

The Court **ADOPTS** the following restoration plan, as revised:

RESTORATION PLAN HAMILTON SMITH SITE

OVERVIEW OF RESTORATION REQUIREMENTS

In light of the Defendant's claimed forestry purpose, the Proposed Restoration Plan provides for reconfiguration of Dams A, B and D so that they are made eligible for the forest road exemption, in part by eliminating the impounding effect of these Dams and restoring the affected streams to a free-flowing condition. The Proposed Restoration plan also remedies the impacts of the violations by providing for restoration of formerly impounded areas by planting wetland tree species, and allowing natural regeneration of wetland understory vegetation. In addition, this Restoration Plan also provides for a possible reduction in the height and width of Dam D to minimize the impact of that very large dam on waters of the United States, as required to meet the terms of the forest road exemption.

Dam E does not serve a forestry purpose and cannot be made compliant with the forest road exemption. The areas of Dam E and Impoundment E shall be fully restored to their pre-violation conditions. This entails complete removal of fill material from Creek E and its adjacent wetlands that were filled for the construction of Dam E, draining the impoundment located upstream of the dam, and replanting the wetland portion of the formally impounded area with wetland tree species.

The Defendant shall determine the sequence of restoration work. The earthmoving, culvert installation, and planting activities required in this restoration plan shall commence on or before October 1, 2014 and shall be finished on or before October 1, 2015. Annual maintenance of the wetland restoration areas shall occur for two (2) years after completion of the restoration and will consist of hand removal of nuisance and exotic plants. Annual monitoring of the survival of planted trees and photographs of the restoration areas shall occur in September of each year. An Annual Monitoring Report containing photographs and data on survival of planted trees shall be submitted to the Court appointed monitor on or before December 15 of each year. Restoration will be determined to be successful when at least 80% survival of the transplants survive for two (2) consecutive years.

It is not known whether stream channels have silted in during the period of impoundment, or if any earthmoving activities occurred in the creeks that are presently impounded under Impoundments A, B, D, and E. If earthmoving or excessive siltation have occurred to eliminate the original channels of impounded creeks, the creek channels will require remediation. The Defendant shall notify the Court appointed monitor when each Impoundment has been drained to schedule an inspection of the impoundment and determine if stream restoration work is necessary. If the Court appointed monitor notifies Defendant that stream restoration work is necessary, the Defendant will, within 30 days of receipt of such notification, submit a stream restoration plan to the Court appointed monitor for approval. Upon receipt of the Court appointed monitor's approval, Defendant

shall implement such stream restoration plan. Defendant shall notify the Court appointed monitor when stream restoration work is complete, and the Court appointed monitor shall perform a field inspection of restored creek bed and banks.

Restoration work may result in turbidity and erosion. Turbidity and erosion control measures must be installed prior to earthmoving activities. An erosion control plan shall be prepared by a qualified engineer and submitted to the Court appointed monitor for review and approval at least 21 days before the scheduled start of earthmoving activities. The approved erosion control plan shall be followed until all restoration work is complete.

The Defendant shall hire a qualified engineering firm experienced in hydraulics and culvert design to determine the type, size, number and placement of culverts that are required in Dams A, B, and D. Round culverts may be used if they are buried a minimum of one-foot deep in the stream bed. Bottomless culverts or buried round culverts will provide the maximum environmental benefits of a congruous stream path. The consulting engineer shall determine how the natural stream bed will react to the placement of the culverts during all flow regimes and recommend protective measures that are required to protect the culverts and dams from scour or aggradation.

The recommendations of the consulting engineer shall be submitted in a report to the Court appointed monitor no later than 60 days from the date of entry of Judgment by the Court concerning restoration of this Site for review and approval before commencement of construction activities.

All plans submitted, and all work performed, shall be supervised by a qualified engineer or environmental consultant.

DETAILED RESTORATION PLAN

Dam B

Dam B was constructed across Creek B. The culvert in Dam B was set high in the dam face and resulted in creation of Impoundment B upstream of the dam. Restoration is required to restore the flow, reach, and circulation of Creek B and restore the forested wetlands that were flooded under Impoundment B.

After installation of approved initial erosion control measures, the existing culvert in Dam B shall be removed, along with road fill at the culvert location, to allow the drainage of Impoundment B. After the impoundment is drained, stream restoration shall be performed if required, and culverts shall be placed in accordance with the engineer's approved recommendation. The roadway may then be reestablished in accordance with its current configuration. Slopes shall be stabilized to prevent erosion into Creek B in accordance with the approved erosion control plan.

Choice of culvert type, size, number, and placement shall be in accordance with the consulting engineer's approved recommendation.

The size of Impoundment B is currently 0.43 ac (18,730 ft²) (Figure 2). When Impoundment B is drained, restoration of the impacted wetland area adjacent to Creek B

shall consist of planting of a mix of wetland tree species on 10-foot centers (187 trees). Planting of trees on 10-foot centers is required to assure a relatively uniform distribution of wetland trees across the restoration area. Transplants can be bare-root saplings or container-grown plants and should be planted during a period of vegetative dormancy (December through February). Wetland tree species to be planted include a mix of sweet bay (*Magnolia virginiana*), swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and cypress (*Taxodium distichum*). The percentage of each tree species planted at this restoration area shall be determined by the Defendant's environmental consultant, subject to the Court monitor's approval. Estimated cost of trees for this restoration area is a total of \$935 (at \$5 per tree installed).

Natural revegetation of wetland understory vegetation is expected to occur in the restoration area without planting. Annual maintenance of the restoration area is required for two (2) years after completion of planting to eliminate the establishment and survival of nuisance plant species, such as cattails, and non-native exotic species, such as Japanese honeysuckle and Chinese tallow trees. Annual maintenance will consist of hand-pulling nuisance and non-native plants that become established in the restoration area and should occur concurrent with annual monitoring (September).

The wetland restoration area shall be monitored annually in September to determine the survival of planted tree species and dead trees will be replaced. Photographs shall be taken annually in September at three fixed locations. Photographs and survival data shall be included in an Annual Monitoring Report submitted to the Court appointed monitor by December 15 of each year. Wetland restoration will be determined to be successful when at least 80% of the planted trees survive for two (2) consecutive years. Annual monitoring and the submittal of Annual Monitoring Reports will be discontinued after submittal of the second consecutive report that documents achievement of success criteria.

Summary of Restoration Required at Dam B and Impoundment B

- * After approved initial erosion control measures are in place, remove the existing culvert in Dam B, along with road fill at the culvert location, and replace it with properly sized and placed culverts as recommended in the engineer's approved recommendations
- * Stabilize the slopes of Dam B to prevent erosion into Creek B
- * Drain Impoundment B
- * Restore Creek B stream channel if necessary
- * Plant the wetland area currently under water in Impoundment B with 187 wetland trees
- * Annually maintain the restoration area in September by hand removing nuisance and non-native exotic species that become established
- * Annually monitor the survival of transplants in September and replant as required
- * Annually photograph the restoration area in September from three fixed locations
- * Submit an Annual Monitoring Report to the Court appointed monitor by December 15, including photographs and data on survival of transplants, number of transplants dead, and number replaced with live transplants
- * Wetland restoration is successful when at least 80% of planted trees survive for two (2) consecutive years and upon final inspection of the Court appointed monitor.

Dam A

Dam A was constructed across Creek A. Culverts in Dam A were set high in the dam face and resulted in creation of Impoundment A upstream of the dam. Restoration is required to restore the flow, reach and circulation of Creek A and restore the forested wetlands that were flooded under Impoundment A.

After installation of approved initial erosion control measures, the existing culvert in Dam A shall be removed, along with road fill at the culvert location, to allow the drainage of Impoundment A. After the impoundment is drained, stream restoration shall be performed if required, and culverts shall be placed in accordance with the engineer's approved recommendation. The roadway may then be reestablished in accordance with its current configuration. Slopes shall be stabilized to prevent erosion into Creek B in accordance with the approved erosion control plan.

Choice of culvert type, size, number, and placement shall be in accordance with the consulting engineer's approved recommendation.

The size of Impoundment A is currently 1.48 ac (64,469 ft²) (Figure 3). When Impoundment A is drained, restoration of the impacted wetlands consists of planting of a mix of wetland tree species on 10-foot centers (645 trees) within the boundaries of the impounded wetland area at Impoundment A. Planting of trees on 10-foot centers is required to assure a relatively uniform distribution of wetland trees across the restoration area. Transplants can be bare-root saplings or container-grown plants and should be planted during a period of vegetative dormancy (December through February). Wetland tree species to be planted shall include a mix of sweet bay (*Magnolia virginiana*), swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and cypress (*Taxodium distichum*). The percentage of each tree species planted at this restoration area shall be determined by the Defendant's environmental consultant. Estimated cost of trees for this restoration area is \$3225 at \$5 per tree installed.

Natural revegetation of wetland understory vegetation is expected to occur in the restoration area without planting. Annual maintenance of the restoration area is required for two (2) years after completion of planting to eliminate establishment and survival of nuisance plant species, such as cattails, and non-native exotic species, such as Japanese honeysuckle and Chinese tallow trees. Annual maintenance will consist of hand-pulling nuisance and non-native plants that become established in the restoration area and shall occur concurrent with annual monitoring (September).

The wetland restoration area will be monitored annually in September to determine the survival of planted tree species and dead trees will be replaced. Photographs shall be taken annually in September at three fixed locations. Photographs and survival data shall be included in an Annual Monitoring Report submitted to the Court appointed monitor by December 15 of each year. Wetland restoration will be determined to be successful when at least 80% of the planted trees survive for two (2) consecutive years. Annual monitoring and the submittal of Annual Monitoring Reports will be discontinued after submittal of the third consecutive report that documents achievement of success criteria.

Summary of Restoration Required at Dam A and Impoundment A

- * After approved initial erosion control measures are in place, remove the existing culverts in Dam A, along with road fill at the culvert location, and replace it with properly sized and placed culverts as recommended in the engineer's approved recommendation
- * Stabilize the slopes of Dam A to prevent erosion into Creek A
- * Drain Impoundment A
- * Restore Creek A stream channel if necessary
- * Plant the wetland area currently under water in Impoundment A with 645 trees
- * Annually maintain the restoration area in September by hand removing nuisance and non-native exotic species that become established
- * Annually monitor survival of transplants in September and replant as required
- * Annually photograph the restoration area from three fixed locations
- * Submit an Annual Monitoring Report by December 15, including photographs and data on survival of transplants, number of transplants dead, and number replaced with live transplants
- * Wetland restoration is successful when at least 80% of planted trees survive for two (2) consecutive years.

Dam D

Dam D was constructed across Dennis Creek. Presently, Dam D disrupts the movement of aquatic life and its construction resulted in excessive vegetative disturbance. Restoration is required to restore the flow, reach and circulation of Dennis Creek, and restore the forested wetlands that were flooded under Impoundment D.

Choice of culvert type, size, number and placement shall be in accordance with the consulting engineer's approved recommendation. After installation of approved initial erosion control measures, the existing culvert in Dam D shall be reconfigured to allow the drainage of Impoundment D. After the impoundment is drained, stream restoration shall be performed if required, and culverts shall be placed in accordance with the engineer's approved recommendations. The slopes of Dam D must be stabilized to prevent erosion into Dennis Creek and its adjacent wetlands in accordance with the approved erosion control plan.

The maximum size of Impoundment D was 5.38 ac (234,352 ft²) (Figure 4). When Impoundment D is drained, restoration of the impacted wetland area adjacent to Dennis Creek shall consist of planting of a mix of wetland tree species on 10-foot centers (2344 trees). Planting of trees on 10-foot centers is required to assure a relatively uniform distribution of wetland trees across the restoration area. Transplants can be bare-root saplings or container-grown plants and should be planted during a period of vegetative dormancy (December through February). Wetland tree species to be planted include equal numbers of sweet bay (*Magnolia virginiana*), swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and cypress (*Taxodium distichum*). The percentage of each tree species planted at this restoration area shall be determined by the Defendant's environmental consultant. Estimated cost of trees for this restoration area is \$11,720 at \$5 per tree installed.

Natural revegetation of wetland understory vegetation is expected to occur in the restoration area without planting. Annual maintenance of the restoration area is required for two (2) years after completion of planting to eliminate the establishment and survival

of nuisance plant species, such as cattails, and non-native exotic species, such as Japanese honeysuckle and Chinese tallow trees. Annual maintenance will consist of hand-pulling nuisance and non-native plants that become established in the restoration area and shall occur concurrent with annual monitoring.

The wetland restoration area shall be monitored annually in September to determine the survival of planted tree species and dead trees will be replaced. Photographs shall be taken annually in September at five fixed locations within the wetland restoration area. Photographs and survival data shall be included in an Annual Monitoring Report and submitted to the Court appointed monitor by December 15 of each year. Wetland restoration will be determined to be successful when at least 80% of the planted trees survive for two (2) consecutive years and upon final inspection by the Court appointed monitor. Annual monitoring and the submittal of Annual Monitoring Reports will be discontinued after submittal of the third consecutive report that documents achievement of success criteria.

Summary of Restoration Required at Dam D and Impoundment D

- * After approved initial erosion control measures are in place, remove the existing culvert in Dam D along with road fill at the culvert location, and replace it with multiple culverts, properly sized and placed, each with a maximum exposed diameter of 60 inches, or as recommended in the engineer's approved recommendation
- * Place a maximum of 2 feet of fill material on top of culverts
- * Remove excess fill material consistent with reduced road size
- * Stabilize the 1:2 slopes of the dam to prevent erosion into Dennis Creek and its adjacent wetlands
- * Drain Impoundment D
- * Restore Dennis Creek channel if necessary
- * Plant the wetland area currently under water in Impoundment D with 2344 trees
- * Annually maintain the restoration area in September by hand removing nuisance and non-native exotic species that become established
- * Annually monitor the survival of transplants in September and replant as required
- * Annually photograph the restoration area in September from five fixed locations
- * Submit an Annual Monitoring Report to the Court appointed monitor by December 15, including photographs, data on survival of transplants, number of transplants dead, and number replaced with live transplants
- * Wetland restoration is successful when at least 80% of planted trees survive for two (2) consecutive years and upon final inspection by the Court appointed monitor

Dam E

Dam E was constructed near the headwaters of Creek E and resulted in the creation of Impoundment E. Restoration is required to restore the flow, reach and circulation of Creek E, remove unauthorized fill from waters of the United States, and restore the forested wetlands that were flooded under Impoundment E and buried under Dam E. The volume of fill material within waters of the United States at this area is equal to the width of the dam times the length that is in waters times the depth of the fill. The width of the dam at the stream crossing is approximately 110 ft and the length of the

dam within the creek is approximately 36 feet (total area = 110 ft x 32 ft = 3520 ft² (0.08 ac)). It is estimated that the depth of the fill is approximately 4 feet deep. The total volume of the fill material is approximately 521 cy (total volume = 3520 ft² x 4 ft = 14,080 ft³ = 521 cy). Therefore, approximately 521 cy of fill material must be removed from waters of the United States at this location. Based upon a cost of \$10 per cy, the approximate cost of removing fill material at this location is \$5210.

Fill and the existing culvert should be removed until the original native soil layer is observed. Approved turbidity and erosion control measures shall be implemented during fill removal to minimize sedimentation in Creek E in accordance with the approved erosion control plan.

Removal of Dam E will result in the drainage of Impoundment E. After Impoundment E is drained, stream restoration shall be performed if required. The portion of Impoundment E that is in wetlands is 415 feet long and 26 feet wide (Figure 5) (10,790 ft² = 0.25 ac) (Figure 2). After drainage of Impoundment E, restoration of the impacted wetland shall consist of planting of a mix of wetland tree species on 10-foot centers (108 trees) within the wetland area of the impoundment. Planting of trees on 10-foot centers is required to assure a relatively uniform distribution of wetland trees across the restoration area. Transplants can be bare-root saplings or container-grown plants and should be planted in a period of vegetative dormancy (December through February). Wetland tree species to be planted include a mix of sweet bay (*Magnolia virginiana*), swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and cypress (*Taxodium distichum*). The percentage of each tree species planted at this restoration area shall be determined by the Defendant's environmental consultant. Estimated cost of trees for this restoration area is \$540 at \$5 per tree installed.

Natural revegetation of wetland understory vegetation is expected to occur in the restoration area without planting. Annual maintenance of the restoration area is required for two (2) years after completion of planting to eliminate the establishment and survival of nuisance plant species, such as cattails, and non-native exotic species, such as Japanese honeysuckle and Chinese tallow trees. Annual maintenance shall occur concurrent with annual monitoring (September) will consist of hand-pulling nuisance and non-native plants that become established in the restoration area.

The wetland restoration area will be monitored annually in September to determine the survival of planted tree species and dead trees will be replaced. Photographs shall be taken annually in September at three fixed locations. Photographs and survival data shall be included in an Annual Monitoring Report submitted to the Court appointed monitor by December 15 of each year. Wetland restoration will be determined to be successful when at least 80% of the planted trees in the restoration area survive for two (2) consecutive years and upon final inspection by the Court appointed monitor. Annual monitoring and the submittal of Annual Monitoring Reports will be discontinued after submittal of the third consecutive report that documents achievement of success criteria.

Summary of Restoration Required at Dam E and Impoundment E

- * After approved initial erosion control measures are in place, remove culvert and approximately 587 cy of fill material within Creek E and its adjacent wetlands
- * Stabilize the areas disturbed during dam removal to prevent erosion into Creek E

- and its adjacent wetlands
- * Drain Impoundment E
- * Restore Creek E stream channel if necessary
- * Plant the wetland area that is currently under water in Impoundment E with 108 wetland trees
- * Annually maintain the restoration area in September by hand removing nuisance and non-native exotic species that become established
- * Annually monitor survival of transplants in September and replant as required
- * Annually photograph the restoration area in September from three fixed locations
- * Submit an Annual Monitoring Report to the Court appointed monitor by December 15, including photographs and data on survival of transplants, number of transplants dead, and number of dead transplants replaced with live transplants
- * Wetland restoration is successful when at least 80% of planted trees survive for two (2) consecutive years and upon final inspection by the Court appointed monitor.

SUMMARY OF TIME LINE FOR IMPLEMENTATION AND COMPLETION OF THIS RESTORATION PLAN

- * Begin onsite restoration activities on or before October 1, 2014
- * All restoration activities except maintenance of restored wetlands and monitoring to be completed by October 1, 2015
- * Hire a professional engineer who shall submit a report for review and approval of the Court appointed monitor no later than 60 days after entry on judgment by the Court. The report shall include recommendations on the type, size, number, and placement of culverts, and protective measures for culverts and dams
- * Following drainage of impoundments, schedule the inspection of the Court appointed monitor to determine whether stream restoration is necessary, and whether proposed culvert location should be adjusted in light of stream channel location
- * If necessary, submit stream restoration plan to the Court appointed monitor for approval
- * The wetland restoration areas shall be planted in winter months
- * Annual maintenance is required for two (2) years after the completion of planting at each wetland restoration area. Maintenance shall occur concurrent with annual monitoring (September)
- * Annual monitoring and photographs of the restoration areas shall occur in September of each year until the success criterion is met
- * An Annual Monitoring Report of tree survival shall be submitted to the Court appointed monitor no later than December 15 of each year until the success criterion has been met
- * Final inspection of the Site by the Court appointed monitor will occur after receipt of the final Annual Monitoring Report that documents that the success criterion has been met

FIGURES

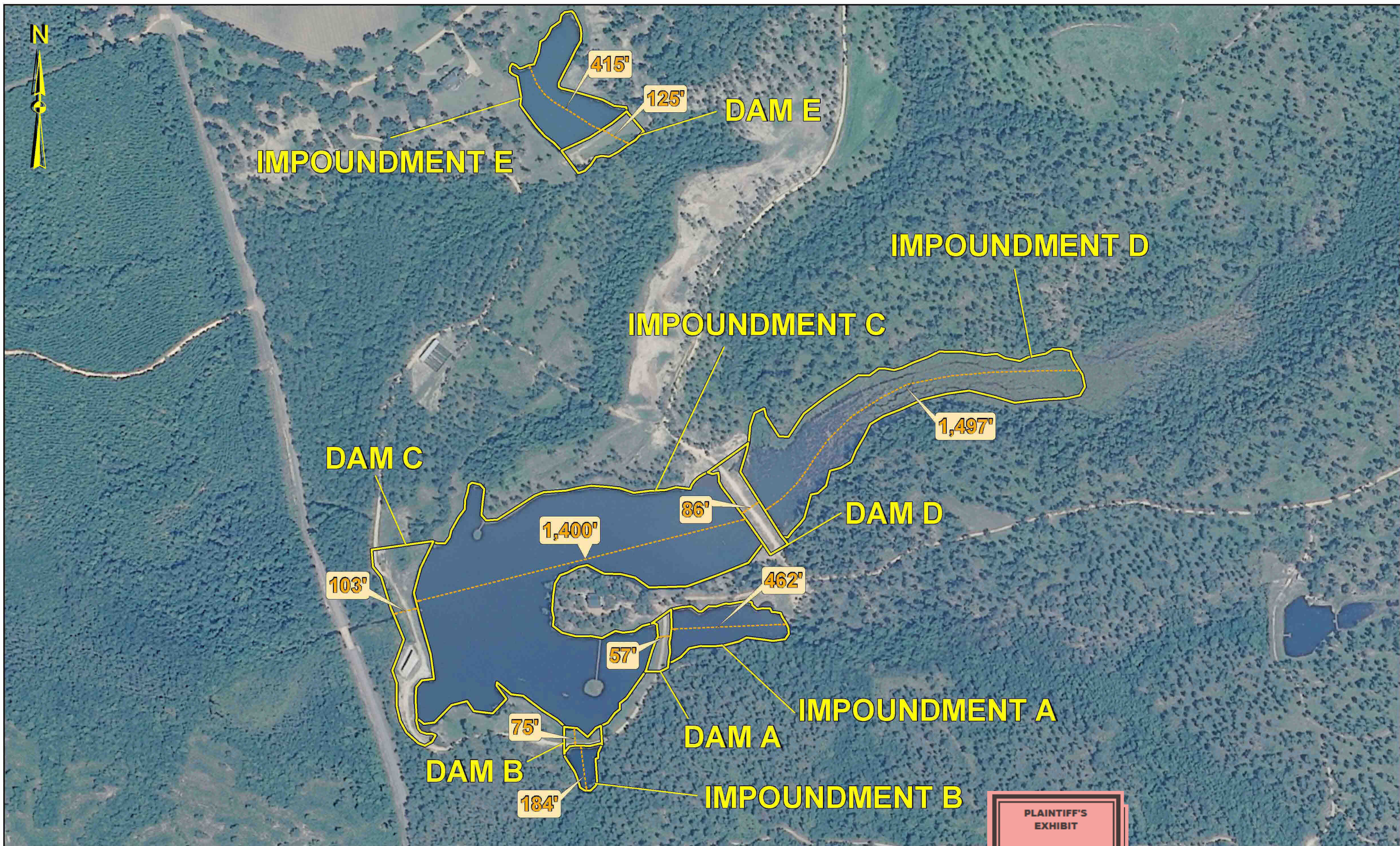
Figure 1. Overview of the Hamilton Smith Site showing locations of dams and impoundments.

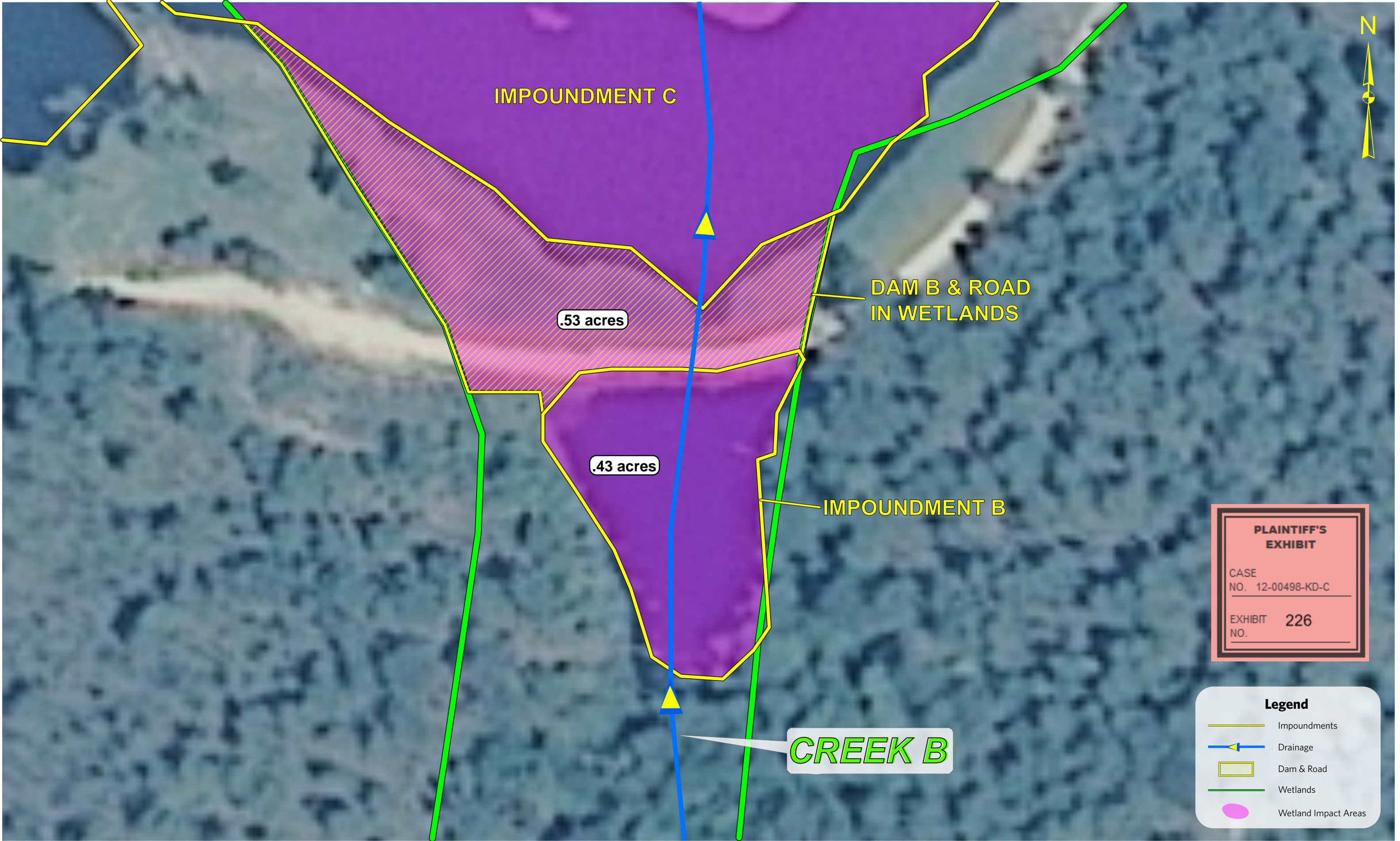
Figure 2. Location of Dam B and Impoundment B restoration area.

Figure 3. Location of Dam A and Impoundment A restoration area.

Figure 4. Location of Dam D and Impoundment D restoration area.

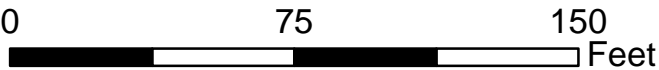
Figure 5. Location of restoration area of Dam E and Impoundment E

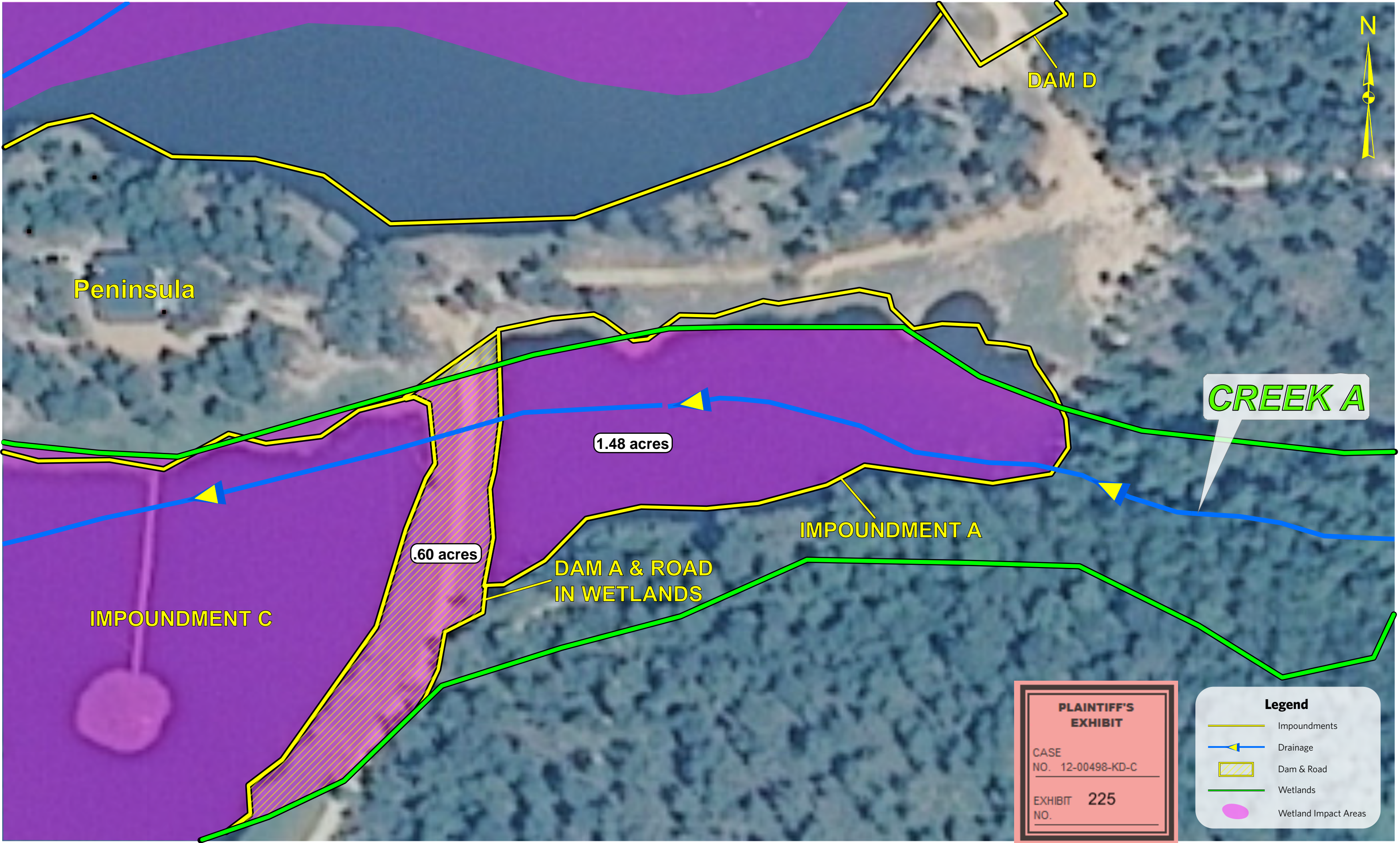




Creek B and Wetlands Area

August 16, 2011





Peninsula

DAM D

CREEK A

1.48 acres

.60 acres

IMPOUNDMENT A

DAM A & ROAD
IN WETLANDS

IMPOUNDMENT C

**PLAINTIFF'S
EXHIBIT**

CASE
NO. 12-00498-KD-C

EXHIBIT NO. 225

Legend

- Impoundments
- Drainage
- Dam & Road
- Wetlands
- Wetland Impact Areas

Creek A and Wetlands Area

August 16, 2011

0 100 200 Feet

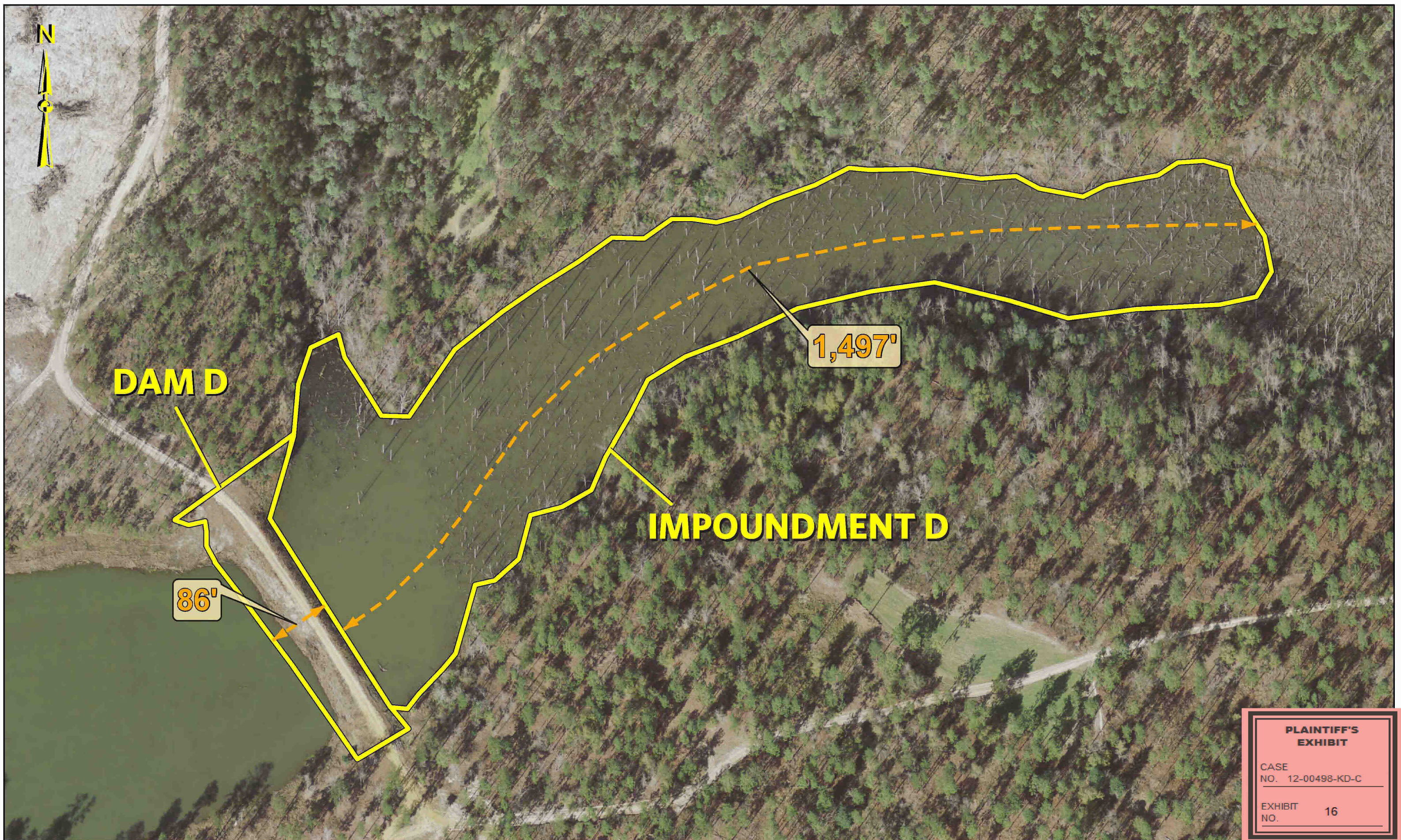


Figure 17. Dam D & Impoundment D

February 20, 2009

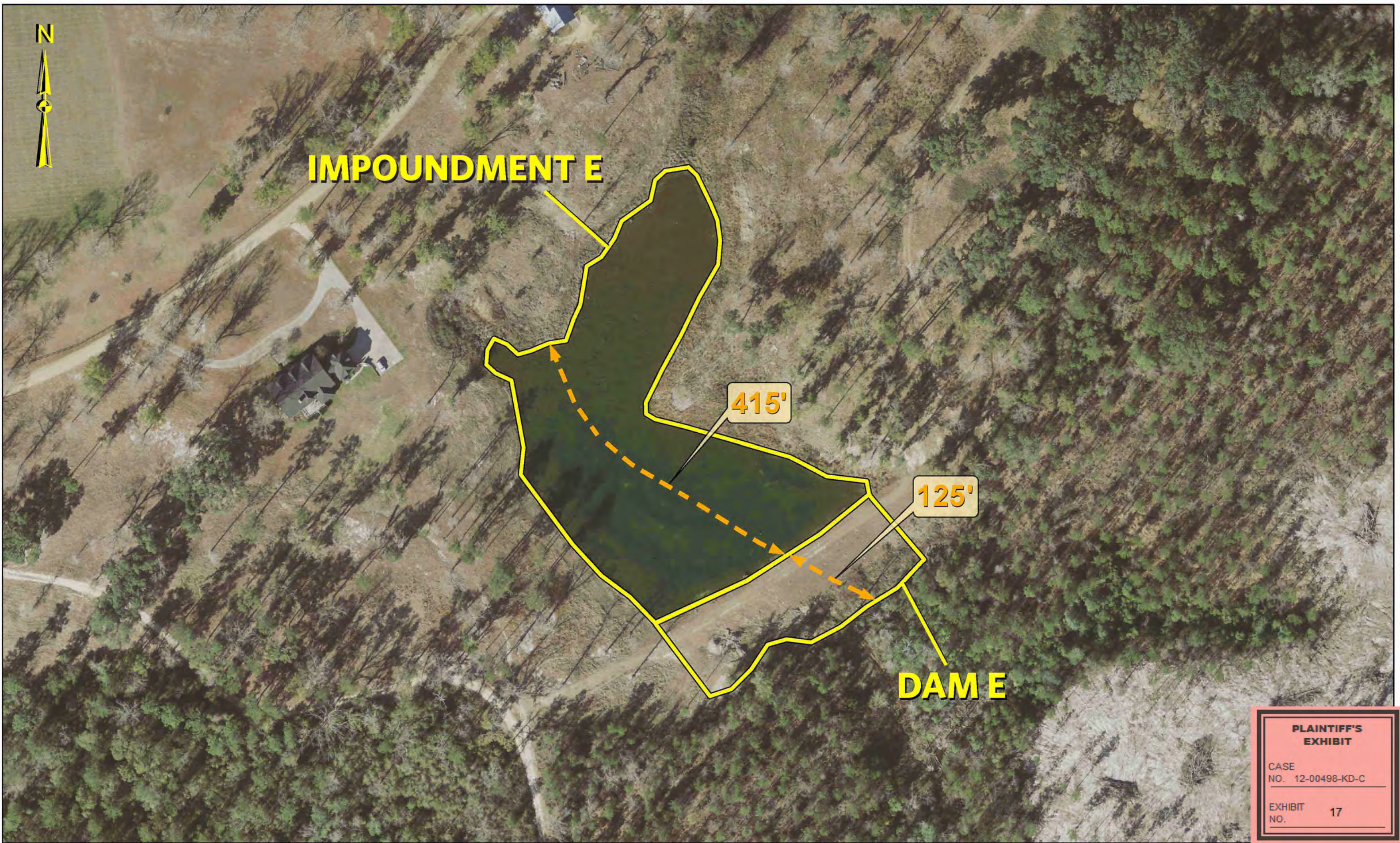


Figure 18. Dam E & Impoundment E

February 20, 2009

0 150 300 Feet