Road which leads to various intersecting unnamed dirt roads which lead into the two mitigation sites.

Access to Site AM3 –
Use LA-37, turn west on an unnamed dirt road located approximately 1.0 mile south of the LA-37/LA-448 intersection. This dirt road leads into the north portion of the site. Traffic can also turn west off LA-37 onto another dirt road located about 0.3 mile south of the dirt road cited above. This second dirt road leads into the south portion of the site.

Access to Site AM4 –
Use LA-448, turn west on an unnamed dirt road located just north of the project site and leads into the site. This dirt road is approximately 0.6 mile north of the LA-448/LA 37 intersection.

Access between Sites AM3 and AM5– Use an unnamed dirt road running roughly parallel to and located west of LA-37 that connects both sites.

Access to Site AM6 –
Use LA-37, turn west on an unnamed dirt road that runs into the site. This dirt road is approximately 0.25 mile north of the LA-37/LA-63 intersection.

STAGING:

One staging area would be permitted within each of the 6 mitigation sites. The Contractor would determine where within property boundaries of each mitigation site to place a staging and laydown area suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging areas would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor at the end of the project and the disturbed area would have to be planted with native grasses by the Contractor prior to ceasing work on the project.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

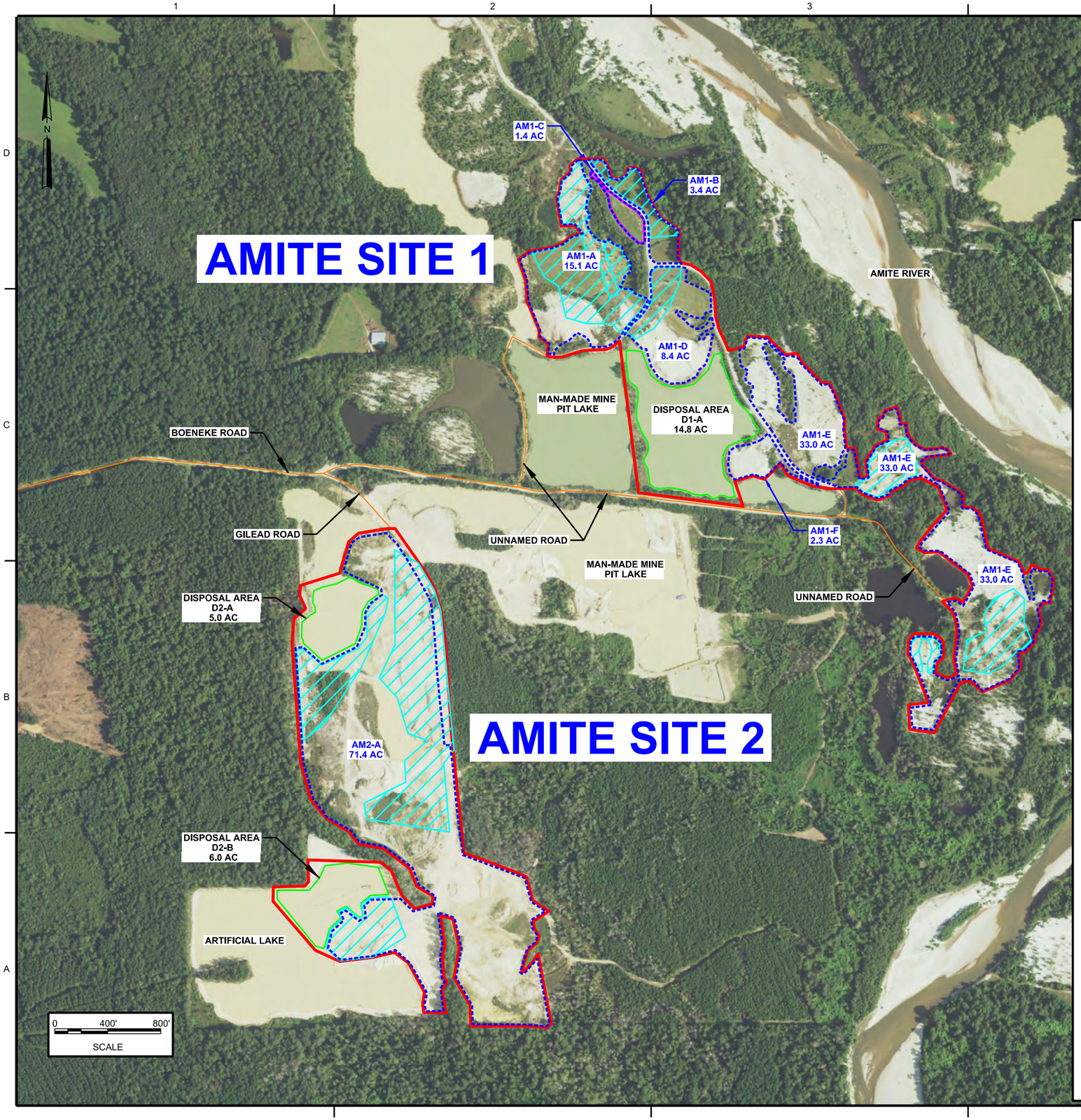
Equipment to be used for the respective work is assumed as follows:

Degrading and Disposal: Up to D8 bulldozers, wheel tractor scrapers, excavators, front-end loaders, off-road dump trucks.

Clearing, Grubbing, & Grading: Bulldozers, tractors, front-end loaders, off-road dump trucks.

Planting Preparation: Tractors with harrows and scarifiers, bulldozers, and backhoes.

Planting: Pickup trucks, ATVs and/or UTVs, marsh buggies, and 2,000 to 4,000 gallon water trucks.



SHEET LEGEND

- PROPERTY LIMITS
- BLH MITIGATION LIMITS
- DISPOSAL AREA LIMITS
- ACCESS ROAD
- DEGRADE AREAS

NOTES:

1. PROPOSED MITIGATION SITES SHOWN ON THIS SHEET CONSIST OF SEVEN SEPARATE MITIGATION AREAS OF BLH (WET) RESTORATION UP TO A TOTAL OF APPROXIMATELY 135 ACRES.

MITIGATION AREA	ACRES
AM1 Mitigation Site	
AM1-A	15.1
AM1-B	3.4
AM1-C	1.4
AM1-D	8.4
AM1-E	33.0
AM1-F	2.3
Total	**63.6**
AM2 Mitigation Site	
AM2-A	71.4
GRAND TOTAL	**135.0**

2. PROPOSED PLANTING:

MITIGATION AREA	CANOPY SEEDLINGS	MIDSTORY SEEDLINGS
AM1 Mitigation Site		
AM1-A	8,230	2,054
AM1-B	1,853	462
AM1-C	763	190
AM1-D	4,578	1,142
AM1-E	17,985	4,488
AM1-F	1,254	313
Total	**34,662**	**8,650**
AM2 Mitigation Site		
AM2-A	38,913	9,710
GRAND TOTAL	**73,575**	**18,360**

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID. (545 SEEDLINGS PER ACRE)

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE SITES WOULD BE MADE FROM THE WEST VIA LA-960/GILEAD ROAD. TURN EAST ONTO BOENEKE ROAD WHICH LEADS TO VARIOUS INTERSECTING UNNAMED DIRT ROADS WHICH LEAD INTO MITIGATION SITES AM1 AND AM2.

4. DEGRADE AREAS:

   PORTIONS OF MITIGATION SITES AM1 AND AM2 INDICATED WOULD NEED TO BE DEGRADED TO ESTABLISH AN APPROPRIATE HYDROPERIOD FOR BLH-WET PLANT SPECIES. MOST OF THE DEGRADED MATERIAL WOULD BE DISPOSED OF IN THE ADJACENT MAN-MADE PIT LAKES LABELED DISPOSAL AREAS D1-A, D2-A, AND D2-B. SOME DEGRADED MATERIAL MAY BE USED TO HELP ACHIEVE DESIRED GRADES OF LOW-ELEVATION PORTIONS WITHIN THE MITIGATION AREAS. DEGRADE QUANTITIES BELOW ARE A VERY ROUGH ESTIMATION. MORE DATA COLLECTION AND FIELD INVESTIGATION WOULD BE NECESSARY TO DETERMINE THE FINAL DESIRED GRADE/ELEVATIONS FOR EACH MITIGATION SITE.

Mitigation Site	Cubic Yards to Degrade
AM1	263,941
AM2	62,275
Total	**326,216**

DISPOSAL AREA	ACRES
AM1 Mitigation Site	
D1-A	14.8
AM2 Mitigation Site	
D2-A	5.0
D2-B	6.0

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITES.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

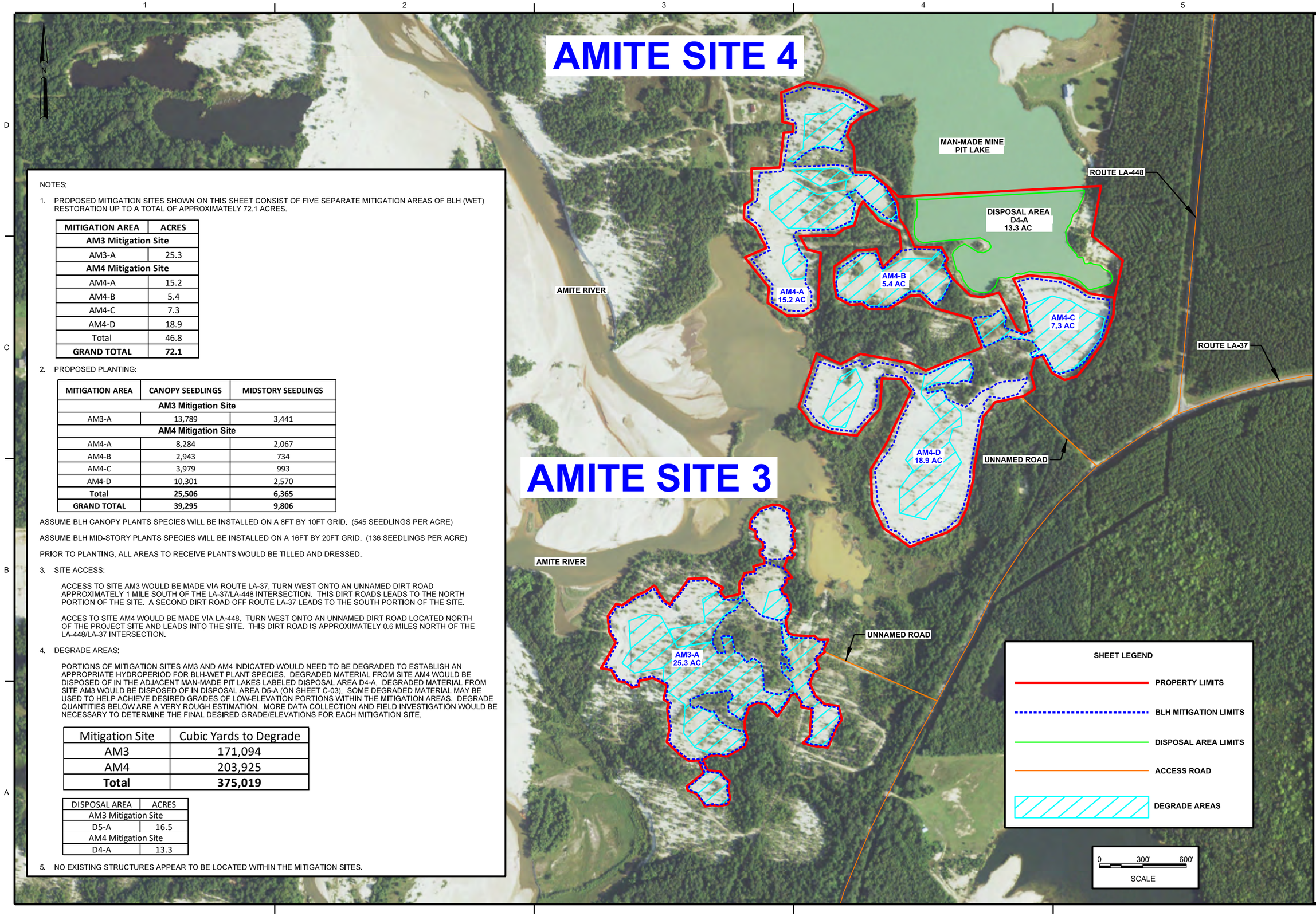
DESIGNED BY: MICHAEL J TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE: 1
PLOT DATE: 26-07-2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION
BLH-WET RESTORATION/CREATION
ST. HELENA PARISH, LA.

AMITE MITIGATION SITES 1 AND 2
PLAN VIEW

SHEET IDENTIFICATION
C-01



NOTES:

1. PROPOSED MITIGATION SITES SHOWN ON THIS SHEET CONSIST OF FIVE SEPARATE MITIGATION AREAS OF BLH (WET) RESTORATION UP TO A TOTAL OF APPROXIMATELY 72.1 ACRES.

MITIGATION AREA	ACRES
AM3 Mitigation Site	
AM3-A	25.3
AM4 Mitigation Site	
AM4-A	15.2
AM4-B	5.4
AM4-C	7.3
AM4-D	18.9
Total	46.8
GRAND TOTAL	**72.1**

2. PROPOSED PLANTING:

MITIGATION AREA	CANOPY SEEDLINGS	MIDSTORY SEEDLINGS
AM3 Mitigation Site		
AM3-A	13,789	3,441
AM4 Mitigation Site		
AM4-A	8,284	2,067
AM4-B	2,943	734
AM4-C	3,979	993
AM4-D	10,301	2,570
Total	**25,506**	**6,365**
GRAND TOTAL	**39,295**	**9,806**

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID. (545 SEEDLINGS PER ACRE)

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID. (136 SEEDLINGS PER ACRE)

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO SITE AM3 WOULD BE MADE VIA ROUTE LA-37, TURN WEST ONTO AN UNNAMED DIRT ROAD APPROXIMATELY 1 MILE SOUTH OF THE LA-37/LA-448 INTERSECTION. THIS DIRT ROADS LEADS TO THE NORTH PORTION OF THE SITE. A SECOND DIRT ROAD OFF ROUTE LA-37 LEADS TO THE SOUTH PORTION OF THE SITE.

   ACCES TO SITE AM4 WOULD BE MADE VIA LA-448. TURN WEST ONTO AN UNNAMED DIRT ROAD LOCATED NORTH OF THE PROJECT SITE AND LEADS INTO THE SITE. THIS DIRT ROAD IS APPROXIMATELY 0.6 MILES NORTH OF THE LA-448/LA-37 INTERSECTION.

4. DEGRADE AREAS:

   PORTIONS OF MITIGATION SITES AM3 AND AM4 INDICATED WOULD NEED TO BE DEGRADED TO ESTABLISH AN APPROPRIATE HYDROPERIOD FOR BLH-WET PLANT SPECIES. DEGRADED MATERIAL FROM SITE AM4 WOULD BE DISPOSED OF IN THE ADJACENT MAN-MADE PIT LAKES LABELED DISPOSAL AREA D4-A. DEGRADED MATERIAL FROM SITE AM3 WOULD BE DISPOSED OF IN DISPOSAL AREA D5-A (ON SHEET C-03). SOME DEGRADED MATERIAL MAY BE USED TO HELP ACHIEVE DESIRED GRADES OF LOW-ELEVATION PORTIONS WITHIN THE MITIGATION AREAS. DEGRADE QUANTITIES BELOW ARE A VERY ROUGH ESTIMATION. MORE DATA COLLECTION AND FIELD INVESTIGATION WOULD BE NECESSARY TO DETERMINE THE FINAL DESIRED GRADE/ELEVATIONS FOR EACH MITIGATION SITE.

Mitigation Site	Cubic Yards to Degrade
AM3	171,094
AM4	203,925
Total	**375,019**

DISPOSAL AREA	ACRES
AM3 Mitigation Site	
D5-A	16.5
AM4 Mitigation Site	
D4-A	13.3

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITES.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

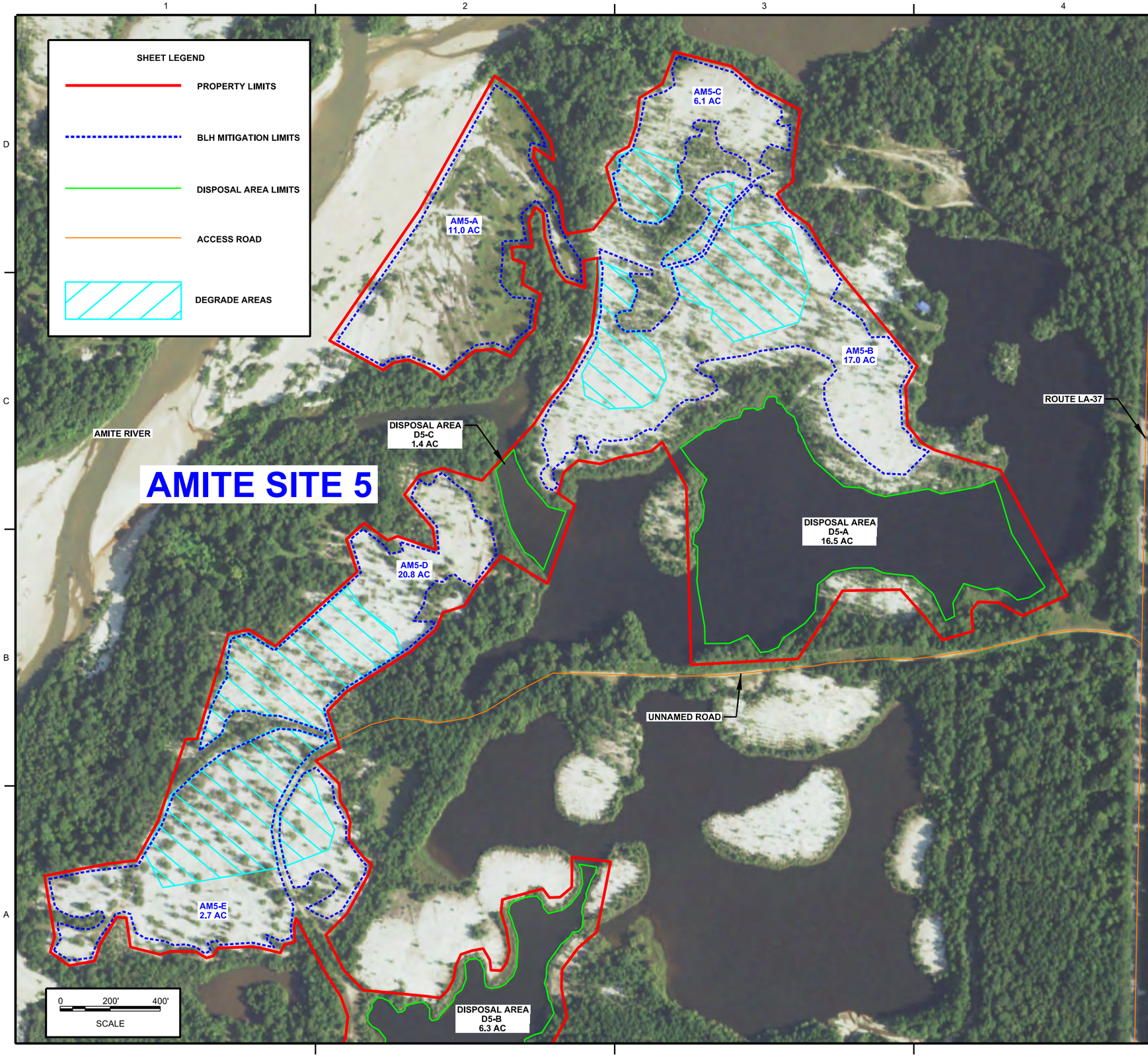
DESIGNED BY: MICHAEL J. TOLIVAR	DATE:	SOLICITATION NO.:	FILE NUMBER:
DWN BY: M.J.T.	CKD BY: J.A.B	CONTRACT NO.:	
SUBMITTED BY: M.J.T.	PLOT SCALE:	PLOT DATE: 06-07-2019	
	SIZE: ANSI D	FILE NAME:	

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION
BLH-WET RESTORATION/CREATION
ST. HELENA PARISH, LA.

AMITE MITIGATION SITES 3 AND 4
PLAN VIEW

SHEET IDENTIFICATION
C-02



NOTES:

1. PROPOSED MITIGATION SITE SHOWN ON THIS DRAWING CONSISTS OF FIVE SEPARATE MITIGATION AREAS OF BLH (WET) RESTORATION UP TO A TOTAL OF APPROXIMATELY 57.6 ACRES.

MITIGATION AREA	ACRES
AM5 Mitigation Site	
AM5-A	11.0
AM5-B	17.0
AM5-C	6.1
AM5-D	20.8
AM5-E	2.7
Total	**57.6**

2. PROPOSED PLANTING:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
AM5-A	5,995	1,496
AM5-B	9,265	2,312
AM5-C	3,325	830
AM5-D	11,336	2,829
AM5-E	1,472	367
Total	31,392	7,834

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID. (545 SEEDLINGS PER ACRE)

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID. (136 SEEDLINGS PER ACRE)

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO SITE AM5 WOULD BE MADE VIA ROUTE LA-37. TURN EAST ONTO AN UNNAMED DIRT ROAD WHICH LEADS TO THE SOUTHERN HALF OF THE SITE. THERE IS AN UNNAMED DIRT ROAD THAT RUNS ROUGHLY PARALLEL TO AND LOCATED WEST OF ROUTE LA-37 THAT CONNECTS SITES AM3 AND AM5.

4. DEGRADE AREAS:

   PORTIONS OF MITIGATION SITE AM5 INDICATED WOULD NEED TO BE DEGRADED TO ESTABLISH AN APPROPRIATE HYDROPERIOD FOR BLH-WET PLANT SPECIES. DEGRADED MATERIAL FROM SITE AM5 AND AM4 (SEE SHEET C-02) WOULD BE :DISPOSED OF IN THE ADJACENT MAN-MADE PIT LAKES LABELED DISPOSAL AREA D5-A, D5-B, AND D5-C. SOME DEGRADED MATERIAL MAY BE USED TO HELP ACHIEVE DESIRED GRADES OF LOW-ELEVATION PORTIONS WITHIN THE MITIGATION AREAS. DEGRADE QUANTITIES BELOW ARE A VERY ROUGH ESTIMATION. MORE DATA COLLECTION AND FIELD INVESTIGATION WOULD BE NECESSARY TO DETERMINE THE FINAL DESIRED GRADE/ELEVATIONS FOR EACH MITIGATION SITE.

DISPOSAL AREA	ACRES
AM5 Mitigation Site	
D5-A	16.5
D5-B	6.3
D5-C	1.4
Total	**24.2**

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITES.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

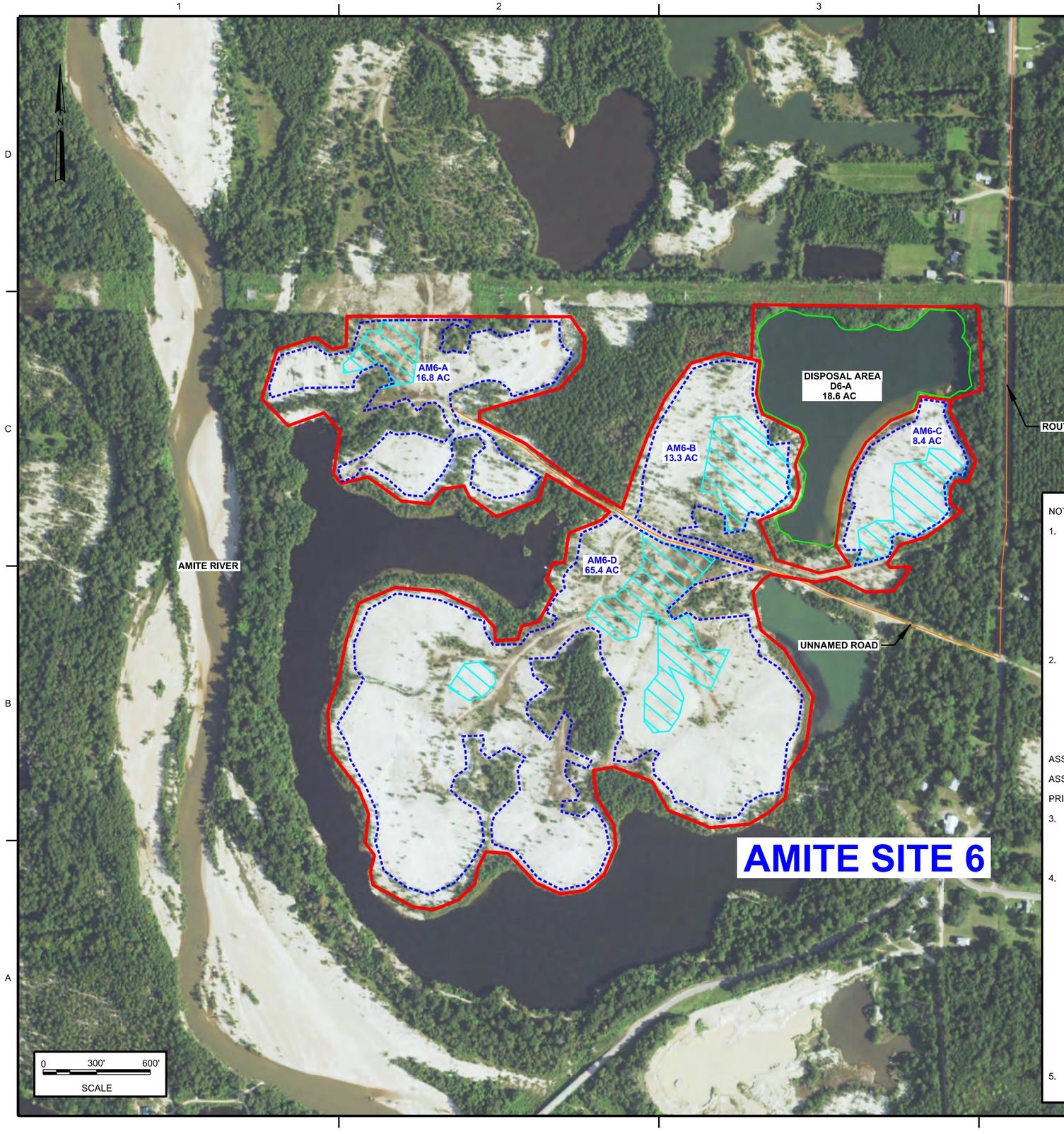
U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
DATE:
SOLICITATION NO.:
CONTRACT NO.:
PLOT DATE: 09-07-2019
PLOT SCALE:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

BBA MITIGATION
BLH-WET RESTORATION/CREATION
ST. HELENA PARISH, LA.

AMITE MITIGATION SITE 5
BLH - WET RESTORATION
PLAN VIEW

SHEET IDENTIFICATION
C-03



NOTES:

1. PROPOSED MITIGATION SITE SHOWN ON THIS SHEET CONSISTS OF FOUR SEPARATE MITIGATION AREAS OF BLH (WET) RESTORATION UP TO TOTAL OF APPROXIMATELY 103.9 ACRES.

MITIGATION AREA	ACRES
AM6 Mitigation Site	
AM6-A	16.8
AM6-B	13.3
AM6-C	8.4
AM6-D	65.4
Total	**103.9**

2. PROPOSED PLANTING:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
AM6-A	9,156	2,285
AM6-B	7,249	1,809
AM6-C	4,578	1,142
AM6-D	35,643	8,894
Total	**56,626**	**14,130**

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID. (545 SEEDLINGS PER ACRE)

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID. (136 SEEDLINGS PER ACRE)

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO SITE AM6 WOULD BE MADE VIA ROUTE LA-37. FROM LA-37 TURN WEST ONTO AN UNNAMED DIRT ROAD THAT RUNS INTO THE SITE. THIS DIRT WEST ONTO AN UNNAMED DIRT ROAD THAT RUNS INTO THE SITE. THIS DIRT ROAD IS APPROXIMATELY 0.25 MILES NORTH OF THE LA-37/LA-63 INTERSECTION.

4. DEGRADE AREAS:

   PORTIONS OF MITIGATION SITE AM6 INDICATED WOULD NEED TO BE DEGRADED TO ESTABLISH AN APPROPRIATE HYDROPERIOD FOR TO BE DEGRADED TO ESTABLISH AN APPROPRIATE HYDROPERIOD FOR BLH-WET PLANT SPECIES. DEGRADED MATERIAL FROM SITE AM4 WOULD BE DISPOSED OF IN THE ADJACENT MAN-MADE PIT LAKE LABELED DISPOSAL AREA D6-A. SOME DEGRADED MATERIAL MAY BE USED TO HELP ACHIEVE DESIRED GRADES OF LOW-ELEVATION PORTIONS WITHIN THE MITIGATION AREAS. DEGRADE QUANTITIES BELOW ARE A VERY ROUGH ESTIMATION. MORE DATA COLLECTION AND FIELD INVESTIGATION WOULD BE NECESSARY TO DETERMINE THE FINAL DESIRED GRADE/ELEVATIONS FOR EACH MITIGATION SITE.

Mitigation Site	Cubic Yards to Degrade
AM6	206,345

DISPOSAL AREA	ACRES
AM6 Mitigation Site	
D6-A	18.6

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITES.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE: 1
PLOT DATE: 08/02/2019
SIZE: ANSI D
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION:
BLH-WET RESTORATION/CREATION
ST. HELENA PARISH, LA.

AMITE MITIGATION SITE 5
BLH - WET CREATION
PLAN VIEW

SHEET IDENTIFICATION
C-04

PROJECT: BBA Mitigation, BLH-Wet Restoration, Ascension SB Mitigation Site, Ascension Parish, Louisiana

GENERAL SOW:

The proposed project involves restoration of up to approximately 55.8 acres of wet bottomwood hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH restoration area (mitigation area) would be located in an existing agricultural field at the Ascension SB mitigation site. This site is located north of the Mississippi River and south of Gonzales in Ascension Parish off of route LA-941 (also named Brittany Tower Road).

Required earthwork would mainly consist of grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation area (denoted area ASB-1 on the enclosed drawing), establishment of dirt access roads within the mitigation area, and tillage of soil in the mitigation area to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology. Native canopy and midstory plants typical of BLH-wet habitats would be installed following completion of the initial earthwork. Note that the planted acreage of the mitigation area would be reduced by the Contractor's staging area and possibly additional dirt roadways within the mitigation area that may be established for access and maintenance purposes.

PROPOSED PLANTING:

Assumed plantings in the BLH mitigation area:

BLH Canopy: Approximately 30,411 seedlings. (545 seedlings per acre)

BLH Midstory: Approximately 7,589 seedlings. (136 seedlings per acre)

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

No degrading is expected to be required to help ensure satisfactory hydrology / hydroperiod for BLH-Wet habitat.

DEMOLITION:

Three large buildings and three smaller structures appear to be located within the mitigation site. All of these structures as well as any existing fencing and unnecessary power poles within the mitigation site would be demolished by the construction contractor. All demolished material would be hauled off-site by the contractor to a Government approved upland disposal area.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary demolition, earthwork, and related activities would likely start around July 2020 and continue until through roughly October 2020. Initial planting activities would likely be started and completed in January 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

The Contractor will access the site via Route LA-941 (also known as Brittany Tower Road).

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of mitigation area shown on attached drawing (i.e. Area ASB-1). The road along the southern mitigation area boundary would not conflict with the existing electrical line running east/west across the site. The Contractor may also establish other maintenance/access roads within the mitigation area. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH mitigation area.

STAGING:

A staging area would only be permitted within the mitigation area, although it could extend into adjacent areas within the property boundary. The Contractor would determine where to place the staging and laydown area suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed

stone paving, and temporary utilities would have to be removed by the Contractor at the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all earthwork and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation area to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Demolition: Backhoes with grapple and hammer attachments, bulldozer, front loaders, and on/off-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

SHEET LEGEND

PROPERTY BOUNDARY

BLH MITIGATION LIMITS

ACCESS ROAD

TRANSMISSION LINE

INTERSTATE 10

AREA ASB-1
55.8 AC

STRUCTURES TO BE DEMOLISHED

ROUTE LA-941 / BRITTANY TOWER ROAD

NOTES:

1. PROPOSED MITIGATION AREA CONSISTS OF BLH (WET) RESTORATION UP TO APPROXIMATELY 55.8 ACRES.
2. PROPOSED PLANTING:

   BLH CANOPY: APPROXIMATELY 30,411 SEEDLINGS.

   BLH MIDSTORY: APPROXIMATELY 7,589 SEEDLINGS.

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE SITE WOULD BE MADE VIA ROUTE LA-941 / BRITTANY TOWER ROAD FROM THE SOUTH.

4. DEGRADE AREAS:

   NO DEGRADING IS EXPECTED TO BE REQUIRED TO ENSURE PROPER HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT.

5. SEVERAL EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE. ALL DEMOLISHED MATERIAL WOULD BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED UPLAND DISPOSAL AREA.

0 300' 600'
SCALE

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NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE: ANSI D
PLOT DATE: 8/07/2019
SIZE: ANSI D
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

BBA MITIGATION
BLH-WET RESTORATION
ASCENSION PARISH, LA.

ASCENSION SB MITIGATION SITE

PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Cote Blanche BLH-Wet Creation and Swamp Restoration, St. Mary Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to a total of approximately 270 acres of wet bottomland hardwoods (BLH-wet) habitat along with restoration of up to a total of approximately 176 acres of swamp habitat as compensatory mitigation for some of the BLH and swamp impacts resulting from construction of BBA projects. The BLH creation areas and swamp restoration areas (mitigation areas) would be located in existing agricultural fields at the Albania South mitigation site. This site is located in existing agricultural fields north of the Intracoastal Waterway and an estimated 5 miles west of the town of Glencoe, LA in St. Mary Parish. The mitigation site is bisected by Route LA-83

Required earthwork would mainly consist of removal (excavation; scraping) of the upper 1.0 foot of soil throughout all of BLH mitigation areas CB-1 through CB-5, and removal of the upper 0.5 to 1.0 foot of soil throughout BLH mitigation areas CB-6 through CB-8 to establish an appropriate hydroperiod for BLH-wet plant species. Note that the far southeast corner of BLH mitigation area CB-8 would not require removal of topsoil (see enclosed drawing) and BLH mitigation area CB-9 would not require any topsoil removal at all. Also, the swamp mitigation areas CB-10 through CB-12 should not require such degrading. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas, establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Any existing berms on the property would also likely be removed if these restrict sheetflow runoff into the mitigation site, unless doing so would adversely affect off-site properties.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in mitigation areas CB-1 through CB-9 following completion of the initial earthwork. Native canopy and midstory plants typical of swamp habitats would be installed in mitigation areas CB-10, CB-11, and CB-12 after initial earthwork is finished. Note that the planted acreage in two of the mitigation areas would be reduced by the Contractor's staging areas. Similarly, it is likely that the planted acreage of many of the mitigation areas would be reduced slightly by additional dirt roadways that may be established within the mitigation areas for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

BLH – Area CB-1: 5.9 AC
BLH – Area CB-2: 0.6 AC
BLH – Area CB-3: 47.2 AC
BLH – Area CB-4: 5.2 AC
BLH – Area CB-5: 12.9 AC
BLH – Area CB-6: 27.56 AC
BLH – Area CB-7: 49.4 AC
BLH – Area CB-8: 19.0 AC
BLH – Area CB-9: 8.9 AC
Total BLH-Wet: 176.6 AC

Swamp – Area CB-10: 53.5 AC
Swamp – Area CB-11: 20.9 AC
Swamp – Area CB-12: 196.0 AC
Total Swamp: 270.4 AC

PROPOSED PLANTING:

Assumed total plantings within the BLH-wet mitigation areas (approximate):

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
CB-1	3,216	802
CB-2	327	82
CB-3	25,724	6,419
CB-4	2,834	707
CB-5	7,031	1,754
CB-6	14,988	3,740
CB-7	26,923	6,718
CB-8	10,355	2,584
CB-9	4,851	1,210
Total	**96,247**	**24,018**

Assumed total plantings within the swamp mitigation areas (approximate):

Mitigation Area	Swamp Canopy Seedlings	Swamp Midstory Seedlings
CB-10	29,158	7,276
CB-11	11,391	2,842
CB-12	106,820	26,656
Total	**147,368**	**36,774**

Assume BLH and swamp canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings per acre).

Assume BLH and swamp midstory plants species will be installed on a 16ft by 20ft grid (136 seedlings per acre).

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

As discussed above, degrading would be required to help ensure satisfactory hydrology/hydroperiod for BLH-Wet habitat in all the BLH mitigation areas except area CB-9. Degraded material would be hauled off site to a contractor-provided upland disposal area. Assume a 15 mile one-way haul distance.

The estimated degrade (excavation) quantities requiring removal are indicated below. The quantities indicated for mitigation areas CB-6 through CB-8 are based on having to remove 1.0 foot of soil to be conservative.

BLH - Area 1: Degrade Approximately: 9,519 CY.
BLH - Area 2: Degrade Approximately: 968 CY.
BLH - Area 3: Degrade Approximately: 76,149 CY.
BLH - Area 4: Degrade Approximately: 8,389 CY.
BLH - Area 5: Degrade Approximately: 20,812 CY.
BLH - Area 6: Degrade Approximately: 44,367 CY.
BLH - Area 7: Degrade Approximately: 70,627 CY.
BLH - Area 8: Degrade Approximately: 30,653 CY.

Total Degrade Approximately: 261,484 CY.

DEMOLITION:

No existing structures appear to be located within the mitigation site, hence no demolition activities are anticipated.

DURATION:

Per PDT, the assumed start date for construction is 1 June 2020. Necessary earthwork and related activities would likely start around early August 2020 and last through about March 2021. Initial planting activities would likely begin in mid-December 2021 and continue through February 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would be via route LA-83. Currently there are four dirt roads that intersect LA-83 and lead into the mitigation areas situated on the north side of LA-83. There currently is only one dirt road (Louisiana Road) that intersects LA-83 and runs directly into the mitigation areas situated on the south side of LA-83. Par Road 22 intersects LA-83 west of the mitigation site and continues south to intersect with another Louisiana Road that runs parallel to the west property boundary situated south of LA-83. Access to the far southwest corner of the southern mitigation site may be gained through use of this secondary route.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of the mitigation area shown on the attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation areas. Such roads would first have to be approved by the Government.

STAGING:

One staging area would be permitted in one of the mitigation areas located north of LA-83 and one would be permitted in one of the mitigation areas located south of LA-83. The Contractor would determine where within each mitigation area to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging areas would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor at the end of the project and the disturbed areas would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

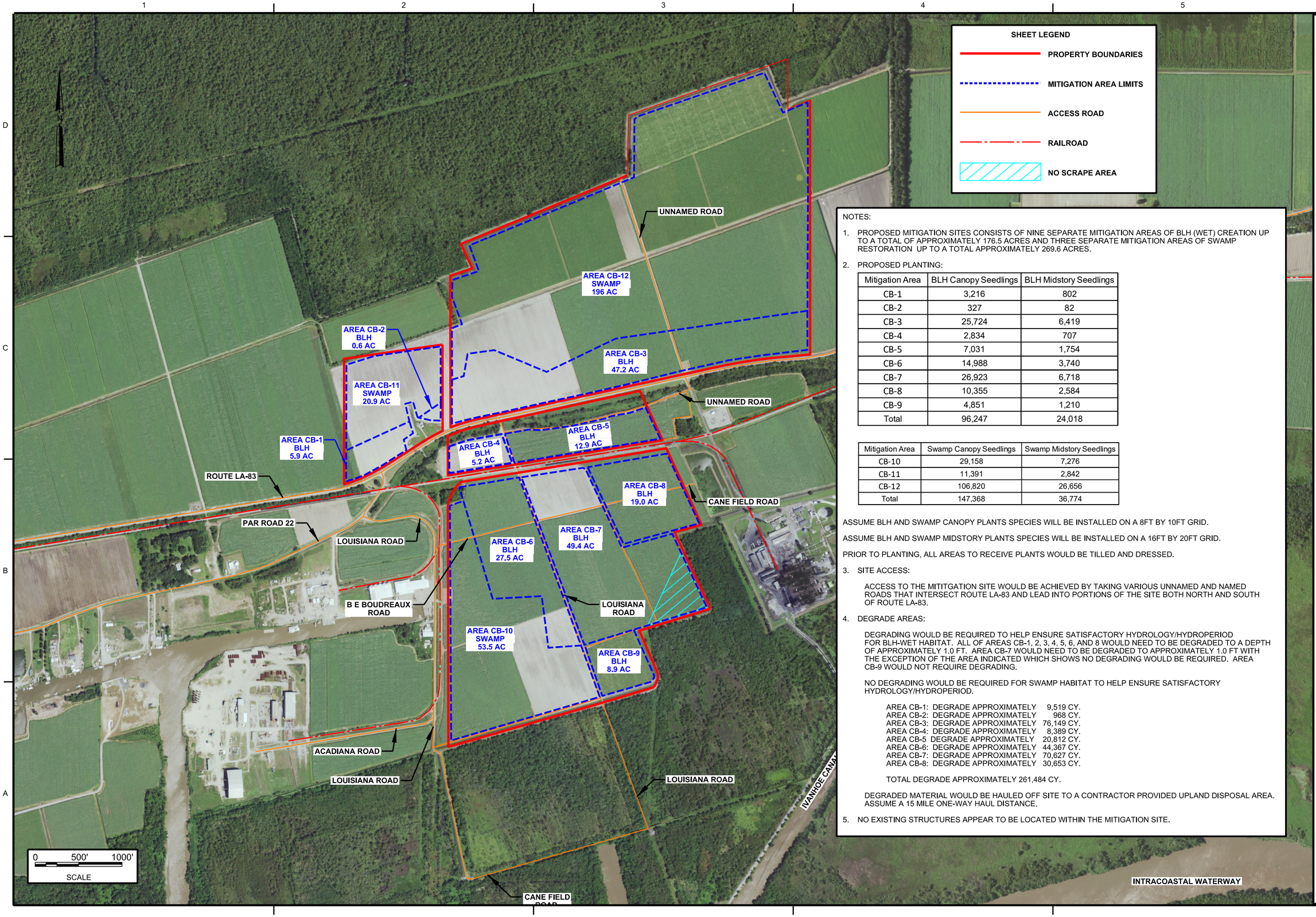
Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

Planting: Pickup trucks, UTVs and/or ATVs, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITES CONSISTS OF NINE SEPARATE MITIGATION AREAS OF BLH (WET) CREATION UP TO A TOTAL OF APPROXIMATELY 176.5 ACRES AND THREE SEPARATE MITIGATION AREAS OF SWAMP RESTORATION UP TO A TOTAL APPROXIMATELY 269.6 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
CB-1	3,216	802
CB-2	327	82
CB-3	25,724	6,419
CB-4	2,834	707
CB-5	7,031	1,754
CB-6	14,988	3,740
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CB-8	10,355	2,584
CB-9	4,851	1,210
Total	96,247	24,018

Mitigation Area	Swamp Canopy Seedlings	Swamp Midstory Seedlings
CB-10	29,158	7,276
CB-11	11,391	2,842
CB-12	106,820	26,656
Total	147,368	36,774

ASSUME BLH AND SWAMP CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH AND SWAMP MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE MITITGATION SITE WOULD BE ACHIEVED BY TAKING VARIOUS UNNAMED AND NAMED ROADS THAT INTERSECT ROUTE LA-83 AND LEAD INTO PORTIONS OF THE SITE BOTH NORTH AND SOUTH OF ROUTE LA-83.

4. DEGRADE AREAS:

   DEGRADING WOULD BE REQUIRED TO HELP ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT. ALL OF AREAS CB-1, 2, 3, 4, 5, 6, AND 8 WOULD NEED TO BE DEGRADED TO A DEPTH OF APPROXIMATELY 1.0 FT. AREA CB-7 WOULD NEED TO BE DEGRADED TO APPROXIMATELY 1.0 FT WITH THE EXCEPTION OF THE AREA INDICATED WHICH SHOWS NO DEGRADING WOULD BE REQUIRED. AREA CB-9 WOULD NOT REQUIRE DEGRADING.

   NO DEGRADING WOULD BE REQUIRED FOR SWAMP HABITAT TO HELP ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD.

   AREA CB-1: DEGRADE APPROXIMATELY 9,519 CY.
   AREA CB-2: DEGRADE APPROXIMATELY 968 CY.
   AREA CB-3: DEGRADE APPROXIMATELY 76,149 CY.
   AREA CB-4: DEGRADE APPROXIMATELY 8,389 CY.
   AREA CB-5 DEGRADE APPROXIMATELY 20,812 CY.
   AREA CB-6: DEGRADE APPROXIMATELY 44,367 CY.
   AREA CB-7: DEGRADE APPROXIMATELY 70,627 CY.
   AREA CB-8: DEGRADE APPROXIMATELY 30,653 CY.

   TOTAL DEGRADE APPROXIMATELY 261,484 CY.

   DEGRADED MATERIAL WOULD BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE.

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE.

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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 1
PLOT DATE: 08/02/2019
SIZE: ANSI D
FILE NAME:

BBA MITIGATION:
BLH-WET CREATION AND SWAMP RESTORATION
ST. MARY PARISH, LA.

COTE BLANCHE MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Feliciana BLH-Wet Creation, East Feliciana Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 267 acres of wet bottomwood hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation areas (mitigation areas) would be located in existing agricultural fields at the Feliciana mitigation site. This site is located southeast of the town of Clinton, LA and north of Route LA-959 in East Feliciana Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper foot of soil throughout all of mitigation area F-1 and mitigation area F-3 to establish an appropriate hydroperiod for BLH-wet plant species. For the same purpose, the majority of the western portion of mitigation area F-2 would be degraded 1 foot, but a small portion of the far east portion of area F-2 would be degraded 2 feet, a small portion would be degraded 1 foot and the remainder would not be degraded at all (see enclosed drawing).

Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas (denoted areas F-1, F-2, and F-3 SJ-1 on the enclosed drawing), establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the three mitigation areas following completion of the initial earthwork. Note that the planted acreage of the mitigation area F-1would be reduced by the Contractor's staging area. Similarly, it is likely that the planted acreage of all the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

Area F-1: 127 AC
Area F-2: 124 AC
Area F-3: 16 AC
Total: 267 AC

PROPOSED PLANTING:

Assumed total plantings within the mitigation areas (approximate):

Mitigation Area	Canopy Seedlings	Midstory Seedlings
F-1	69,215	17,272
F-2	67,580	16,864
F-3	8,720	2,176
Totals	**145,515**	**36,312**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings/acre).

Assume BLH mid-story plants species will be installed on a 16ft by 20ft grid (136 seedlings/acre).

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

Summary data for the anticipated excavation (degrading/scraping) work within each mitigation are provided in the table below. It is estimated that a grand total of 390,194CY of soil would be removed during the degrading activities.

Mitigation Area	Degrade 1.0 ft		Degrade 2.0 ft	
	Acres	Cubic Yards	Acres	Cubic Yards
F-1	127	204,893	0	0
F-2	92.1	148,632	3.4	10,855
F-3	16	25,813	0	0
Totals	**235.1**	**379,339**	**3.4**	**10,855**

Degraded material would be hauled off-site to a contractor-provided upland disposal area approved by the Government, assume a 15 mile one-way haul distance.

DEMOLITION:

Several existing structures within the mitigation areas would need to be demolished (see enclosed drawing). Aerial photos show the structures appear to be barns and

other agricultural buildings. All existing fencing within the mitigation site would be removed as well.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related earthwork activities would likely start around early August 2020 and continue until roughly December 2022. Initial planting activities would likely be conducted in January 2023 through mid-February 2023. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2023 with the report submitted in December 2023. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2024 with the report submitted in December 2024. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2025.

SITE ACCESS:

Access to the project site would be as follows:

From the north, access to the site to be made via Par Road 5-118 and onto Idlewild road. Several unpaved roads intersect Idlewild Road and run through or near the mitigation areas sites. Idlewild Road will be preserved.

From the south, access to the site can be made via gross road onto Par Road 5-118and then onto Idlewild Road to the dirt roads mentioned above.

STAGING:

A staging area would only be permitted within mitigation area F-1, although it could extend into adjacent areas within the property boundary. The Contractor would determine where within the swamp area limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation area to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

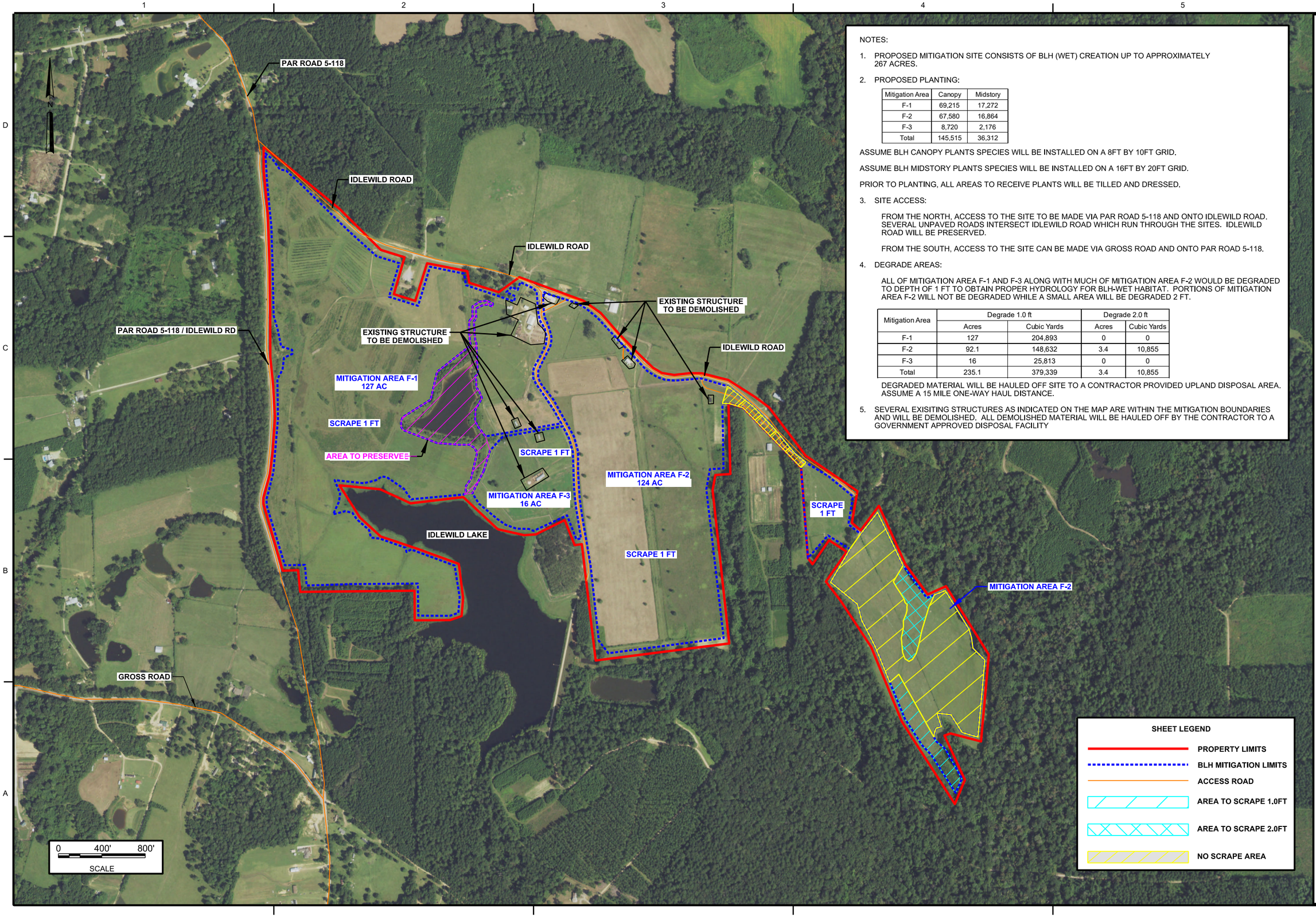
Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Demolition: Backhoes with grapple and hammer attachments, bulldozer, front loaders, and on/off road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITE CONSISTS OF BLH (WET) CREATION UP TO APPROXIMATELY 267 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	Canopy	Midstory
F-1	69,215	17,272
F-2	67,580	16,864
F-3	8,720	2,176
Total	145,515	36,312

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

FROM THE NORTH, ACCESS TO THE SITE TO BE MADE VIA PAR ROAD 5-118 AND ONTO IDLEWILD ROAD. SEVERAL UNPAVED ROADS INTERSECT IDLEWILD ROAD WHICH RUN THROUGH THE SITES. IDLEWILD ROAD WILL BE PRESERVED.

FROM THE SOUTH, ACCESS TO THE SITE CAN BE MADE VIA GROSS ROAD AND ONTO PAR ROAD 5-118.

4. DEGRADE AREAS:

ALL OF MITIGATION AREA F-1 AND F-3 ALONG WITH MUCH OF MITIGATION AREA F-2 WOULD BE DEGRADED TO DEPTH OF 1 FT TO OBTAIN PROPER HYDROLOGY FOR BLH-WET HABITAT. PORTIONS OF MITIGATION AREA F-2 WILL NOT BE DEGRADED WHILE A SMALL AREA WILL BE DEGRADED 2 FT.

Mitigation Area	Degrade 1.0 ft		Degrade 2.0 ft	
	Acres	Cubic Yards	Acres	Cubic Yards
F-1	127	204,893	0	0
F-2	92.1	148,632	3.4	10,855
F-3	16	25,813	0	0
Total	235.1	379,339	3.4	10,855

DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE.

5. SEVERAL EXISITING STRUCTURES AS INDICATED ON THE MAP ARE WITHIN THE MITIGATION BOUNDARIES AND WILL BE DEMOLISHED. ALL DEMOLISHED MATERIAL WILL BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED DISPOSAL FACILITY

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NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J TOLIVAR
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CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE: ANSI D
PLOT DATE: 08/02/2019
SIZE:
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DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

BBA MITIGATION
BLH-WET CREATION
EAST FELICIANA PARISH, LA.

FELICIANA MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, GBRPC BLH-Wet Restoration & Enhancement, East Baton Rouge Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 115 acres of wet bottomwood hardwoods (BLH-wet) habitat along with enhancement of up to approximately 20 acres of existing BLH-wet habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH restoration area and enhancement area (mitigation areas) would be located in existing agricultural and possibly equestrian fields at the GBRPC mitigation site. This site is located adjacent to the Mississippi River south of Baton Rouge in East Baton Rouge Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper foot of soil in the far southwest corner of mitigation area PC-1 (see drawing) to establish an appropriate hydroperiod for BLH-wet plant species. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas (denoted as areas PC-1 and PC-2 on the enclosed drawing), establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to received plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect off-site drainage. Any earthen berms present on-site that prevent surface water runoff from reaching the mitigation areas would be removed.

Native canopy and midstory plants typical of BLH-wet habitats would be installed within the mitigation areas following completion of the initial earthwork. Note that the planted acreage of mitigation area PC-1 could be reduced by the Contractor's staging area and possibly by additional dirt roadways within the mitigation area that may be established for access and maintenance purposes.

Mitigation area PC-1 is slated for BLH restoration and would encompass up to approximately 115 acres. Mitigation area PC-2 is slated for BLH enhancement (since many desirable BLH trees and shrubs are in this disturbed area) and would encompass up to approximately 20 acres.

PROPOSED PLANTING:

Assuming project BLH area:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
PC-1	62,675	15,640
PC-2	4,360	1,088
Totals	**67,035**	**16,728**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings per acre).

Assume BLH mid-story plants species will be installed on a 16ft by 20ft grid (136 seedlings per acre).

Planting within the BLH Enhancement area (area PC-2) would occur only in previously cleared areas which are estimated to be around 40% of the total 20-acre mitigation area.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

An approximately 5.5 acre area in the southwest corner of mitigation area PC-1 would be degraded to a depth of 1.0 ft. below the existing soil surface to achieve proper hydrology for BLH-Wet.

Area PC-1: Degrade approximately 8,882 CY.

Degrade material would be hauled off-site at a Contractor provided upland disposal area, assume 15 mile one way haul. Truck wheel washing rack(s) would be installed where on-site dump trucks would exit onto public roads.

DEMOLITION:

A few existing structures appear to be located within the mitigation site. These structures as well as existing fences within the mitigation site would be demolished and removed prior to completing necessary earthwork. All demolished material would be hauled off-site by the contractor to a Government approved upland disposal area.

DURATION:

Per PDT, the assumed start date for construction is 1 June 2020. All earthwork and demolition activities would likely start around early August 2020 and continue through November 2020. Initial planting activities would likely be started and completed in

January 2022 while the plants are dormant. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would be as follows:

Access to the site to be made via Route LA-327 which runs parallel and adjacent to the mitigation site's western boundary. Imagery indicates a possible area already cleared which could be used as access to the site (see enclosed drawing). Along LA-327, the ground appears to be flat and free of canals or obstructions and appears to be favorable for creating an access if necessary.

LA-327 intersects Lake Beau Pre Blvd. on the northern side of the site and leads to an unnamed road that turns through part of the northern portion of the site. This route may also be used for access to the mitigation site.

STAGING:

A staging area would only be permitted within previously cleared areas at the far north end of the mitigation site, outside of the mitigation areas. The Contractor would determine where within this zone to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this

period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

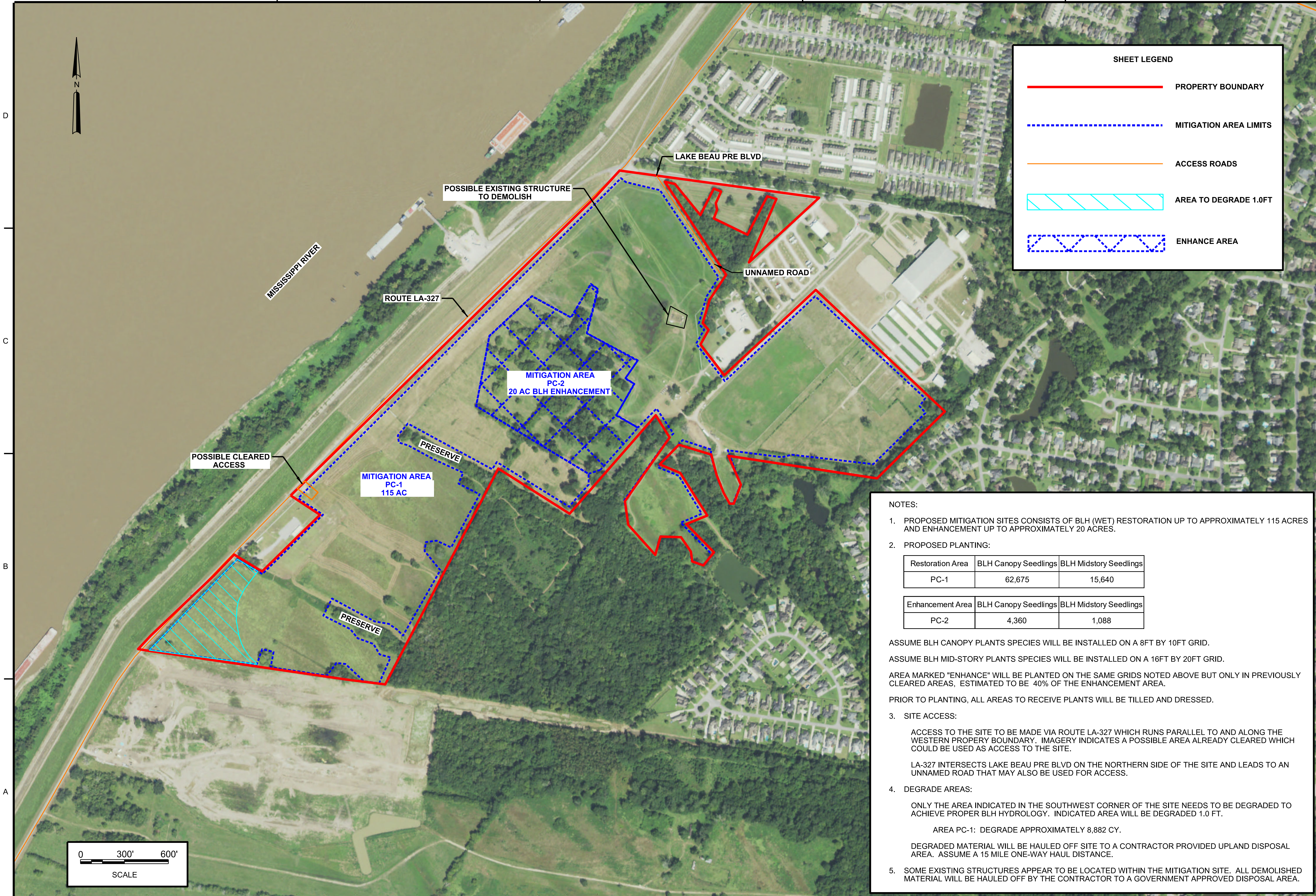
Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Demolition: Backhoes with grapple and hammer attachments, bulldozer, front loaders, and on/off-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.



NOTES:

1. PROPOSED MITIGATION SITES CONSISTS OF BLH (WET) RESTORATION UP TO APPROXIMATELY 115 ACRES AND ENHANCEMENT UP TO APPROXIMATELY 20 ACRES.
2. PROPOSED PLANTING:

Restoration Area	BLH Canopy Seedlings	BLH Midstory Seedlings
PC-1	62,675	15,640

Enhancement Area	BLH Canopy Seedlings	BLH Midstory Seedlings
PC-2	4,360	1,088

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

AREA MARKED "ENHANCE" WILL BE PLANTED ON THE SAME GRIDS NOTED ABOVE BUT ONLY IN PREVIOUSLY CLEARED AREAS, ESTIMATED TO BE 40% OF THE ENHANCEMENT AREA.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

ACCESS TO THE SITE TO BE MADE VIA ROUTE LA-327 WHICH RUNS PARALLEL TO AND ALONG THE WESTERN PROPERY BOUNDARY. IMAGERY INDICATES A POSSIBLE AREA ALREADY CLEARED WHICH COULD BE USED AS ACCESS TO THE SITE.

LA-327 INTERSECTS LAKE BEAU PRE BLVD ON THE NORTHERN SIDE OF THE SITE AND LEADS TO AN UNNAMED ROAD THAT MAY ALSO BE USED FOR ACCESS.

4. DEGRADE AREAS:

ONLY THE AREA INDICATED IN THE SOUTHWEST CORNER OF THE SITE NEEDS TO BE DEGRADED TO ACHIEVE PROPER BLH HYDROLOGY. INDICATED AREA WILL BE DEGRADED 1.0 FT.

AREA PC-1: DEGRADE APPROXIMATELY 8,882 CY.

DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE.

5. SOME EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE. ALL DEMOLISHED MATERIAL WILL BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED DISPOSAL AREA.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 08-02-2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

BBA MITIGATION,
BLH-WET RESTORATION AND ENHANCEMENT
EAST BATON ROUGE PARISH, LA.

GBRPC MITIGATION SITE

PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Gravity BLH-Wet Creation/Restoration, Ascension Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 75.2 acres of wet bottomwood hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation/restoration area (mitigation area) would be located in an existing agricultural field at the St. John mitigation site. This site is located north of the Mississippi River between the unincorporated communities of Darrow and Burnside in Ascension Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper foot of soil within the eastern portion of the mitigation area (see enclosed drawing) to establish an appropriate hydroperiod for BLH-wet plant species. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation area (denoted area G1 on the enclosed drawing), establishment of dirt access roads within the mitigation area, and tillage of soil in the mitigation area to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology, unless these actions would adversely affect off-site properties. Any on-site berms that block surface water runoff from entering the mitigation area would also be removed or gapped, unless this would adversely affect off-site properties. The existing pond located within the mitigation site property boundaries would likely be left in its existing condition.

Native canopy and midstory plants typical of BLH-wet habitats would be installed following completion of the initial earthwork. Note that the planted acreage of the mitigation area would be reduced by the Contractor's staging area and possibly by additional dirt roadways within the mitigation area that may be established for access and maintenance purposes.

PROPOSED PLANTING:

Assuming project BLH area plantings indicated below:

BLH Canopy: Approximately 40,984 seedlings. (545 seedlings per acre)

BLH Mid-story: Approximately 10,227 seedlings. (136 seedlings per acre)

Assume BLH canopy plants species would be installed on an 8ft by 10ft grid.

Assume BLH mid-story plants species would be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

Approximately 23.8 acres in the eastern portion of the mitigation area would be degraded a depth of approximately 1.0 ft. to obtain proper hydrology for BLH-wet habitat.

Area G1: Degrade approximately 38,344 CY.

Degrade material would be used to fill undesirable drainage features throughout the mitigation area. All remaining degraded material would be hauled off-site to a Contractor provided upland disposal area, assume 15 mile one way haul. The Contractor would be required to install a truck wheel washing rack or similar feature on-site to minimize tracking of material onto public roads.

DEMOLITION:

No existing structures appear to be within the mitigation site, hence no demolition activities are anticipated. Most existing unpaved roads within the project would be graded as necessary.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around late July 2020 and continue until roughly October or November 2020. Initial planting activities would likely be started and completed in January 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would likely be as follows:

Access to the site to be made via Route LA-22. One possible route from LA-22 would be use of Galaxy Blvd which leads to an unpaved road on the site. This route is undesirable since it passes through a residential area, and would be avoided if possible.

The preferred alternative access route to avoid going through residential areas would be to use Route LA-22 to Brown Extension St. which becomes and unpaved road that runs north-south and parallel to the western side of the project site. A relatively short extension road would have to be built from the north-south road to access the project site.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of mitigation area shown on attached drawing (i.e. Area G1). The Contractor may also establish other maintenance/access roads within the mitigation area. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH mitigation area.

STAGING:

A staging area would only be permitted within the mitigation area, although it could extend into adjacent areas within the property boundary. The Contractor would determine where to place staging and laydown area within the specified area in a manner suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation area to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

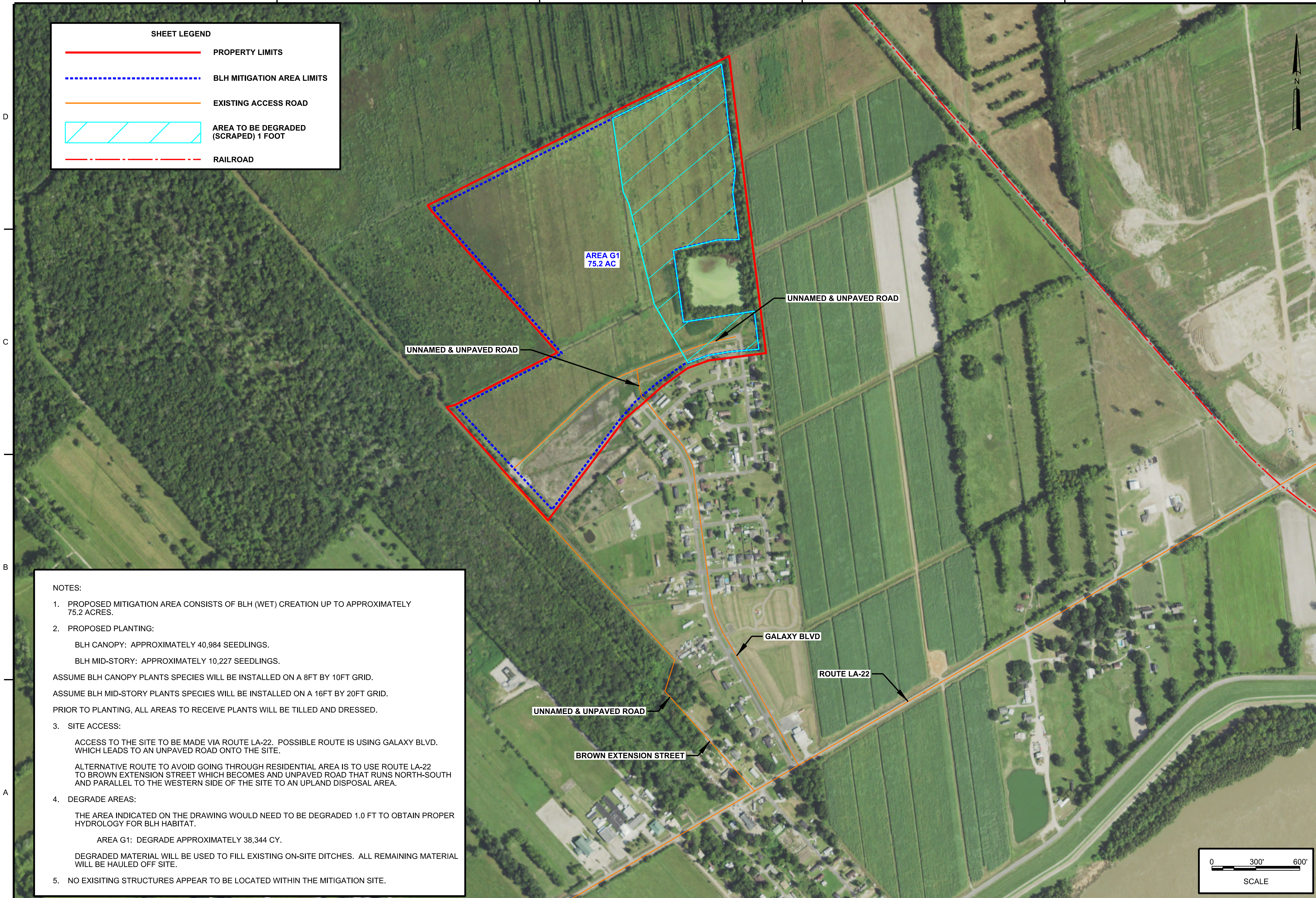
EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION AREA CONSISTS OF BLH (WET) CREATION UP TO APPROXIMATELY 75.2 ACRES.

2. PROPOSED PLANTING:

   BLH CANOPY: APPROXIMATELY 40,984 SEEDLINGS.

   BLH MID-STORY: APPROXIMATELY 10,227 SEEDLINGS.

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE SITE TO BE MADE VIA ROUTE LA-22. POSSIBLE ROUTE IS USING GALAXY BLVD. WHICH LEADS TO AN UNPAVED ROAD ONTO THE SITE.

   ALTERNATIVE ROUTE TO AVOID GOING THROUGH RESIDENTIAL AREA IS TO USE ROUTE LA-22 TO BROWN EXTENSION STREET WHICH BECOMES AND UNPAVED ROAD THAT RUNS NORTH-SOUTH AND PARALLEL TO THE WESTERN SIDE OF THE SITE TO AN UPLAND DISPOSAL AREA.

4. DEGRADE AREAS:

   THE AREA INDICATED ON THE DRAWING WOULD NEED TO BE DEGRADED 1.0 FT TO OBTAIN PROPER HYDROLOGY FOR BLH HABITAT.

   AREA G1: DEGRADE APPROXIMATELY 38,344 CY.

   DEGRADED MATERIAL WILL BE USED TO FILL EXISTING ON-SITE DITCHES. ALL REMAINING MATERIAL WILL BE HAULED OFF SITE.

5. NO EXISITING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR | DATE:
DWN BY: M.J.T. | CKD BY: J.A.B | SOLICITATION NO.:
SUBMITTED BY: M.J.T. | CONTRACT NO.:
PLOT SCALE: | PLOT DATE: 08-01-2019 | FILE NUMBER:
SIZE: ANSI D | FILE NAME:

BBA MITIGATION, BLH-WET
ASCENSION PARISH, LA.

GRAVITY MITIGATION SITE

PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Joyce WMA Swamp Enhancement, Tangipahoa Parish, Louisiana

GENERAL SOW:

The proposed project involves enhancement of a total of approximately 1,124 acres of existing swamp habitat within the Joyce Wildlife Management Area (WMA) mitigation site near the north shore of Lake Pontchartrain. The mitigation site is an estimated 8 miles southeast of Ponchatoula, LA and is situated east of Interstate 55 in Tangipahoa Parish.

Work would include planting of native canopy and midstory plant species required to enhance swamp habitat as stated herein. The proposed swamp enhancement for this project is broken into three separate mitigation areas as follows:

Mitigation Area ID	Acres
J1	550
J2	195
J3	380
Total	**1,125**

PROPOSED PLANTING:

Assumed total planting required within the mitigation areas are provided below:

Mitigation Area	Canopy Seedlings	Midstory Seedlings
J1	143,748	35,937
J2	63,707	15,927
J3	132,422	33,106
Totals	**339,877**	**84,969**

Assume swamp canopy plants species will be installed on a 10ft by 10ft grid.

Assume swamp midstory plants species will be installed on a 20ft by 20ft grid.

The existing density of canopy and midstory plant species in each mitigation area is quite variable and relatively sparse in many places. The enhancement objectives for the 3 swamp enhancement areas (mitigation areas) is to achieve an average density of at least 250 living native swamp canopy species and an average density of at least 80 living native swamp midstory species per acre. Native swamp and midstory plants would be installed among the existing canopy and midstory plants to help achieve these objectives.

Canopy species would be installed to obtain an initial average density of approximately 435 trees per acre in planted areas. Midstory species would be installed to obtain an initial average density of approximately 109 midstory species per acre in planted areas. The canopy species would be installed on 10-foot centers, while the midstory species would be installed on 20-foot centers. These represent the typical spacing of plants, but this spacing would be adjusted as necessary to account for and not conflict with existing living canopy and midstory plants. All plants to be installed would be 1 gallon stock. All plantings would be protected by predation guards.

DEGRADE AREAS:

No degrading would be required as planting would occur in existing swamp.

DEMOLITION:

No existing structures appear to be located within the proposed mitigation areas, thus no demolition is anticipated.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Initial planting activities would likely begin in November 2022 and be completed at the end of March 2023. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2023 with the report submitted in December 2023. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2024 with the report submitted in December 2024. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2025.

SITE ACCESS:

Access to the project work limits is to be determined.

STAGING:

Staging area(s) for the proposed mitigation areas is to be determined.

MAINTENANCE/MANAGEMENT ACTIVITIES:

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the

second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Planting: Air boats, diesel-engine boats, small barges, ATVs, UTVs, and marsh buggies

JOYCE WILDLIFE MANAGEMENT AREA

SHEET LEGEND

- PROPERTY BOUNDARY FOR JOYCE WMA
- LIMITS OF MITIGATION AREAS

NOTES:

1. PROPOSED MITIGATION SITES CONSIST OF SWAMP ENHANCEMENT COVERING A OF TOTAL OF APPROXIMATELY 1,1245 ACRES. THE THREE AREAS AS FOLLOWS:

   AREA J1: 550 AC
   AREA J2: 195 AC
   AREA J3: 380 AC

2. ESTIMATED PROPOSED PLANTINGS:

Mitigation Area	Canopy	Midstory
J1	143,748	35,937
J2	63,707	15,927
J3	132,422	33,106
Total	339,877	84,970

ASSUME SWAMP CANOPY PLANTS SPECIES INSTALLED ON A 10FT BY 10FT GRID.

ASSUME SWAMP MIDSTORY PLANTS SPECIES INSTALLED ON A 20FT BY 20FT GRID.

ASSUMED SPACING GRIDS OF PLANTINGS REPRESENT TYPICAL SPACING OF PLANTS, BUT THIS SPACING WOULD BE FIELD ADJUSTED AS NECESSARY TO ACCOUNT FOR AND NOT CONFLICT WITH EXISTING LIVING CANOPY AND MIDSTORY PLANTS.

THE EXISTING DENSITY OF CANOPY AND MIDSTORY PLANT SPECIES IN EACH MITIGATION AREA IS VARIABLE AND SPARSE IN MANY PLACES. PLANTING ESTIMATES BASED ON ACHIEVING AN AVERAGE DENISTY OF AT LEAST 250 LIVING NATIVE SWAMP CANOPY AND 80 LIVING NATIVE SWAMP MIDSTORY SPECIES PER ACRE.

CANOPY SPECIES WOULD BE INSTALLED TO OBTAIN AN INITIAL AVERAGE DENSITY OF APPROXIMATELY 435 TREES PER ACRE IN PLANTED AREAS. MIDSTORY SPECIES WOULD BE INSTALLED TO OBTAIN AN INITIAL AVERAGE DENSITY OF APPROXIMATELY 109 MIDSTORY SPECIES PER ACRE IN PLANTED AREAS.

3. SITE ACCESS:

   ACCESS TO THE MITIGATION AREAS IS TO BE DETERMINED.

4. NO DEGRADING OR DEMOLITION IS REQUIRED FOR THIS PROJECT

TANGIPAHOA RIVER
BEDICO CREEK
AREA J3
380 AC
UNNAMED CANAL
AREA J2
195 AC
UNNAMED CANAL
MIRE CANAL
AREA J1
550 AC
UNNAMED CANAL
TANGIPAHOA RIVER
LAKE PONTCHARTRAIN
MIDDLE BAYOU
N
0 1400' 2800'
SCALE

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 8/24/2019
SITE: ANSTD
FILE NAME:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
DATE:

BBA MITIGATION, SWAMP ENHANCEMENT
TANGIPAHOA PARISH, LA.

JOYCE WMA
MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Krotz BLH-Wet Restoration, Pointe Coupee Parish, Louisiana

GENERAL SOW:

The proposed project would involve restoration of up to approximately 147 acres of BLH-Wet habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH-Wet restoration areas (mitigation areas) would be located in existing fields at the Krotz mitigation site. This site is located in the Sherburne Wildlife Management Area (WMA) across the Atchafalaya River from the town of Krotz Springs in Point Coupee Parish, LA.

Required earthwork would mainly consist of clearing and grubbing each mitigation area, designated areas K-1, K-2, K-3, and K-4 on the enclosed drawing. Earthwork would also include grading to ensure appropriate drainage (if necessary), establishment of dirt access roads around the perimeter of the mitigation areas, establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Any earthen berms within the mitigation site property boundaries that restrict sheetflow runoff from off-site lands to reach the mitigation areas would also be removed, assuming this would not adversely affect drainage on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the four mitigation areas following completion of the initial earthwork. Note that the planted acreage of the one or two of the mitigation areas would be reduced by the Contractor's staging area(s). Similarly, it is likely that the planted acreage of all the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

Area K-1: 27.6 AC
Area K-2: 57.4 AC
Area K-3: 45.0 AC
Area K-4: 17.0 AC
Total BLH-Wet: 147.0 AC

PROPOSED PLANTING:

Assumed total plantings within the mitigation areas (approximate):

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
K-1	15,042	3,754
K-2	31,065	7,752
K-3	24,525	6,120
K-4	9,265	2,312
Totals	**79,897**	**19,938**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

No degrading of the mitigation areas is expected to be required. Each of the mitigation areas will need to be cleared and grubbed, tilled, and dressed prior to planting.

DEMOLITION:

No existing structures appear to be located within the mitigation site, hence no demolition activities should be necessary.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary earthwork and related activities would likely start around early August 2020 and continue through November 2020. Initial planting activities would likely be conducted in January 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would be as follows:

Access to the site would be made via Route LA-975 northwest of the mitigation site. LA-975 intersects an unnamed road which splits off to the east. Staying straight after the split, the road runs parallel to Alabama Bayou and eventually intersects an unnamed road which runs north/south along the eastern boundary of mitigation area K-4. Turning south after the split, the unnamed road off LA-975 becomes Little Alabama Road which runs along Little Alabama Bayou and the western limits of the mitigation areas K-1 and K-2. Little Alabama Road intersects two dirt roads which would gain access to these western mitigation areas. Little Alabama Road also intersects an unnamed dirt road that could be used to access the southern side of area K-2 and also leads to an unnamed dirt road that runs along the east boundary of area K-4.

Between areas K-1 and K-2 there is a dirt road that connects the two mitigation areas. This dirt road would be used as access between these mitigation areas.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of the mitigation areas shown on the attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation areas. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH-Wet mitigation areas.

STAGING:

A maximum of two staging areas would be permitted within two of the areas indicated on the attached drawings, although portions of such staging areas could extend into other lands within the property boundaries. The Contractor would determine where within the mitigation areas to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area(s) would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer in a staging area. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor at the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all earthwork and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Clearing and Grubbing: Up to D8 bulldozers, tractors, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

ROUTE LA-975

LITTLE ALABAMA ROAD

ALABAMA BAYOU

UNNAMED ROAD

LITTLE ALABAMA BAYOU

AREA K-1
27.6 AC

DIRT ROAD

UNNAMED ROAD

LITTLE ALABAMA ROAD

AREA K-2
57 AC

AREA K-3
45 AC

AREA K-4
17 AC

DIRT ROAD

N

0 300' 600'
SCALE

SHEET LEGEND

- PROPERTY BOUNDARIES
- MITIGATION AREA LIMITS
- ACCESS ROAD

NOTES:

1. PROPOSED MITIGATION SITE CONSISTS OF FOUR SEPARATE MITIGATION AREAS OF BLH (WET) RESTORATION UP TO A TOTAL OF APPROXIMATELY 147 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
K-1	15,042	3,754
K-2	31,065	7,752
K-3	24,525	6,120
K-4	9,265	2,312
Total	79,897	19,938

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE CLEARED AND GRUBBED, TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE SITE WOULD BE MADE VIA ROUTE LA-975 NORTHWEST OF THE MITIGATION SITE. LA-975 INTERSECTS AN UNNAMED ROAD WHICH SPLITS. STAYING STRAIGHT, THE ROAD RUNS PARALLEL TO ALBAMA BAYOU AND EVENTUALLY INTERSECTS AN UNNAMED ROAD WHICH RUNS NORTH/SOUTH ALONG THE EAST SIDE OF MITIGATION AREA K-4. TURNING SOUTH, THE UNNAMED ROAD OFF LA-975 BECOMES LITTLE ALABAMA ROAD WHICH BORDERS AREAS K-1 AND K-2. LITTLE ALABAMA ROAD INTERSECTS TWO DIRT ROADS WHICH WOULD GAIN ACCESS TO THE WESTERN MITIGATION SITES.

4. DEGRADE AREAS:

   NO DEGRADING OF THE SITE IS EXPECTED TO BE REQUIRED TO ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT.

5. NO EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION LIMITS.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 08/24/2015
SIZE: ANSI D
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

BBA MITIGATION,
BLH-WET RESTORATION,
POINTE COUPEE PARISH, LA.

KROTZ MITIGATION SITE

PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Pine Island Swamp Creation, St. Tammany Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to a total of approximately 1,965 acres of swamp habitat over eight separate mitigation areas as compensatory mitigation for some of the swamp impacts resulting from construction of BBA projects. The swamp creation areas (mitigation areas) would be located in open water areas around Milton Island on the north shore of Lake Pontchartrain. This site is located southwest of the town of Madisonville adjacent to the Tchefuncte River in St. Tammany Parish.

Required earthwork prior to dredging would first consist of containment dike construction or rehabilitation around the perimeter of each of the eight mitigation areas. The crest elevation of these dikes would be approximately 5.0 feet NAVD88 and each dike would have a 5-ft wide crown. Existing material within each mitigation area would be used to construct or rehabilitate the containment dikes. Temporary submerged pipelines would be placed on the bottom of the canals that run between the mitigation areas as well as underneath the roads separating them as indicated on the attached drawing. Following dike construction and installation of the temporary pipelines, a cutterhead dredge would hydraulically place material (sediment) from within the borrow area indicated on the attached drawing into the mitigation areas using the shown pipeline routes. After filling the mitigation areas is complete, a one-year settlement period would pass prior to dike degrading the containment dikes and planting the mitigation areas. The temporary pipelines would be removed after pumping of dredged materials into the mitigation areas is complete.

Earthwork would also include building a permanent shoreline protection rip-rap feature along an approximately 2,420-ft stretch of Lake Pontchartrain shoreline adjacent to Mitigation Area 7 which will be underlain with separator geotextile fabric.

After the end of the fill settlement period in the 8 mitigation areas and after the containment dikes are degraded to match the average fill elevation in each mitigation area, native canopy and midstory plants typical of swamp habitats would be installed in mitigation Areas 1 – 8 .

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

Mitigation Area	Area (Acres)
Area 1	218
Area 2	262
Area 3	524
Area 4	226

Mitigation Area	Area (Acres)
Area 5	72
Area 6	337
Area 7	142
Area 8	184
Total	**1,965**

PROPOSED PLANTING:

Assumed total plantings within the swamp mitigation areas (approximate):

Mitigation Area	Canopy Seedlings	Midstory Seedlings
Area 1	118,810	29,648
Area 2	142,790	35,632
Area 3	285,580	71,264
Area 4	123,170	30,736
Area 5	39,240	9,792
Area 6	183,665	45,832
Area 7	77,390	19,312
Area 8	100,280	25,024
Total	**1,070,925**	**267,240**

Assume swamp canopy plant species would be installed on an 8ft by 10ft grid (545 seedlings per acre)

Assume swamp midstory plant species would be installed on a 16ft by 20ft grid (136 seedlings per acre)

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50’ to 100’ to guide mowing operations.

Dike Construction/Rehabilitation:

Total perimeter retention would be required to retain dredged material and to allow for vertical accretion. The total length of each mitigation area which would require dike construction, rehabilitation, or lifting would be as follows:

Mitigation Area	Perimeter (ft)
Area 1	14,925
Area 2	22,366
Area 3	22,132
Area 4	19,090
Area 5	9,050
Area 6	16,948
Area 7	12,343
Area 8	30,628
Total	**147,482**

Any existing features such as existing perimeter dikes, access roads, and or ridges would be used for retention of dredged material. If dike rehabilitation is required, material for dike maintenance would come from within the proposed footprint of the swamp sites.

Existing dikes would be used to the extent practical. The retention dikes would be constructed to elevation 5.0 feet NAVD88, with a 5'-wide crown to assure dike integrity. The borrow ditch in each mitigation area used to obtain material for the retention (containment) dikes would be offset a minimum of 40' from each dike to assure dike stability. The borrow ditches would be on the interior side of the dikes (e.g. within the limits of the mitigation areas).``

Plugs would be left in the borrow ditch at 1,000- foot intervals to minimize water flow and material loss during pumping operations. Spill boxes and/or weirs would be constructed at locations along the northern and western retention dikes as necessary to allow for effluent water release from within the swamp creation areas for approximately one year after construction, when the perimeter dikes are breached and degraded. If deemed necessary by the construction contractor, a low-level interior weir or baffle dikes would be constructed to assist in vertical stacking of dredged material. The gaps would be spaced with care being taken to locate gaps at existing natural bayous, canals, or other openings. The gaps would require a 25-foot bottom at approximately elevation 0.0 feet NAVD88 (lower limit of existing nearby marsh platform) to assure water interchange with the existing marsh.

Rip-Rap Construction:

On the Lake Pontchartrain shoreline of Mitigation Area 7, a 2,240-ft long stretch of shoreline covering approximately 0.93 acres would be reinforced with a stone bank rip-rap. This rip-rap would be two feet thick and be placed on the graded shoreline from elevation 0' up to elevation 4.5'. This two-foot thick rip-rap would be underlain with a 200 pound separator geotextile fabric. Total estimated geotextile fabric quantity for this

rip-rap construction is 4,575 square yards and the estimated stone quantity is 5,700 tons or 2,940 cubic yards.

Dredging:

A hydraulic cutterhead dredge would be used to pump approximately 16.4 million cubic yards of material via a pipeline from the proposed borrow site in Lake Pontchartrain to the swamp creation sites. Initial elevation for dredge fill within each mitigation area would be to approximate elevation 2.5 feet NAVD88, with the goal of ultimately resulting in a final target swamp elevation of approximately 2.0 feet. The maximum allowable dredging depth within the borrow site would be -19 feet NAVD88 plus a 1-foot allowable overdepth to account for inaccuracies in the dredging process.

Three 75-ft corridors are indicated on the drawing and run from the borrow site into Mitigation Areas 4 and 7 have been established to place subline for pumping material from the proposed borrow site to the mitigation areas. The first pipeline corridor runs down the middle of the entrance channel to the east of Milton Island and to the east of an area indicated to be a shell reef site. All activities related to this proposed work would avoid this area. All pipeline corridors would be placed and located in a manner which does not impact existing wetlands.

The estimated quantities required to achieve the initial target fill elevation of 2.5ft NAVD88 within the eight mitigation areas are as follows:

Mitigation Area	Fill Quantity (Cubic Yards)
Area 1	1,809,900
Area 2	2,205,053
Area 3	4,257,765
Area 4	1,900,702
Area 5	625,541
Area 6	2,756,592
Area 7	1,196,595
Area 8	1,649,163
Total	**16,401,310**

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary dike construction and initial pumping of sediment into the mitigation areas would be completed around June 2021. After a year-long settlement period, degrading of dike would begin in June 2022 and be completed no sooner than March 2023. Initial planting activities would likely be conducted in November 2023 through mid-March

2024. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2024 with the report submitted in December 2024. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2025 with the report submitted in December 2025. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in approximately March 2026.

SITE ACCESS:

Access to the project site would be as follows:

From the north, Guste Island Road runs between Areas 1 and 8. This road then splits into Grand Rue Port Louis Road which runs between Areas 4, 5, and 7. South Chenier Drive runs between Area 2 and Area 3. Access to the mitigation areas can also be made via the many canals that run between all the areas.

STAGING:

Staging of equipment for initial dike construction activities and riprap construction would be via barge(s) on or near the Lake Pontchartrain shoreline as indicated on the attached drawing. The proposed staging areas would first be submitted for Government approval. Staging of materials for the initial planting event would be within the mitigation areas themselves most likely.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all dike construction, dredge pumping, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. It is also assumed this monitoring event would show the success criterion established for the final soil surface elevation in the mitigation areas had been

achieved. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Dike Construction: Excavators, marsh buggies, airboats

Dredge Pumping: Cutterhead dredge, tugs, crewboats, pipeline (steel, and rubber), derricks, barges, up to D-8 dozers, excavators, front-end loaders, marsh buggies, airboats, marsh masters

Rip-rap Construction: Excavators, scows, barges, up to D-8 dozers, front-end wheel loaders, marsh buggies

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and marsh buggies.

SHEET LEGEND

- PROPERTY LIMITS
- SWAMP MITIGATION LIMITS
- ACCESS ROAD
- TRANSMISSION LINE
- TYPICAL PIPELINE CORRIDOR
- 75-FT PIPELINE CORRIDOR

GUSTE ISLAND ROAD
GUSTE ISLAND ROAD
GUSTE ISLAND ROAD
AREA 1 218 AC
AREA 8 184 AC
GRAND RUE PORT LOUIS ROAD
PIPELINE PLACED ON CANAL BOTTOM AND UNDERNEATH ROAD
AREA 2 262 AC
AREA 5 72 AC
AREA 6 337 AC
PIPELINE PLACED UNDERNEATH ROAD
S CHENIER DRIVE
AREA 7 142 AC
PIPELINE PLACED UNDERNEATH ROAD
AREA 4 226 AC
RIPRAP SHORELINE PROTECTION
POTENTIAL STAGING AREA
AREA 3 524 AC
TCHEFUNCTE RIVER
PIPELINE PLACED UNDERNEATH BRIDGE
CULTURAL AREA (SHELL REEF)
SAIL ROUTE
LAKE PONCHARTRAIN
PROPOSED BORROW AREA 2,238 AC

NOTES:

1. PROPOSED MITIGATION AREAS CONSIST OF EIGHT SEPARATE AREAS OF SWAMP RESTORATION UP TO APPROXIMATELY 1,965 ACRES.

   AREA 1: 218 AC
   AREA 2: 262 AC
   AREA 3: 524 AC
   AREA 4: 226 AC
   AREA 5: 72 AC
   AREA 6: 337 AC
   AREA 7: 142 AC
   AREA 8: 184 AC

2. ESTIMATED PROPOSED PLANTINGS:

Mitigation Area	Canopy	Midstory
Area 1	118,810	29,648
Area 2	142,790	35,632
Area 3	285,580	71,264
Area 4	123,170	30,736
Area 5	39,240	9,792
Area 6	183,665	45,832
Area 7	77,390	19,312
Area 8	100,280	25,024
Total	1,070,925	267,240

ASSUME SWAMP CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME SWAMP MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

3. SITE ACCESS:

   ACCESS TO THE MITIGATION AREAS IS AS FOLLOWS:

   FROM THE NORTH, GUSTE ISLAND ROAD RUNS BETWEEN AREAS 1 AND 8. THIS ROAD THEN SPLITS INTO GRAND RUE PORT LOUIS ROAD WHICH RUNS BETWEEN AREA 4, AREA 5, AND AREA 7 AND S. CHENIER DRIVE WHICH RUNS BETWEEN AREA 2 AND 3.

   STAGING WOULD BE IN THE GENERAL AREA INDICATED. ALL STAGING OF EQUIPMENT WOULD BE VIA BARGE.

   PIPELINE ROUTES INDICATED WOULD BE USED TO TRANSPORT DREDGED MATERIAL FROM THE OUTLINED BORROW AREA. TYPICAL PIPELINE CORRIDORS INDICATE GENERAL LOCATION OF PIPELINES; ACTUAL LOCATION OF PIPELINES WITHIN THE MITIGATION AREA WOULD BE DETERMINED BY THE CONTRACTOR. THE 75-FT PIPELINE CORRIDORS INDICATE LOCATIONS WHERE PIPELINE MUST BE PLACED. PIPELINES WOULD BE PLACED UNDERNEATH ROADS IN THE AREAS INDICATED.

   SAIL ROUTE INDICATED ON THE DRAWING DENOTES GENERAL ROUTES BOATS WOULD TAKE TO TRAVEL TO THE PROPOSED BORROW SITE.

4. PRIOR TO PLACEMENT OF DREDGE MATERIAL, CONTAINMENT DIKES/BERMS WOULD BE BUILT AROUND THE MITIGATION AREAS. A CUTTER SUCTION DREDGE WOULD THEN PUMP MATERIAL FROM THE INDICATED BORROW AREA INTO THE MITIGATION AREAS TO AN ELEVATION OF +2.5 FT NAVD88. AFTER DREDGE PLACEMENT AND A SETTLEMENT PERIOD OF ONE YEAR, THE CONTAINMENT DIKES WOULD BE DEGRADED PRIOR TO PLANTING.

NOTES:

1. ESTIMATED FILL QUANTITIES FOR PROPOSED MITIGATION AREAS ARE AS FOLLOWS:

Mitigation Area	Fill Quantity (Cubic Yards)
Area 1	1,809,900
Area 2	2,205,053
Area 3	4,257,765
Area 4	1,900,702
Area 5	625,541
Area 6	2,756,592
Area 7	1,196,595
Area 8	1,649,163
Total	**16,401,310**

3. RIPRAP:

   RIPRAP INDICATED ON THE DRAWING WOULD BE CONSTRUCTED AS PERMANENT SHORELINE PROTECTION. RIPRAP WOULD BE UNDERLAIN WITH GEOTEXTILE FABRIC. RIPRAP WOULD HAVE A THICKNESS OF 2 FEET AND BE AROUND 16.5 FEET WIDE OVER A LENGTH OF 2,420 FEET. RIPRAP WOULD BE PLACED ON THE SHORELINE FROM ELEVATION +4.5 FT. NAVD88 DOWN TO ELEVATION 0.0 FT. NAVD88.

   ESTIMATED GEOTEXTILE QUANTITY IS 4,575 SY AND ESTIMATED RIPRAP QUANTITY OF 2,940 CY OR 5,700 TONS.

0 1400' 2800'
SCALE

N

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

	DESCRIPTION	DATE	APPR.
MARK			
MARK			

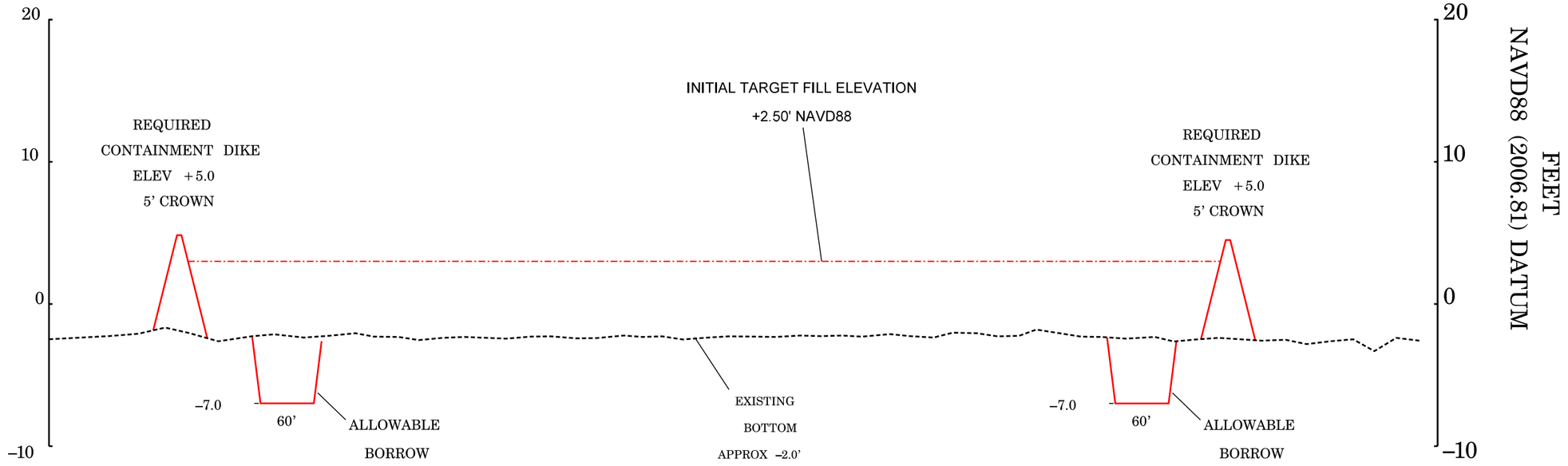
DESIGNED BY: MICHAEL J. TOLIVAR
DRWN BY: MJT.
CKD BY: JAB.
SUBMITTED BY: MICHAEL J. TOLIVAR
PLOT SCALE: 1:400
SIZE: ANSI D
DATE: AUGUST 2019
SOLICITATION NO.: W912P8-18-B-XXXX
CONTRACT NO.: W912P8-19-C-XXXX
PLOT DATE: 08-05-2019
FILE NUMBER: 1-16-XXXXX
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

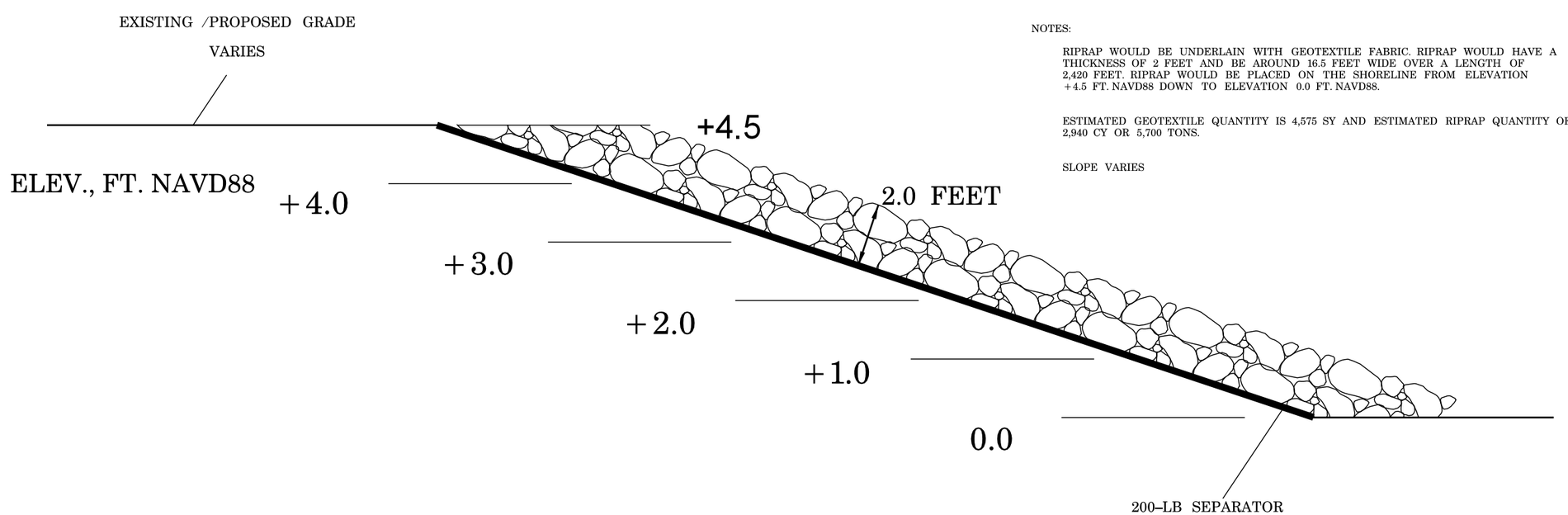
BBA MITIGATION
SWAMP RESTORATION
ST. TAMMANY PARISH, LA

PINE ISLAND MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01



TYPICAL SECTION – SWAMP CREATION
(NTS)



NOTES:

RIPRAP WOULD BE UNDERLAIN WITH GEOTEXTILE FABRIC. RIPRAP WOULD HAVE A THICKNESS OF 2 FEET AND BE AROUND 16.5 FEET WIDE OVER A LENGTH OF 2,420 FEET. RIPRAP WOULD BE PLACED ON THE SHORELINE FROM ELEVATION +4.5 FT. NAVD88 DOWN TO ELEVATION 0.0 FT. NAVD88.

ESTIMATED GEOTEXTILE QUANTITY IS 4,575 SY AND ESTIMATED RIPRAP QUANTITY OF 2,940 CY OR 5,700 TONS.

SLOPE VARIES

TYPICAL SECTION – SHORELINE PROTECTION RIPRAP
(NTS)

US Army Corps of Engineers
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T
SUBMITTED BY: KEITH J. OCAÑA
PLOT SCALE: NOT TO SCALE
PLOT DATE: 8/6/2019
SIZE: ANSI D
FILE NAME:
DATES: AUGUST 6, 2019
CKD BY: RWB
SOLICITATION NO.: W912P8-19-B-XXXX
CONTRACT NO.: W912P8-19-C-XXXX
FILE NUMBER: F-XXXXXX

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION
SWAMP RESTORATION
ST. TAMMANY PARISH, LA

PINE ISLAND MITIGATION SITE
TYPICAL MITIGATION AREA AND RIPRAP
CROSS SECTIONS

SHEET IDENTIFICATION
C-02

PROJECT: BBA Mitigation, Port Allen BLH-Wet Creation, East Baton Rouge Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 89.3 acres of wet bottomland hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation areas (mitigation areas) would be located in existing agricultural fields at the Feliciana mitigation site. This site is located adjacent to the Mississippi River north of the City of Port Allen and west of Baton Rouge. The project site is situated between Route LA-1 on the west side of the site and Route LA-986 (River Road) on the east side, with Rosedale Road bordering the south side of the site.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper 0.5 foot of soil throughout all of mitigation area PA-2 and the majority of mitigation area PA-1 to establish an appropriate hydroperiod for BLH-wet plant species. A portion of area PA-1 would be subject to removal of the upper 1.0 foot rather than 0.5 foot to establish the desired hydroperiod (see enclosed drawing).

Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas (denoted as areas PA-1 and PA-2 on the enclosed drawing), establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation area to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Two existing ponds in area PA-1 would be filled using some of the soil generated by the degrading work mentioned above. Any existing earthen berms within the property boundary that reduce sheetflow runoff into the proposed mitigation areas would also be removed or gapped unless this could adversely affect off-site drainage. The existing levee along portion so the eastern property boundary would not be subject to any degrading or gapping as part of the proposed project. After major earthwork is completed, the mitigation area would be tilled prior to conducting the initial plantings

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the mitigation areas following completion of the initial earthwork. Note that the planted acreage of the mitigation areas would be reduced by the Contractor's staging area and by any additional dirt roadways that may be established for access and maintenance purposes. The approximate acreage of the mitigation areas would be as follows:

Mitigation Area	Acres
PA-1	35.8
PA-2	53.5
Total	**89.2**

PROPOSED PLANTING:

Assumed plantings in the BLH mitigation areas:

Mitigation Area	Canopy	Midstory
PA-1	19,511	4,869
PA-2	29,158	7,276
Total	**48,669**	**12,145**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

As discussed, the majority of area PA-1 and all of area PA-2 would be degraded (scraped down; excavated) approximately 0.5 feet while a portion of PA-2 would be degraded 1.0 feet to achieve proper hydrology/hydroperiod for BLH-Wet habitat. The table below provides acreage and quantity data for the proposed work.

Mitigation Area	Degrade 1.0 foot		Degrade 0.5 foot	
	Acres	Cubic Yards	Acres	Cubic Yards
PA-1	4.3	7,007	31.5	25,375
PA-2	0	0	53.5	43,157
Total	**4.3**	**7,007**	**85.0**	**68,532**

Degraded material would be used to fill two small ponds in area PA-1. The remaining degraded material will be hauled off-site to a Contractor provided upland disposal area, assume 15 mile one way haul. Homestead Lane would be preserved, although the central portion may be realigned slightly. Truck wheel washing rack(s) would be installed on-site where dump trucks and heavy equipment used during earthwork activities would exit onto public roads.

DEMOLITION:

There is an existing structure within area PA-1 that would be demolished. This structure appears to be a barn or similar agricultural building. All demolished material would be hauled off-site by the contractor to a Government approved upland disposal area.

DURATION:

Per PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around early August 2020 and continue through December 2020. Initial planting activities would likely begin and end in January 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project work limits would be as follows:

Access to the site to be made from the north/south via Route LA-1 on the western side of the site and use Route LA-986 (River Road) along the eastern side of the site. Both roads intersect Homestead Lane which leads to three unpaved roads that run north/south through both mitigation areas. Rosedale Road runs east/west along the southern edge of the site and but would not be used for access to the site by construction equipment.

STAGING:

A staging area would only be permitted within one of the two mitigation areas, although it could extend into adjacent areas within the property boundary. . The Contractor would determine where within the mitigation area limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crush stone paving for parking and laydown areas along with a temporary construction trailers. No utilities would be provided by the Government, and the Contractor would obtain all permissions and permits for utilities. All trailers, crushed stone paving, and temporary utilities would be removed by the Contractor and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation

areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

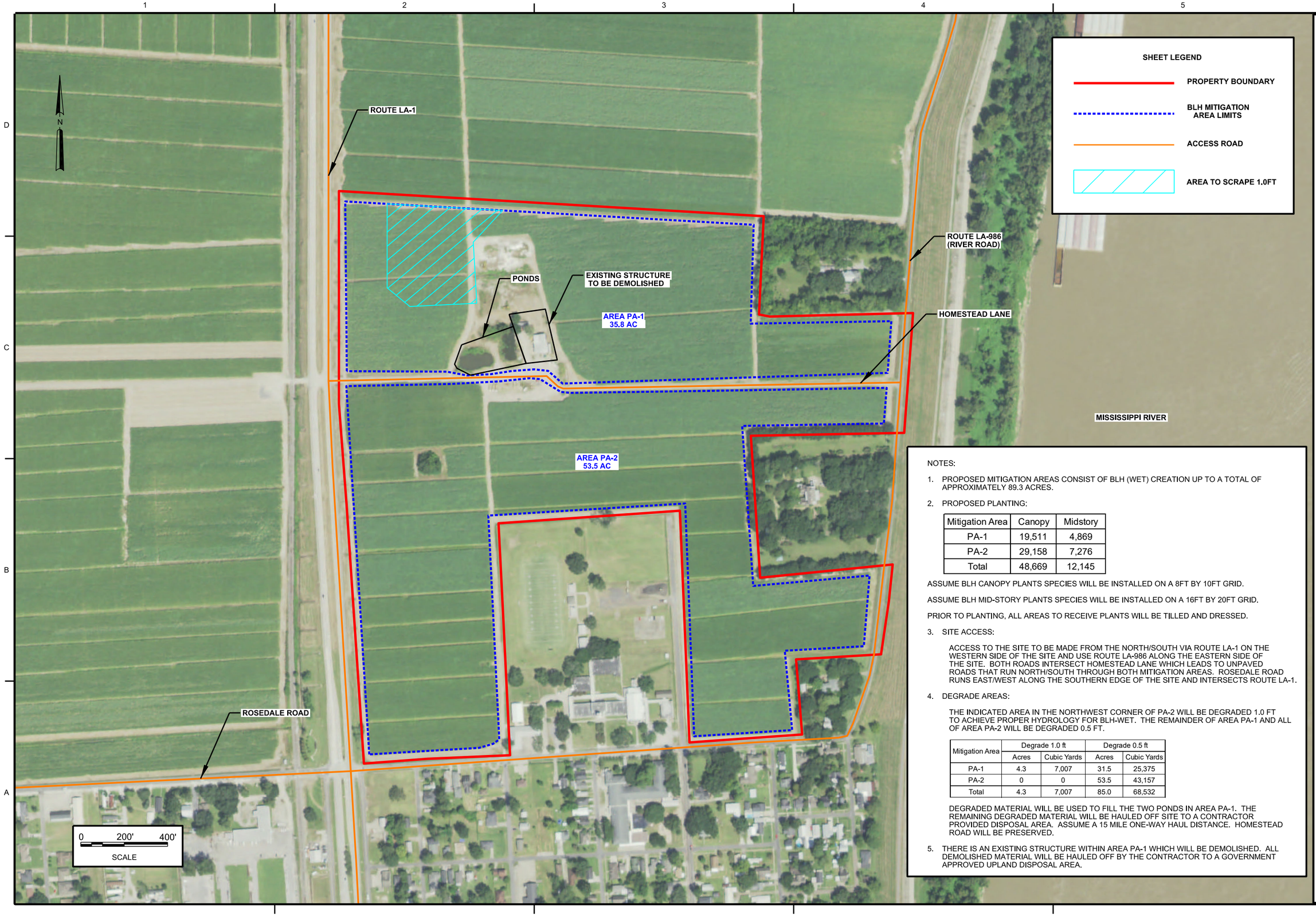
Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Demolition: Backhoes with grapple and hammer attachments, bulldozer, front-end loaders, and on/off-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.



SHEET LEGEND

- PROPERTY BOUNDARY
- BLH MITIGATION AREA LIMITS
- ACCESS ROAD
- AREA TO SCRAPE 1.0FT

NOTES:

1. PROPOSED MITIGATION AREAS CONSIST OF BLH (WET) CREATION UP TO A TOTAL OF APPROXIMATELY 89.3 ACRES.
2. PROPOSED PLANTING:

Mitigation Area	Canopy	Midstory
PA-1	19,511	4,869
PA-2	29,158	7,276
Total	48,669	12,145

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

   ACCESS TO THE SITE TO BE MADE FROM THE NORTH/SOUTH VIA ROUTE LA-1 ON THE WESTERN SIDE OF THE SITE AND USE ROUTE LA-986 ALONG THE EASTERN SIDE OF THE SITE. BOTH ROADS INTERSECT HOMESTEAD LANE WHICH LEADS TO UNPAVED ROADS THAT RUN NORTH/SOUTH THROUGH BOTH MITIGATION AREAS. ROSEDALE ROAD RUNS EAST/WEST ALONG THE SOUTHERN EDGE OF THE SITE AND INTERSECTS ROUTE LA-1.

4. DEGRADE AREAS:

   THE INDICATED AREA IN THE NORTHWEST CORNER OF PA-2 WILL BE DEGRADED 1.0 FT TO ACHIEVE PROPER HYDROLOGY FOR BLH-WET. THE REMAINDER OF AREA PA-1 AND ALL OF AREA PA-2 WILL BE DEGRADED 0.5 FT.

Mitigation Area	Degrade 1.0 ft		Degrade 0.5 ft	
	Acres	Cubic Yards	Acres	Cubic Yards
PA-1	4.3	7,007	31.5	25,375
PA-2	0	0	53.5	43,157
Total	4.3	7,007	85.0	68,532

   DEGRADED MATERIAL WILL BE USED TO FILL THE TWO PONDS IN AREA PA-1. THE REMAINING DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE. HOMESTEAD ROAD WILL BE PRESERVED.

5. THERE IS AN EXISTING STRUCTURE WITHIN AREA PA-1 WHICH WILL BE DEMOLISHED. ALL DEMOLISHED MATERIAL WILL BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED UPLAND DISPOSAL AREA.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DRAWN BY: M.J.T.
SUBMITTED BY: M.J.T.
CKD BY: J.A.B
PLOT SCALE: ANSI D
PLOT DATE: 06-04-2019
SIZE: ANSI D
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

BBA MITIGATION,
BLH-WET RESTORATION
EAST BATON ROUGE PARISH, LA.

PORT ALLEN MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Rosedale BLH-Wet Creation, Iberville Parish, Louisiana

GENERAL SOW:

The proposed project would involve creation of up to approximately 224.2 acres of BLH-Wet habitat as compensatory mitigation for some of the BLH impacts resulting from construction BBA projects. The BLH-Wet creation areas (mitigation areas) would be located in existing agricultural fields at the Rosedale mitigation site. This site is located in the town of Rosedale, LA with its southern limits bordering Route LA-76. The mitigation area lies an estimated 19 miles west of Baton Rouge in Iberville Parish, LA.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper foot of soil throughout all four of the mitigation areas (areas R-1 through R-4; see enclosed drawing) to establish an appropriate hydroperiod for BLH-wet plant species. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas (denoted areas F-1, F-2, and F-3 SJ-1 on the enclosed drawing), establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the four mitigation areas following completion of the initial earthwork. Note that the planted acreage of one of the mitigation areas would be reduced by the Contractor's staging area. Similarly, it is likely that the planted acreage of all the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

Area R-1: 4.5 AC
Area R-2: 18.8 AC
Area R-3: 51.5 AC
Area R-4: 149.5 AC

Total: 224.3 AC

Note that the total acreage of BLH-Wet creation indicated above would be reduced by the Contractor's staging area and possibly by additional dirt roadways within the BLH-Wet creation areas (mitigation areas) established for access and maintenance purposes.

PROPOSED PLANTING:

Assumed total plantings within the mitigation areas (approximate):

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
R-1	2,453	612
R-2	10,246	2,557
R-3	28,068	7,004
R-4	81,750	20,400
Totals	**122,516**	**30,573**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50’ to 100’ to guide mowing operations.

DEGRADE AREAS:

Degrading would be required to help ensure satisfactory hydrology/hydroperiod for BLH-Wet habitat. All of mitigation areas R-1, R-2, R-3, and R-4 would need to be degraded to a depth of approximately 1.0ft. Degrading areas and quantities are indicated below.

Mitigation Area	Degrade 1.0 ft	
	Acres	Cubic Yards
R-1	4.5	7,260
R-2	18.8	30,331
R-3	51.5	83,087
R-4	149.5	242,000
Totals	**224.3**	**362,677**

Degrade material would be hauled off site to a contractor-provided upland disposal area, assume a 15 mile one-way haul distance.

DEMOLITION:

No existing structures appear to be located within the Rosedale mitigation site property boundary, thus no demolition is anticipated.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around early August 2020 and last until November 2021. Initial planting activities would likely be installed during January of 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

From the north, access to the site would be made via Route LA-77 which runs parallel to and along the eastern boundary of the mitigation site. Route LA-77 intersects Augusta Avenue and runs through the site. Augusta Avenue intersects several unpaved roads which would provide access to all areas of the mitigation site. Access could also be made via Sidney Road (LA-411) which intersects Rosedale Road (Route LA-76). Rosedale Road runs along the southern limits of the site and intersects an unpaved road that runs north/south through the site.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of the mitigation areas shown on the attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation areas. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH-Wet mitigation areas affected.

STAGING:

A staging area would only be permitted within one of the mitigation areas, although it could into adjacent areas within the property boundary. The Contractor would determine where to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

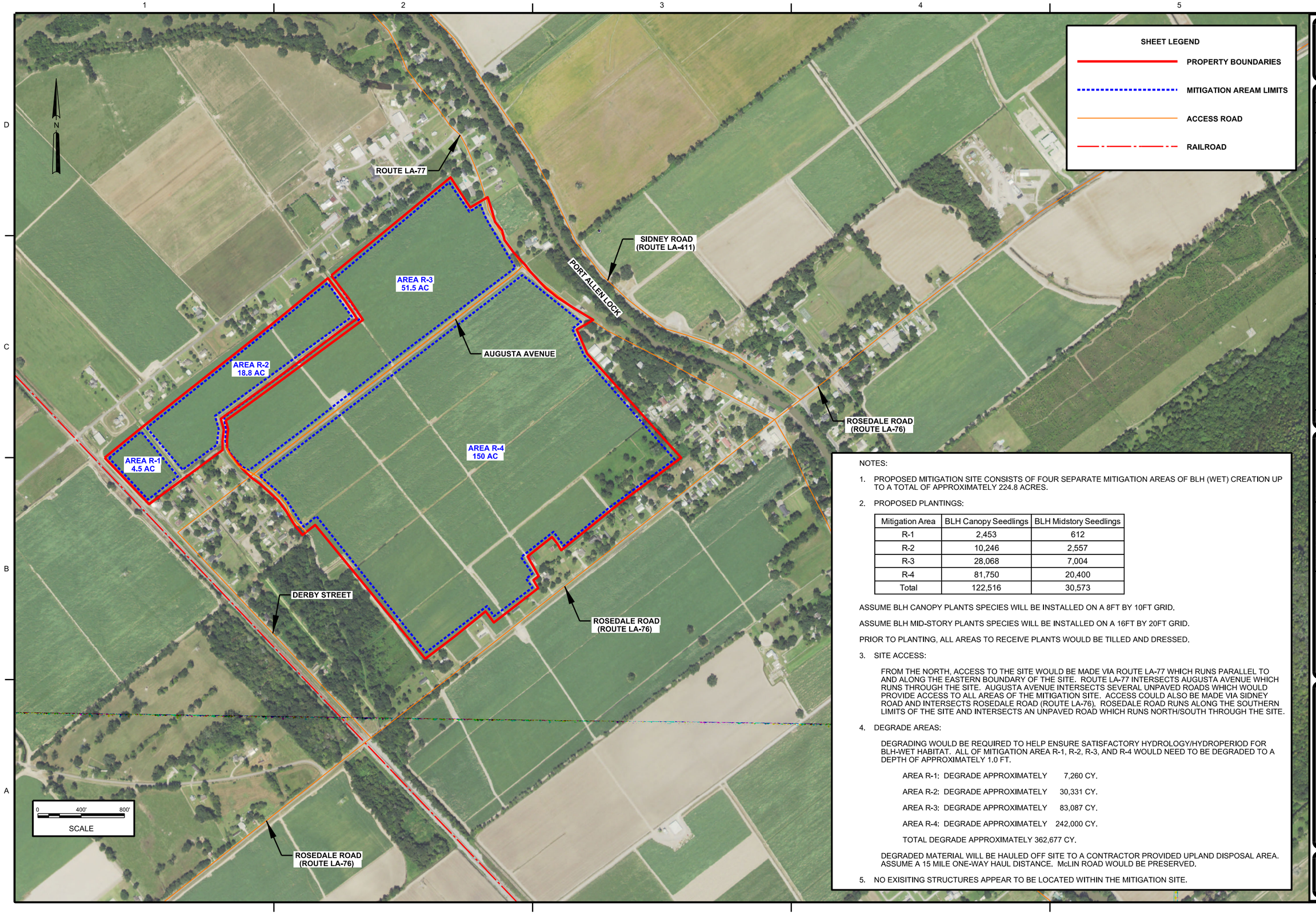
Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITE CONSISTS OF FOUR SEPARATE MITIGATION AREAS OF BLH (WET) CREATION UP TO A TOTAL OF APPROXIMATELY 224.8 ACRES.

2. PROPOSED PLANTINGS:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
R-1	2,453	612
R-2	10,246	2,557
R-3	28,068	7,004
R-4	81,750	20,400
Total	122,516	30,573

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

   FROM THE NORTH, ACCESS TO THE SITE WOULD BE MADE VIA ROUTE LA-77 WHICH RUNS PARALLEL TO AND ALONG THE EASTERN BOUNDARY OF THE SITE. ROUTE LA-77 INTERSECTS AUGUSTA AVENUE WHICH RUNS THROUGH THE SITE. AUGUSTA AVENUE INTERSECTS SEVERAL UNPAVED ROADS WHICH WOULD PROVIDE ACCESS TO ALL AREAS OF THE MITIGATION SITE. ACCESS COULD ALSO BE MADE VIA SIDNEY ROAD AND INTERSECTS ROSEDALE ROAD (ROUTE LA-76). ROSEDALE ROAD RUNS ALONG THE SOUTHERN LIMITS OF THE SITE AND INTERSECTS AN UNPAVED ROAD WHICH RUNS NORTH/SOUTH THROUGH THE SITE.

4. DEGRADE AREAS:

   DEGRADING WOULD BE REQUIRED TO HELP ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT. ALL OF MITIGATION AREA R-1, R-2, R-3, AND R-4 WOULD NEED TO BE DEGRADED TO A DEPTH OF APPROXIMATELY 1.0 FT.

   AREA R-1: DEGRADE APPROXIMATELY 7,260 CY.

   AREA R-2: DEGRADE APPROXIMATELY 30,331 CY.

   AREA R-3: DEGRADE APPROXIMATELY 83,087 CY.

   AREA R-4: DEGRADE APPROXIMATELY 242,000 CY.

   TOTAL DEGRADE APPROXIMATELY 362,677 CY.

   DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE. McLIN ROAD WOULD BE PRESERVED.

5. NO EXISITING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR
MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
SUBMITTED BY: M.J.T.
CKD BY: J.A.B
PLOT SCALE: ANSI D
PLOT DATE: 06/24/2019
SITE:
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

BBA MITIGATION
BLH-WET CREATION
IBERVILLE PARISH, LA.

ROSEDALE MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, St. John BLH-Wet Creation, St. John the Baptist Parish, Louisiana

GENERAL SOW:

The proposed project involves creation of up to approximately 94.7 acres of wet bottomland hardwoods (BLH-wet) habitat as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation area (mitigation area) would be located in an existing agricultural field at the St. John mitigation site. This site is located north of the Mississippi River between US-61 (Airline Highway) and Route LA-637, northwest of the unincorporated community of Reserve in St. John the Baptist Parish.

Required earthwork would mainly consist of removal (excavation; scraping) of the upper foot of soil within the mitigation area to establish an appropriate hydroperiod for BLH-wet plant species. Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation area (denoted area SJ-1 on the enclosed drawing), establishment of dirt access roads within the mitigation area, and tillage of soil in the mitigation area to received plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology. Native canopy and midstory plants typical of BLH-wet habitats would be installed following completion of the initial earthwork. Note that the planted acreage of the mitigation area would be reduced by the Contractor's staging area and possibly additional dirt roadways within the mitigation area that may be established for access and maintenance purposes.

PROPOSED PLANTING:

Assumed total plantings within the mitigation area:

BLH Canopy: Approximately 51,565 seedlings. (545 seedlings per acre)

BLH Mid-story: Approximately 12,985 seedlings. (136 seedlings per acre)

Assume BLH canopy plants species would be installed on an 8ft by 10ft grid.

Assume BLH mid-story plants species would be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

The entire mitigation area would be degraded a depth of approximately 1.0 ft. to obtain proper hydrology/hydroperiod for BLH-wet habitat.

Area SJ-1: Degrade approximately 152,785 CY.

Degrade material would be hauled off site to a contractor-provided upland disposal area, assume a 15 mile one-way haul distance.

DEMOLITION:

No existing structures appear to be within the mitigation site, thus no demolition activities are anticipated. Most existing unpaved within the project would be graded as necessary.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around early August 2020 and continue until roughly June 2021. Initial planting activities would likely be started and completed in January 2022 while the plants are dormant. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project site would likely be as follows:

From the north use US-61 (West Airline Highway) and take either West 10th Street (Route LA-637) or Rosenwald Street). Both roads lead to an unpaved road that runs around the western and southern perimeter of the site and intersects with another unpaved road that runs through the middle of the site.

From the south use Route LA-44 to West 10th Street and enter the site using the unpaved road mentioned above.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of mitigation area shown on attached drawing (i.e. Area SJ-1). The road

along the northern mitigation area boundary would not conflict with the existing electrical line running east/west across the site. The Contractor may also establish other maintenance/access roads within the mitigation area. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH mitigation area.

STAGING:

A staging area would only be permitted within the mitigation area, although it could extend into adjacent areas within the property boundary. The Contractor would determine where within the BLH-wet area limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation area to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation area during this time period. After the mitigation area is initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event performed the next year. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

NOTES:

1. PROPOSED MITIGATION AREA CONSISTS OF BLH (WET) CREATION UP TO APPROXIMATELY 94.7 ACRES.
2. PROPOSED PLANTING:

   BLH CANOPY: APPROXIMATELY 51,565 SEEDLINGS.

   BLH MID-STORY: APPROXIMATELY 12,985 SEEDLINGS.

ASSUME BLH CANOPY PLANTS SPECIES INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL PLANTING AREAS WILL BE TILLED AND DRESSED.

3. SITE ACCESS:

   FROM THE NORTH USE US-61 (W AIRLINE HIGHWAY) AND TAKE EITHER WEST 10TH STREET (ROUTE LA-637) OR ROSENWALD STREET). BOTH ROADS LEAD TO AN UNPAVED ROAD THAT RUNS AROUND THE WESTERN AND SOUTHERN PERIMETER OF THE SITE AND INTERSECTS WITH ANOTHER UNPAVED ROAD THAT RUNS THROUGH THE MIDDLE OF THE SITE.

   FROM THE SOUTH USE ROUTE LA-44 TO WEST 10TH STREET AND ENTER THE SITE USING THE UNPAVED ROAD MENTIONED ABOVE.

4. DEGRADE AREAS:

   THE ENTIRE MITIGATION AREA WILL NEED TO BE DEGRADED 1.0 FT TO OBTAIN PROPER HYDROLOGY FOR BLH HABITAT.

   SJ-1: DEGRADE APPROXIMATELY 152,785 CY.

   DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED DISPOSAL AREA, ASSUME 15 MILE HAUL DISTANCE.

5. NO EXISITING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE.

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NEW ORLEANS DISTRICT

MARK | DESCRIPTION | DATE | APPR

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B.
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 08-02-2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION, BLH-WET
ST. JOHN THE BAPTIST PARISH, LA.
ST. JOHN MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, St. James BLH-Wet Creation and Restoration, St. James Parish, Louisiana

GENERAL SOW:

The proposed project involves creation and restoration of up to approximately 1,247 acres of wet bottomland hardwoods (BLH-wet) as compensatory mitigation for some of the BLH impacts resulting from construction of BBA projects. The BLH creation and restoration areas (mitigation areas) would be located in existing agricultural fields at the St. James mitigation site. This site is located off the Mississippi River between the towns of Romeville and Union, LA around the Nucorp Plant in St. James Parish.

The main earthwork activities required prior to planting the mitigation areas would include degrading (scraping) portions of some mitigation areas (see degrading section), removal of undesirable drainage ditches and culverts, removal of undesirable earthen berms, establishing dirt access roads, establishing a project staging area, and tillage of areas to be planted. To maximize water flow into the site, any existing dikes/berms within the property boundary which prevent water flow into the site would be degraded as long as this effort does not harm or adversely affect outside properties/water sources. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology. The mitigation areas would then be planted with native canopy and midstory species typical of BLH-wet habitats.

Nine mitigation areas (BLH-wet creation/restoration areas) are proposed. The approximate acreage of each area is indicated below.

Mitigation Area ID	Acres
SJ1	532.0
SJ2	435.0
SJ3	88.8
SJ4	52.6
SJ5	44.4
SJ6	36.8
SJ7	35.0
SJ8	15.9
SJ9	6.1
Total	**1,246.6**

Note that the total acreages of BLH creation/restoration indicated above would be reduced by the Contractor's staging area and possibly by additional dirt roadways within established within the mitigation areas for access and maintenance/management purposes. These acreages could also be reduced if other features requiring protection are discovered during further project design activities.

PROPOSED PLANTING:

Assumed total initial plantings required for the mitigation areas are:

BLH Canopy: Approximately 678,774 seedlings. (545 seedlings per acre)

BLH Midstory: Approximately 169,693 seedlings. (136 seedlings per acre)

Assume BLH canopy plants species would be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species would be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations. Mowing the areas between planted roles and within other buffer areas would be conducted occasionally to help suppress growth of other plants that may initially compete with the BLH plantings.

DEGRADE AREAS:

Portions of BLH mitigation Areas 1, 2, and 3, along with all of Area 5, would be degraded (scraped down) to a depth of between approximately 0.5 feet to 1.0 feet below the existing soil surface to help ensure satisfactory hydrology/hydroperiod for BLH-wet habitat. The following table provides estimated degrading data for these mitigation areas.

Mitigation Area	Acres Degraded 0.5 ft	Acres Degraded 1.0 ft	Total Soil Quantity Removed (CY)
SJ1	126.6	194.1	415,327
SJ2	67.3	38.8	116,900
SJ3	0.0	39.0	62,974
SJ5	0.0	44.4	71,632
Total	**193.9**	**316.4**	**666,833**

Degrade material would be hauled off site to a contractor-provided upland disposal area, assume a 15 mile one-way haul distance. Some of the degraded soil may be used on-site if such fill is required.

DEMOLITION:

No existing structures appear to be within the mitigation site. There is an existing underground pipeline that passes through mitigation areas SJ1, SJ2, and SJ4. It is currently unknown what type of pipe is in this location. Assume at least a 20-ft buffer

around the route of the pipeline unless it is determined that the pipeline is abandoned. The location of the pipeline shown on the map is approximate.

DURATION:

Per the PDT, the assumed start date for construction is 1 June 2020. Necessary earthwork and related activities would likely start in early August 2020 and would continue through September 2022. Due to the large quantity of material to degrade (666,753 CY), a 7-day work week is assumed for excavation. Initial plantings would begin in November 2022 and continue through mid-March 2023.

Monitoring to determine success of the initial plantings would likely occur in October 2023 with the report submitted in December 2023. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2024 with the report submitted in December 2024. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in early 2025.

SITE ACCESS:

Access to the project work limits would be as follows:

From the north, access to the site to be made via route LA-3125 which leads to Helvetia Street and Wilton Road. Each of these roads run through the site north/south and would be preserved. From the south, access to the site can be made via route LA-44 which leads to Helvetia Street.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of each of the mitigation areas shown on attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation areas. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of each mitigation area affected.

STAGING:

Staging area(s) will only be permitted within one of the mitigation areas. The Contractor would determine where, within a particular mitigation area, to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crush stone paving for parking and laydown areas along with a temporary construction trailers. No utilities would be provided by the Government, and the Contractor would have to obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Demolition (if needed): Backhoes with grapple and hammer attachments, bulldozer, front loaders, and on/off road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractors with brush-hog/mowers; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

NOTES:

1. PROPOSED MITIGATION AREAS CONSISTS OF BLH (WET) CREATION/RESTORATION UP TO APPROXIMATELY 1,247 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	Canopy	Midstory
SJ1	289,940	72,352
SJ2	237,075	59,160
SJ3	48,396	12,077
SJ4	28,667	7,154
SJ5	24,198	6,038
SJ6	20,056	5,005
SJ7	19,075	4,760
SJ8	8,666	2,162
SJ9	3,325	830
Total	679,397	169,538

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

3. SITE ACCESS:

FROM THE NORTH, ACCESS TO THE SITE TO BE MADE VIA ROUTE LA-3125 WHICH LEADS TO HELVETIA STREET AND WILTON ROAD. EACH OF THESE ROADS RUN THROUGH THE SITE NORTH/SOUTH AND WILL BE PRESERVED. FROM THE SOUTH, ACCESS TO THE SITE CAN BE MADE VIA ROUTE LA-44 WHICH LEADS TO HELVETIA STREET.

4. DEGRADE AREAS:

AREAS INDICATED WILL BE DREGRADED 0.5 FT OR 1.0 FT. DEGRADING QUANTITIES ARE AS FOLLOWS:

Mitigation Area	Acres Degraded 0.5 ft	Acres Degraded 1.0 ft	Total Soil Quantity Removed (CY)
SJ1	126.6	194.1	415,327
SJ2	67.3	38.8	116,900
SJ3	0.0	39.0	62,974
SJ5	0.0	44.4	71,632
Total	193.9	316.4	666,833

DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE.

5. NO EXISITING STRUCTURES APPEAR WITHIN THE MITIGATION BOUNDARIES FOR DEMOLITION. 20FT BUFFER TO BE MAINTAINED AROUND EXISTING PIPELINE WHICH RUNS THROUGH SJ1, SJ2, AND SJ4 UNLESS PIPELINE IS DETERMINED TO BE ABANDONED. THE TYPE OF PIPELINE IS CURRENTLY UNKOWN AND LOCATION INDICATED IS ESTIMATED.

ROUTE LA-3125
SJ3 - 88.8 AC
SJ9 - 6.1 AC
SJ8 - 15.9 AC
WILTON ROAD
PIPELINE
SJ2 - 435.0 AC
SJ4 - 52.6 AC
SJ1 - 532.0 AC
HELVETIA STREET
SJ6 - 36.8 AC
TRANSMISSION LINE
SJ7 - 35.0 AC
NUCOR STEEL
RAILROAD
SJ5 - 44.4 AC

0 600' 1200'
SCALE

SHEET LEGEND
- PROPERTY LIMITS
- BLH MITIGATION LIMITS
- ACCESS ROAD
- TRANSMISSION LINE
- PIPELINE
- AREA TO DEGRADE 1.0FT
- AREA TO DEGRADE 0.5FT

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE:
PLOT DATE: 06-Sep-2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

BBA MITIGATION
BLH/WET CREATION/RESTORATION
ST. JAMES PARISH, LA.

ST. JAMES MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, Sunset Ridge BLH-Wet Creation and Restoration, St. Charles Parish, Louisiana

GENERAL SOW:

The proposed project would involve restoration and creation of up to approximately 323 acres of BLH-Wet habitat as compensatory mitigation for some of the BLH impacts resulting from construction BBA projects. The BLH-Wet restoration/creation areas (mitigation areas) would be located in existing agricultural fields at the Sunset Ridge mitigation site. This site is located east of Des Allemands, LA and off Bayou Gauche Road (Route LA-306) in St. Charles Parish.

Required earthwork would primarily include removal of the upper 0.5 feet of soil within portions of the mitigation area to establish an appropriate hydroperiod for BLH-Wet plant species (see enclosed drawing).

Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation area (denoted as areas SR-1 on the enclosed drawing), establishment of dirt access roads within the mitigation area, and tillage of soil in the mitigation area to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation area and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. For example, the large drainage ditch that runs north/south through the central portion of the site would likely not be completely eliminated. However, the alignment of this ditch within the mitigation site could be reconfigured if necessary. Any existing earthen berms within the property boundary that reduce sheetflow runoff into the proposed mitigation area would also be removed or gapped unless this could adversely affect off-site drainage. The existing levee along portion so the eastern property boundary would not be subject to any degrading or gapping as part of the proposed project. After major earthwork is completed, the mitigation area would be tilled prior to conducting the initial plantings.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the mitigation area following completion of the initial earthwork. Note that the planted acreage of the mitigation area would be reduced by the Contractor's staging area, by the preserved drainage ditch, and by additional dirt roadways that may be established for access and maintenance purposes. The maximum acreage of the mitigation area (Area SR-1) would be approximately 323 acres.

PROPOSED PLANTING:

Assumed plantings in the BLH mitigation area:

BLH Canopy: Approximately 176,035 seedlings. (545 seedlings per acre)

BLH Midstory: Approximately 43,928 seedlings. (136 seedlings per acre)

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid.

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid.

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50' to 100' to guide mowing operations.

DEGRADE AREAS:

Portions of the mitigation area would be degraded to a depth of approximately 0.5 ft. to help ensure satisfactory hydrology/hydroperiod for BLH-Wet habitat. The degrading would occur over three areas within the mitigation site, totaling approximately 74.8 AC.

Area SR-1: Degrade total of approximately 60,362 CY.

Degrade material would be hauled off site to a contractor-provided upland disposal area, assume a 15 mile one-way haul distance. A limited amount of the degraded (excavated; scraped) material may be used on-site where fill is necessary.

DEMOLITION:

Several existing structures appear to be located within the mitigation site. All of these structures as well as any existing fencing would be demolished by the construction contractor. All demolished material would be hauled off-site by the contractor to a Government approved upland disposal area.

DURATION:

Per PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around early August 2020 and continue through mid-December 2020. Initial planting activities would likely begin in January 2022 and continue through Mid-February 2022. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2022 with the report submitted in December 2022. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2023 with the report submitted in December 2023. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2024.

SITE ACCESS:

Access to the project work limits would be as follows:

From the north/south, access to the site would be made via Bayou Gauche Road which runs parallel and adjacent to the western property boundary. This road intersects a paved access to the mitigation site near the center of the site. This may or may not be used as the main site access location. Bayou Gauche road also intersects Grand Bayou Road to the north of the mitigation site. This road intersects an unpaved and unnamed road which runs through eastern portion of the site. This access route may be used for vehicles such as cars and trucks, but site access via this route would not be allowed for heavy construction equipment, including dump trucks.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of the mitigation area shown on the attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation area. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH-Wet mitigation area.

STAGING:

A staging area would only be permitted within mitigation area SR-1, although it could extend into adjacent areas within the property boundary. The Contractor would determine where within the mitigation area limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor before leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the

second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

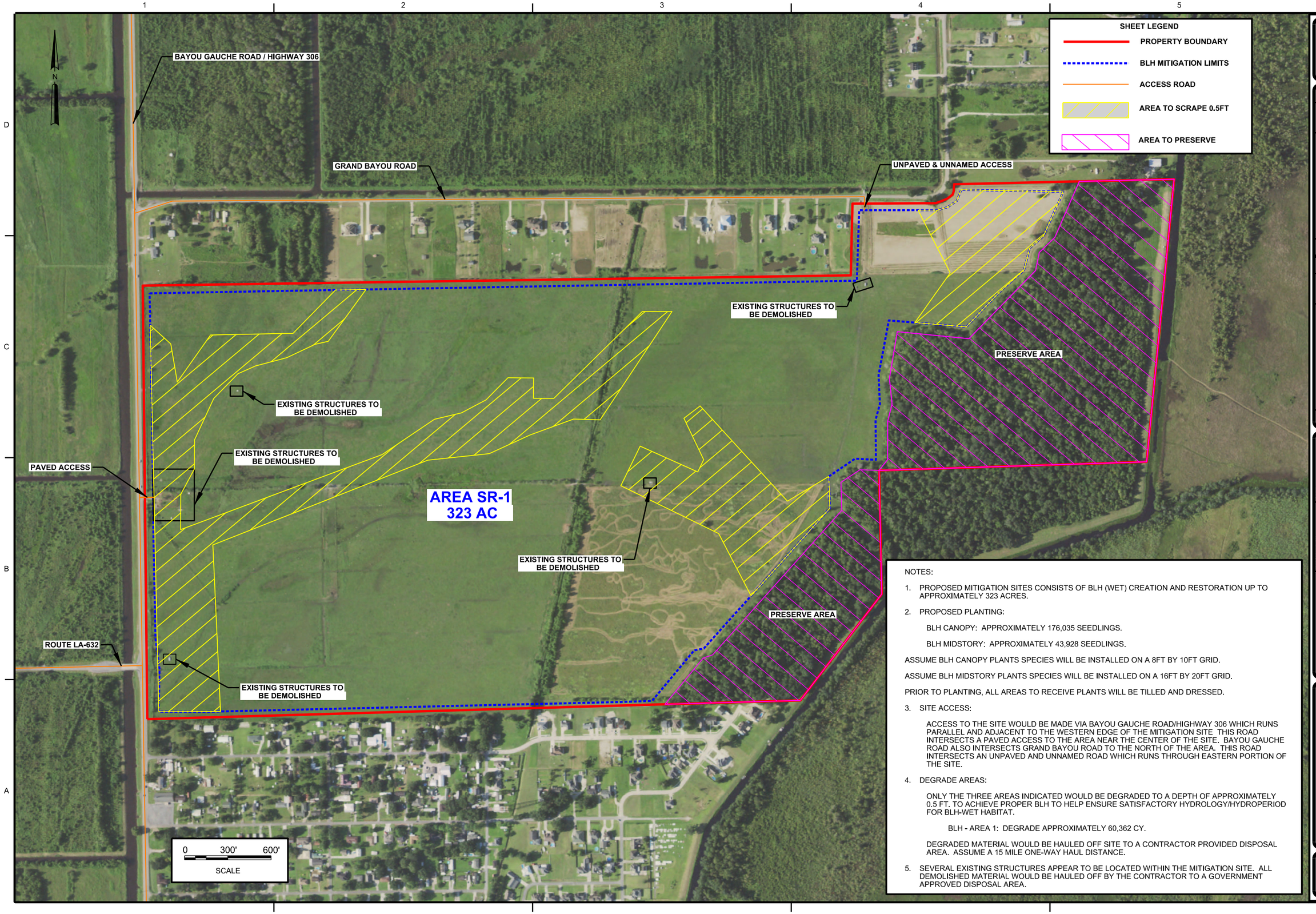
Equipment to be used for the respective work is assumed as follows:

Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.



NOTES:

1. PROPOSED MITIGATION SITES CONSISTS OF BLH (WET) CREATION AND RESTORATION UP TO APPROXIMATELY 323 ACRES.
2. PROPOSED PLANTING:

   BLH CANOPY: APPROXIMATELY 176,035 SEEDLINGS.

   BLH MIDSTORY: APPROXIMATELY 43,928 SEEDLINGS.

   ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

   ASSUME BLH MIDSTORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

   PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WILL BE TILLED AND DRESSED.
3. SITE ACCESS:

   ACCESS TO THE SITE WOULD BE MADE VIA BAYOU GAUCHE ROAD/HIGHWAY 306 WHICH RUNS PARALLEL AND ADJACENT TO THE WESTERN EDGE OF THE MITIGATION SITE THIS ROAD INTERSECTS A PAVED ACCESS TO THE AREA NEAR THE CENTER OF THE SITE. BAYOU GAUCHE ROAD ALSO INTERSECTS GRAND BAYOU ROAD TO THE NORTH OF THE AREA. THIS ROAD INTERSECTS AN UNPAVED AND UNNAMED ROAD WHICH RUNS THROUGH EASTERN PORTION OF THE SITE.
4. DEGRADE AREAS:

   ONLY THE THREE AREAS INDICATED WOULD BE DEGRADED TO A DEPTH OF APPROXIMATELY 0.5 FT. TO ACHIEVE PROPER BLH TO HELP ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT.

   BLH - AREA 1: DEGRADE APPROXIMATELY 60,362 CY.

   DEGRADED MATERIAL WOULD BE HAULED OFF SITE TO A CONTRACTOR PROVIDED DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE.
5. SEVERAL EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE. ALL DEMOLISHED MATERIAL WOULD BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED DISPOSAL AREA.

US Army Corps of Engineers®
NEW ORLEANS DISTRICT

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: MICHAEL J. TOLIVAR
DRWN BY: M.J.T.
CKD BY: J.A.B
SUBMITTED BY: M.J.T.
PLOT SCALE: ANSI D
PLOT DATE: 8/30/2019
SIZE: ANSI D
FILE NAME:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

BBA MITIGATION
BLH-WET CREATION AND RESTORATION
ST. CHARLES PARISH, LA.

SUNSET RIDGE MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01

PROJECT: BBA Mitigation, TSPB BLH-Wet Creation, West Baton Rouge Parish, Louisiana

GENERAL SOW:

The proposed project would involve creation of up to a total of approximately 483.8 acres of BLH-Wet habitat as compensatory mitigation for some of the BLH impacts resulting from construction BBA projects. The BLH-Wet creation areas (mitigation areas) would be located in existing agricultural fields at the TPSB mitigation site. This site is located west of the Mississippi River and south of Bueche, LA. The mitigation site situated between Rougon Road (LA-984) and Beuche Road (LA-983) in West Baton Rouge Parish.

Required earthwork would primarily include removal (degrading; scraping) of the upper 1.0 foot along mitigation areas TS-1, TS-2, and TS-3. A 32-acre area within mitigation area TS-4 would be degraded by 0.5 foot while the remainder of area TS-4 would be degraded 1.0 foot. The degrading work would be done to help establish an appropriate hydroperiod for BLH-Wet plant species.

Earthwork would also include grading to ensure appropriate drainage, establishment of dirt access roads around the perimeter of the mitigation areas (denoted areas TS-1 through TS-4 on the enclosed drawing), establishment of dirt access roads within the mitigation areas, and tillage of soil in the mitigation areas to receive plantings. Any existing drainage features (drainage ditches, etc.) within or adjacent to the mitigation areas and within the property boundary would likely be removed to help assure appropriate site hydrology, unless doing so would adversely affect drainage on off-site lands. Any existing berms within the property boundary that prevent sheetflow runoff from entering the mitigation areas would likely be removed or gapped, unless this would adversely affect drainage on off-site lands.

Native canopy and midstory plants typical of BLH-wet habitats would be installed in the four mitigation areas following completion of the initial earthwork. Note that the planted acreage of one of the mitigation areas would be reduced by the Contractor's staging area. Similarly, it is likely that the planted acreage of all the mitigation areas would be reduced slightly by additional dirt roadways within the mitigation areas that may be established for access and maintenance purposes.

The approximate maximum planted acreage within the proposed mitigation areas would be as follows:

Area TS-1: 11.7 AC
Area TS-2: 205.1 AC
Area TS-3: 4.9 AC
Area TS-4: 261.9 AC
Total BLH: 483.8 AC

PROPOSED PLANTING:

Assumed total plantings within the mitigation areas (approximate):

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
TS-1	6,377	1,591
TS-2	111,780	27,894
TS-3	2,671	666
TS-4	142,736	35,618
Totals	**263,562**	**65,770**

Assume BLH canopy plants species will be installed on an 8ft by 10ft grid (545 seedlings/acre).

Assume BLH midstory plants species will be installed on a 16ft by 20ft grid (136 seedlings/acres)

Mowing poles (PVC pipes extending roughly 6 feet above grade) would be installed on each planted row every 50’ to 100’ to guide mowing operations.

DEGRADE AREAS:

Summary data for the anticipated excavation (degrading/scraping) work within each mitigation are provided in the table below. It is estimated that a grand total of approximately 754,419 CY of soil would be removed during the degrading activities.

Mitigation Area	Degrade 1.0 ft		Degrade 0.5 ft	
	Acres	Cubic Yards	Acres	Cubic Yards
TS-1	11.7	18,876	0	0
TS-2	205.1	330,895	0	0
TS-3	4.9	7,905	0	0
TS-4	229.9	370,955	32.0	25,789
Totals	**451.6**	**728,631**	**32.0**	**25,789**

Degrade material would be hauled off site to a contractor-provided upland disposal area, assume a 15 mile one-way haul distance.

DEMOLITION:

A few existing structures appear to be located within the mitigation site and would demolished. All demolished material would be hauled off-site by the contractor to a Government approved disposal area.

DURATION:

Per PDT, the assumed start date for construction is 1 June 2020. Necessary degrading and related activities would likely start around early August 2020 and continue until November 2022. Initial planting activities would likely begin in January 2023 and continue through mid-February 2023. Notice of Construction Completion (NCC) would be issued soon after completion of the initial planting event.

Monitoring to determine success of the initial plantings would likely occur in October 2023 with the report submitted in December 2023. If this monitoring showed success criteria had been satisfied, a second monitoring event would likely occur in October 2024 with the report submitted in December 2024. Assuming this latter report showed applicable success criteria had been satisfied, the overall project would be turned over to the Non-Federal Sponsor in January 2025.

SITE ACCESS:

Access to the project site would be as follows:

From the north, access to the site would made via Rougon Road (LA-984) or McLin Road using St. Romain Road. Rougon Road runs north/south adjacent to the western boundary of the mitigation site. McLin Road also runs north/south and passes through the center of the site. Mclin Road intersects two unpaved roads which would be used to enter mitigation areas TS-2 and TS-4.

From the south, access to the site would be made via McLin Road or Rougan Road using Section Street (LA-620) which runs east/west adjacent to the southern boundary of the site.

Dirt maintenance/access roads approximately 15 feet wide would be established around the perimeter of the mitigation areas shown on the attached drawing. The Contractor may also establish other maintenance/access roads within the mitigation areas. Such roads would first have to be approved by the Government. If approved, such roads would slightly reduce the acreage of the BLH-Wet mitigation areas.

STAGING:

A single staging area would be permitted within one of the mitigation areas, although it could extend into other portions of the property. The Contractor would determine where

within the mitigation area limits to place staging and laydown areas suitable for the Contractor's means and methods to meet the required project period of performance. The proposed staging area would first be submitted for Government approval. The Contractor would be permitted to place crushed stone paving for parking and laydown areas along with a temporary construction trailer. No utilities would be provided by the Government, and the Contractor must obtain all permissions and permits for utilities. The trailer, crushed stone paving, and temporary utilities would have to be removed by the Contractor and the end of the project and the disturbed area would have to be planted with native grasses by the Contractor prior to leaving the project site.

MAINTENANCE/MANAGEMENT ACTIVITIES:

After completion of all excavation, grading, and soil preparation activities but prior to initial plantings, herbicides may be applied to the mitigation areas to help control invasive and nuisance plant species. Mowing may also be performed in the mitigation areas during this time period. After the mitigation areas are initially planted and before the success of these plantings is evaluated (monitored), herbicide applications and/or mowing may also occur to help suppress undesirable vegetation. Throughout this period, access/maintenance roads would be maintained as necessary as would be any new drainage features established.

The first monitoring event would occur in the fall of the year of the initial plantings. This report could show additional plantings are needed or it may not. Regardless, various mowing events and herbicide application events would take place during the period from the first monitoring event to the second monitoring event. It is assumed that the second monitoring event would show success criteria for the plantings had been achieved as were success criteria about control of invasive and nuisance plants. In this case, the Non-Federal Sponsor would take over the project including all management and maintenance work.

EQUIPMENT:

Equipment to be used for the respective work is assumed as follows:

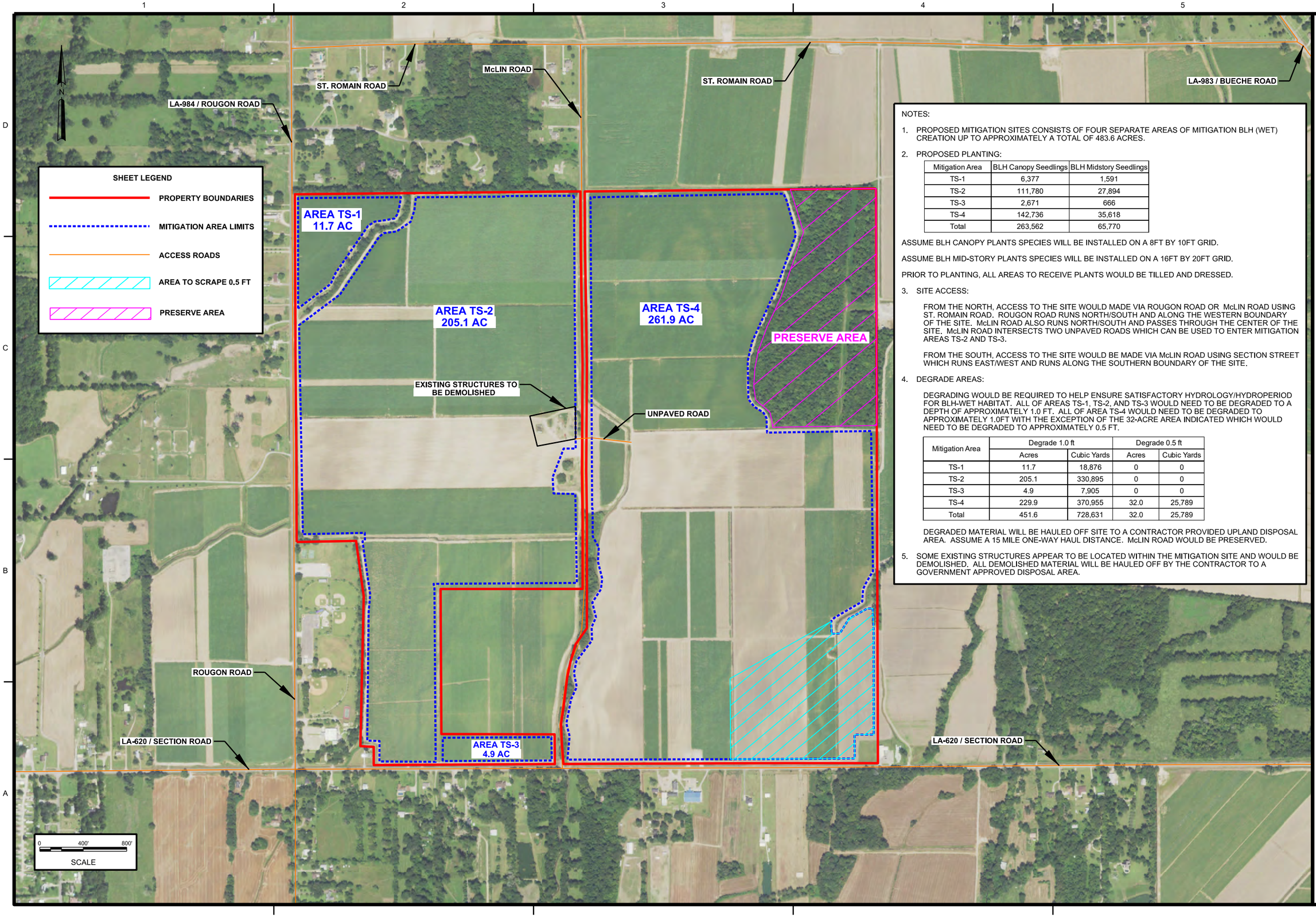
Degrading: Up to D8 bulldozers, wheel tractor scrapers, front-end loaders, off-road and on-road dump trucks.

Planting Preparation: Tractor with harrow and scarifier, bulldozers, and backhoe.

Planting: Pickup trucks and ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.

Initial Maintenance: Tractor with brush-hog/mower; ATVs and/or UTVs, back-pack sprayers and/or boom sprayers; bulldozers or backhoes.

Planting: Pickup trucks, ATVs and/or UTVs, and 2,000 to 4,000 gallon water trucks.



NOTES:

1. PROPOSED MITIGATION SITES CONSISTS OF FOUR SEPARATE AREAS OF MITIGATION BLH (WET) CREATION UP TO APPROXIMATELY A TOTAL OF 483.6 ACRES.

2. PROPOSED PLANTING:

Mitigation Area	BLH Canopy Seedlings	BLH Midstory Seedlings
TS-1	6,377	1,591
TS-2	111,780	27,894
TS-3	2,671	666
TS-4	142,736	35,618
Total	263,562	65,770

ASSUME BLH CANOPY PLANTS SPECIES WILL BE INSTALLED ON A 8FT BY 10FT GRID.

ASSUME BLH MID-STORY PLANTS SPECIES WILL BE INSTALLED ON A 16FT BY 20FT GRID.

PRIOR TO PLANTING, ALL AREAS TO RECEIVE PLANTS WOULD BE TILLED AND DRESSED.

3. SITE ACCESS:

FROM THE NORTH, ACCESS TO THE SITE WOULD MADE VIA ROUGON ROAD OR McLIN ROAD USING ST. ROMAIN ROAD. ROUGON ROAD RUNS NORTH/SOUTH AND ALONG THE WESTERN BOUNDARY OF THE SITE. McLIN ROAD ALSO RUNS NORTH/SOUTH AND PASSES THROUGH THE CENTER OF THE SITE. McLIN ROAD INTERSECTS TWO UNPAVED ROADS WHICH CAN BE USED TO ENTER MITIGATION AREAS TS-2 AND TS-3.

FROM THE SOUTH, ACCESS TO THE SITE WOULD BE MADE VIA McLIN ROAD USING SECTION STREET WHICH RUNS EAST/WEST AND RUNS ALONG THE SOUTHERN BOUNDARY OF THE SITE.

4. DEGRADE AREAS:

DEGRADING WOULD BE REQUIRED TO HELP ENSURE SATISFACTORY HYDROLOGY/HYDROPERIOD FOR BLH-WET HABITAT. ALL OF AREAS TS-1, TS-2, AND TS-3 WOULD NEED TO BE DEGRADED TO A DEPTH OF APPROXIMATELY 1.0 FT. ALL OF AREA TS-4 WOULD NEED TO BE DEGRADED TO APPROXIMATELY 1.0FT WITH THE EXCEPTION OF THE 32-ACRE AREA INDICATED WHICH WOULD NEED TO BE DEGRADED TO APPROXIMATELY 0.5 FT.

Mitigation Area	Degrade 1.0 ft		Degrade 0.5 ft	
	Acres	Cubic Yards	Acres	Cubic Yards
TS-1	11.7	18,876	0	0
TS-2	205.1	330,895	0	0
TS-3	4.9	7,905	0	0
TS-4	229.9	370,955	32.0	25,789
Total	451.6	728,631	32.0	25,789

DEGRADED MATERIAL WILL BE HAULED OFF SITE TO A CONTRACTOR PROVIDED UPLAND DISPOSAL AREA. ASSUME A 15 MILE ONE-WAY HAUL DISTANCE. McLIN ROAD WOULD BE PRESERVED.

5. SOME EXISTING STRUCTURES APPEAR TO BE LOCATED WITHIN THE MITIGATION SITE AND WOULD BE DEMOLISHED. ALL DEMOLISHED MATERIAL WILL BE HAULED OFF BY THE CONTRACTOR TO A GOVERNMENT APPROVED DISPOSAL AREA.

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MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT
NEW ORLEANS, LOUISIANA

DESIGNED BY: MICHAEL J. TOLIVAR
DWN BY: M.J.T.
SUBMITTED BY: M.J.T.
CKD BY: J.A.B
PLOT SCALE:
PLOT DATE: 08/22/2019
SIZE: ANSI D
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

BBA MITIGATION,
BLH-WET CREATION
WEST BATON ROUGE PARISH, LA.

TPSB MITIGATION SITE
PLAN VIEW

SHEET IDENTIFICATION
C-01