Draft Environmental Assessment

Hidden Pines
Hazardous Fuels Reduction Project
HMGP FMAG-5116-TX Project #2

Bastrop County, Texas

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FEMA

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 6
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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
BSA	Brownfield Site Assessment
CAA	Clean Air Act
CEQ	President's Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESD	Emergency Services District
FEMA	Federal Emergency Management Agency
FMAG	Fire Management Assistance Grant
FONSI	Finding of No Significant Impact
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Conservation
LCMS	Langford Community Management Services, Inc.
NEPA	National Environmental Policy Act
NETR	Nationwide Environmental Title Research
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
ROW	Right-of-Way
SHPO	State Historic Preservation Officer
TAMU	Texas A & M University
TCEQ	Texas Commission on Environmental Quality
TDEM	Texas Division of Emergency Management
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
USACE	U. S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UWI	Urban/Wildland Interface
WSC	Water Supply Corporation

SECTION 1 Introduction

Bastrop County, Texas has experienced three major wildfires in the last seven years:

- Hidden Pines Fire in 2015, destroyed another 66 structures
- Bastrop County Complex Fire in 2011, destroyed over 1,700 homes and businesses; the most destructive fire in Texas history and the third most costly in the Nation's history (based on dollar loss per capita); and,
- Wilderness Ridge Fire in 2009, destroyed over 50 structures.

These fires occurred in the area known as the Lost Pines of Texas, an ecosystem dominated by loblolly pines with an intermix of oak, yaupon and eastern red cedar. The areas that were not directly burned are severely impacted by a century of untreated understory composed mainly of the yaupon and cedar. As this area has populated in the last three decades, there has become a clear proliferation of houses, businesses, barns and outbuildings defined as urban/wildland interface (UWI).

Wildland fire in heavy, fuel-laden areas is especially destructive unless a rapid initial attack is possible by suppression forces, such as local fire departments. No matter how well-equipped a fire department might be, the ecosystem in the Lost Pines is defined by radical topography that makes firefighting access and containment difficult. Containment of fires to smaller "hot spot" areas is essential to mitigate risk and protect human safety and resultant structure and infrastructure damage.

Currently, Bastrop County has an on-going Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) project to reduce the understory fuels in high- hazard areas, predominately on private property, within developed rural subdivisions. The project is designed to reduce fuel loadings around buildings, residences and the surrounding landscape. While the benefits of this project are large and valuable, the project scope does not address ingress/egress on roadways to these neighborhoods. It is imperative for firefighters to have access routes to a disaster site for rapid response and to safely and efficiently evacuate neighborhood residents.

Bastrop County, Texas, has applied through the Texas Division of Emergency Management (TDEM), for funding under FEMA's HMGP program to address wildfire risk along certain county roads. FEMA's HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality (CEQ) regulations to implement NEPA, 40 Code of Federal Regulations (CFR) Parts 1500-1508, and FEMA's procedures for implementing NEPA (FEMA Instruction 108-1-1). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed action as described below. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

SECTION 2 Purpose and Need for Action

FEMA's HMGP provides funds to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of HMGP is to reduce loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the immediate recovery from a declared disaster.

There is a need in Precinct 2 of Bastrop County to reduce wildfire risk along certain county roads that are located in fire-prone areas to allow for ingress/egress for firefighters and first responders in the event of a wildfire and to allow for efficient evacuation of residents.

Firefighters and other first responders need clear and completely unobstructed access to roadways, during emergencies, especially those emergencies involving evacuation of citizens vulnerable to harm created by the emergency. During fire emergencies, timing is critical in getting to the emergency site, evacuating those in the pathway of potential destruction, and effectively controlling and containing the fire as close to its genesis as possible. Bastrop County needs to safeguard roadways used by firefighters to access the fire site with the appropriate equipment for fire containment and used by first responders to evacuate vulnerable citizens in the path of destruction. By having this ease of access, fires can be efficiently reached and fought and evacuations can be handled more effectively, reducing the chances of fatalities.

The proposed action would complement the already existing FEMA-funded project to reduce the types of grasses, brush, and trees that contribute to the local wildland fire hazard (collectively referred to as "hazardous fuels") on predominately private property within developed rural subdivisions. Reducing fuel loads on both private lands and along county roads will reduce the potential of wildland fires to expand rapidly, will reduce the potential size of wildland fire, and increase the ability of local fire departments and residents to fight and contain wildland fires. This will better protect local residents and their properties when future wildland fires occur.

SECTION 3 Alternatives

3.1 No Action Alternative

The no action alternative is included to describe potential future conditions if no action is taken to reduce wildfire hazards. Under the no action alternative, no additional work would be conducted to reduce hazardous fuels in road rights-of-way within Bastrop County. Residents, homes, businesses and firefighting personnel would remain at an elevated risk for the spread of a catastrophic wildfire.

Because existing wildfire hazards in Bastrop County would not be reduced under the no action alternative, the probability of loss of human life and property in a wildfire would continue to be unacceptably high. A major wildfire could have severe temporary impacts on environmental resources (i.e. air quality, water quality, and emergency services). Fighting a major wildfire would also require large quantities of water at a time when water resources in the area may be already strained by drought. The federally-endangered Houston toad relies on the natural vegetation in the

area for habitat. A major wildfire would be more likely to spread under the no action alternative and could damage existing and potential habitats for the Houston toad.

3.2 Proposed Action

Bastrop County proposes to reduce heavy fuel loads along various county road rights of way (ROW) in Precinct 2 through understory thinning. Native trees, such as loblolly pine and oak 6 inches or more in diameter will not be removed. If necessary, these trees will be limbed 8-10 feet above the ground to raise the height of the canopy and reduce the risk of crown fire. Bastrop County will focus on the reduction of ladder fuels by removing yaupon, cedar, downed timber and small trees located in the understory. Any invasive species encountered during the fuels reduction activities work will be removed and disposed of properly. The County will use a mechanical thinning process that uses a skid steer with a mulching head. These low impact machines will grind up the undesirable vegetation, leaving mulch on the ground in a layer not to exceed 2 inches thick. All vegetative debris will be mulched and left on site in the ROW. Vegetation will be mulched immediately, and debris piles will not be created. The layer of mulch left in place that will more rapidly decompose, creating a much-reduced fuel source for fires This project does not include the removal of native groundcover in ditches, culverts, and drain ways. All stumps will be left at ground level and will not be excavated or otherwise mechanically removed.

Table 1 and the maps included in **Appendix A** provide detailed information on the road segments that are included as part of the FEMA-funded project. These roads are generally two lanes, paved or gravel, and the average width is about 20 feet. On average, the County will be treating 15 feet from the edge of the roadway on both sides of the road or up to the private property fence line, whatever distance they reach first. As shown on the aerial maps, certain areas along the proposed roads are already devoid of vegetation and will not require fuels reduction treatment.

Bastrop County will use County owned equipment and will hire full time, temporary personnel to complete this project. Equipment will be staged at the County maintenance yard and will not be staged in the ROW overnight. It is estimated that the project will take 6 months to complete.

Following the initial vegetation management conducted under the FEMA HMGP project, Bastrop County Road and Bridge Precinct 2 will maintain the ROWs on a regular schedule. Maintenance costs are the responsibility of Bastrop County and will not be funded by FEMA through this grant. The maintenance plan is to keep the ROW mowed so that no woody vegetation will be allowed to emerge. The cleared ROW areas will be mowed annually or more often as required. All maintenance work will be done in accordance with the County's Lost Pines Habitat Conservation Plan and permit which covers maintenance activities along county rights of way.

3.3 Action Alternatives Considered, but Dismissed

The Wilderness Ridge Fire of 2009, Bastrop County Complex Fire of 2011, and the Hidden Pines Fire of 2015 ravaged most of the landscape within their respective perimeters. There remain a few areas within the burn scars, and numerous locations outside of the burn scars, that still need fuels reduction in the ROWs for the safety of firefighters and the safe ingress/egress of residents. During project planning, Bastrop County considered various roads within Precinct 2 for treatment,

including and in addition to those that are presented in the Proposed Action. The County utilized a web-map interface that combined data from Anchor Point's National Hazard and Risk Model (No-HARM) with County specific data. Anchor Point's National Hazard and Risk Model (No-HARM) combines fire behavior predictions (aggregated by fire plains), fire frequency modeling,

Table 1. Project Locations

St. Delight Road: 30.205448,-97.120777 north end; 30.136187,-97.114176 south end; Aerial Site Maps 1-4
Friendship Road: 30.187165,-97.112356 west end; 30.187355,-97.097965 east end; Aerial Site Map 1
Nink Road (@ St. Delight Rd.) (aka Gotier Trace Road): 30.136129,-97.114220 west end; 30.133117,-97.100866 east end; Aerial Site Map 4
Old Pin Oak Road: 30.164494,-97.131740 north end; 30.131082,-97.141419 south end; Aerial Site Maps 5-6
Antioch Road: 30.161486,-97.170890 north end; 30.122761,-97.184553 south end; Aerial Site Maps 7-8
Old Antioch Road: 30.104542,-97.173994 north end; 30.085136,-97.173831 south end; Aerial Site Map 9
Powell Road: 30.068653,-97.195369 north end; 30.059370,-97.190017 south end; Aerial Site Map 10
Kellar Road: 30.073472,-97.190786 north end; 30.059408,-97.190004 south end; Aerial Site Map 10
Gotier Trace Road (near Alum Creek Rd): 30.104136,-97.215927 west end; 30.104442,-97.207424 east end; Aerial Site Map 11
Alum Creek Road: 30.096299,-97.221211 north end; 30.071141,-97.228236 south end; Aerial Site Maps 11-12
Mesa Pinto Drive: 30.058719,-97.248519 north end; 30.052818,-97.250838 south end; Aerial Site Map 13
Porter Road: 30.156837,-97.257312 east side; 30.154300,-97.261831 west side; Aerial Site Map 14
Pine Tree Loop: 30.154228, -97.260464 east side; 30.152604, -97.261783 west side
Old Firetower Road / Pine Path: 30.174545,-97.261044 west side; 30.167158,-97.242254 east side; Aerial Site Map 15
Bluebonnet Drive: 30.172621,-97.254890 west side; 30.169980, -97.248848 east side; Aerial Site Map 16 and 17
Sage Road: 30.169158,-97.253672 north side; 30.161291,-97.247183 south side; Aerial Site Maps 17-19

information about the built environment such as parcel and road density and susceptibility to flame impingement, ember cast and smoke. The web-tool enabled the County to determine which areas were susceptible to wildfire and which roads to target for fuels reduction. Certain ROWs in highly susceptible areas have grown up over time, and because of the size of the trees, removing the fuels has become impossible with the proposed mulching and mowing method. Due to the size of the ROW vegetation, these areas would have to be hand-cleared, which is more costly and cost prohibitive to the County. These ROWs were eliminated from treatment. In addition, due to budget and project eligibility limitations, ROWs that are not located within one of the burn scars, and are

not located within a 2-mile radius of structures, are excluded from project activities at this time. Treatment on alternative road stretches are not considered further in this EA.

SECTION 4 Affected Environment and Potential Impacts

4.1 Physical Resources

4.1.1 Air Quality

The Clean Air Act (CAA; 42 U.S.C. 7401 et seq.) provides the basis for regulating air emissions. Air quality control regions have been created under the CAA. The U.S. Environmental Protection Agency (EPA) classifies air quality within each region according to whether the concentrations of certain pollutants called criteria air pollutants exceed National Ambient Air Quality Standards (NAAQS).

Bastrop County is designated by EPA Region 6 as being within the Austin Early Action Compact Area, which indicates that the levels of pollutants do not exceed air quality standards per Texas Commission on Environmental Quality (TCEQ). (**See Figure 1 below**).

No Action Alternative

Taking no action to reduce hazardous fuels in the ROWs along Bastrop County roads would potentially allow a wildfire to more quickly spread because certain routes may not be traversable by firefighters, and early containment of the fire may not be achievable. A major wildfire would cause substantial pollutant emissions.

Proposed Action

Reduction of hazardous fuels in the ROWs of Bastrop County roads would allow firefighters access along those routes to points where fire containment at an earlier stage may be possible. Reducing the spread and duration of a major wildfire would prevent the substantial pollutant emissions that would be caused by a wildfire. During vegetation removal, the equipment used would burn hydrocarbon fuels, which would result in a temporary incremental increase in greenhouse gas emissions. However, all machinery used will be properly maintained to limit the amount of greenhouse gas emissions that are emitted from vehicles and construction equipment. Air pollution from motorized construction equipment and dust dissemination would discontinue at the completion of project implementation. No long-term negative impacts to air quality are expected under the Proposed Action.

4.2 Water Resources

4.2.1 Water Quality

4.2.1.1 Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. Activities that include the dredging or filling of jurisdictional wetlands require a permit from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) of 1977 (33 U.S.C. 1344).

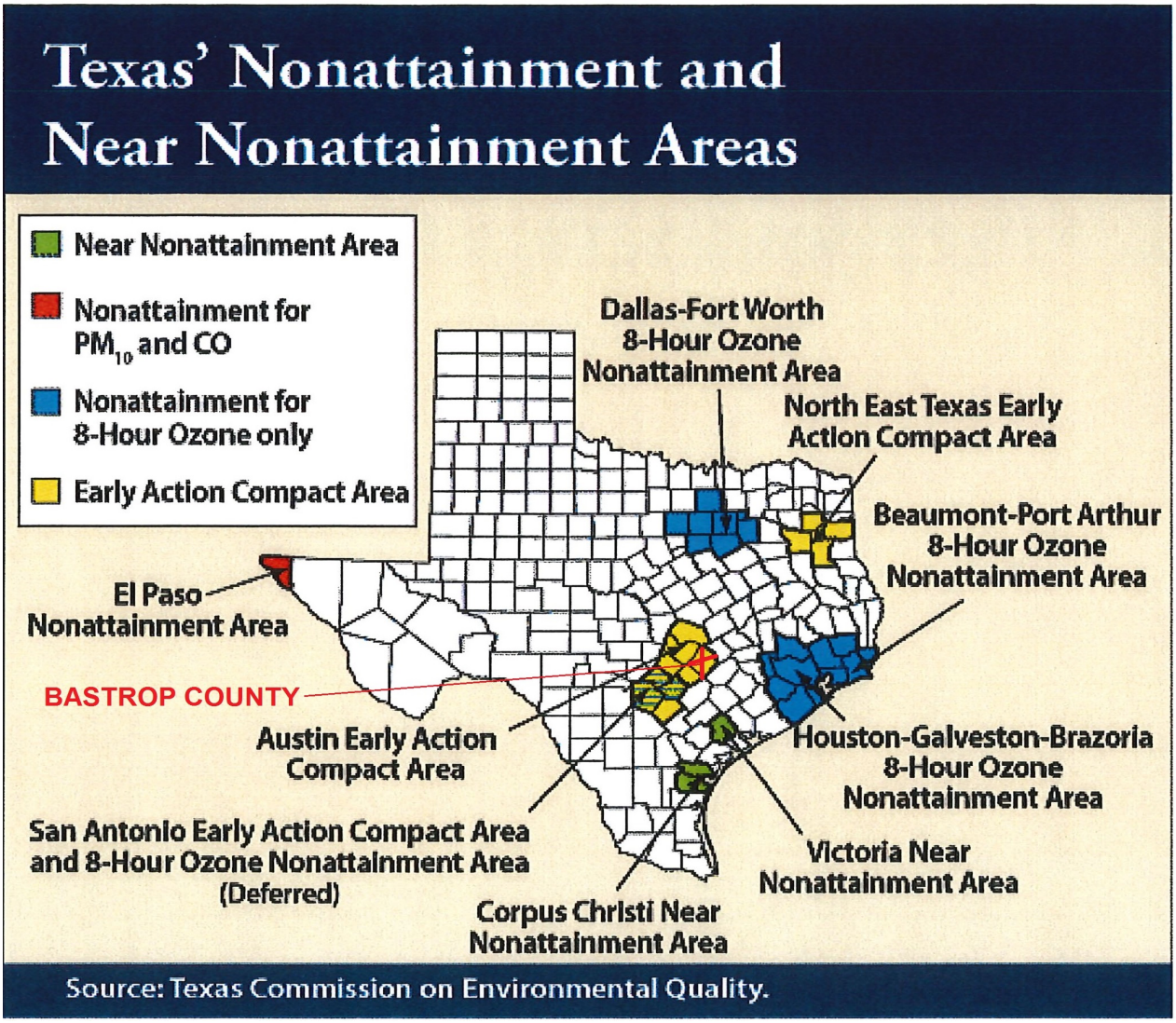

Figure 1. Texas Nonattainment and Near Nonattainment Areas Map

FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. To comply with EO 11990, FEMA uses the 8-Step Decision Making Process in 44 CFR 9.6 to evaluate proposed actions that have potential to affect a wetland. The full 8-step review for the proposed action is available in **Appendix D**.

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps for the project area indicate that there are potential wetlands present within the project areas. (See **Appendix B and Table 2**).

Table 2. Potential Wetlands within Proposed Action Locations

St. Delight Road Wetlands Maps 1, 1a, 1b, 2, 2a, 2b, 3, 3a	· A Riverine Wetland and a Freshwater Forested/Shrub Wetland (WL1) cross St. Delight Road approximately 786' south of the intersection with Friendship Road, stemming from Turner Creek. · Approximately 172' south of the intersection with Antioch Road, St. Delight Road is crossed by a Riverine Wetland (WL2) that ends in a Freshwater Pond approximately 229' to the west of the roadway. · A Riverine Wetland (WL3) crosses St. Delight Road approximately 1.26 miles south of the intersection with Antioch Road. This short Riverine Wetland ends approximately 146' to the east of St. Delight Road into a Freshwater Pond Wetland. · Approximately 1.08 miles north of the intersection with Gotier Trace Road/Nink Road, a Freshwater/Forested Shrub Wetland (Long Branch River) (WL4) crosses St. Delight Road. · Approximately 3,300' north of the intersection with Gotier Trace Road/Nink Road, a Riverine Wetland (WL5) crosses St. Delight Road. · There are a number of Freshwater Pond Wetlands on both sides of St. Delight Road, the nearest at approximately 21' to the east of the road.
Friendship Road (aka Friendship Cemetery Road) Wetlands Maps 1, 1a	Two Freshwater Forested/Shrub Wetlands (WL6 and WL7), from Turner Creek, cross Friendship Road at approximately 1,017' and again at approximately 2,549' east of the intersection with St. Delight Road.
Gotier Trace Road (aka Nink Road east of St. Delight Road) Wetlands Maps 3, 3b	· A Riverine Wetland (WL8) from Pin Oak Creek crosses Nink Road approximately 1,655' east of the intersection with St. Delight Road, and ends in a Freshwater Pond approximately 80' north of the roadway. · Approximately 394.6' north of the intersection with Frerich Road, a Riverine Wetland (WL9) from Pin Oak Creek crosses Nink Road.
Old Pin Oak Road Wetlands Maps 4, 4a, 5	A Riverine Wetland (WL10) crosses Old Pin Oak Road approximately 469' south of the intersection with Toms Turn, and ends approximately 516' west of Old Pin Oak Road.
Antioch Road Wetlands Maps 6, 6a, 7, 7a	· There is a Riverine Wetland (WL11) that crosses at the approximate start of construction area, and ends in a Freshwater Pond Wetland approximately 101' east of the roadway. · A Riverine Wetland (WL12) crosses Antioch Road approximately 1.19 miles north of the intersection with

	Gotier Trace Road, and ends in a Freshwater Pond Wetland approximately 548’ east of the roadway.
Old Antioch Road Wetlands Maps 8, 8a	There is a Freshwater Forested/Shrub Wetland (WL13) that crosses at the approximate start of construction area, and ends in a Freshwater Pond Wetland approximately 527’ east of the roadway.
Powell Road Kellar Road Wetlands Maps 9, 9a	There is a Riverine Wetland (WL14) that crosses Powell Road at approximately 725’ northwest of the intersection with Kellar Road.
Alum Creek Road Wetlands Maps 10, 10a, 10b, 10c, 11, 11c	· A Riverine Wetland (WL15) from Alum Creek crosses Alum Creek Road approximately 1,957’ south of the intersection with Park Road 1C. · A Riverine Wetland (WL16) from Alum Creek crosses Alum Creek Road approximately 1,170’ north of the intersection with Loma Alta Drive and comes to an end in a Freshwater Pond Wetland approximately 1,687’ west of the roadway. · A Riverine Wetland (WL17) from Alum Creek crosses Alum Creek Road approximately 297’ south of the intersection with Loma Alta Drive. · A Riverine Wetland (WL18) from Alum Creek crosses Alum Creek Road approximately 1,414’ south of the intersection with Gotier Trace Road.
Gotier Trace Road (near Alum Creek Rd) Wetlands Maps 11, 11a, 11b	Alum Creek and a Freshwater Forested/Shrub Wetland (WL19) cross Gotier Trace Road approximately 1,808’ east of the intersection with Alum Creek Road. A Freshwater Forested/Shrub Wetland and Freshwater Pond Wetland (WL20) cross Gotier Trace Road approximately 3,206’ east of the intersection with Alum Creek Road.
Mesa Pinto Drive Wetlands Maps 12, 12a	There is a Riverine Wetland (WL21) that runs along the southern end of Mesa Pinto Drive.
Porter Road Pine Tree Loop Wetlands Map 13	There are no wetlands on or near this site.
Old Firetower Road Pine Path Wetlands Maps 14, 14a, 14b	· Hicks Lake is located within the boundaries of Old Firetower Road, Pony Grass Lane and FM 1441. Spicer Creek flows from Bastrop Lake as a Freshwater Forested/Shrub Wetland, through Hicks Lake, and continues on as Riverine Wetland (WL22) that comes to an end approximately 1.11 miles to the northeast of Old Firetower Road. · A Riverine Wetland (WL23) crosses Old Firetower Road approximately 494’ northwest of the intersection with Pine Path.
Bluebonnet Drive	There are no wetlands on or near this site.

Wetlands Map 14	
Sage Road Wetlands Maps 14, 14c	An unnamed tributary flows from Bastrop Lake as a Freshwater Forested/Shrub Wetland and then turns to a Riverine Wetland (WL24) that comes to an end approximately 1.72 miles to the northeast of Sage Road.

No Action Alternative
In the absence of a major wildfire in the project areas, the no action alternative would have no effect on wetlands because existing conditions would not change; however, a major wildfire would be more likely under the no action alternative and could result in the destruction of vegetation in wetlands within and beyond the project area. Vegetation destruction in wetlands would damage habitat for wildlife and lessen the effectiveness of wetlands to filter pollutants and maintain water quality.

Proposed Action
Potential wetlands are located within the project area. The proposed action would not significantly affect the functions and values of wetlands. Some vegetation will be removed, but soils and hydrology will remain unaltered. In order to protect potential wetlands identified for hazardous fuels reduction activities, the County would implement best management practices (BMPs) within 200-feet of wetlands. Hazardous fuels reduction activities within 200-feet of a wetland would be restricted to hand-thinning and no motorized vehicles would be used. No root balls would be removed and stumps would be cut down to ground level, which would minimize impact to soils and the potential for erosion. No debris or mulch would be placed in a wetland or within the 200-foot buffer to prevent any potential impacts to the wetland. Vegetation removed within wetlands and within 200-feet of wetlands would not be mulched on site and would be hand-hauled outside of the 200-foot buffer. Silt fencing would be installed around wetlands to prevent mulch and sediment from flowing into the wetland during rain events.

Section 404 of the CWA regulates the discharge of dredged or fill material in navigable waters, including wetlands. The proposed action would not result in the discharge of dredged or fill material into wetlands; therefore, the proposed action would not require a CWA Section 404 permit. The County will implement the BMPs identified above to avoid any potential impacts on wetlands in the project area.

4.2.1.2 Floodplains
EO 11988, Floodplain Management, requires federal agencies to take actions to minimize occupancy of and modifications to floodplains. FEMA regulations in 44 CFR Part 9, Floodplain Management and Protection of Wetlands, set forth the policy, procedures, and responsibilities to implement and enforce EO 11988 and prohibit FEMA from funding activities in the 100-year floodplain unless no practicable alternative is viable.

To satisfy requirements of EO 11988, the Water Resources Council developed an 8-Step Process that agencies should carry out as part of their decision-making on projects that have potential impacts to or within the floodplain. The 8-step review reflects the decision-making process required in Section 2(a) of the EO and are reflected in the FEMA regulations at 44 CFR 9.6. The first step is to determine if the proposed action is in the 100-year floodplain. FEMA Flood Insurance Rate Maps (FIRMs) map the floodplain areas and illustrate the extent of the 100-year

floodplain within the project areas. The project roadways and corresponding FIRMs are detailed below in **Table 3.** (See **Appendix C**). The full 8-step review is available in **Appendix D**.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on the floodplain because current conditions would not change; however, a major wildfire would be more likely under the no action alternative, which could impact the floodplain. If a wildfire were to occur, vegetation and ground cover would be destroyed, which could lead to increased storm water runoff following a rain event. The no action alternative has the potential to increase localized sedimentation and flooding.

Table 3. Proposed Action Locations with Floodplain Information

St. Delight Road	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Friendship Road (aka Friendship Cemetery Road)	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Gotier Trace Road (aka Nink Road on portion that is east of St. Delight Road)	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Old Pin Oak Road	FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Antioch Road	FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain.
Old Antioch Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain.
Powell Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Kellar Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Gotier Trace Road (near Alum Creek Rd)	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Alum Creek Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. Most of the roadway is located within Zone A of the 100-year
Mesa Pinto Drive	FEMA FIRM #48021C0375E, Panel 375 of 625, revised 1/19/06 and FEMA FIRM #48021C0400E, Panel 400 of

	625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Porter Road	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain.
Pine Tree Loop	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain.
Old Firetower Road-Pine Path	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06 and FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. A small portion of the roadway is located within Zone A of the 100-year Floodplain.
Bluebonnet Drive	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06 and FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain.
Sage Road	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06 and FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. The entire project site is located in Zone X, and is not in the 100-year Floodplain

Proposed Action

Portions of the proposed action project areas are within the 100-year floodplain. The proposed action would not place any structures or fill within the floodplain that would impede or redirect flood flows, nor would it result in any excavation. No structures would be constructed within the floodplain, and no significant soil disturbance would occur within the floodplain. No debris or mulch would be staged or stored in the floodplain. Although the proposed action would reduce the risk to structures in the project area, the proposed action would not facilitate development within the floodplain. Though a permit is not anticipated, Bastrop County must coordinate with the local floodplain administrator, obtain any required permits prior to initiating work, and comply with any conditions of the permit to ensure any harm to the floodplain is minimized. All coordination pertaining to these activities should be retained as part of the project file in accordance with the respective grant program instructions.

For actions located in the floodplain, Bastrop County must issue a final public notice per 44 CFR Part 9.12(e) at least 15 days prior to the start of work. The final notice shall include the following: (1) A statement of why the proposed action must be located in an area affecting or affected by a floodplain or a wetland; (2) A description of all significant facts considered in making this determination; (3) A list of the alternatives considered; (4) A statement indicating whether the action conforms to applicable state and local floodplain protection standards; (5) A statement indicating how the action affects or is affected by the floodplain and/or wetland, and how mitigation is to be achieved; (6) Identification of the responsible official or organization for implementation and monitoring of the proposed action, and from whom further information can be obtained; and (7) A map of the area or a statement that such map is available for public inspection, including the location at which such map may be inspected and a telephone number to call for information.

4.3 Biological Resources

4.3.1 Vegetation

The entire project area is located in the East Central Texas Plains Ecoregion according to the Texas Parks and Wildlife Department (TPWD) Level III Ecoregions of Texas map (**Figure 2).** This region is thought to have originally been covered by post oak savanna vegetation. The bulk of this region is now used for range and pasture land. The proposed action area includes two ecological sub regions of the East Central Texas Plains Ecoregion, which are Blackland Prairies and Oak Woods and Prairies (see **Figure 3**). The western portion of the project area is within the Southern Post Oak Savanna sub region. This sub region has more woods and forest than the adjacent prairie ecoregions and consists of mostly hardwoods. Although this sub region was a post oak savanna historically, the current land cover is a mix of post oak woods, improved pasture, and rangeland, with some invasive mesquite to the south. A thick understory of yaupon (Ilex vomitoria) and eastern red cedar (Juniperus virginiana) occurs in some parts. Oak savannas or oak-hickory forest occur with post oak (Quercus stellata), blackjack oak (Quercus marilandica), black hickory (Carya texana), and grasses of little bluestem (Schizachyrium scoparium), purpletop (Tridens flavus), curly three awn (aristida desmantha), and yellow Indian grass (Sorghastrum nutans). The understory consists of yaupon, eastern red cedar, winged elm (Ulmus alata), American beautyberry (Callicarpa americana), and farkleberry (Vaccinium arboretum) (CDM Smith 2015).

The eastern portion of the project area is found within the Bastrop Lost Pines sub region. This sub region is a relict loblolly pine (Pinus taeda) and hardwood upland forest occurring on some hills just east of the city of Bastrop in Bastrop County. It is the westernmost tract of southern pine in the United States. The sub region generally includes the pine-hardwood vegetation class and extends into post oak forests. The hardwood component is dominated by post oak and blackjack oak, along with eastern red cedar, elm species (Ulmus spp.) and an understory of Yapon, American beautyberry, Farkleberry, and Little Bluestem. This region also has some small areas of sphagnum bogs containing ferns and carnivorous pitcher plants (Sarracenia spp.).

There is one federally endangered plant species, the Navasota ladies'-tresses (Spiranthes parksii), listed in Bastrop County. This plant generally is found on the margins of post oak woodlands in sandy loams along intermittent tributaries of rivers and often in areas where soil or hydrologic factors (i.e. high levels of aluminum in the soil or a perched water table) limit competing ground cover vegetation. Other associated tree species include water oak, blackjack oak, and yaupon. According to the Official Species Lists from the Austin Ecological Services Field Office of the USFWS, Navasota Ladies'-tresses (Spiranthes parksii) do not have a critical habitat designation.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on vegetation, including invasive species, because the existing vegetation would persist; however, a major wildfire would be more likely under the no action alternative and would result in partial or complete loss of vegetation. While fire is a natural component of the ecosystems near the project areas, years of fire suppression have increased fuel density and likely would increase the extent and intensity of future wildfires in the area. In the event of a major wildfire, non-native and/or invasive species might be expected to become established over larger areas.

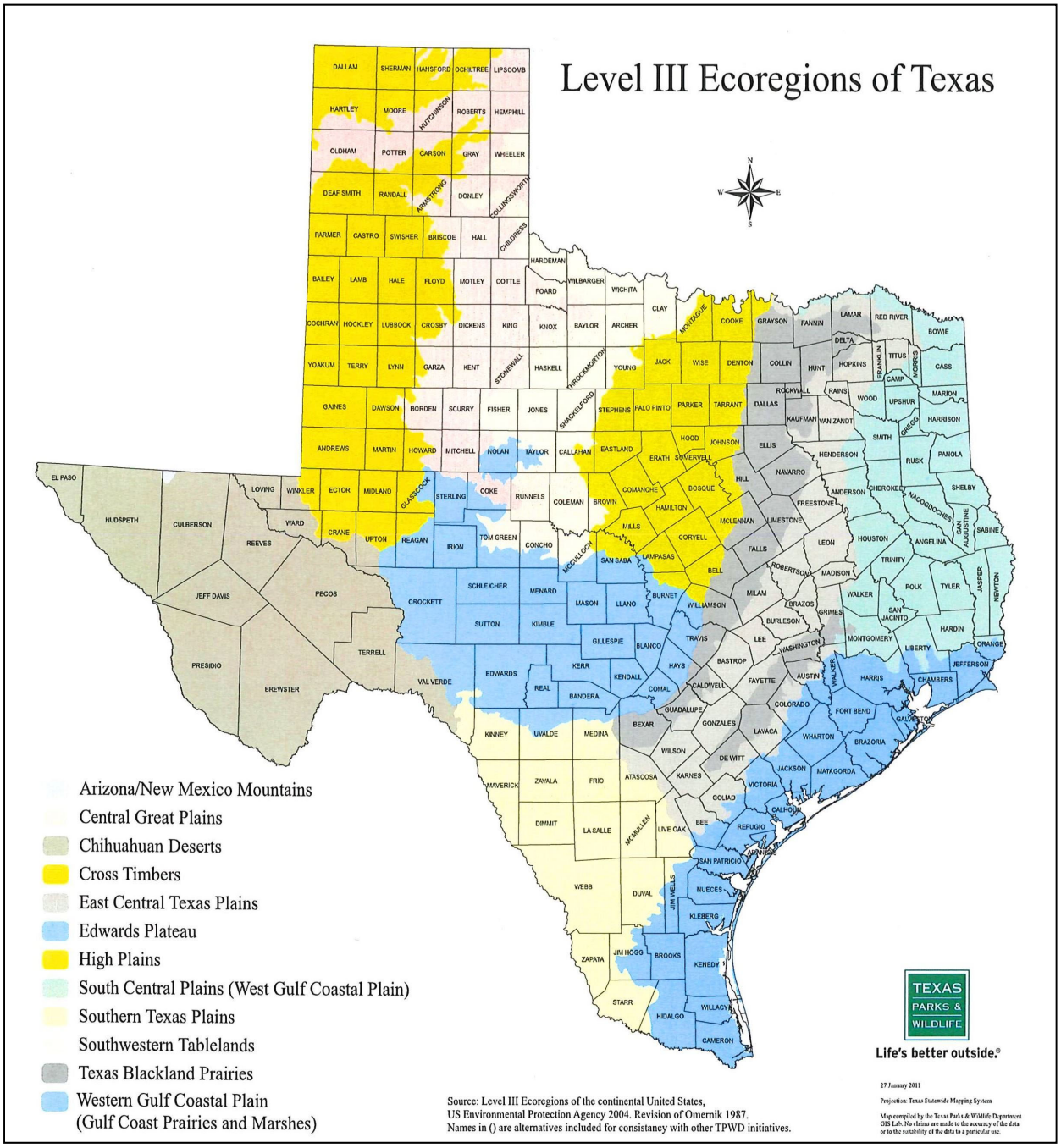

Figure 2. TPWD Level III Ecoregions of Texas

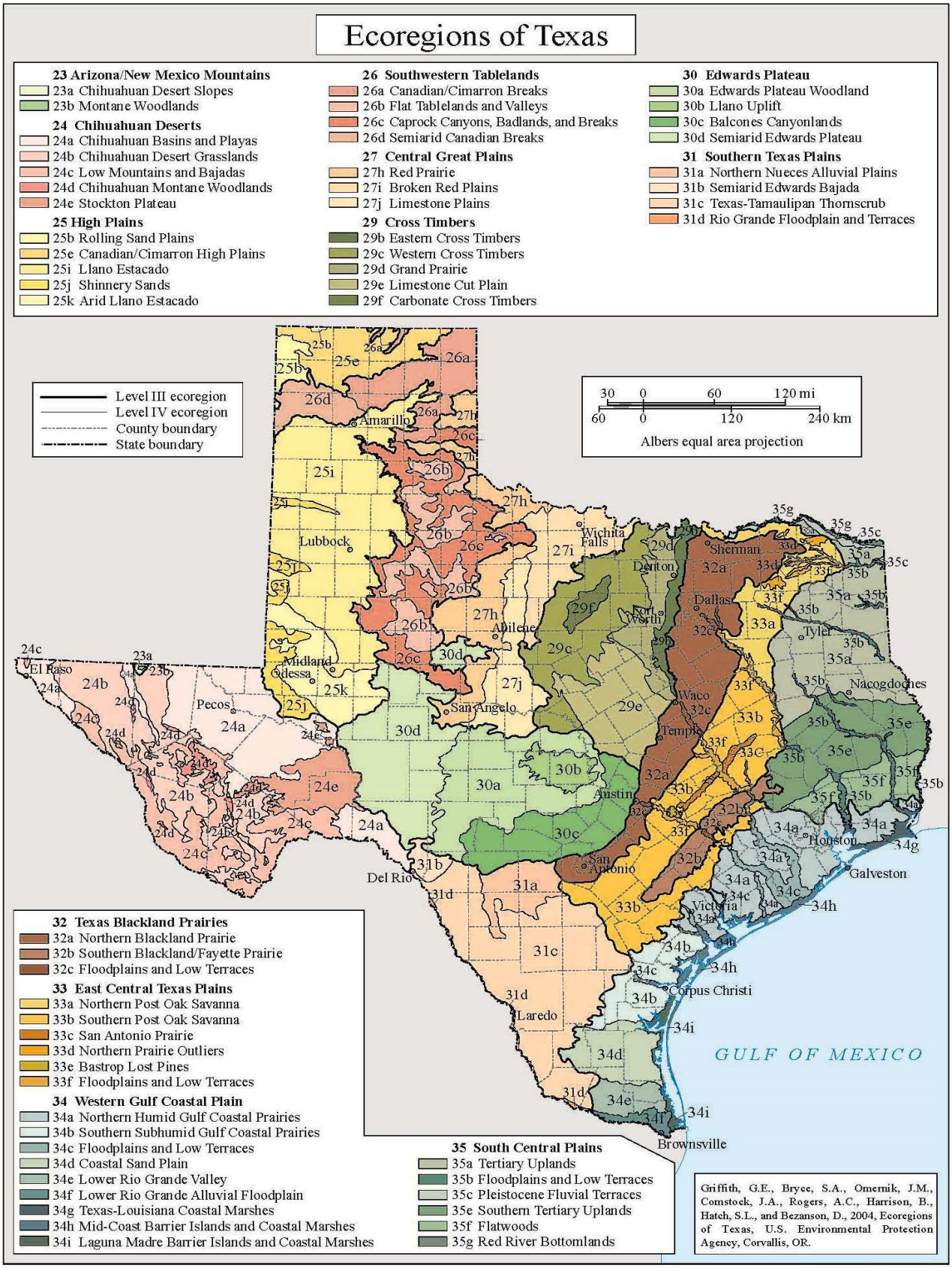

Figure 3. EPA Ecoregions of Texas Map

Proposed Action
The proposed action would not have a significant impact on vegetation communities, except those that may be located within the targeted rights-of-way. Individual trees, 6 inches or less in diameter, could be selectively removed and those over 6 inches will be limbed 8-10 feet above the ground. The Navasota ladies'-tresses is the only federally listed plant species in the project locations, and FEMA has made a no effect determination based on the scope of work and the habitat present in the project area. The proposed action could provide avenues for the establishment of invasive plant species through accidental introduction and the removal of native vegetation. Any invasive species encountered during the fuels reduction activities work will be removed and disposed of properly.

4.3.2 Threatened and Endangered Species, Critical Habitat, and Migratory Birds

The Endangered Species Act (ESA) of 1973 gives USFWS authority for the protection of threatened and endangered species. This protection includes a prohibition of direct take (e.g. killing, harassing, harming) and indirect take (e.g. destruction of habitat). TPWD code prohibits take of state-listed threatened and endangered species.

The Migratory Bird Treaty Act is the primary legislation in the United States established to conserve migratory birds. The MBTA prohibits taking, killing, or possessing of migratory birds unless permitted by regulations promulgated by the Secretary of the Interior. The USFWS and the Department of Justice are the federal agencies responsible for administering and enforcing the statute.

Six endangered and threatened species are listed in Bastrop County according to the Official Species Lists of the Austin Ecological Services Field Office of the USFWS (https://ecos.fws.gov/ipac/). Federally endangered species include the Houston toad (Bufo houstonensis), Whooping Crane (Grus americana), Least Tern (Sterna antillarum), and Navasota Ladies'-tresses (Spiranthes parksii). Federally threatened species include the Piping Plover (Charadrius melodus) and Red Knot (Calidris canutus rufa). Critical habitat has been designated for the Houston toad, Whooping Crane, and Piping Plover. Critical habitat for the Houston toad is present in the project area; critical habitat for the two bird species is not. See **Figure 4** for Houston toad critical habitat in relation to project locations.

Birds expected to use the project area include crows, finches, sparrows, wrens, hawks, flycatchers, doves, cardinals, mockingbirds, and woodpeckers. The Bastrop Lost Pines ecoregion is also the southwestern edge of the range of the pileated woodpecker (*Dryocupus pileatus*) and pine warbler (*Dendroica pinus*), and the western extension of the range of several other warblers.

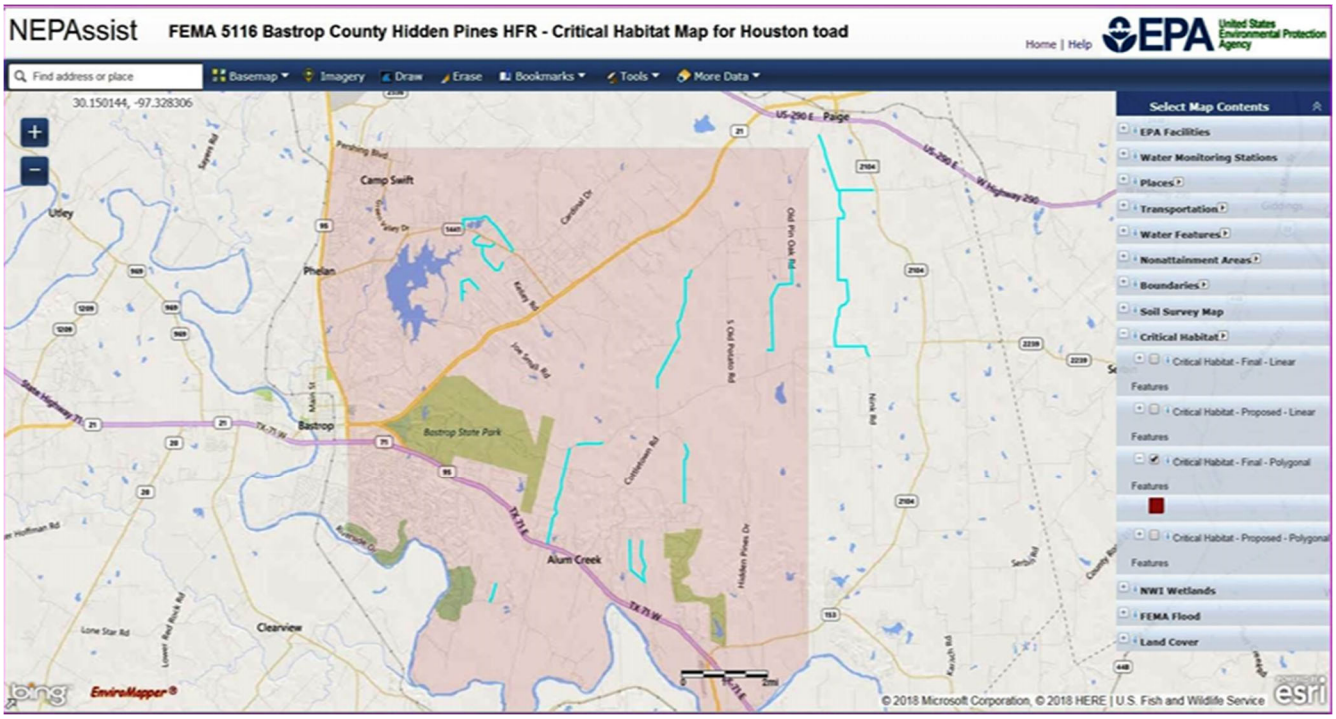

Figure 4. EPA NEPAssist map of Critical Habitat of Houston toad (project roads in aqua blue)

No Action Alternative

The no action alternative would have no direct adverse effects on federally listed species or migratory birds. However, a major wildfire would be more likely under the no action alternative scenario and could result in adverse effects to listed species, migratory bird species, and their habitats.

Proposed Action

The birds expected to be in the project area would be species commonly found within residential areas and are adapted to areas that are influenced by human activities. The work would comply with the conditions below to avoid potential impacts on migratory birds. Potential impacts likely would be temporary and have little effect on local populations. Therefore, with the mitigation below, the proposed action would not have significant adverse impacts on the various bird species within the project area.

Bastrop County will limit vegetation management work during the peak migratory bird-nesting period of March through August as much as possible to avoid destruction of individuals, nests, or eggs. If vegetation reduction activities must occur during the nesting season, applicant will deploy a qualified biological monitor with experience conducting breeding bird surveys to survey the vegetation management area for nests prior to conducting work. The biologist will determine the appropriate timing of surveys in advance of work activities. If an occupied migratory bird nest is found, work within a buffer zone around the nest will be postponed until the nest is vacated and juveniles have fledged. The biological monitor will determine an appropriate buffering radius based on species present, real-time site conditions, and proposed vegetation management methodology and equipment. For work near an occupied nest, the biological monitor would

prepare a report documenting the migratory species present and the rationale for the buffer radius determination.

FEMA has made a no effect determination for the Whooping Crane, Least Tern, Navasota Ladies'-tresses (see Section 4.3.1), Piping Plover, and Red Knot because there is either no suitable habitat present for the species or potential habitat would be avoided by the activities (e.g. tributaries that could support Navasota ladies'-tresses).

FEMA has determined that the proposed action may affect but is not likely to adversely affect the Houston toad or its critical habitat. FEMA consulted with USFWS under Section 7 of the ESA on June 21, 2019 and USFWS concurred with FEMA's determination on July 10, 2019. At the request of Bastrop County, FEMA modified its scope of work in terms of seasonal restrictions and re-consulted with the USFWS. USFWS concurred with FEMA's revised minimization measures and determination on July 25, 2019 (**Appendix E**).

The following avoidance and minimization measures must implemented by Bastrop County:

1. Vegetation management activities at the following locations may take place at any time of year:
   - St. Delight Road
   - Friendship Road
   - Nink Road (@ St. Delight Rd.) (aka Gotier Trace Road)
   - Old Pin Oak Road
   - Powell Road
   - Kellar Road
   - Mesa Pinto Drive

2. For the following locations, vegetation management activities can only take place from July 1 to December 31 (generally outside of the Houston toad breeding season and emergence period). This period may begin or be extended prior to July 1 or past December 31 if it is determined that Houston toads are not active in the area based on real-time information and with approval of FEMA and USFWS.
   - Antioch Road
   - Old Antioch Road
   - Gotier Trace Road (near Alum Creek Rd)
   - Alum Creek Road
   - Porter Road
   - Pine Tree Loop
   - Old Firetower Road / Pine Path
   - Bluebonnet Drive
   - Sage Road

3. Bastrop County will deploy a Houston toad monitor that holds a 10(a)(1)(A) USFWS permit in identifying, locating, handling, removing, and transporting the Houston toad. Should a Houston toad be encountered during vegetation management activities, work must cease immediately. The biological monitor will secure and relocate the Houston toad

per their permit. The USFWS Austin Ecological Services Field Office will be immediately contacted at (512) 490-0057. Work may only resume once USFWS has been contacted, and Houston toads have been cleared from the work area by the permitted Houston toad monitor.

4. All work crews must be trained by a Houston toad biologist prior to starting work. Training will include an overview of Houston toad characteristics, life cycle, and habitat requirements, and a review of the work conditions outlined in this agreement. New crew personnel must be trained prior to starting work.

5. Downed trees and logs that will be moved, mulched, or otherwise disturbed must be lifted and inspected by the Houston toad monitor to determine if any Houston toads are sheltering beneath.

6. A 2-inch accumulation of rain occurring within the work area (as recorded by NOAA weather rainfall total accumulation mapping) during the preceding 48-hour period shall result in a 24-hour minimum work stoppage.

7. The number and size of entry and exit points for heavy equipment moving into and out of work areas will be kept to the minimum needed for conducting safe and effective vegetation management operations. Soil disturbance will be kept to the minimum necessary for project completion.

8. Any mowing equipment used for clearing grass, forbs, and small-diameter woody vegetation will be set at a height of at least 5 inches above the ground to minimize the potential for striking toads.

9. Any mulch, chips, or other woody debris from fuels reduction that is left on site must cover the ground in no more than a 2-inch layer.

10. Vegetation that occurs within 200 feet of a potential Houston toad breeding site as determined by the Houston toad monitor (i.e. riparian areas, ravines, ephemeral wet weather ponds, creeks, streams, drainages, ponds, stock tanks, wetlands, seeps, and springs) will be hand cut unless otherwise approved by the Houston toad monitor. Any soil disturbance or operation of heavy equipment within 200 feet of a potential breeding site must be approved by the Houston toad monitor prior to the start of work.

11. Streams, riparian zones, and wetlands will not be used for staging equipment or refueling. Equipment must be stored, serviced, and fueled at least 200 feet away from these sensitive areas.

12. Gasoline and diesel fueled field equipment must be inspected daily for signs of fuel or hydraulic leaks; such leaks must be repaired promptly and measures will be taken to prevent soil contamination. All hazardous materials related to construction or maintenance activities will be properly contained, used, and/or disposed of properly.

13. Following vegetation management activities, Bastrop County will ensure that equipment use has not resulted in the creation of potential artificial breeding sites. For example, large tire ruts will be smoothed so as not to create an undesirable breeding pond.

14. Under no circumstances will stumps be removed mechanically (i.e., excavated or pushed).

4.4 Cultural Resources

4.4.1 Historic Properties

The National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. 470 et seq.) is the primary federal law protecting historic properties and promoting historic preservation, in cooperation with states, tribal governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering state-level programs. The NHPA also created the Advisory Council on Historic Preservation (ACHP), the federal agency responsible for overseeing the process described in Section 106 of the NHPA (16 U.S.C. §470f) and for providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) contain the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any federal undertaking that has the potential to affect historic properties, defined at 36 CFR §800.16(1)(1) as "any prehistoric or historic district, site, building, structures, or object included in, or eligible for inclusion in, the National Register of Historic Places." Although buildings and archeological sites are most readily recognizable as historic properties, the NRHP contains a diverse range of resources that includes roads, landscapes, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties in the area of potential effects (APE) for an undertaking; assessing the effects of the undertaking on these historic properties, if present; and, considering ways to avoid, minimize, or mitigate any adverse effects. Because Section 106 is a process by which the federal government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework that is used under NEPA to determine impacts on cultural resources.

Per the Texas Historical Commission's (THC) Texas Historic Sites Atlas, there are six Cemeteries and one Historical Marker in the project areas. No other historic properties were identified.

St. John's Cemetery: This cemetery is located approximately 4,503 feet (0.85 miles) east of the project activities on St. Delight's Road near Old Pin Oak Road.

Saint's Delight Baptist Cemetery (aka Saints Delight Cemetery): This cemetery is located on the west side of St. Delight Road in Paige at approximately 30.164651, -97.113313. Photos from the *Find a Grave* website show the head stones situated far back from the road, and shows the name of the cemetery as Brown Family Cemetery.

Burkhardt Cemetery: This cemetery is located approximately 383 feet west of Old Pin Oak Road in Paige.

Antioch Cemetery: This cemetery is located approximately 3,335 feet (0.63 miles) from the end of project activities on Antioch Road.

Alum Creek Cemetery Historical Marker: Alum Creek Cemetery.

Alum Creek Cemetery: This cemetery and Historical Marker are located approximately 4,460 feet (0.84 miles) southeast of project activities on Alum Creek Road @ TX-71 W.

Claiborne Cemetery: This cemetery is located approximately 3,006 feet (0.57 miles) east of project activities on Mesa Pinto Drive.

No Action Alternative
In the absence of a major wildfire, the no action alternative would have no effect on cultural resources, including archeological sites and historic properties because current conditions would not change. However, a major wildfire would be more likely under the no action alternative, which could impact the cemeteries and Historical Markers that are present near some of the project areas.

Proposed Action
The proposed action was reviewed for potential impacts to historic properties. A Request for SHPO consultation was submitted to the THC via eTRAC on 10/25/18. Per THC's email response dated 11/14/18, "*No historic properties present or affected. However, if buried cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present*". FEMA has determined that there will be No Historic Properties Affected as a result of project implementation. If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.

On July 11, 2019, FEMA consulted with the following federally recognized tribes that have interest in Bastrop County: Alabama Coushatta Tribe of Texas, Comanche Nation, Kiowa Tribe, and Tonkawa Tribe of Indians of Oklahoma. The Comanche Nation responded on July 30, 2019 stating that no properties containing prehistoric or historic archeological materials were identified by the tribe in the project area. The remaining tribes did not provide comments within 30 days or declined to comment. FEMA has determined that proposed action will not adversely affect traditional, religious, or culturally significant sites. See **Appendix F** for Section 106 consultation documentation.

4.5 Socioeconomic Resources

4.5.1 Environmental Justice
Environmental Justice is defined by EO 12898 (59 Federal Register 7629) and CEQ Guidance. Under EO 12898, demographic information is used to determine whether minority populations or low-income populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the program alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

The local area included in this analysis is where project-related impacts would occur, and includes census information from American FactFinder (*https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml*). (See **Appendix G).**

Low-Income Populations
Residents of areas with a high percentage of people living below the poverty level may be considered low-income populations. The U.S. Census Bureau poverty threshold for a family of four (2 adults and 2 children) in 2012 was $23,283 and $11,720 for an individual. Low-income populations are also considered to include residents of areas where the median family income is less than 60-percent of the median income of the surrounding area. The American FactFinder *Poverty Status in the Past 12 Months of Families* indicates that approximately 9.7% of families in Bastrop County are below poverty level.

Minority Populations
CEQ defines the term "minority" as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. The U.S. Census Bureau does not treat "Hispanic or Latino" as a racial category, so people identifying themselves as Hispanic or Latino make a separate selectin of a racial category. For the purposes of this analysis, "minority" includes all people who do not identify themselves as "White alone" plus Hispanics and Latinos who do not identify themselves as "White alone".

The *Selected Characteristics of the Native and Foreign-born Populations* indicates that the White race, not Hispanic or Latino, is approximately 53.7% in Bastrop County, and Hispanic or Latino origin (of any race) is 36.0%.

No Action Alternative
The no action alternative would not have a disproportionately high or adverse impact on low-income or minority populations located in the project areas. The risk for catastrophic wildfire would still exist for all populations in the area.

Proposed Action
The proposed action would have a beneficial effect on all people living and working in the vicinity of the project areas, to include any low-income and minority persons, as it would reduce the risk of harm to persons and personal property from wildfire by providing safer evacuation of the area in the event of wildfire and a means of firefighting personnel being able to control fire spread. The proposed action would not have a disproportionately high and adverse impact on a low-income or minority population.

4.5.2 Hazardous Materials
Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present a substantial danger to public health or to the

environment when released or otherwise improperly managed.

To determine whether any hazardous waste facilities exist in the vicinity of the project areas, or whether there is a known and documented environmental issue or concern that could affect the project sites, a search for Superfund sites, toxic release inventory sites, hazardous facilities or sites, and multi-activity sites was conducted using the TCEQ Central Registry Query by Program and the Nationwide Environmental Title Research (NETR) query, NETR online.

There were no hazardous sites identified from either the TCEQ database or the NETR online database, as indicated in **Tables 4** and **5**. An analysis of active hazardous sites included determining whether such sites were within the recommended American Society for Testing and Materials (ASTM) distances to any of the project roadways.

No Action Alternative
No active hazardous sites were identified within the project areas that would potentially affect the existing environment. Under the no action alternative, existing conditions with respect to hazardous materials would not change.

Proposed Action
The proposed action was reviewed for potential impacts to site contamination by hazardous materials. Per the TCEQ Central Registry, EPA NEPAssist, and NETROnline websites, there are no contaminated sites within the acceptable distance range of the project areas. There are no underground storage tanks on the property or adjoining properties. There are no landfills within one-half mile of the site. There are no structures on the site; therefore, there is no asbestos concern. Under the proposed action, no impacts from waste storage and disposal sites are anticipated because hazardous fuels reduction would not be conducted in the proximity of hazardous sites. Deposition or accumulation of soil, trash, ashes, refuse, waste, bio-solids, or any other materials at the project site as a result of the proposed action is prohibited. Cut, trimmed, dead, and downed vegetation would be mulched and left in place within the project areas. Mulch will be distributed no more than 2 inches deep.

The proposed action would involve the use of mechanical equipment, and there is always a minor threat of leaks of oils, fuels, and lubricants from the use of such equipment. The short-term nature of the project and use of equipment in good condition would reduce any potential effect to an insignificant level.

Gasoline and diesel-fueled field equipment must be inspected daily for signs of fuel or hydraulic leaks; such leaks must be repaired promptly and measures will be taken to prevent soil contamination. All hazardous materials related to construction or maintenance activities will be properly contained, used, and/or disposed of properly.

Table 4. TCEQ Central Registry Query Summary Results

TCEQ Central Registry Query Search Results SUMMARY SHEET	FEMA FMAG 5116 Bastrop County Hidden Pines Hazardous Fuels Reduction
Brownfield Site Assessment Program	None active within 1/2 mile
Industrial and Hazardous Waste Corrective Action (IHWCA)	None active within 1/2 mile
Industrial and Hazardous Waste (IHW)	None active within 1/2 mile
Industrial and Hazardous Waste Non-Permitted (IHWNP)	None active within 1/2 mile
Leaking Petroleum Storage Tank Remediation (LPSTRMD)	None active within 1/2 mile
Municipal Solid Waste Disposal (MSWD)	None active within 1/2 mile
Municipal Solid Waste Non-Permitted (MSWNP)	None active within 1/2 mile
Municipal Solid Waste Processing (MSWP)	None active within 1/2 mile
Municipal Solid Waste Remediation (MSWRMD)	No Results
Petroleum Storage Tank Non-Registered (PSTNREG)	No UST's on the property or adjoining properties; AST's are NA
Petroleum Storage Tank Registration (PSTREG) UST's only	None on the property or adjoining property
Petroleum Storage Tank Registration (PSTREG) AST's only	The project does not include a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries); nor does it include development, construction, rehabilitation that will increase residential densities, or conversion. AST Acceptable Distance does not apply to this project.
Radioactive Waste Disposal (RWD)	No Results
Radioactive Waste Storage & Processing (RWSP)	No Results
Superfund	No Results

Table 5. Hazardous Materials Summary Results

FEMA FMAG 5116 Bastrop County - Hidden Pines Hazardous Fuels Reduction		
Database searched	Search Distance (in miles)	Number of Sites found
Federal Databases		
NPL	1	None in Bastrop County
Delisted NPL - EPA	0.5	None in Bastrop County
CERCLIS	0.5	None within 1/2 mile of any project location
CERCLIS NFRAP	0.5	None in Bastrop County
RCRA CORRACTS	1	None in Bastrop County
RCRA non-CORRACTS TSD	0.5	None in Bastrop County
RCRA Generators	property and adjoining properties	None on the property or adjoining property of any project location
Institutional control/engineering control registries	property only	None in Bastrop County
ERNS list	property only	None on the property of any project location
State/Tribal Databases		
NPL	1	None in Bastrop County
CERCLIS	0.5	None within 1/2 mile of any project location
Landfill and/or solid waste disposal site lists	0.5	None active within 1/2 mile
Leaking storage tank list - TCEQ	0.5	None active within 1/2 mile
Registered storage tank list - TCEQ	property and adjoining properties	None on the property or adjoining properties
Institutional control/engineering control registries	property only	None in Bastrop County
Voluntary cleanup sites	0.5	None active within 1/2 mile
Brownfield sites	0.5	None within 1/2 mile of any project location

4.5.3 Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more annoying than those that occur during normal waking house. Noise events in the project areas are presently associated with climatic conditions (wind, rain), transportation noise (traffic on roads, airplanes) and "life sounds" (people talking, children playing).

Assessment of noise impacts includes the proximity of the proposed actin to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals and

libraries. Sensitive receptors within the project areas consist of residential and some institutional uses. Any noise-generating activities in proximity to these uses could have the potential to adversely affect these sensitive receptors.

No Action Alternative
Under the no action alternative, no wildfire hazard mitigation activities would occur; thus, there would be no change in existing noise levels that could affect sensitive receptors in the project areas.

Proposed Action
Under the proposed action, noise would be generated by operation of equipment, such as a chainsaw, chipper, trucks and trailers, maintenance vehicles, and other requirement equipment. The implementation of the proposed action would increase noise levels within the project area and the immediate vicinity of the work. Increases in noise levels would be temporary at any one location within the project area and would occur during normal waking hours; therefore, impacts from increased noise levels on sensitive receptors in the project area would be minor. In addition, BMPs would be implemented during hazardous fuels reduction activities and all equipment and machinery used would meet all applicable local, state and federal noise control regulations.

4.5.4 Traffic
The project roadways are generally north-south roads between Hwy. 21 and Hwy. 71. Mesa Pinto Drive, Old Firetower Road, Pine Path, Bluebonnet Road, Sage Road, Porter Road and Pine Tree Loop are in residential areas. All roads are two-lane. Hazardous Fuels Reduction will occur in the ROW, up to 15 feet from the edge of the roadways.

No Action Alternative
Under the no action alternative, existing levels of local traffic would not change, and no additional costs would be incurred from road construction or maintenance. A major wildfire would be more likely under the no action alternative. Nearby roads or internal trails could be closed if a wildfire approached or encompassed the local areas. A wildfire near the project areas could close emergency access roads, where they occur. Depending on location and wind direction, smoke from a wildfire could close sections of bordering roadways. Short-term traffic congestion could occur during street and highway closures caused by a wildfire.

Proposed Action
Under the proposed action, vehicle traffic would be generated by work crews traveling to and from work sites. The amount of additional traffic would be temporary and minimal and would not interfere with local residents or other persons traveling in the general vicinity of the project areas. In addition, all cut material would be mulched and left on site; therefore, there would be no hauling activities or effects from haul trucks.

The proposed action would reduce the risk of a wildfire encompassing a road near the project areas. Thus, the potential for road closures due to wildfire would be reduced. There would not be a significant effect on transportation from the proposed action.

4.5.5 Public Service and Utilities

The electrical energy provider is Bluebonnet Regional and Economic Development, an electric cooperative that serves more than 86,000 meters and maintains more than 11,000 miles of power lines in its 14-county region of service, which includes Bastrop County. Overhead power lines owned and managed by Bluebonnet are located along a majority of the streets within the project areas.

The Aqua Water Supply Corporation (WSC), a nonprofit resident-owned corporation, is the water provider in the project areas. Aqua WSC provides service to approximately 50,000 people in a 953-square mile service area covering six Texas counties. WSC utilizes ground water for its public water supply.

In November of 2010, the Lower Colorado River Authority (LCRA) Board of Directors decided to sell its community water and wastewater systems in the Texas Hill Country and along the Colorado River. The most recent sale closed 7/31/14 when Corix Utilities, Inc. purchased 18 retail water and wastewater systems from LCRA, including wastewater service to the project areas. Corix is a North American company that specializes in providing utility infrastructure solutions for small to mid-sized communities in the water, wastewater and energy sectors.

No Action Alternative

Under the no action alternative, utilities in the project area would not be directly affected; however, the potential for a major wildfire would continue to be high, and electrical services provided via overhead power lines would have the potential to spark catastrophic fires as well as being adversely affected by a wildfire.

Proposed Action

The proposed action would not directly affect or require additional utilities in the project area. The proposed action would reduce the risk of a major wildfire in the project areas and would contribute to the containment of wildfires, which would prevent or reduce potential damage to existing overhead utilities.

4.5.6 Emergency Services

Bastrop County is serviced by nine fire stations staffed mainly by a 45-volunteer staff. All operations outside of the City of Bastrop are supported by Bastrop County Emergency Services District No. 2. Mutual aid agreements exist among all the County's fire departments. The Texas Forest Service is also available to provide additional equipment and manpower resources to support incidents which expand beyond local firefighting capabilities. Additional emergency response services are provided by the Bastrop County Sheriff's Department.

The project areas are served by Bastrop County ESD No. 2 Station 3 and Heart of the Pines Fire Department (see **Figure 5**). Both are volunteer organizations. Bastrop County ESD No. 2 contracts with the Bastrop Fire Department to provide fire protection services to approximately 119 square miles of central Bastrop County outside of the limits of the City of Bastrop. Bastrop County ESD No. 2 supports two of the four fire stations used by the Bastrop Fire Department. The ESD fire stations are equipped with two engine/pumpers, four tender/pumpers, one Type 6 brush engine, one pick-up Command vehicle, and a rigid hull/inflatable rescue boat and trailer.

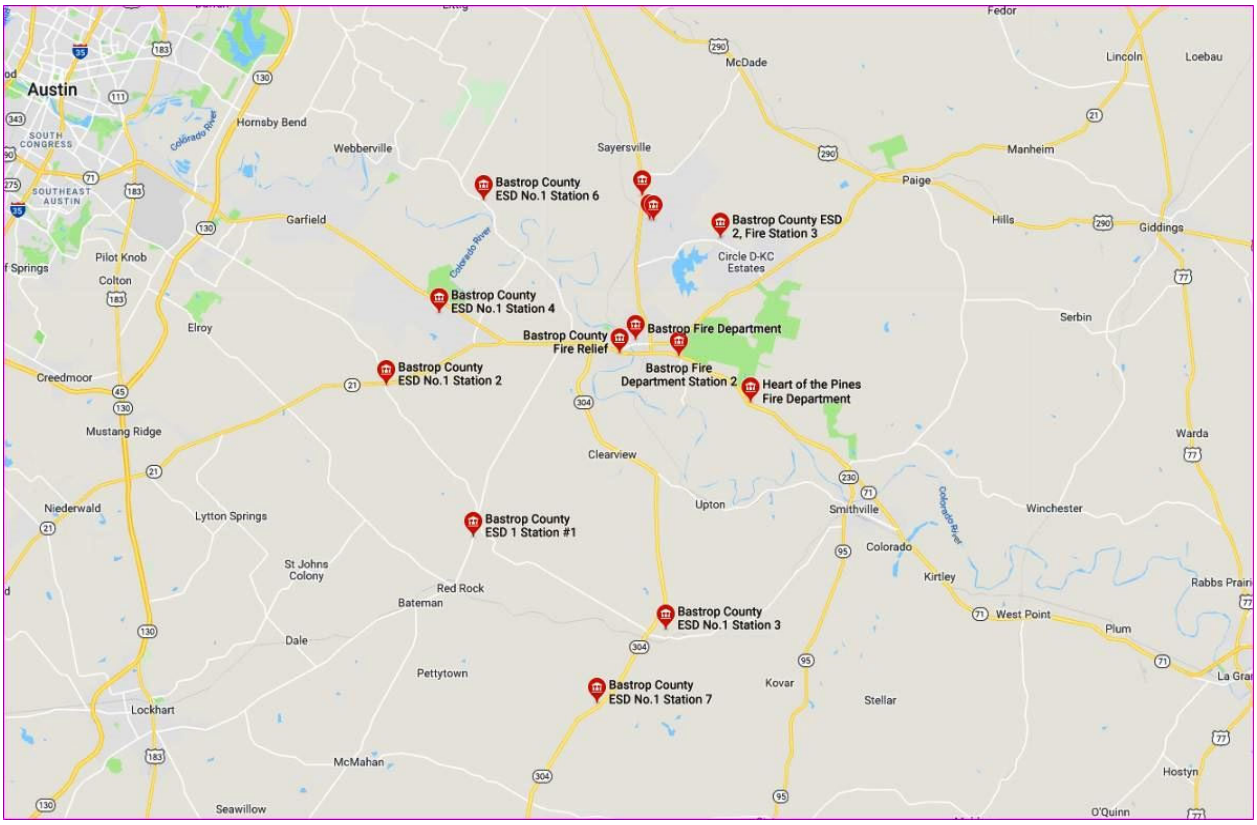

Figure 5 Bastrop County Fire Department Locations

The Bastrop County Community Wildfire Protection Plan (CWPP) states that sufficient and consistent volunteer involvement is an issue for many of the departments, making maintenance of an adequate level of firefighting skills a concern for the county. In addition, the county experiences difficulty in obtaining and maintaining sufficient gear and protective clothing required to combat catastrophic wildfires.

The hospital in closest proximity to the project areas is Seton Smithville Regional Hospital, located southeast of the project areas at 800 SH 71 in Smithville, which has a 24-hour emergency response team and surgical services. There is an emergency services physician office, Lakeside Hospital at Bastrop, located west of project areas at 3201 SH 71 in Bastrop.

No Action Alternative

Under the no action alternative, there would be no change in emergency response time. The risk of a major wildfire in the project areas would continue to exist at its current level. Existing emergency services would continue to respond to wildfires in the project areas. During a major wildfire, emergency personnel would not be available to respond to other emergencies in their service area. Wildfire risk along the county roads included in the proposed action would remain high, and ingress/egress for firefighters and first responders in the event of a wildfire would remain compromised. Efficient evacuation of residents would also remain compromised under the no action alternative.

Proposed Action
Under the proposed action, hazardous fuel reduction measures would reduce the risk of a major wildfire or contribute to the containment of a catastrophic wildfire in the project area. The proposed action would reduce the level of need for emergency services within the project areas and would allow emergency responders to remain available to respond to other emergencies throughout the city and county. Hazardous fuel reduction would also improve conditions for firefighters within the project area by making structures and residences more easily defended and reducing the risk that area roads would be cut off by fires. Ingress/egress for firefighters and first responders in the event of a wildfire would be improved, allowing for efficient evacuation of residents and effective control and containment of the fire as close to its genesis as possible.

4.5.7 Public Health and Safety
The risk of a catastrophic fire in the project areas is high because of heavy fuel loading (closely spaced, overgrown trees and shrubs, and dead and downed material) in the ROW that creates a continuous canopy where wildfire can spread. Heavy rain conditions following wildfires can contribute to sediment and debris in nearby waterways, which can affect downstream water quality and damage structures, roads, and utilities critical to the safety and well-being of citizens in and downgradient of the project areas.

Population growth also has many implications related to wildfire hazards and the need for hazardous fuel reduction. With more people, there is a greater risk of human-caused wildfires and a greater need for protection from wildfires. Population growth implications intensify fire hazard risks when residences are built in the WUI, as in the project areas. The current population estimate for Bastrop County is 86,976 (https://www.census.gov/quickfacts/bastropcountytexas).

No Action Alternative
A major wildfire in the project areas would be more likely under the no action alternative. If a wildfire occurred, people and structures in and near the burned areas would be at risk. Wildfires can generate substantial amounts of particulate matter, which can affect the health of people breathing the smoke-laden air. Therefore, the health of people downwind of a wildfire, especially young children, the elderly, and people with lung disease or asthma, could be adversely affected. Wildfires can also generate substantial amounts of carbon monoxide, which can cause a health concern for frontline firefighters.

Proposed Action
Implementation of the proposed action would create a safer environment for firefighters, which could allow them to more easily control the spread of a fire. Hazardous fuel reduction would not prevent wildfires but could contribute to containment, reducing the intensity and frequency of wildfires, which would ultimately reduce the risk factor for people living in and near the project areas. In addition, when wildfires are controlled more quickly, a smaller area is burned and less sediment and debris may be transported downstream during future precipitation events that could potentially affect water quality.

4.5.8 Summary Table

The table below provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or BMPs.

Table 6. Summary of Impacts and Mitigation

Affected Environment	Impacts	Agency Coordination	Mitigation/BMPs
Air Quality	Short-term minor impacts on local air quality from mechanical equipment emissions. Potential long-term beneficial impact on air quality by reducing wildfire emissions.	N/A	• Vehicle and equipment running times will be minimized • Engines will be properly maintained.
Wetlands	No significant adverse impacts.	N/A	• Hand-thinning within 200-feet of a wetland • No root balls would be removed and stumps would be cut down to ground level • No debris or mulch would be placed in a wetland or within the 200-foot buffer • Vegetation removed within wetlands and within 200-feet of wetlands would not be mulched on site and would be hand-hauled outside of the 200-foot buffer. • Silt fencing would be installed around wetlands to prevent mulch and sediment from flowing into the wetland during rain events
Floodplains	No impact.	Local Floodplain Administrator	• Bastrop County must coordinate with the local floodplain administrator and obtain/comply with any required permits prior to initiating
Vegetation	No significant adverse impact to vegetation communities. No effect to federally listed plant species.	N/A	• Any invasive species encountered during the fuels reduction activities work will be removed and disposed of properly.

Threatened and Endangered Species, Critical Habitat, and Migratory Birds	May affect, not likely to adversely affect the Houston toad or its critical habitat. No effect on other federally listed species. No significant adverse impact to migratory birds.	USFWS	• Various avoidance and minimization measures must be implemented per USFWS consultation in Appendix E. • Limit vegetation management work during the peak migratory bird-nesting period of March through August as much as possible, or deploy a monitor.
Historic Properties	No impact.	THC/SHPO and tribes	• If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
Environmental Justice	No impact.	N/A	N/A
Hazardous Materials	No impact.	N/A	N/A
Noise	Minor, temporary impacts from the use of equipment	N/A	• All work will be conducted during daytime hours. • All equipment and machinery will meet all local, state, and federal noise regulations.
Traffic	Minor, temporary impacts.	N/A	N/A
Public Services and Utilities	Long-term beneficial impact on overhead utility power lines and potential for power outages, and improved emergency services due to the reduction in wildfire risk	N/A	N/A
Emergency Services	Long-term beneficial impact.	N/A	N/A
Public Health and Safety	Long-term beneficial impact.	N/A	N/A

SECTION 5 Cumulative Impacts

This section addresses the potential cumulative impacts associated with the implementation of the proposed action. Cumulative impacts can be defined as the impacts of a proposed action when combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person. Cumulative impacts can result from individually minor but collectively significant actions.

No significant cumulative impacts are foreseen from implementation of the proposed action and other past, present, and future actions. Because the proposed action would have no impact or minimal impact on wetlands, floodplains, vegetation, wildlife, cultural resources, environmental justice, public services and utilities, hazardous materials, and public health and safety, the proposed action would not contribute to significant cumulative impacts on these resources.

The proposed vegetation modification is not likely to adversely effect the Houston toad or it critical habitat. Implementation of avoidance and minimization measures would ensure that adverse impacts would not be significant. Bastrop County, the City of Bastrop, and MD Anderson Cancer Center have, in the past several years, implemented hazardous fuels reduction projects in the county that are similar in nature to the proposed action and, in combination with the proposed action, they could result in a cumulative impact to the Houston toad. Avoidance and minimization measures to protect the Houston toad and its habitat were required during the implementation of these projects in order to minimize potential impacts.

SECTION 6 Agency Coordination, Public Involvement and Permits

6.1 Agency Coordination

Consultation letters and responses from resource agencies are provided in **Appendix E** and **Appendix F**.

6.2 Public Participation

The public information process for the proposed action will include a public notice in the *Bastrop Advertiser*, the general circulation newspaper that serves Bastrop County, and on FEMA's website (https://www.fema.gov/resource-document-library). The public notice will state that information about the proposed action, including this EA is available at a public location in the project area. The notice will invite the public to submit comments about the proposed action, potential impacts, and proposed mitigation measures for consideration and evaluation by FEMA. The public comment period will run for 30 days. FEMA will consider and respond to public comments in the final EA. If no substantive comments are received, the draft EA will become final, and a FONSI will be issued for the project. At this time, a public meeting is not planned because the proposed action is not considered controversial.

6.3 Permits

No local, state, or federal permits appear to be necessary to implement the proposed hazardous fuels reduction project. The proposed action does not require coverage under Texas Pollutant Discharge Elimination System construction storm water general permit TXR150000 because it is not a construction project and would not generate storm water associated with industrial activity as defined in 40 CFR 122.26(a)(14).

SECTION 7 References

EPA. EPA NEPAssist Map. Environmental Protection Agency, EPA, nepassisttool.epa.gov/nepassist/nepamap.aspx.

EPA. Ecoregions of Texas Map. Environmental Protection Agency, EPA, ftp://newftp.epa.gov/EPADataCommons/ORD/Ecoregions/tx/tx_eco_pg.pdf.

NETROnline. NETROnline. Bastrop County, Texas, Bastrop County, Texas, 23 June 2017. Hazardous Materials Search Results and supporting documentation.

TAMU. Wildfire Risk Map. Texas Wildfire Risk Assessment Portal, Texas A & M Forest Service, 2017, www.texaswildfirerisk.com.

TAMU. Characteristic Fire Intensity Scale. Texas Wildfire Risk Assessment Portal, Texas A & M Forest Service, 2017, www.texaswildfirerisk.com.

TCEQ. Texas' Nonattainment and Near Nonattainment Areas. Texas Commission on Environmental Quality, www.tceq.texas.gov/agency/air_main.html.

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TPWD. Level III Ecoregions of Texas Map. Texas Parks and Wildlife Department, TPWD, 27 Jan. 2011, tpwd.texas.gov/publications/pwdpubs/media/pwd_mp_e0100_1070z_08.pdf.

USFWS. National Wetlands Inventory. U.S. Fish and Wildlife Service, USFWS, www.fws.gov/wetlands/Data/Mapper.html.

SECTION 8 List of Preparers

The following is a list of individuals and their organizations who contributed to the development of the Bastrop County Hazardous Fuels Reduction EA for FEMA:

Langford Community Management Services (LCMS), Inc.
2901 County Road 175
Leander, TX 78641-1608
(512) 452-0432

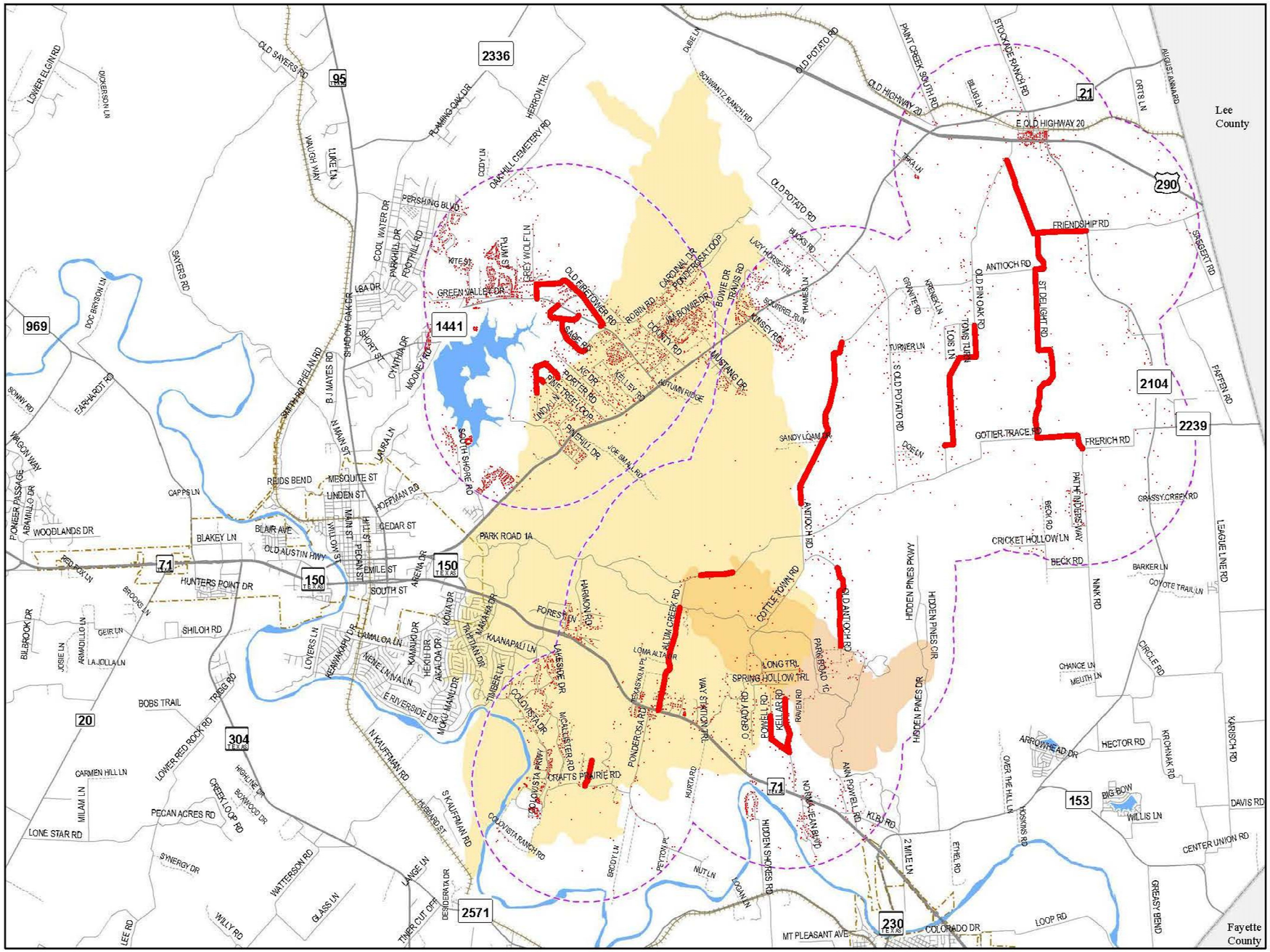
Judy Langford, Grant Administrator, judy@lcmsinc.com
Suellen Jordan, Grant Administrator, suellen@lcmsinc.com
Melisa Durham, Environmental Specialist, melisa@lcmsinc.com

FEMA Region 6 Reviewers:
Kevin Jaynes, Regional Environmental Officer
Craig Carpenter, Assistant Regional Counsel,
Dorothy Cook, Senior Environmental Specialist
Jackie Howard, Environmental Specialist

Some data was collected from the Draft Environmental Assessment for North Lost Pines Hazardous Fuels Reduction Project-HMGP-DR-1999-0012, February 2015
Prepared by CDM Smith for Bastrop County.

APPENDIX A

Project Location Maps



Proposed Fuel Reduction Project

Road ROW Fuel Break

N

0 1 Miles

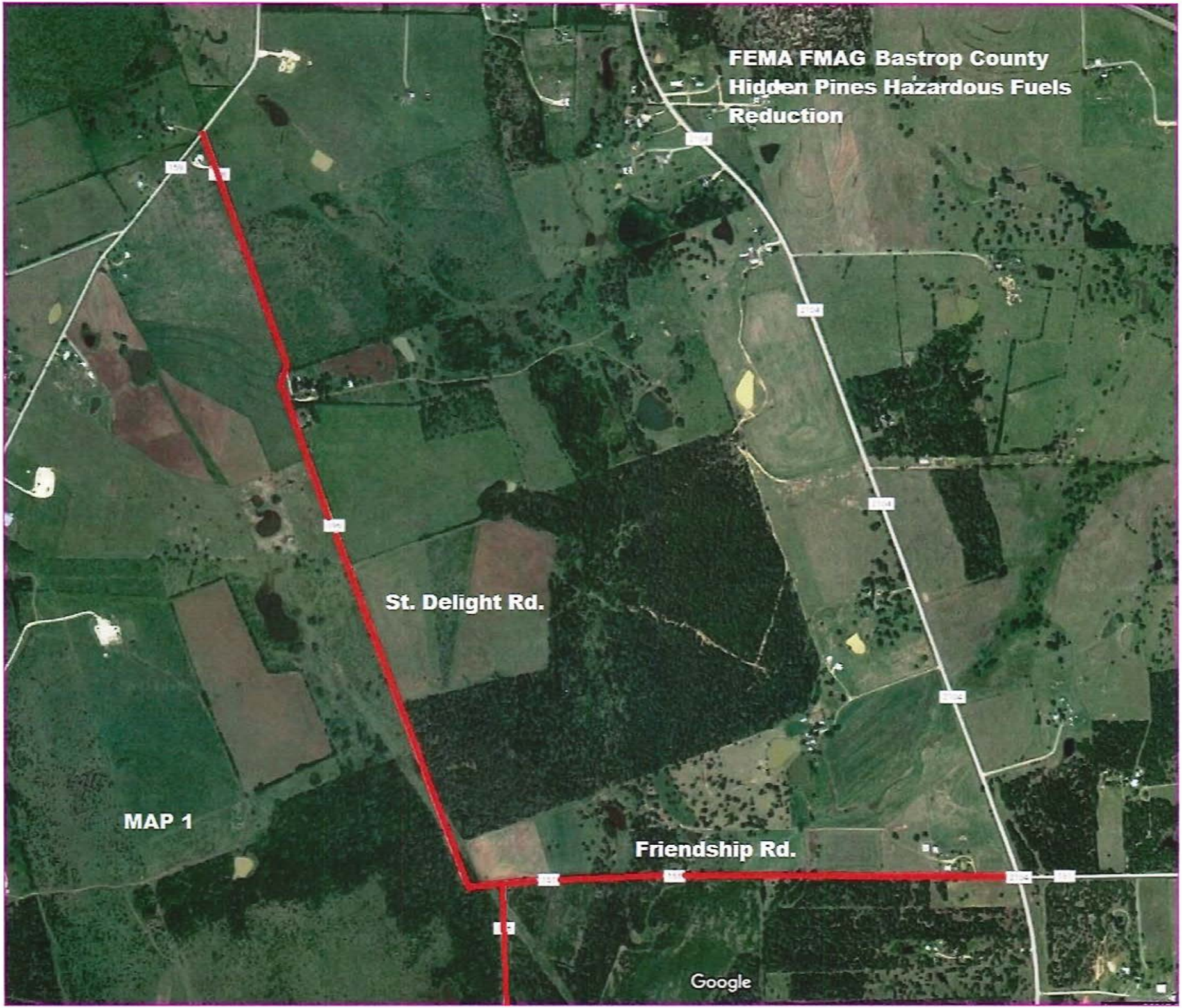
Legend

- Subject Road
- Address Point
- 2 Mile Buffer
- Roadway
- Rail Line
- Complex Fire Perimeter
- Hidden Pines Fire Perimeter
- City Limits
- County Line
- Water

Map Produced: 06/21/2017

LOCATION MAP

BASTROP COUNTY TEXAS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MAP 1
Friendship Rd.
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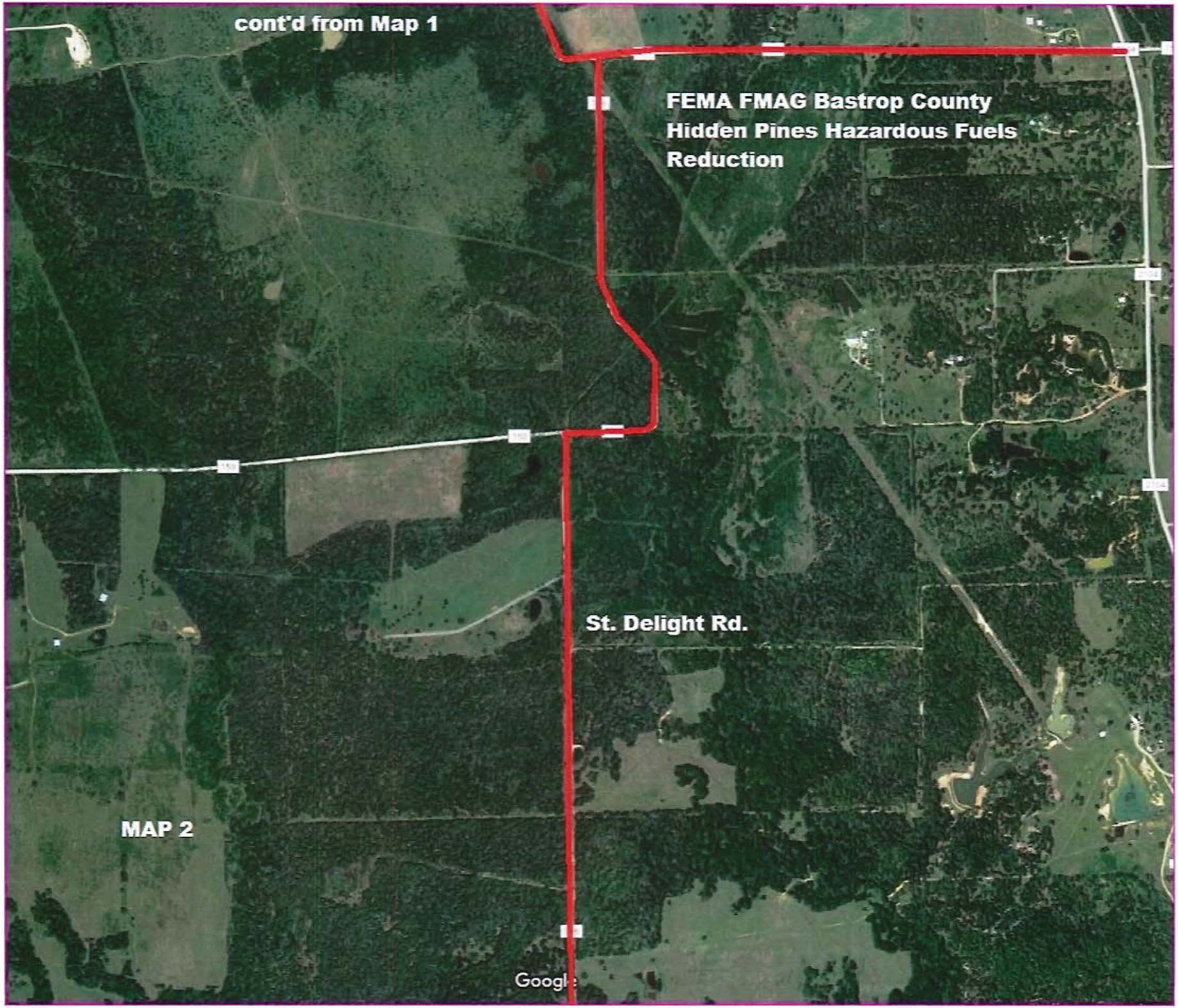
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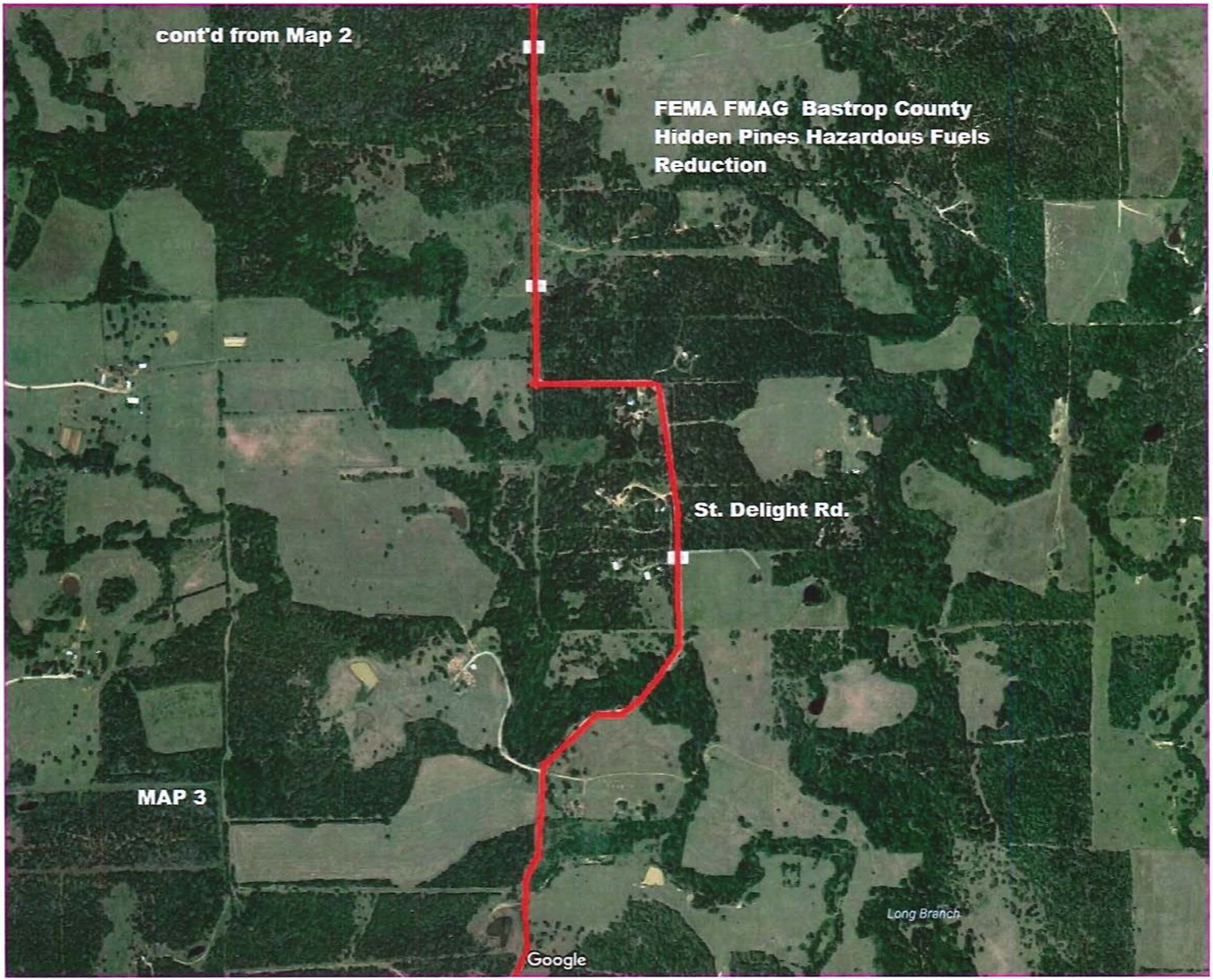
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St. Delight Rd.
MAP 3
Long Branch
Google


cont'd from Map 3
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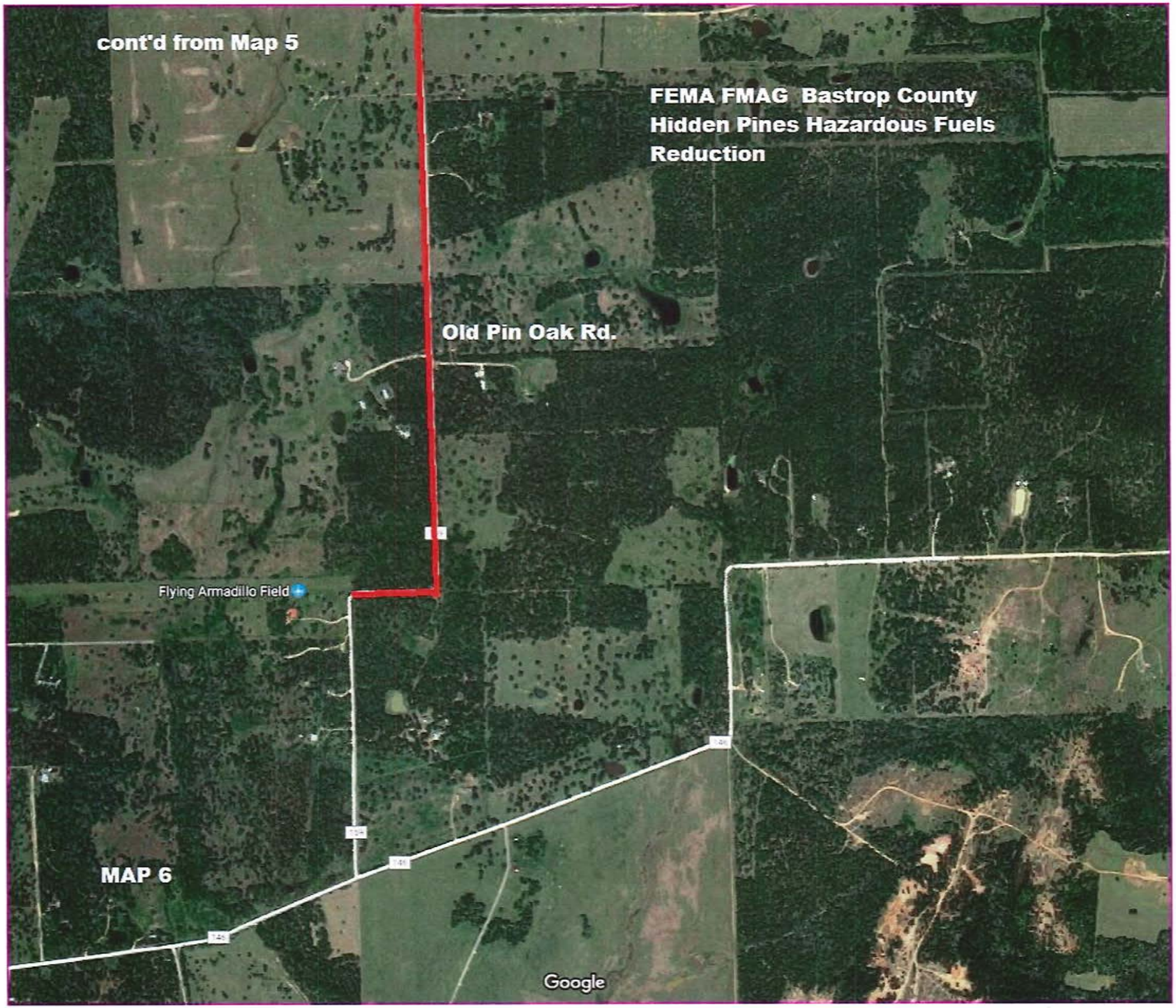
Hidden Pines Hazardous Fuels
Reduction
Long Branch
St. Delight Rd.
Turner Creek
Gotier Trace Rd.
MAP 4
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Old Pin Oak Rd.
MAP 5
Google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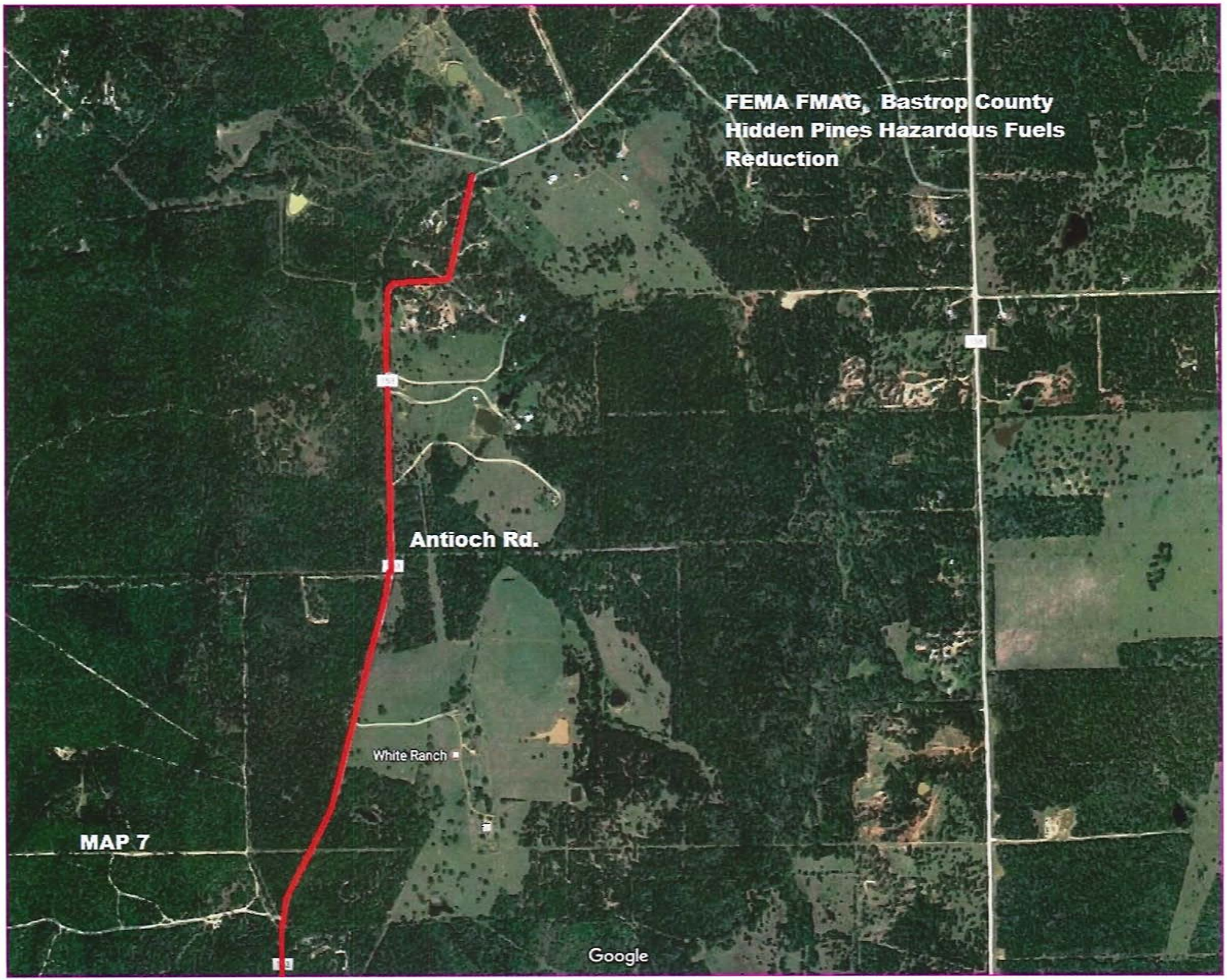
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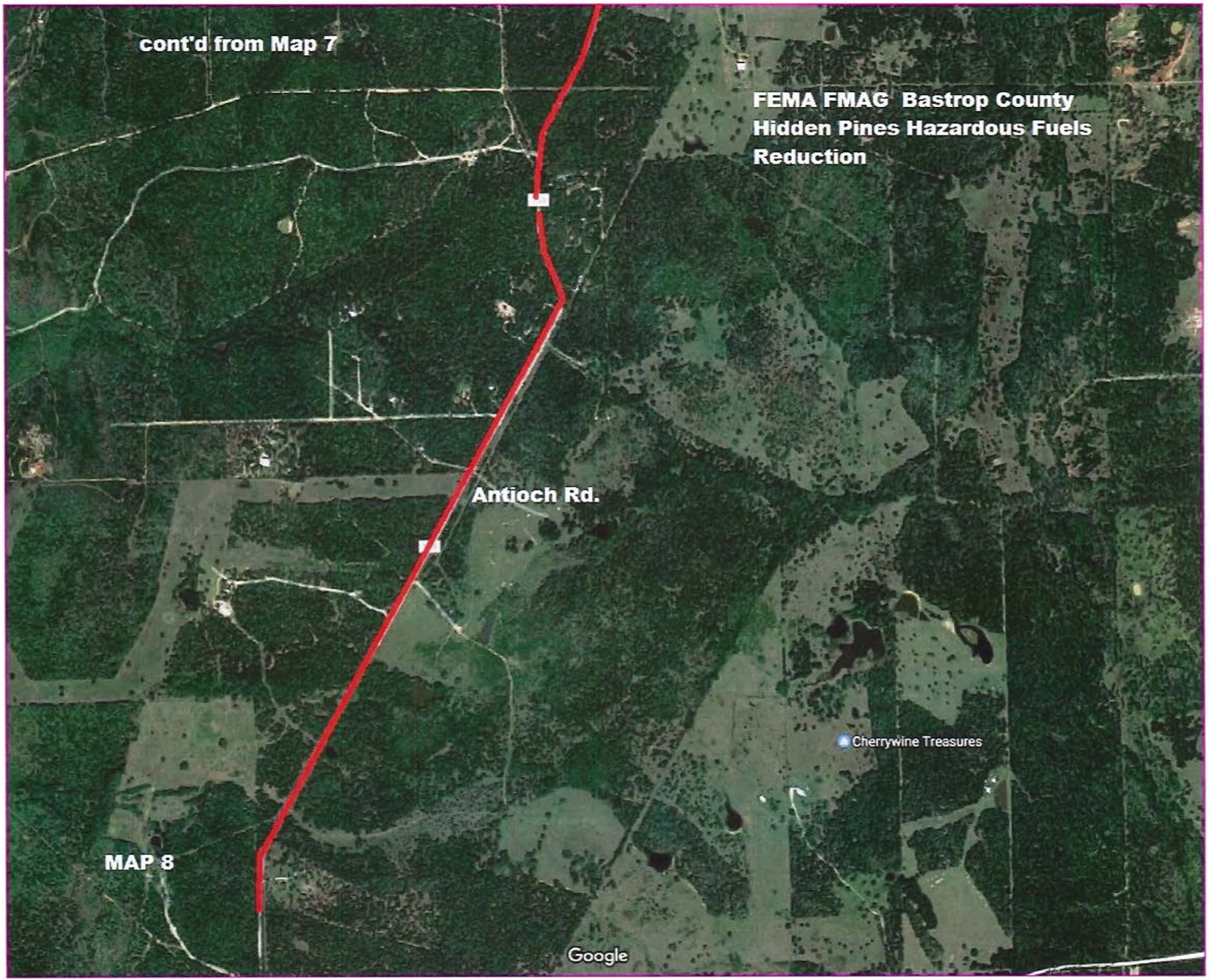
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Cherrywine Treasures
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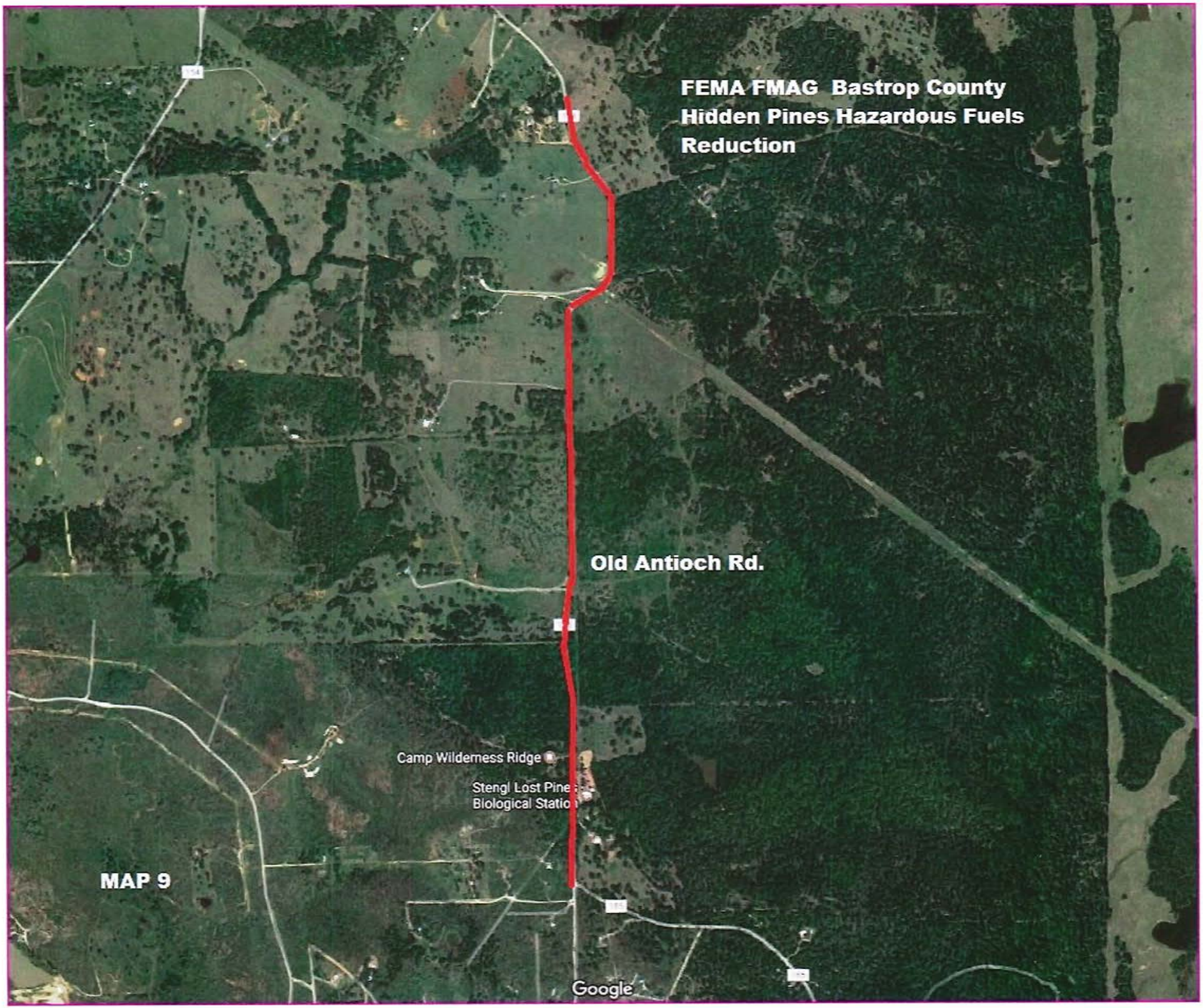
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Old Antioch Rd.
Camp Wilderness Ridge
Stengl Lost Pine
Biological Statio
MAP 9
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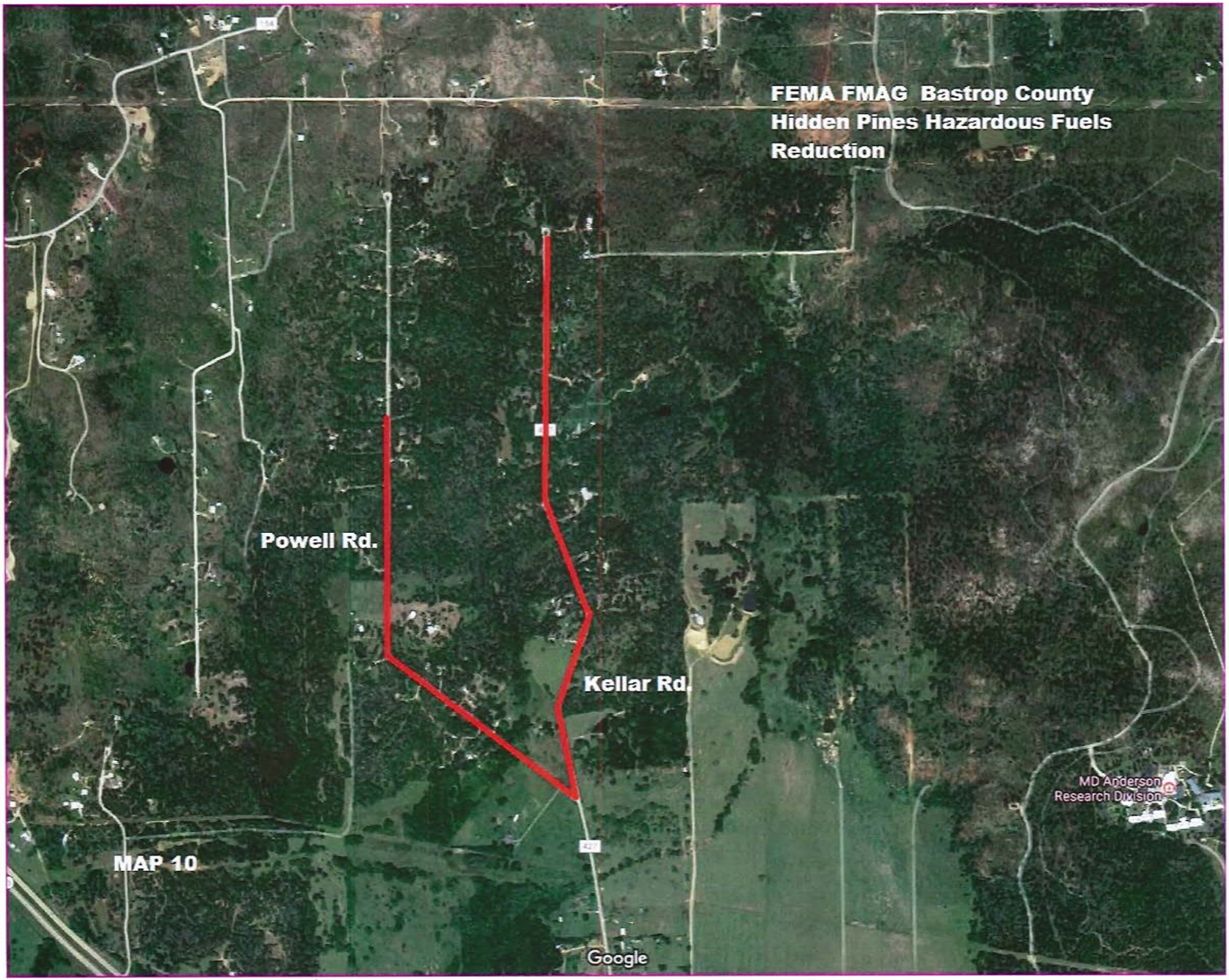
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MD Anderson
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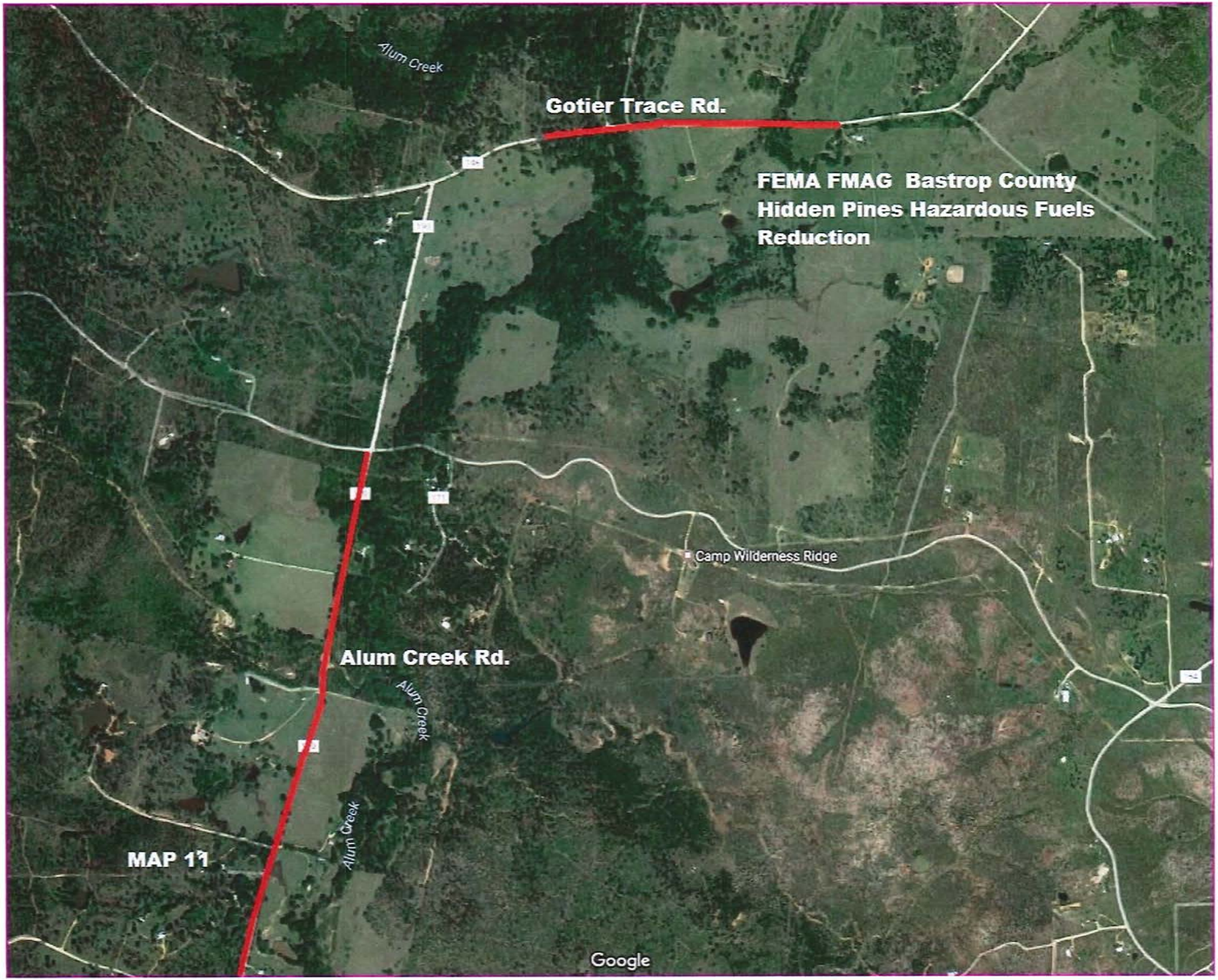
Alum Creek
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Camp Wilderness Ridge
Alum Creek Rd.
Alum Creek
Alum Creek
MAP 11
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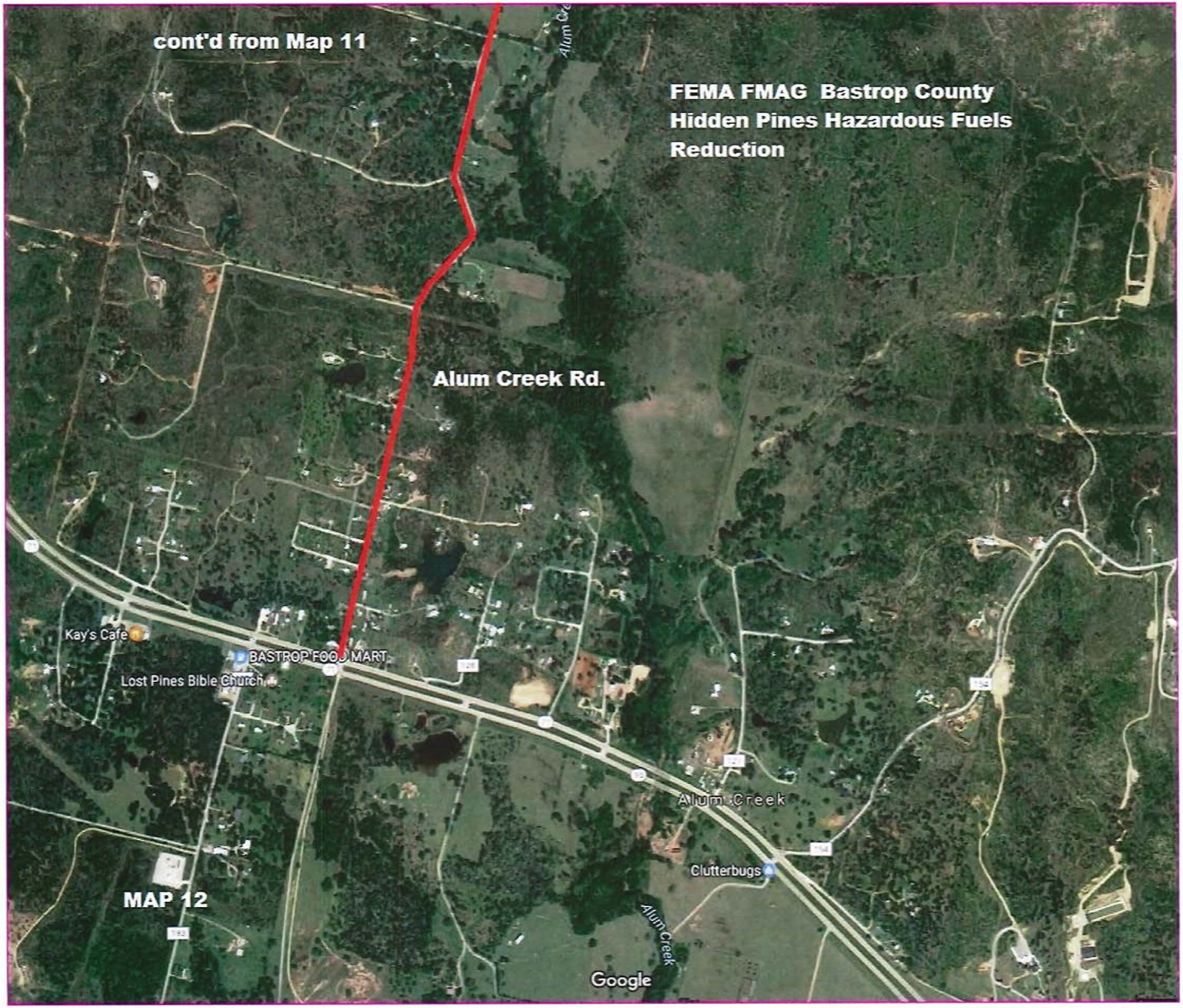
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Kay's Cafe
BASTROP FOOD MART
Lost Pines Bible Church
Alum Creek
Clutterbugs
MAP 12
Alum Creek
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Mesa Pinto Dr.
MAP 13
Crafts Prairie Rd
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Porter Rd.
Porter Rd
Pine Tree Loop
MAP 14
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Old Firetower Rd.
Hicks Lake
Pyramid Millwork
& Installaton
13 Pines
Whispering Pines Dr
Lake Point Way
Shorefront Dr
Pony Grass Ln
Meadow Grass Ln
Rye Grass Ln
Feather Grass Ln
Oak Leaf Dr
Blue Grass Ln
Green Grass Ln
Bluebonnet Dr
MAP 15
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Bluebonnet Dr.
MAP 16
Sage Rd
Oleander Dr
Google


FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Bluebonnet Dr
Sage Rd.
MAP 17
Google


cont'd from Map 17
FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Sage Rd.
Buttercup Ln
Buttercup Ln
Sage Rd
Sage Cove
Sage Cove
Sage Cove
MAP 18
Google


cont'd from Map 18
FEMA FMAG Bastrop County
Hidden Pines Hazardous Fuels
Reduction
Sage Cove
Sage Rd
Cannon Ln
Sage Rd.
Century Ln
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Yucca Ln
Yucca Ln
MAP 19
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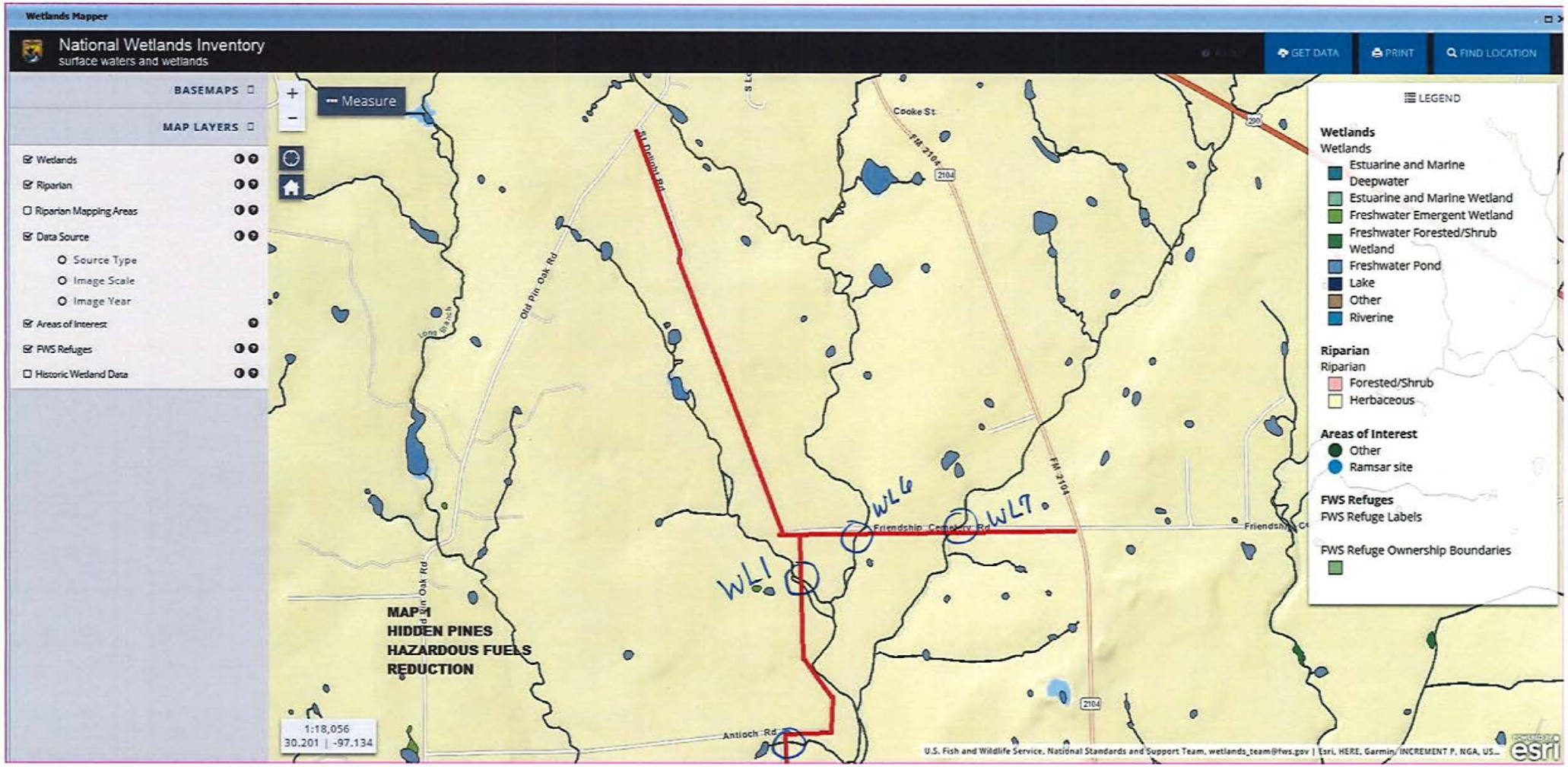
APPENDIX B

USFWS Wetland Inventory and EPA NEPAssist Wetlands Maps


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
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FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
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Forested/Shrub
Herbaceous
Areas of Interest
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Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
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Friendship Cemetery Rd
Antioch Rd
WL1
WL6
WL7
WL2
MAP 1
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
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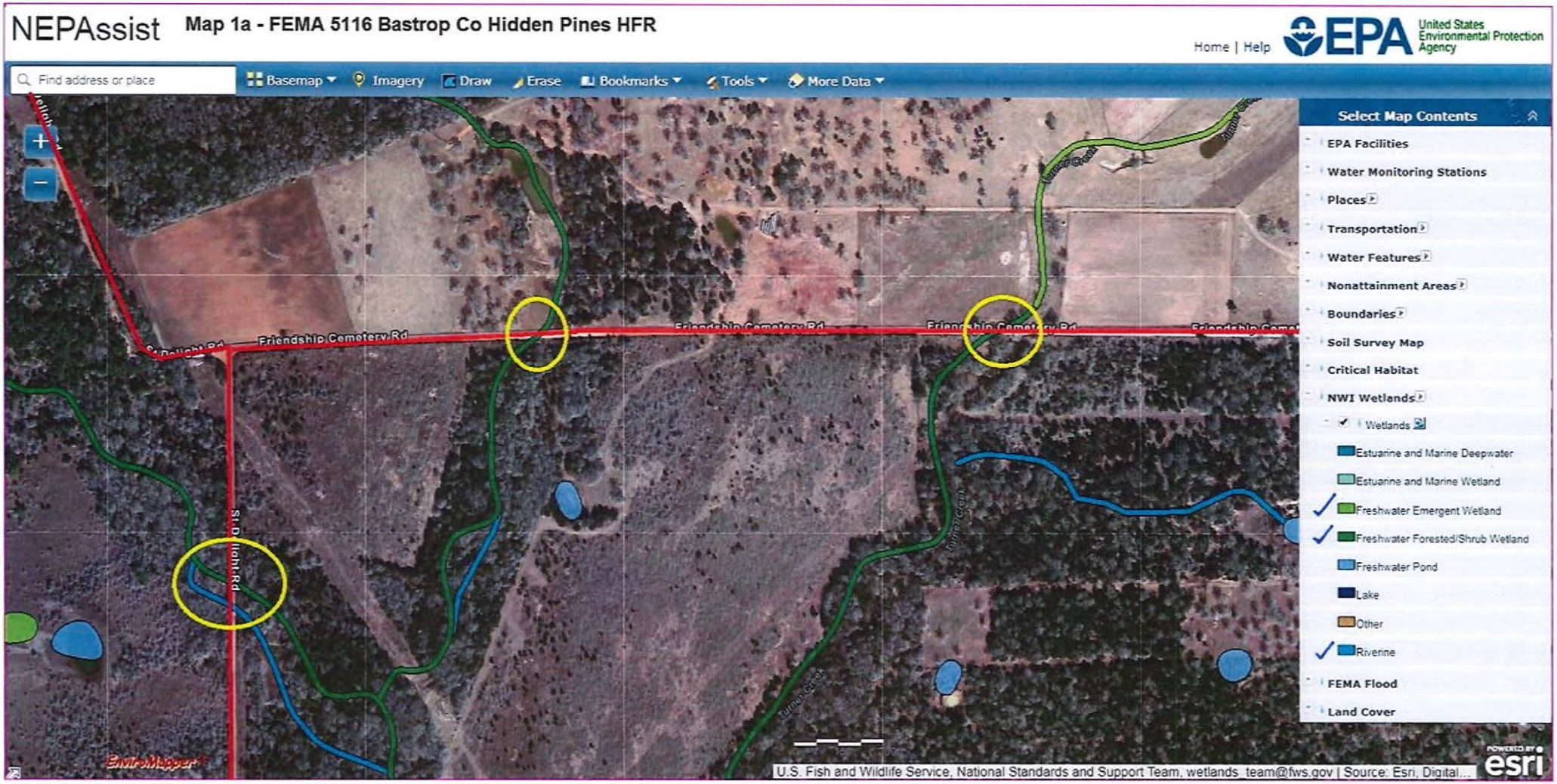
NEPAssist
Map 1a - FEMA 5116 Bastrop Co Hidden Pines HFR
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United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Friendship Cemetery Rd
St Delight Rd
Turner Creek
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
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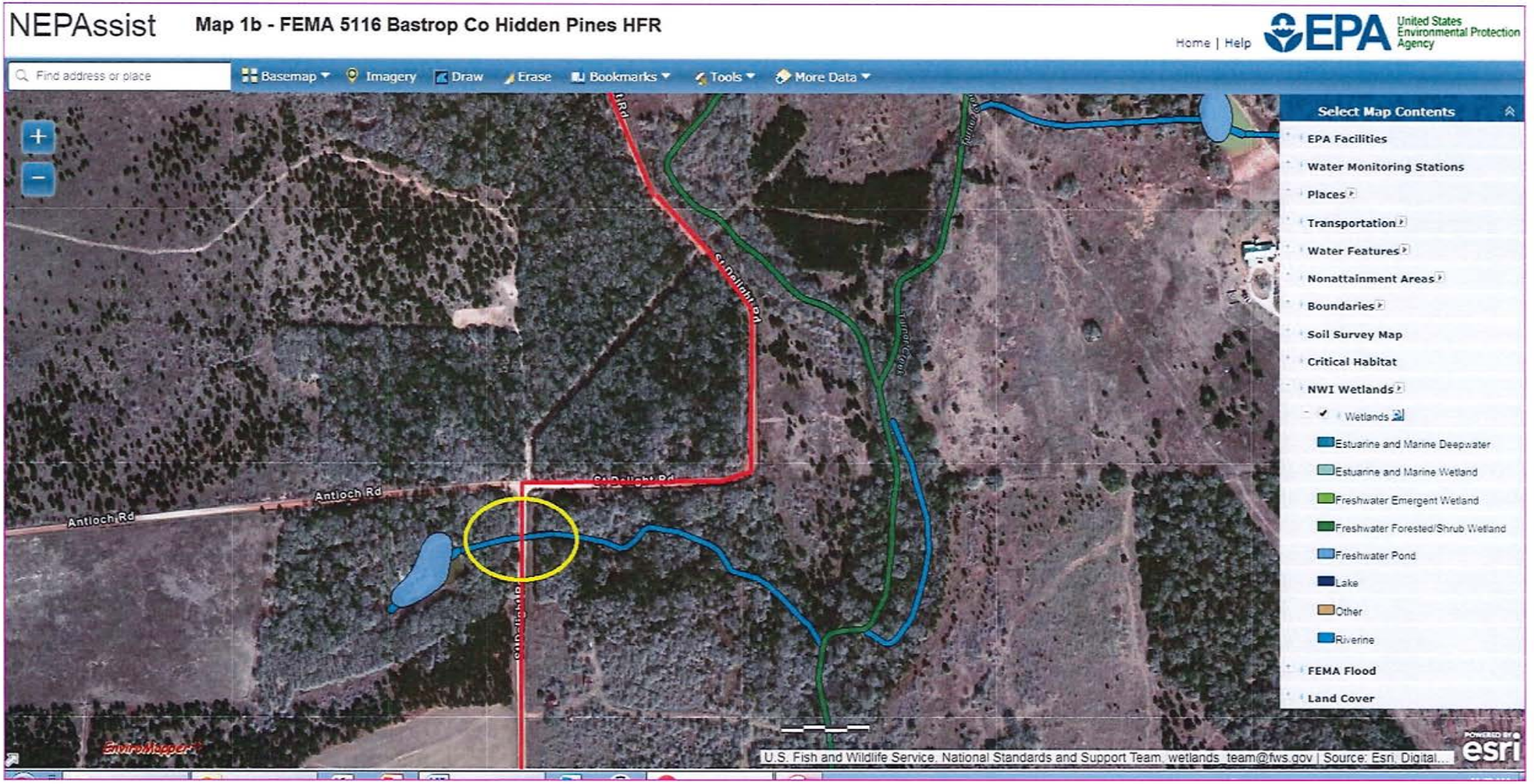
WL1 WL6 WL9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Find address or place
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Tools
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Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
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Riverine
FEMA Flood
Land Cover
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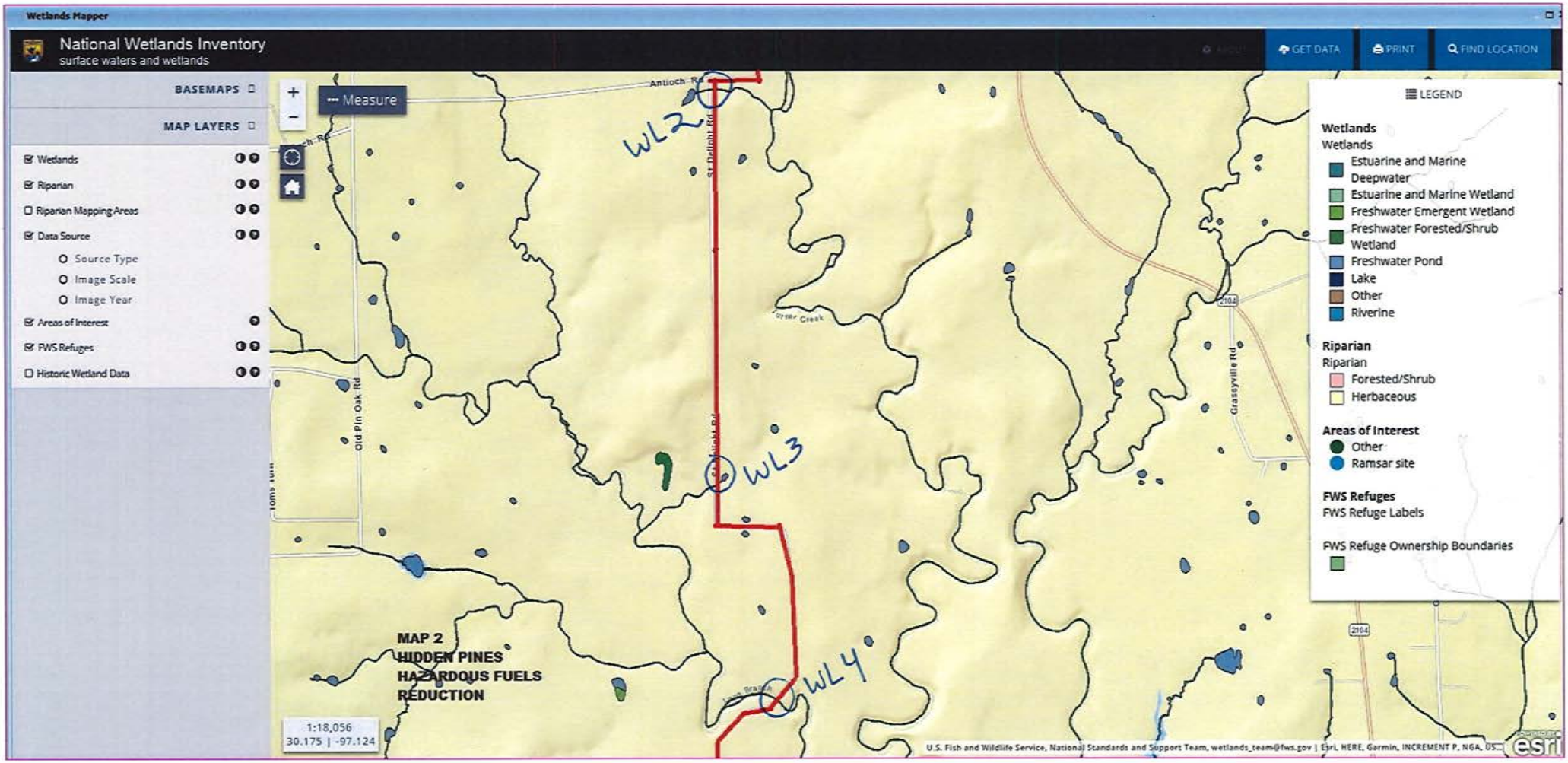
WL2


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
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MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
Antioch Rd
St Delight Rd
Old Pin Oak Rd
Grassyville Rd
Greer Creek
2104
WL2
WL3
WL4
MAP 2
HIDDEN PINES
HAZARDOUS FUELS
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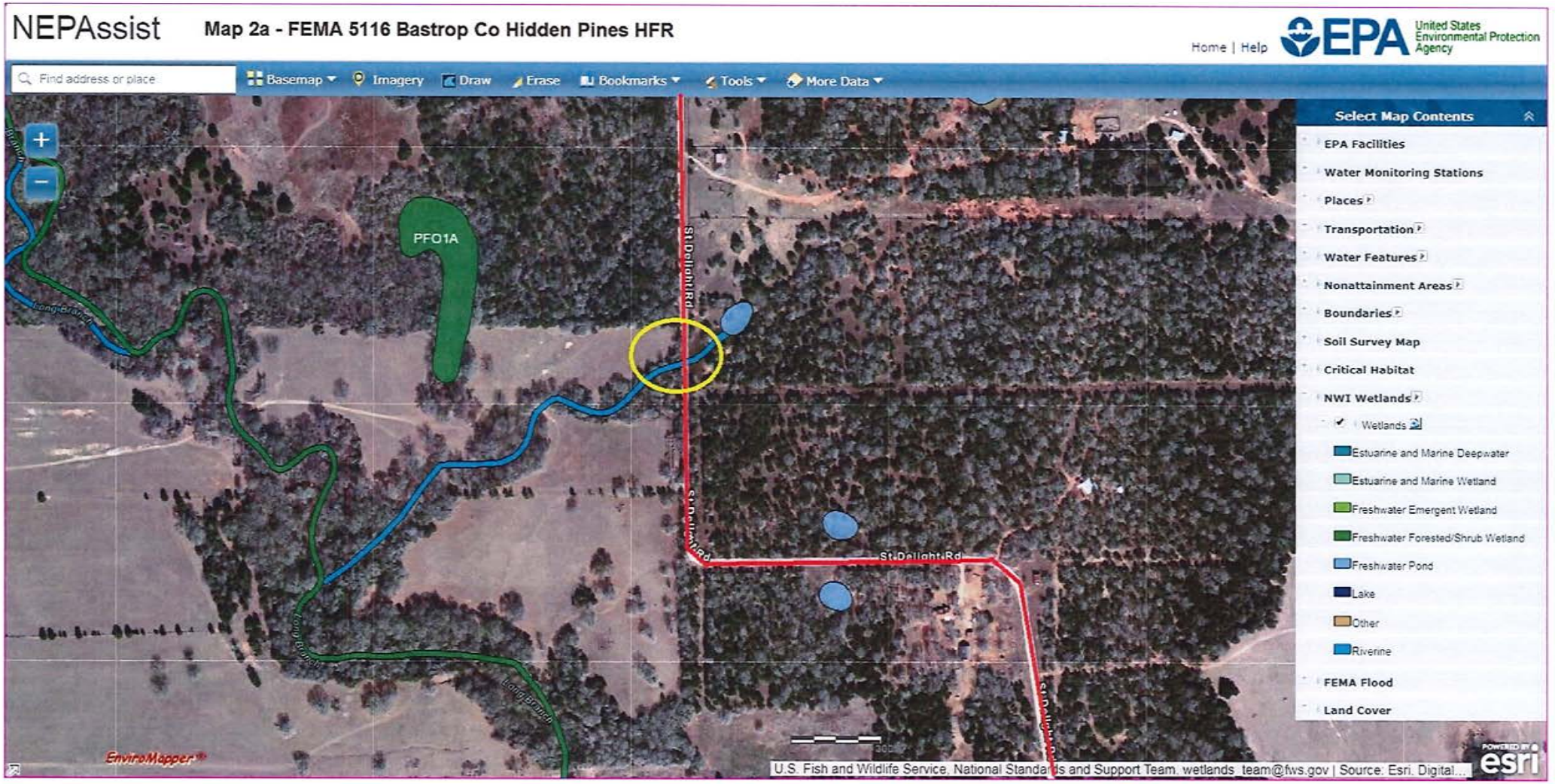
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US
esri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Home | Help
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Find address or place
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St Delight Rd
Long Branch
Select Map Contents
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Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
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Land Cover
EnviroMapper
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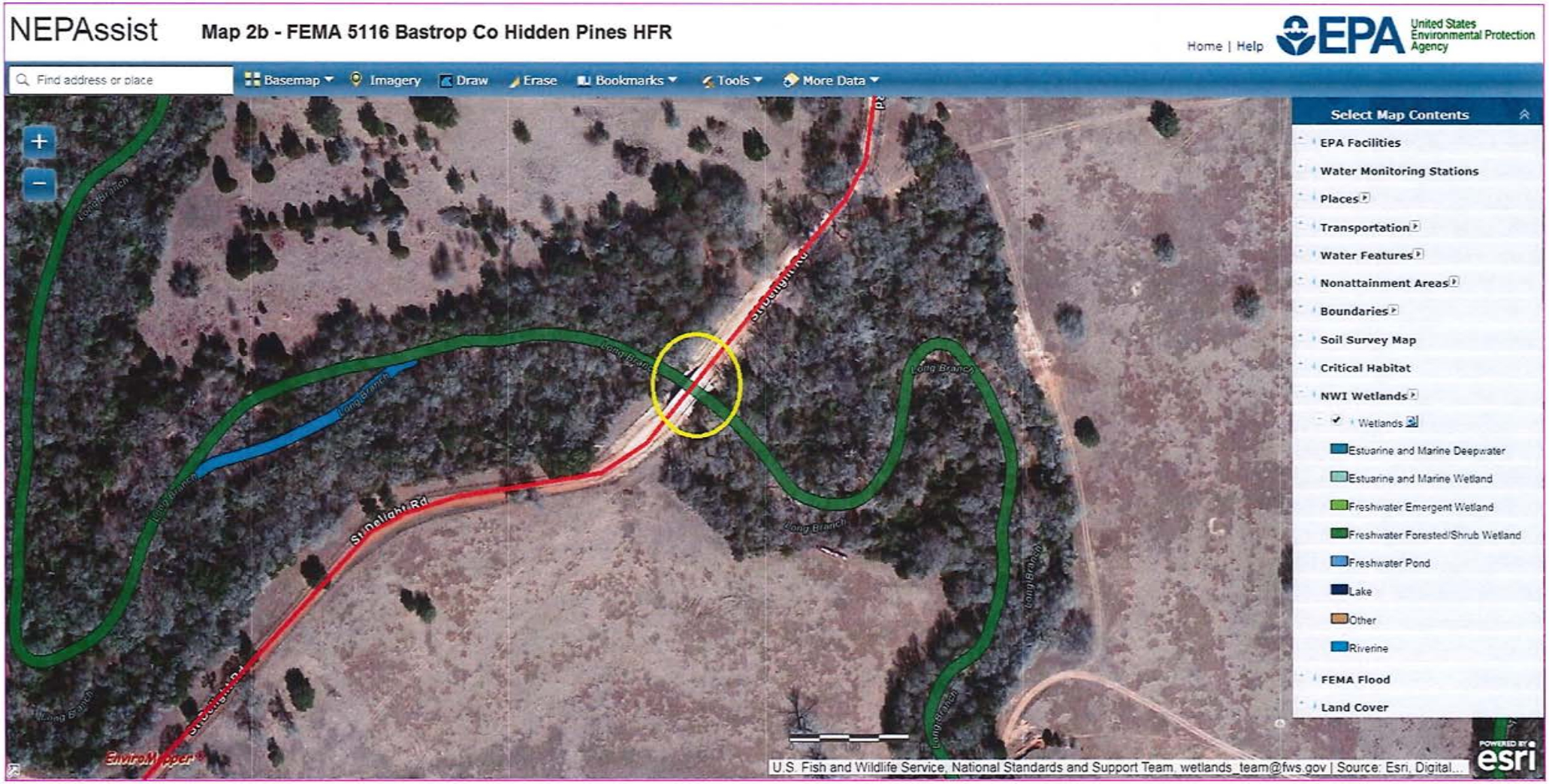
WL3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Map 2b - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
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Tools
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Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
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Freshwater Emergent Wetland
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Lake
Other
Riverine
FEMA Flood
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Sturdivant Rd
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
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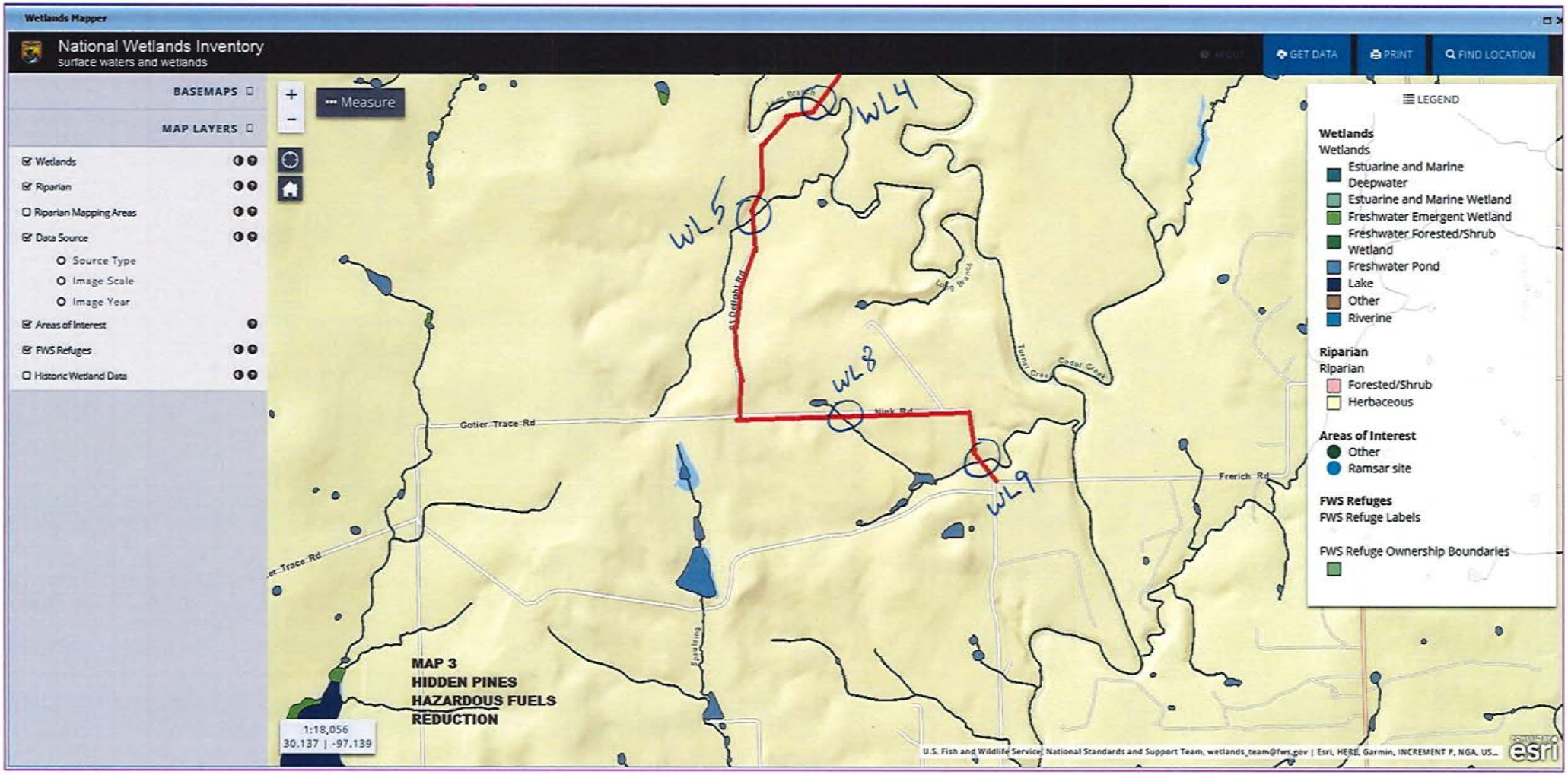
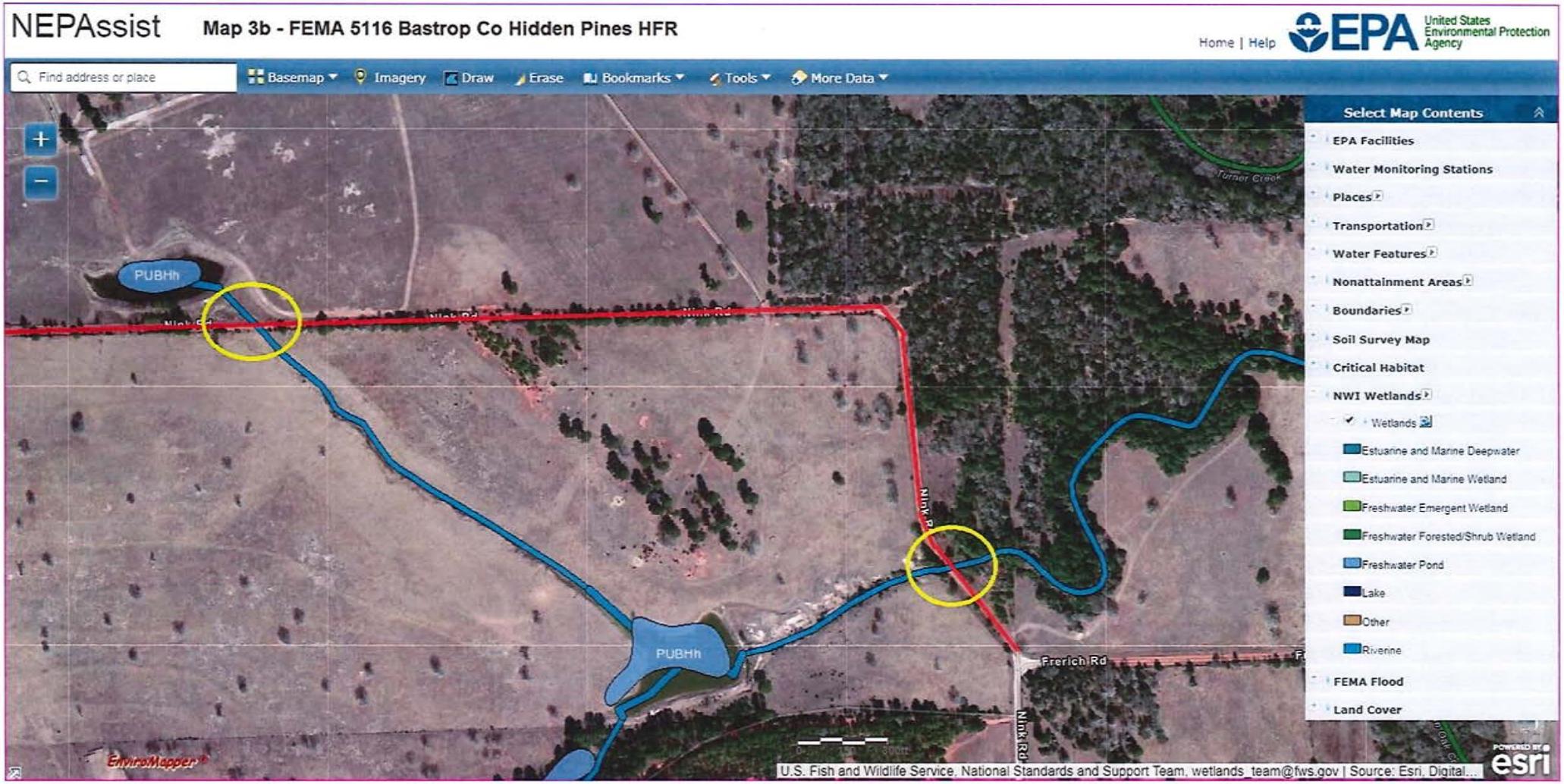
WL4


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
WL4
WL5
WL8
WL9
Gotier Trace Rd
Nink Rd
Frerich Rd
Al Dalton Rd
Cedar Creek
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
MAP 3
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
30.137 | -97.139
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri

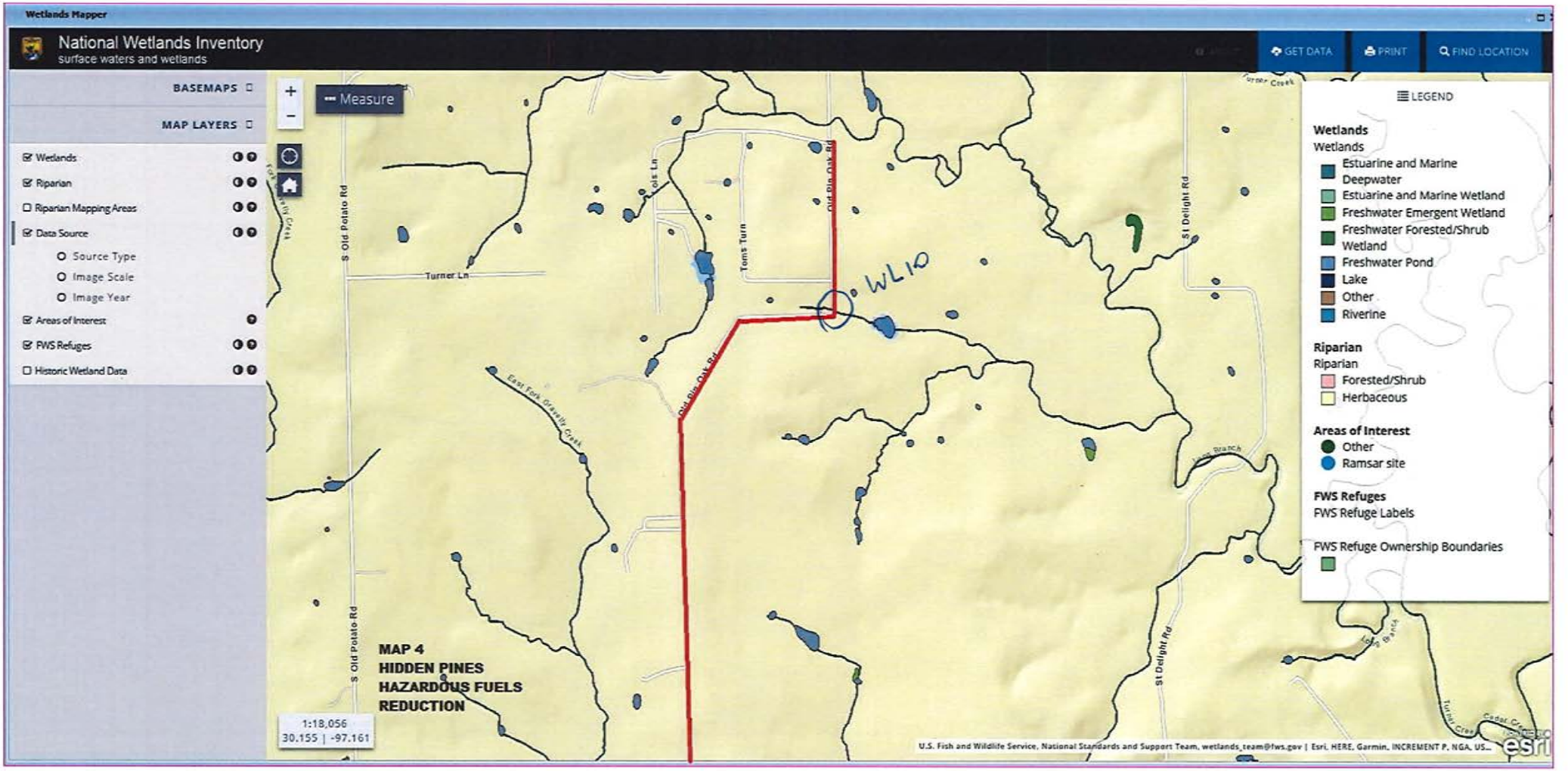

NEPAssist
Map 3a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL5


NEPAssist
Map 3b - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
PUBHh
PUBHh
Turner Creek
Frerich Rd
Ninth Rd
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL8

WL9


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
S Old Potato Rd
Turner Ln
Toms Turn
Old Pin Oak Rd
St Delight Rd
East Fork Grassella Creek
WL10
MAP 4
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
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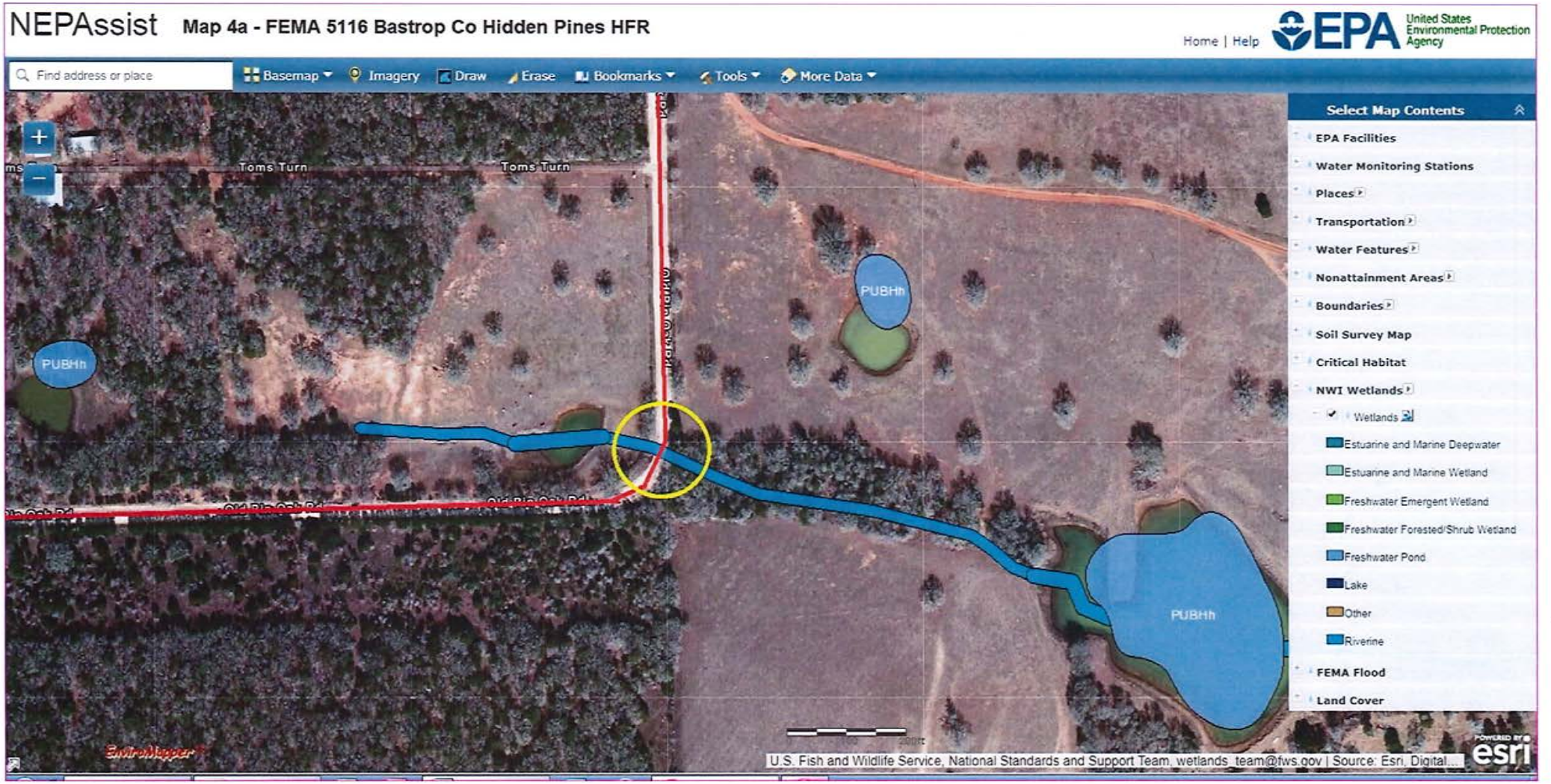
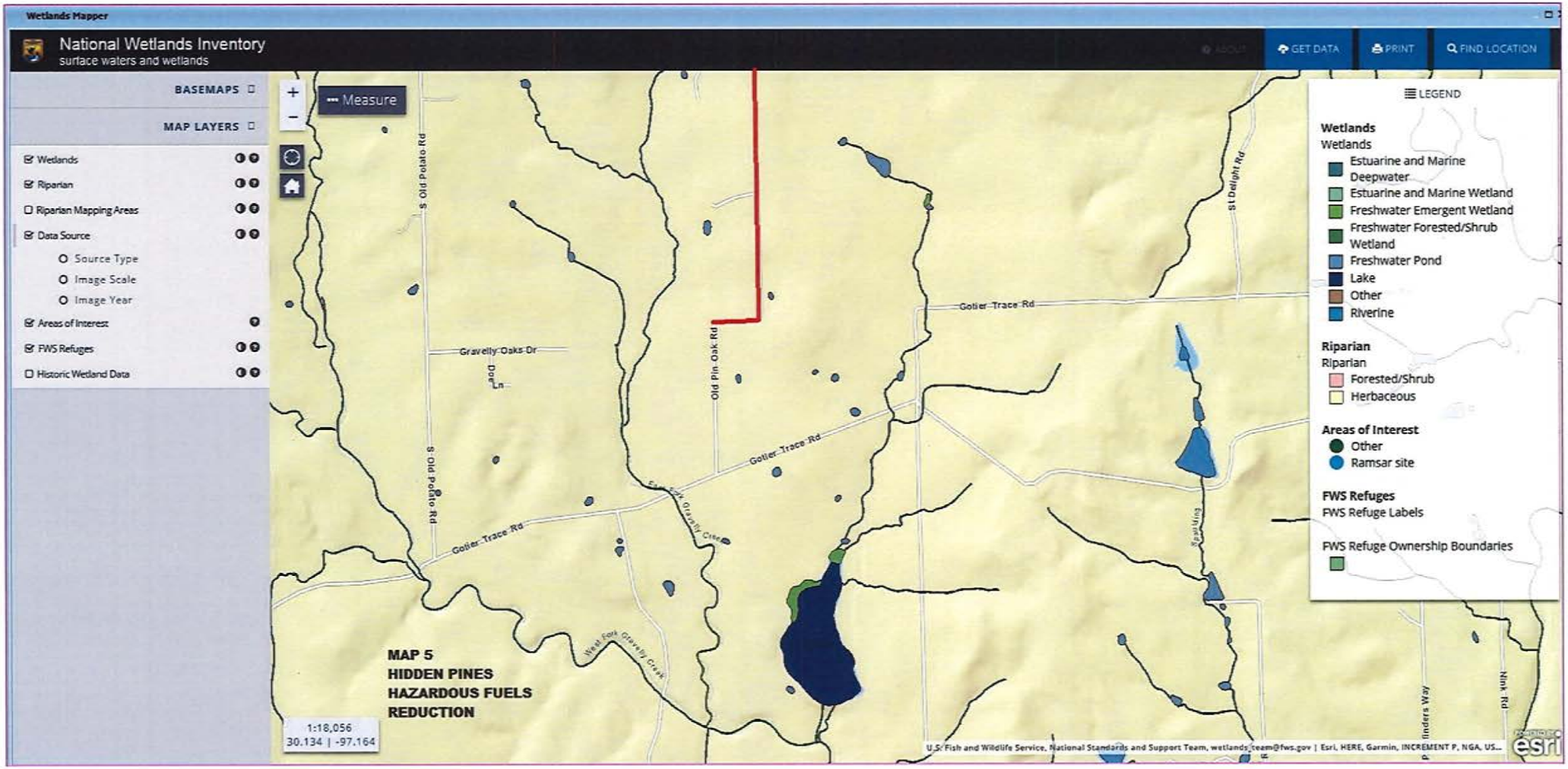
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 4a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Toms Turn
Toms Turn
PUBHh
PUBHh
PUBHh
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL10


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
S Old Potato Rd
Gravelly Oaks Dr
Dog Ln
Old Pin Oak Rd
Goller Trace Rd
St Delight Rd
East Fork Gravelly Creek
West Fork Gravelly Creek
Reed Wing
Flinders Way
Nink Rd
MAP 5
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
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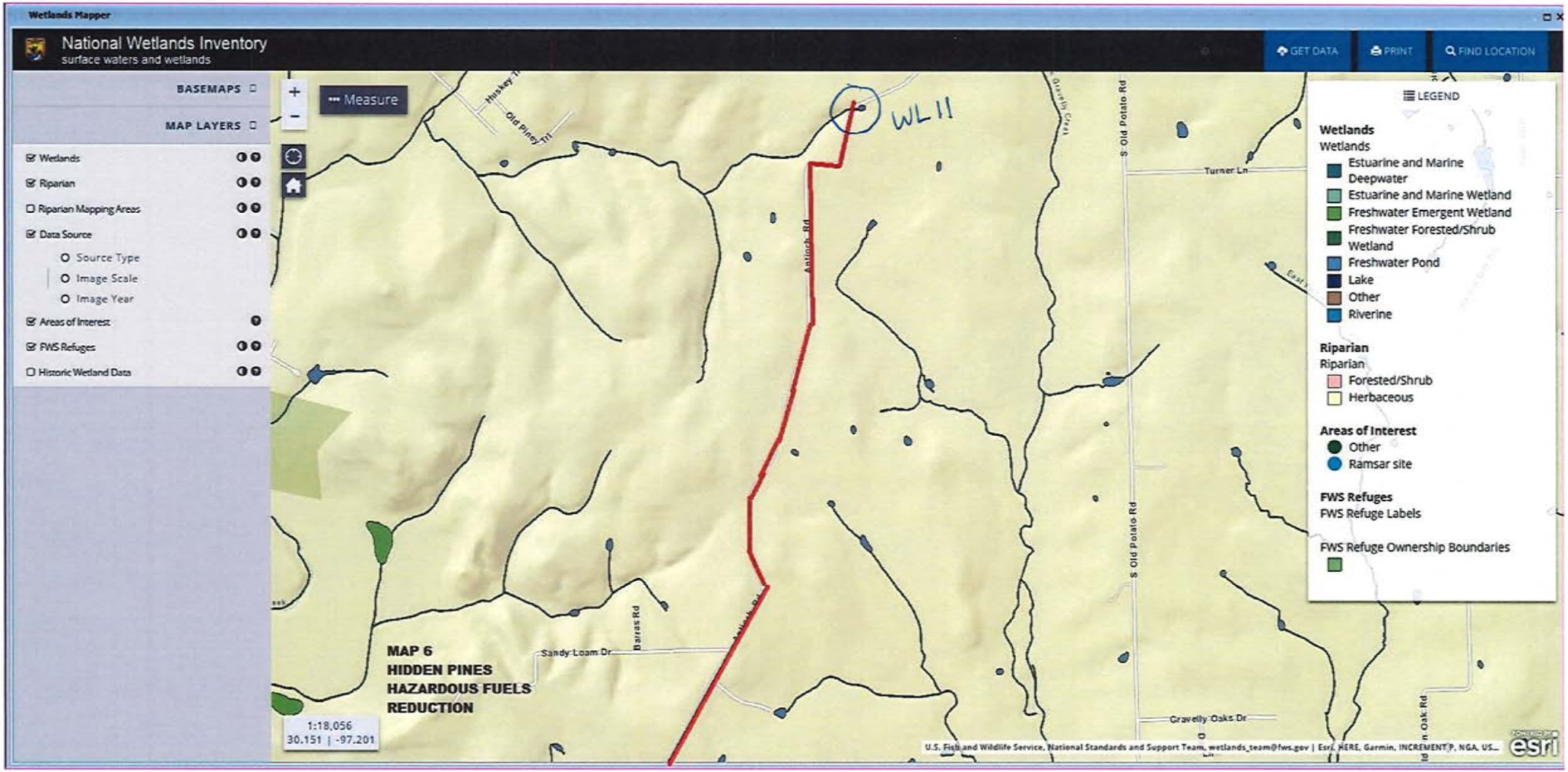
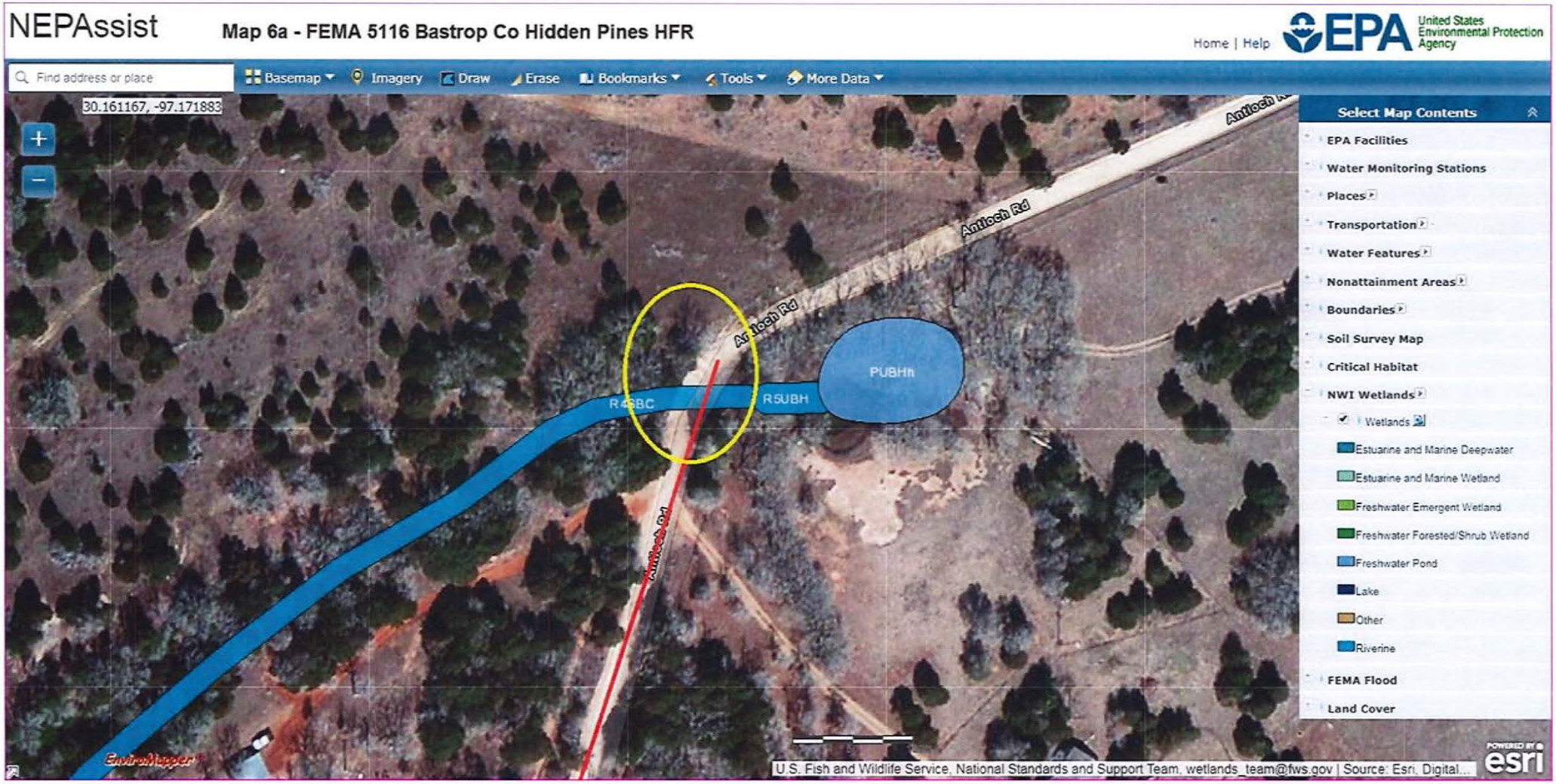
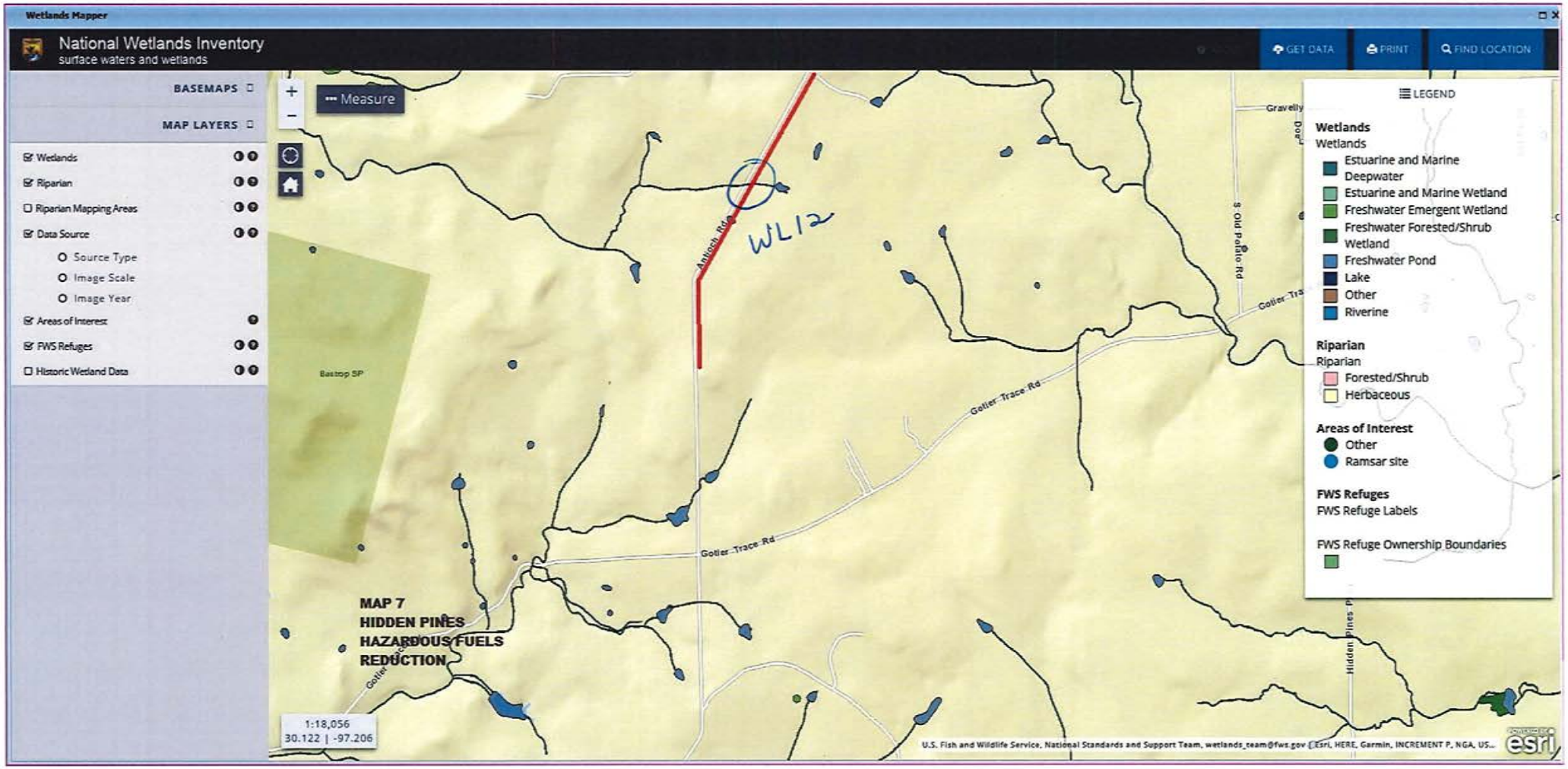
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
WL 11
Old Piney Trl
Antioch Rd
Turner Ln
S Old Potato Rd
Barras Rd
Sandy Loam Dr
Gravelly Oaks Dr
MAP 6
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
30.151 | -97.201
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 6a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.161167, -97.171883
Antioch Rd
Antioch Rd
PUBHh
R4SBC
R5UBH
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL11


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
WL12
Antioch Rd
Gravelly
S Old Pollok Rd
Bastrop SP
Goller Trace Rd
Hidden Pines Rd
MAP 7
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
30.122 | -97.206
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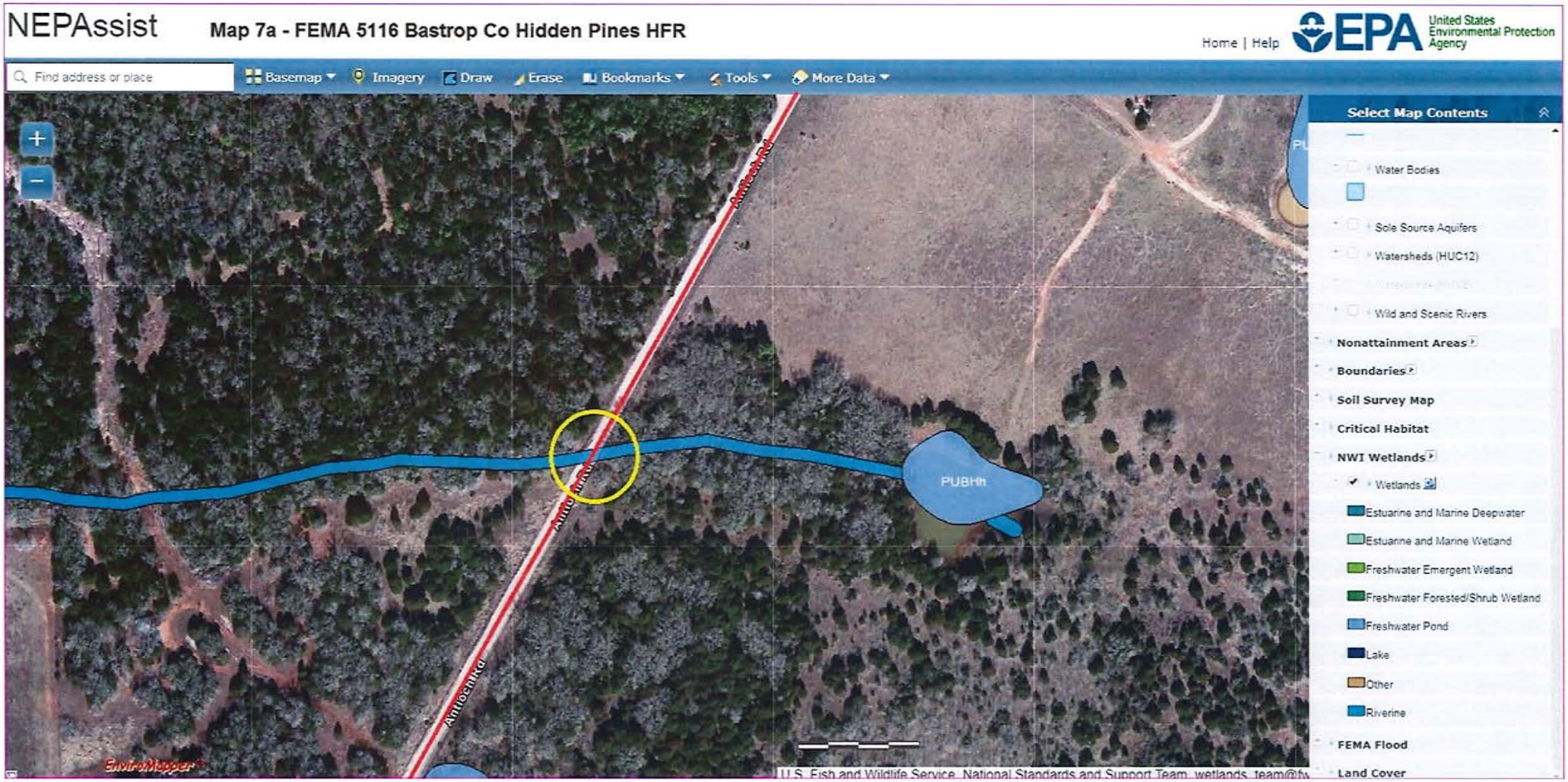
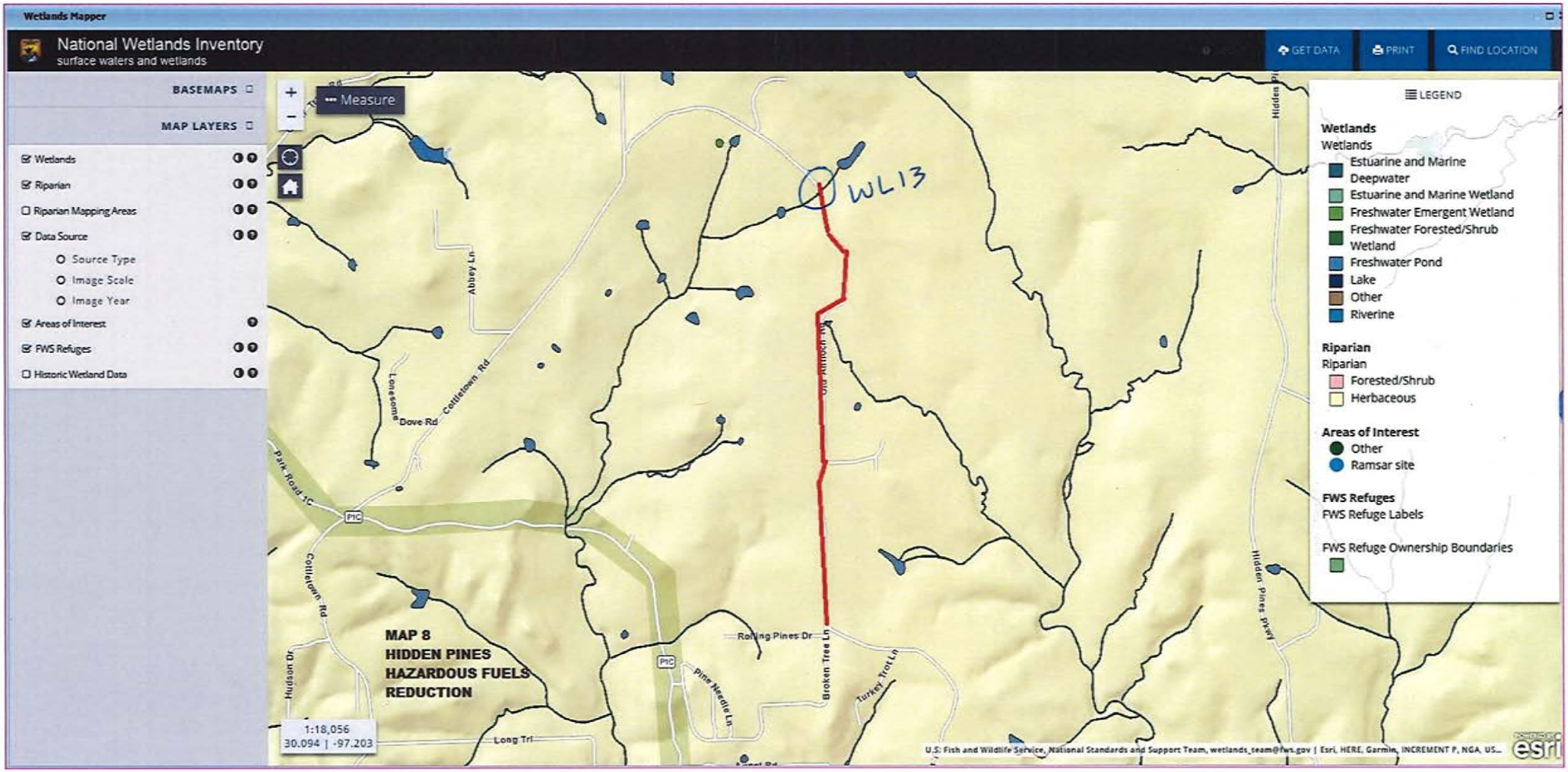
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries


NEPAssist
Map 7a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
Water Bodies
Sole Source Aquifers
Watersheds (HUC12)
Wild and Scenic Rivers
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
Antioch Rd
PUBHh
EnviroMapper
U.S. Fish and Wildlife Service National Standards and Support Team, wetlands_team@fw

WL12


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
WL13
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
MAP 8
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
Abbey Ln
Lonesome Dove Rd
Cottletown Rd
Park Road 1C
Hudson Dr
Rolling Pines Dr
Broken Tree Ln
Turkey Trot Ln
Pine Needle Ln
Long Trl
Hidden Pines Pkwy
1:18,056
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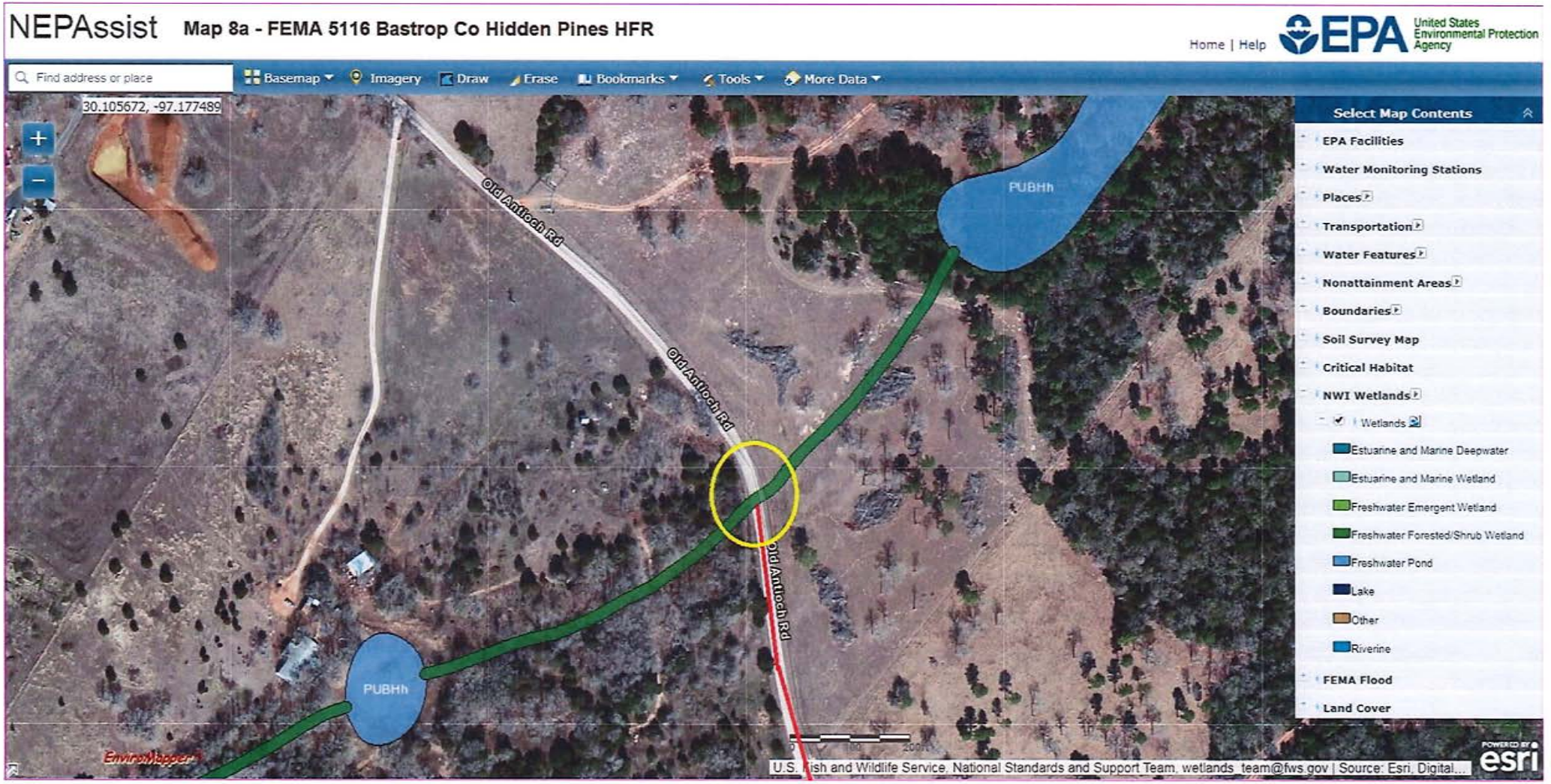
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 8a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.105672, -97.177489
Old Antioch Rd
Old Antioch Rd
Old Antioch Rd
PUBHh
PUBHh
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service. National Standards and Support Team. wetlands_team@fws.gov | Source: Esri, Digital...
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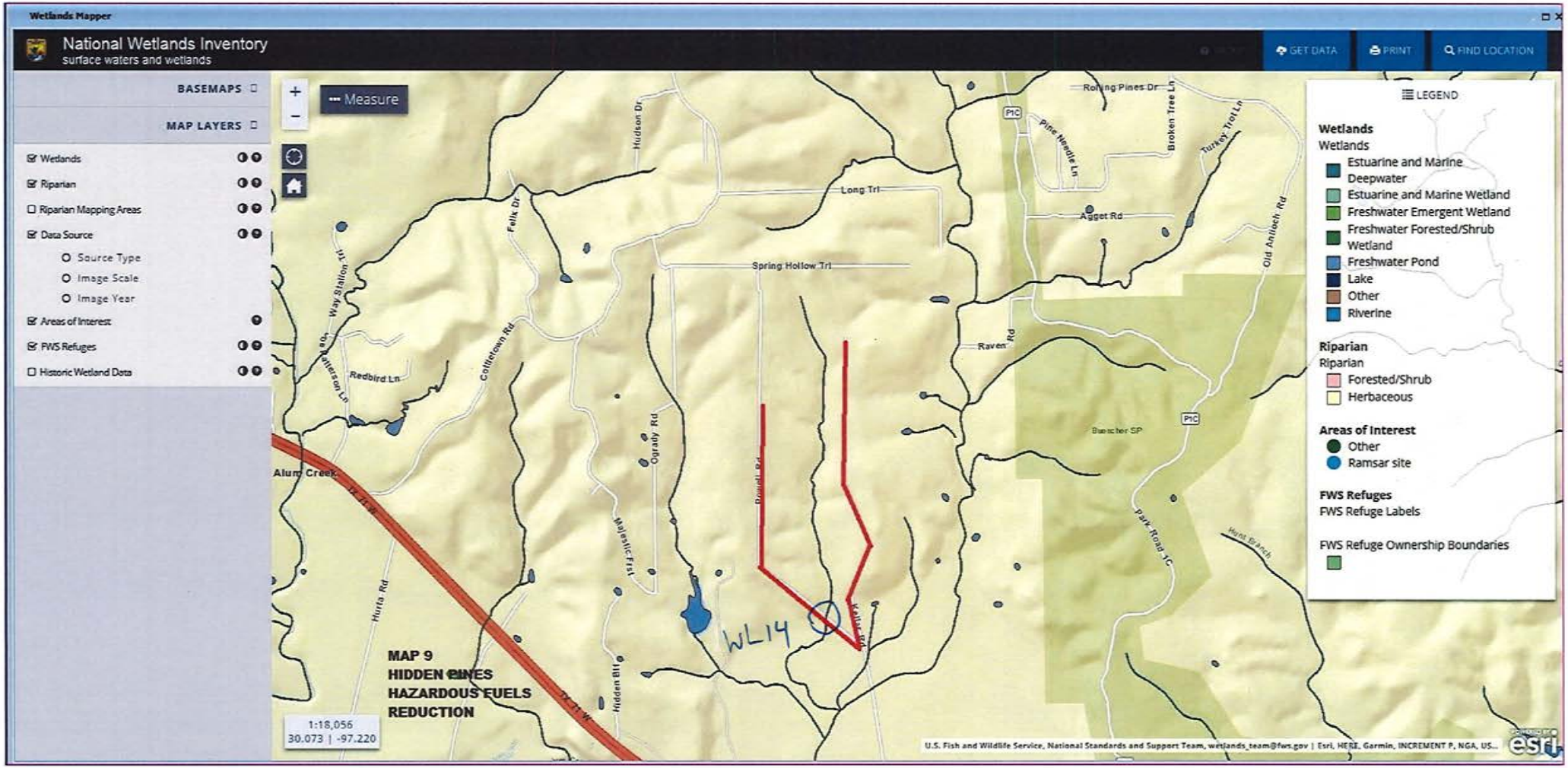
WL13


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
Long Trl
Spring Hollow Trl
Rolling Pines Dr
Pine Needle Ln
Broken Tree Ln
Turkey Trot Ln
Agget Rd
Old Antioch Rd
Raven Rd
Buescher SP
Park Road 1C
Hunt Branch
Hudson Dr
Folk Dr
Way Station Trl
Joe Patterson Ln
Redbird Ln
Collinstown Rd
Ogrady Rd
Bowell Rd
Majestic Frst
Hidden Hill
Kellie Rd
Hurta Rd
Alum Creek
MAP 9
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
WL14
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U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
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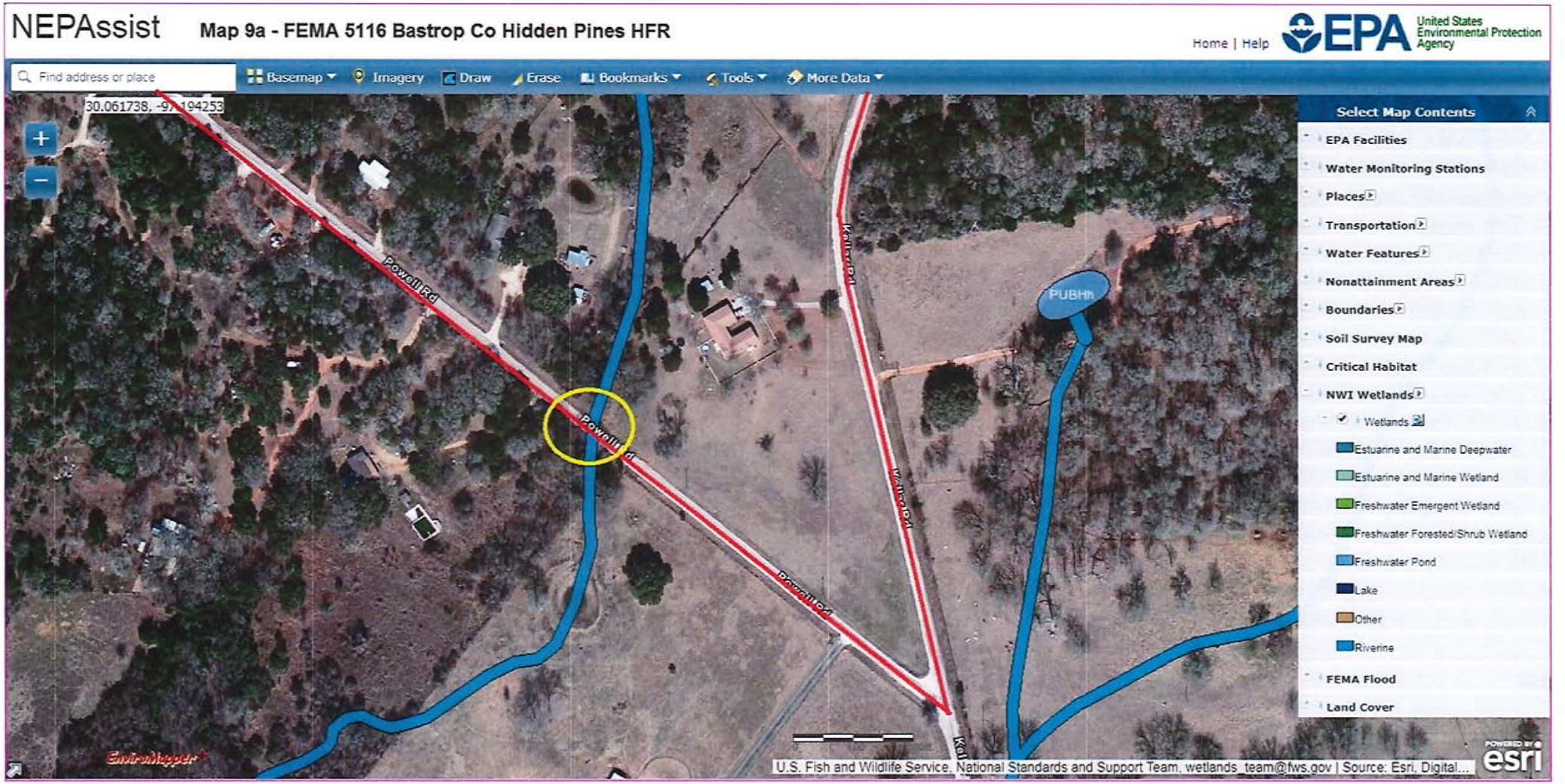
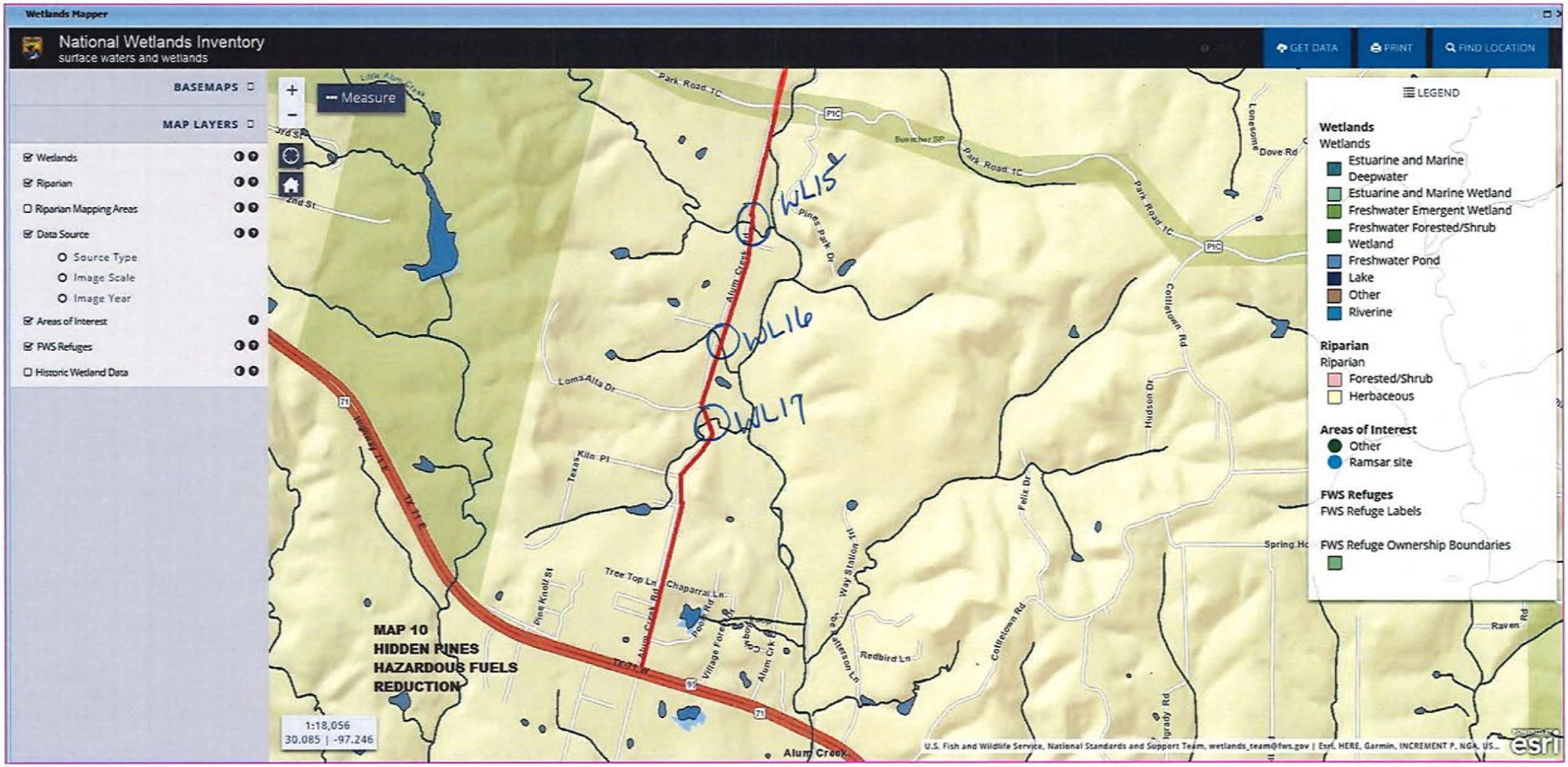

NEPAssist
Map 9a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.061738, -97.194253
Powell Rd
Powell Rd
Powell Rd
Keller Rd
Keller Rd
PUBHh
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL14


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
WL15
WL16
WL17
MAP 10
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
Park Road 1C
Pines Park Dr
Loma Alta Dr
Kiln Pl
Tree Top Ln
Chaparral Ln
Redbird Ln
Hudson Dr
Felix Dr
Dove Rd
Raven Rd
Alum Creek
1:18,056
30.085 | -97.246
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Map 10b - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
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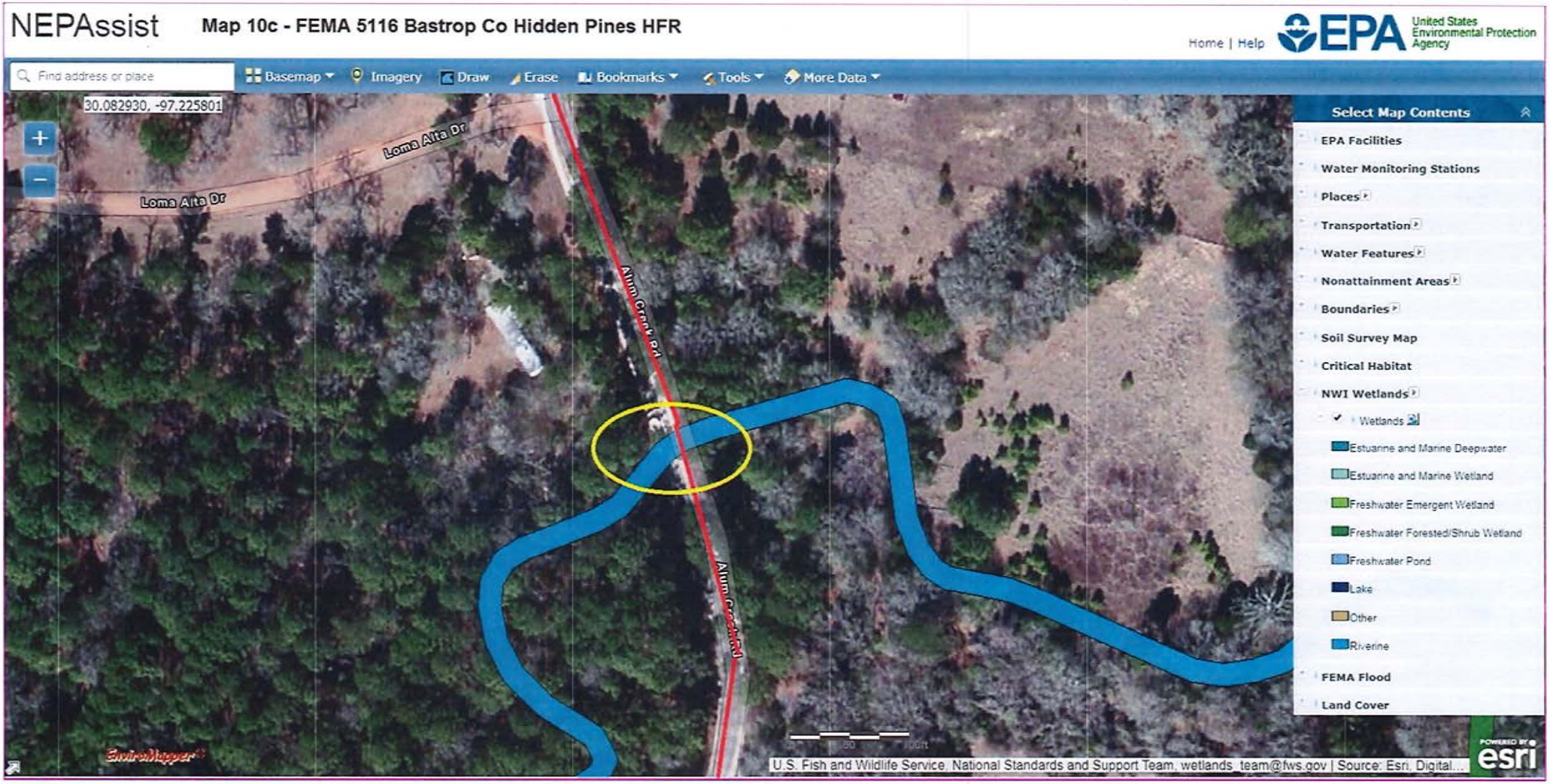
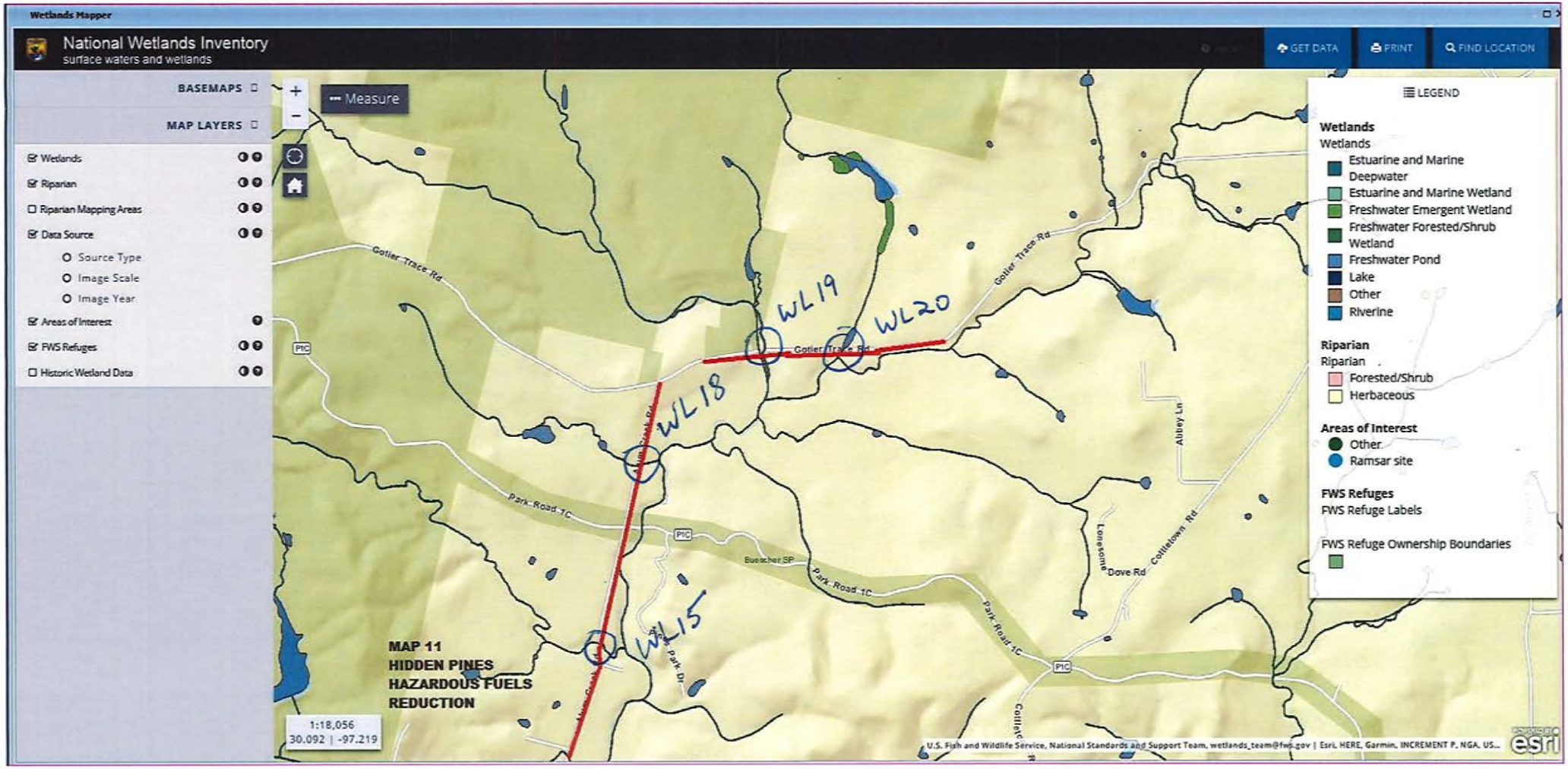
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
Alum Creek Rd
R4SBC
EnviroMapper
100ft
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL16


NEPAssist
Map 10c - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.082930, -97.225801
Loma Alta Dr
Loma Alta Dr
Alum Creek Rd
Alum Creek Rd
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL19


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
Gotier Trace Rd
Park Road 1C
Dove Rd
Colletown Rd
Abbey Ln
Buescher SP
WL15
WL18
WL19
WL20
MAP 11
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
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30.092 | -97.219
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 11a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
United States Environmental Protection Agency
Find address or place
Basemap
Imagery
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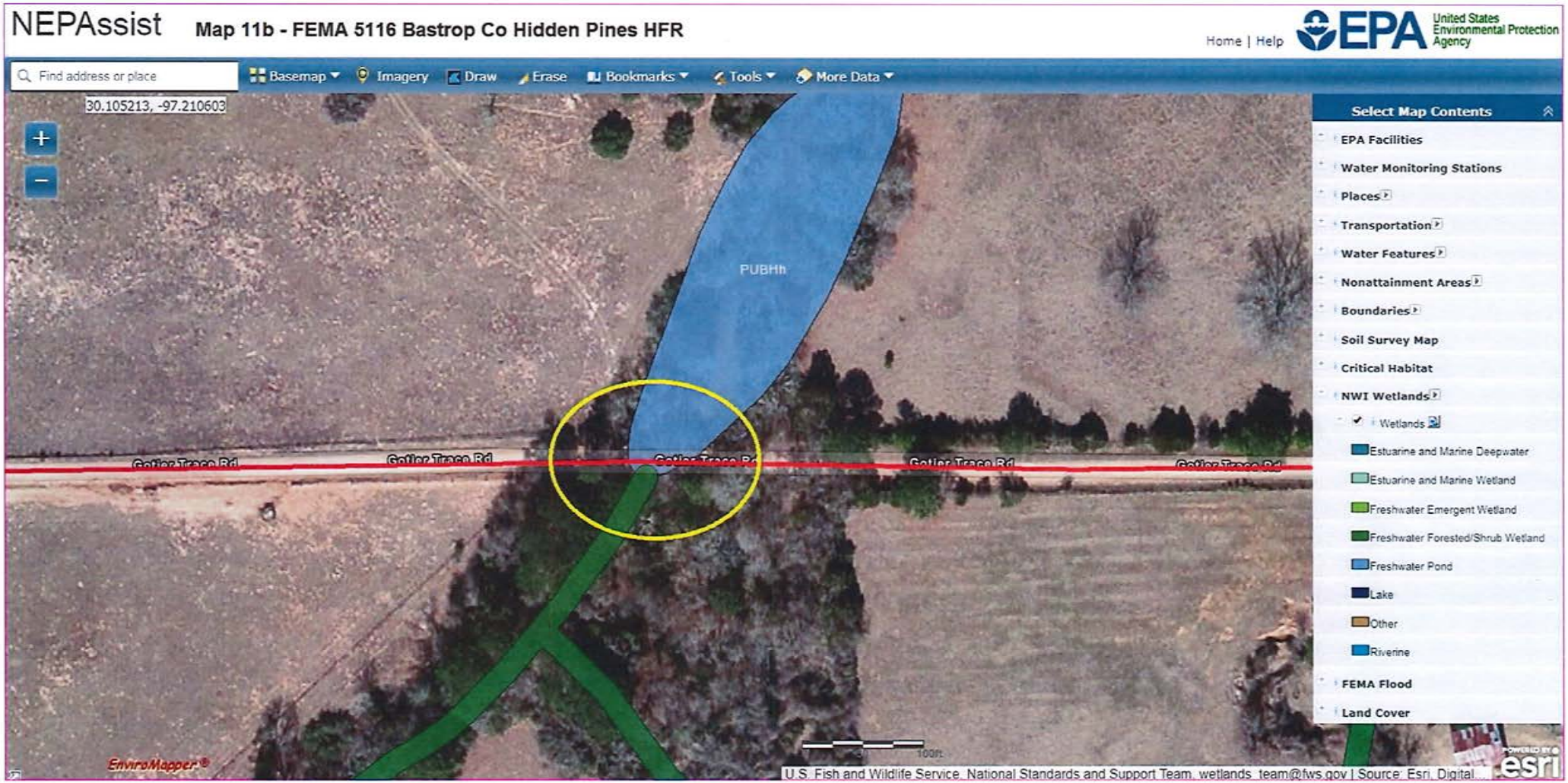
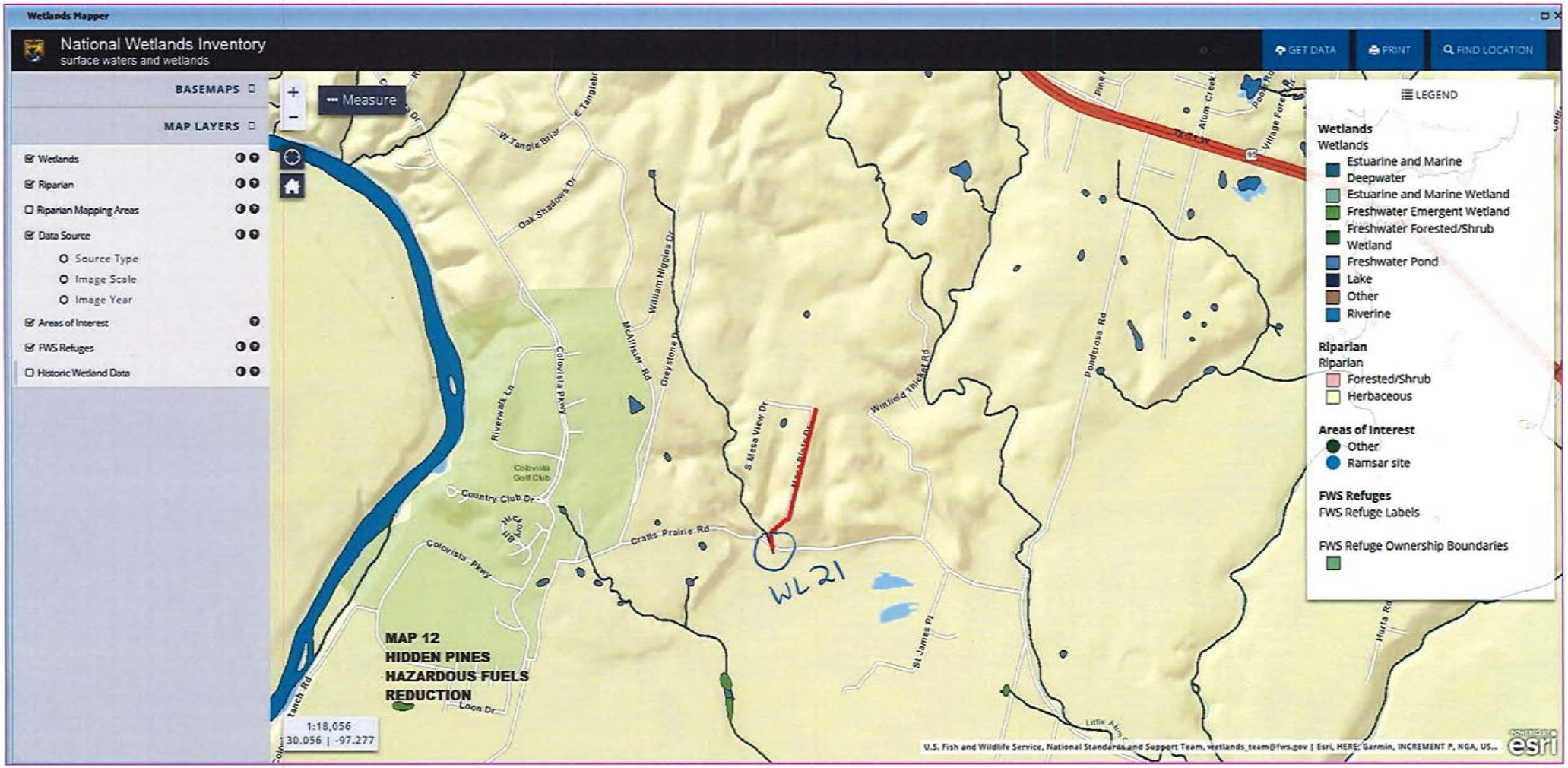
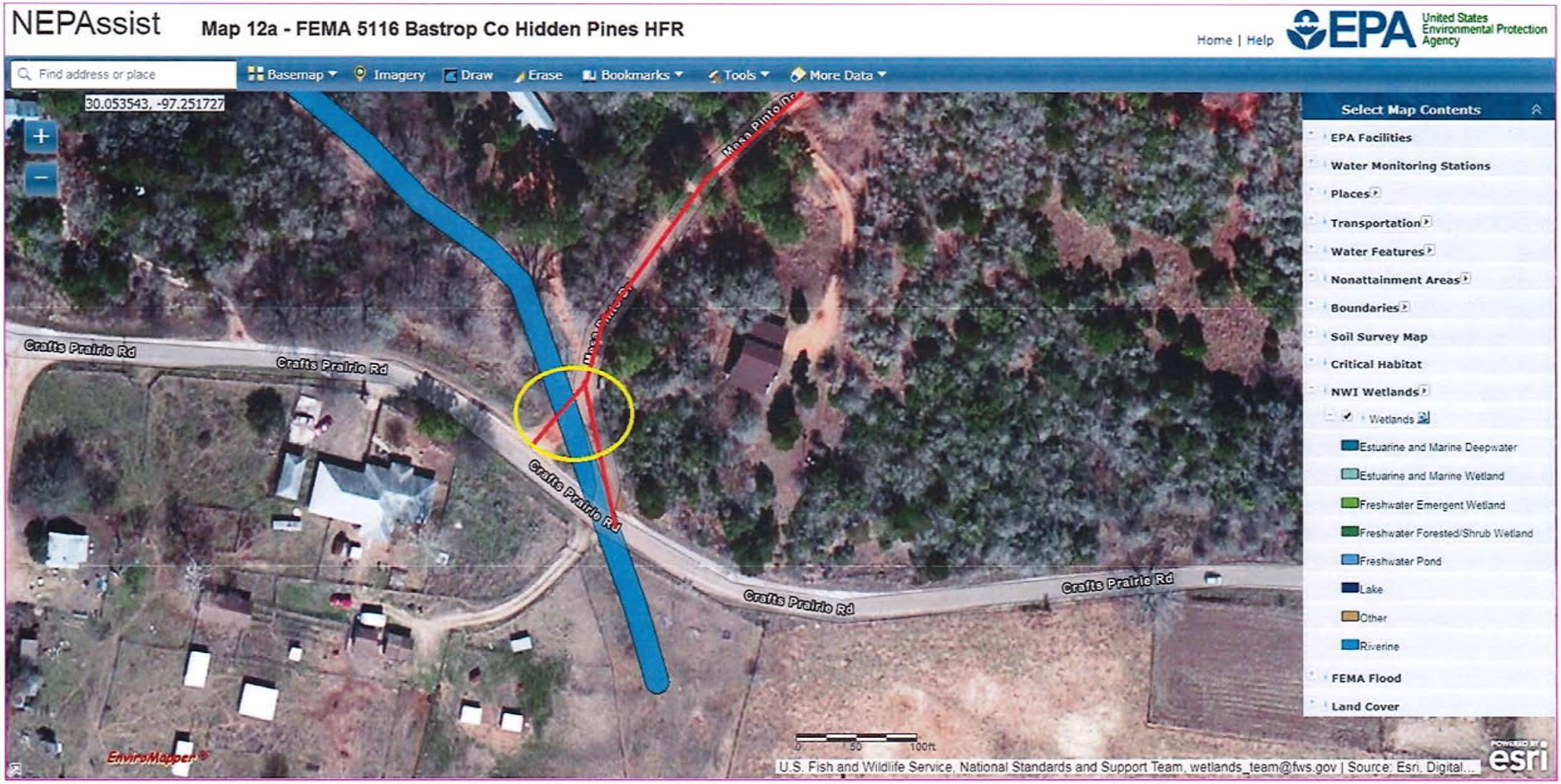
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
Gotier Trace Rd
Alum Creek
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL19

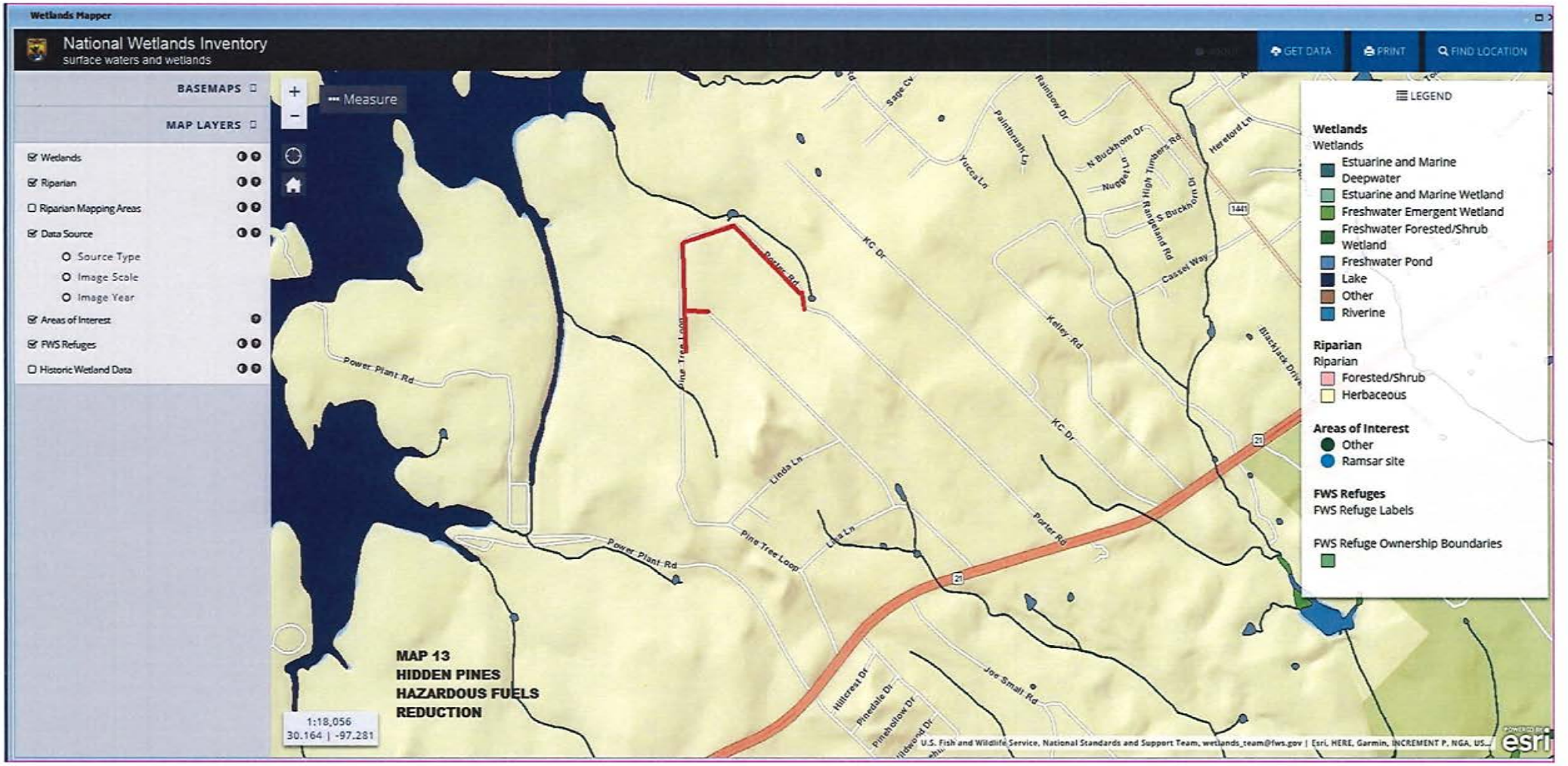

NEPAssist
Map 11b - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.105213, -97.210603
PUBHh
Goller Trace Rd
Goller Trace Rd
Goller Trace Rd
Goller Trace Rd
Goller Trace Rd
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper®
100ft
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital
esri

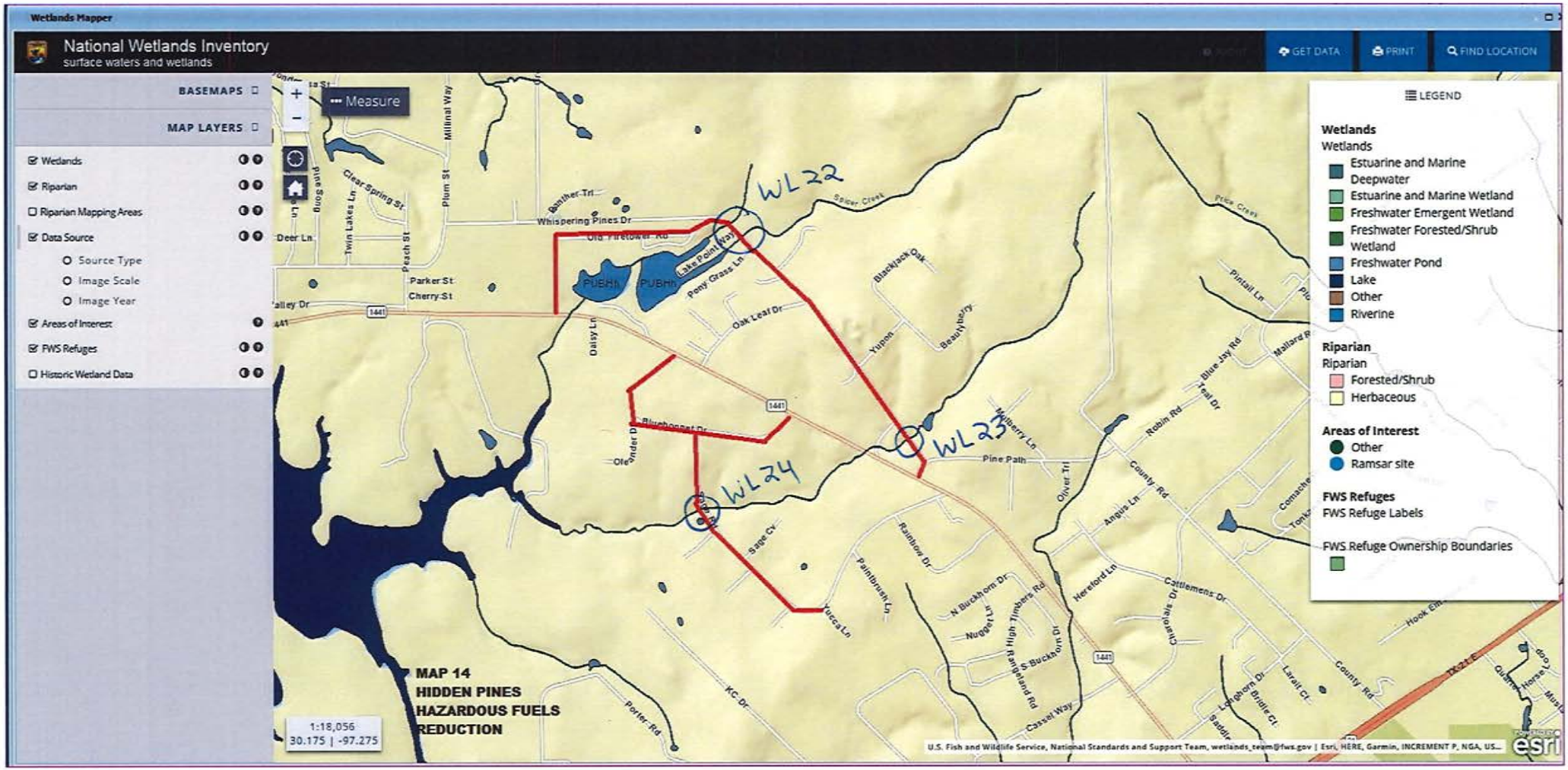
WL20

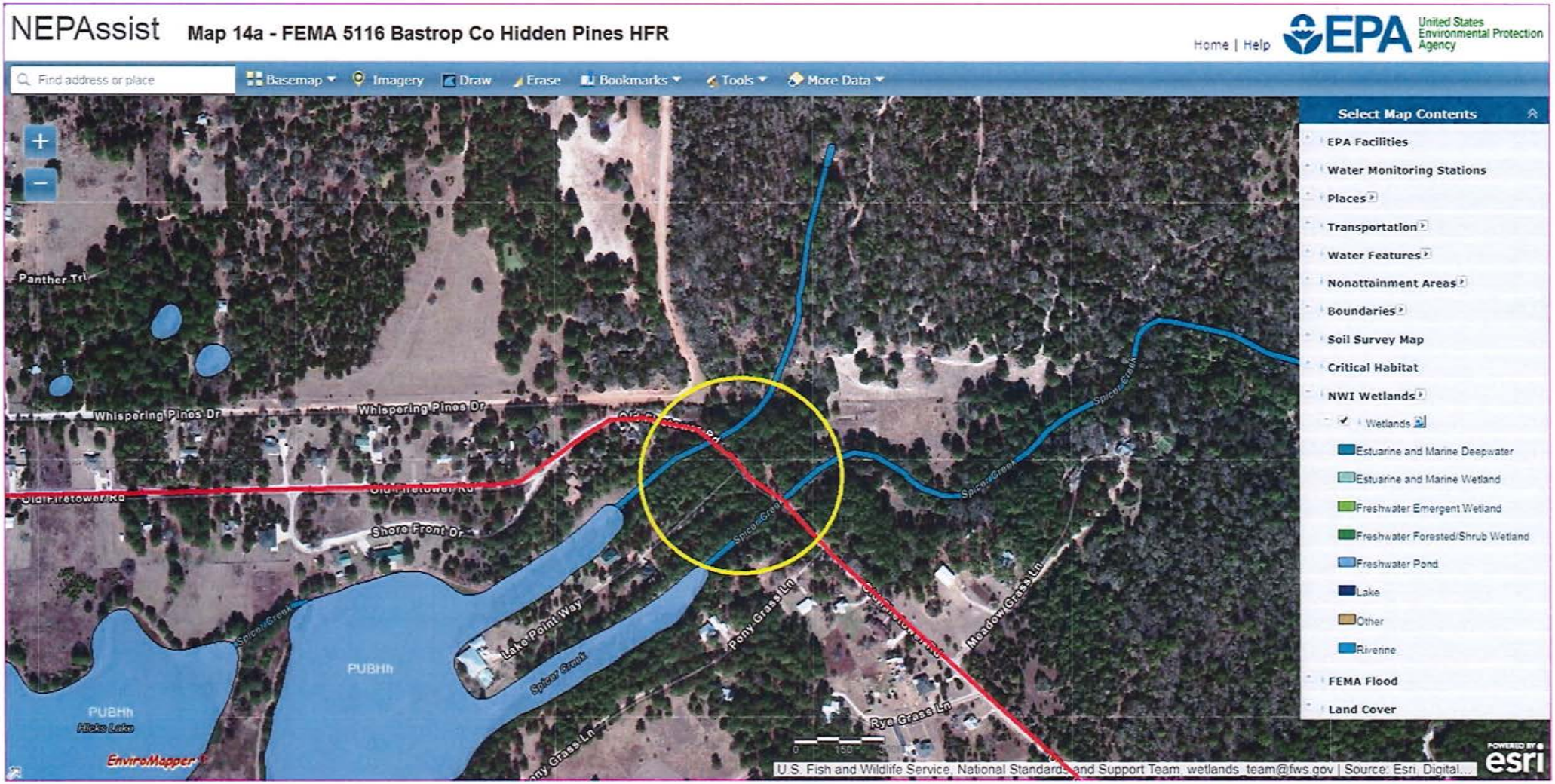

Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
MAP 12
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
WL 21
1:18,056
30.056 | -97.277
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 12a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
30.053543, -97.251727
Mesa Pinto Dr
Crafts Prairie Rd
Crafts Prairie Rd
Crafts Prairie Rd
Crafts Prairie Rd
Crafts Prairie Rd
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
0 50 100ft
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

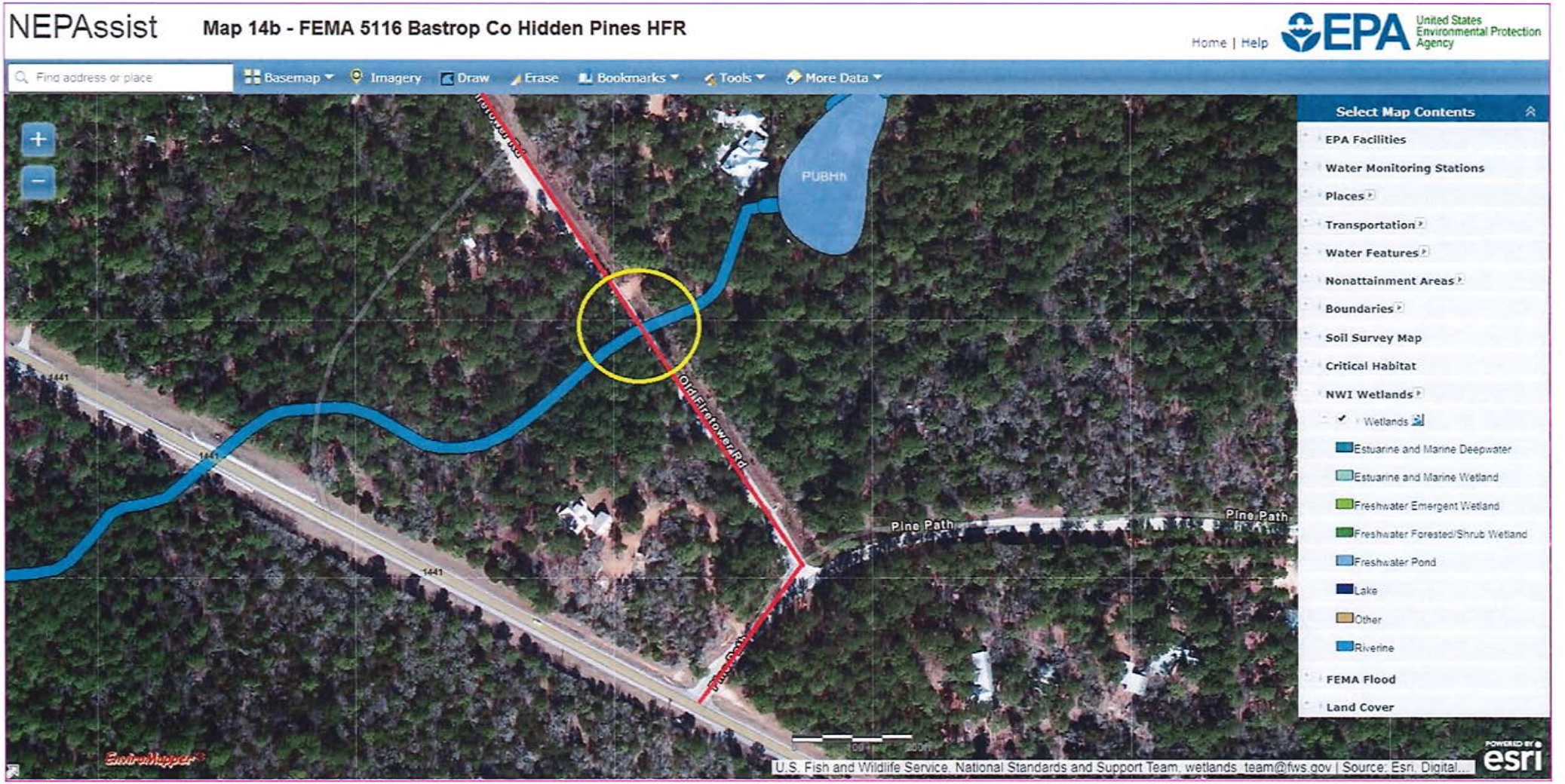
WL21


Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
Power Plant Rd
Pine Tree Loop
Porter Rd
KC Dr
Kelley Rd
Linda Ln
Lisa Ln
Joe Small Rd
Hillcrest Dr
Pinedale Dr
Pinehollow Dr
Sage Cv
Rainbow Dr
Paintbrush Ln
Yucca Ln
N Buckhorn Dr
Nugget Ln
High Timbers Rd
S Buckhorn Dr
Rangeland Rd
Cassel Way
Hereford Ln
1441
21
MAP 13
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
30.164 | -97.281
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri

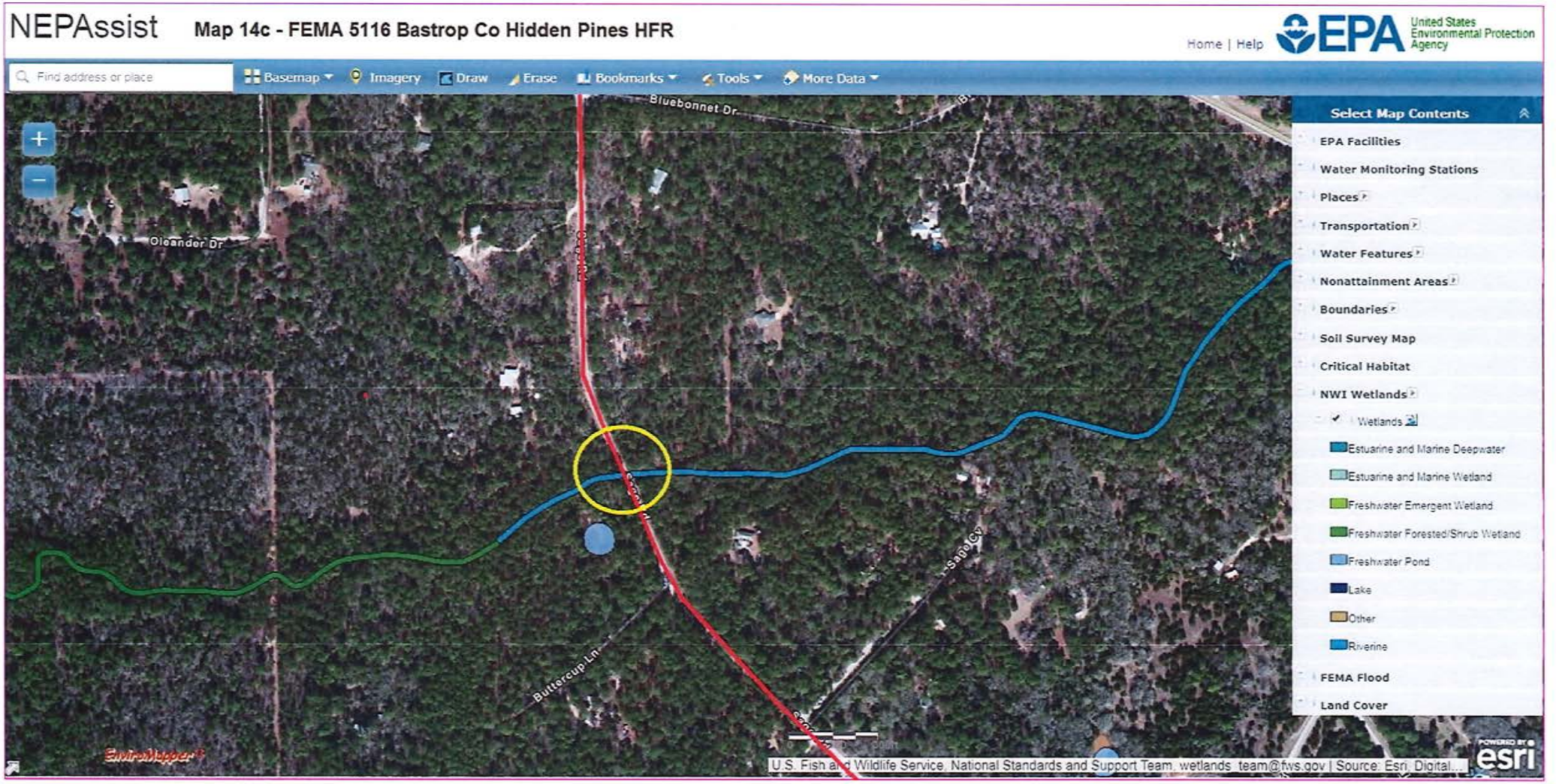

Wetlands Mapper
National Wetlands Inventory
surface waters and wetlands
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Measure
WL22
WL23
WL24
LEGEND
Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Riparian
Forested/Shrub
Herbaceous
Areas of Interest
Other
Ramsar site
FWS Refuges
FWS Refuge Labels
FWS Refuge Ownership Boundaries
MAP 14
HIDDEN PINES
HAZARDOUS FUELS
REDUCTION
1:18,056
30.175 | -97.275
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, INCREMENT P, NGA, US...
esri


NEPAssist
Map 14a - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
Panther Trl
Whispering Pines Dr
Old Firetower Rd
Shore Front Dr
Lake Point Way
Spicer Creek
Pony Grass Ln
Meadow Grass Ln
Rye Grass Ln
PUBHh
Hicks Lake
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL22


NEPAssist
Map 14b - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
EPA United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
PUBHh
Old Fireflower Rd
Pine Path
1441
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

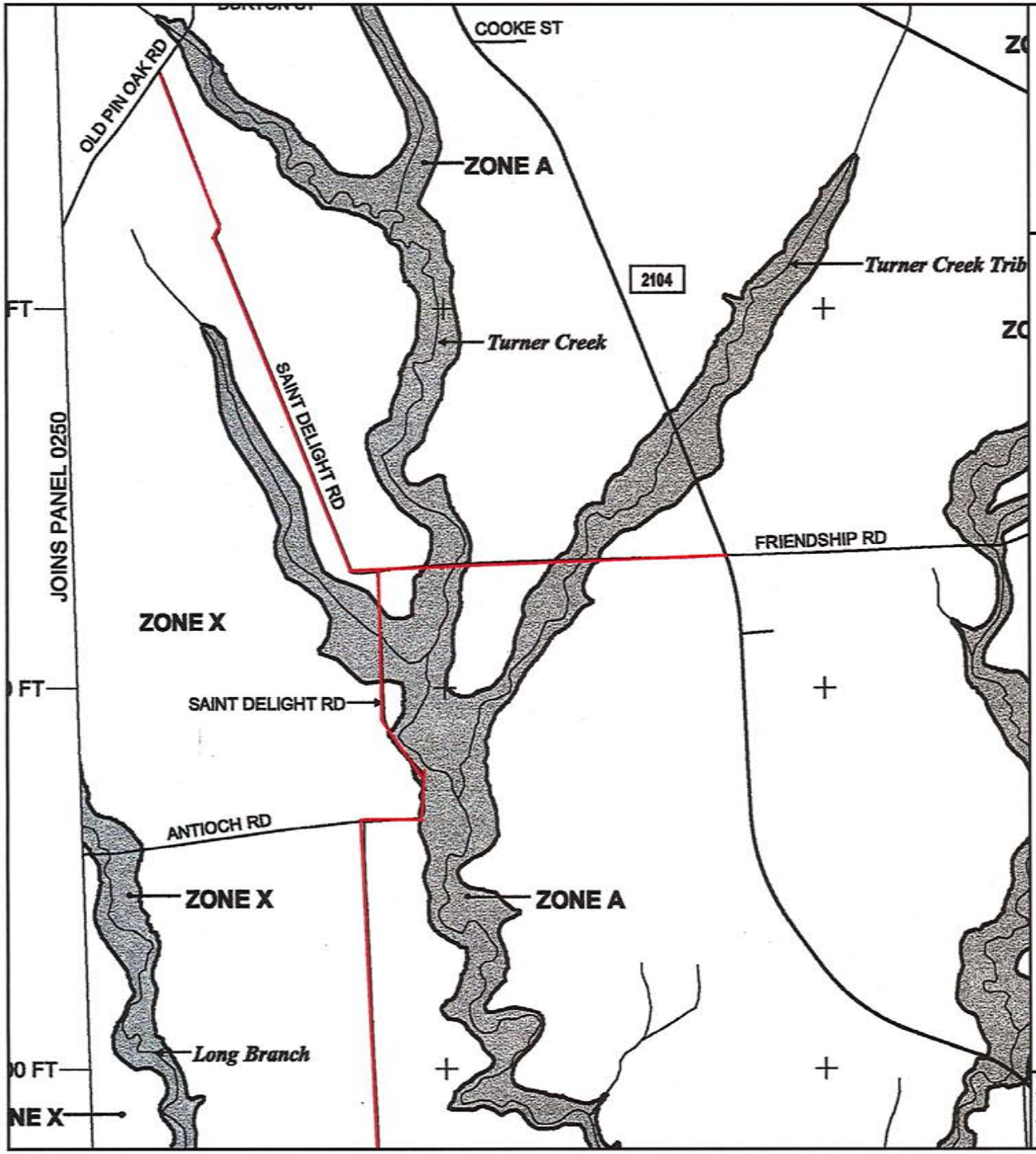
WL 23


NEPAssist
Map 14c - FEMA 5116 Bastrop Co Hidden Pines HFR
Home | Help
United States Environmental Protection Agency
Find address or place
Basemap
Imagery
Draw
Erase
Bookmarks
Tools
More Data
Bluebonnet Dr
Oleander Dr
Buttercup Ln
Sage Cv
Select Map Contents
EPA Facilities
Water Monitoring Stations
Places
Transportation
Water Features
Nonattainment Areas
Boundaries
Soil Survey Map
Critical Habitat
NWI Wetlands
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
FEMA Flood
Land Cover
EnviroMapper
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Source: Esri, Digital...
esri

WL24

APPENDIX C

Flood Insurance Rate Maps



PANEL 0275E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 275 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

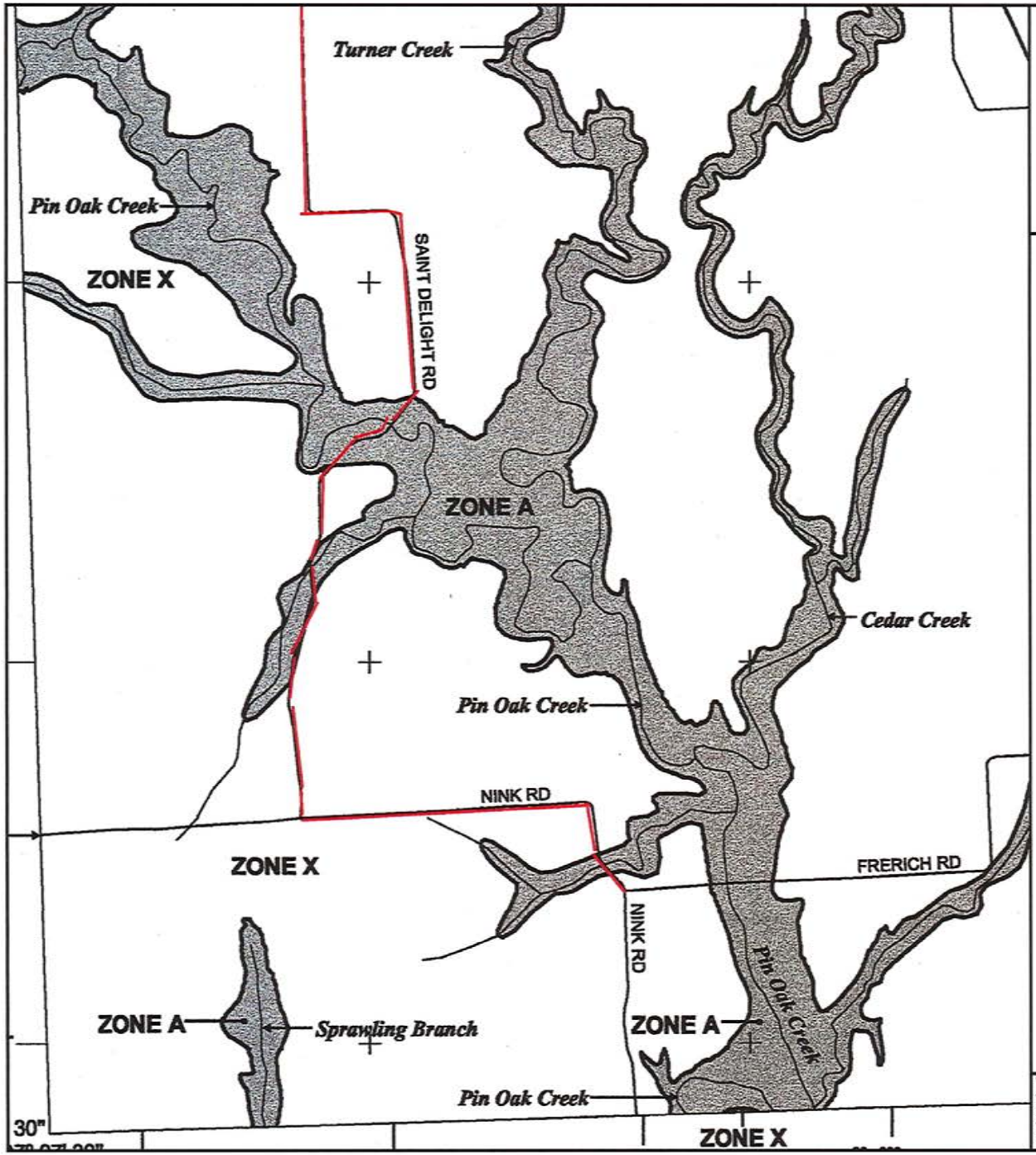
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0275	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on Insurance applications for the subject community.

MAP NUMBER
48021C0275E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0275E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 275 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

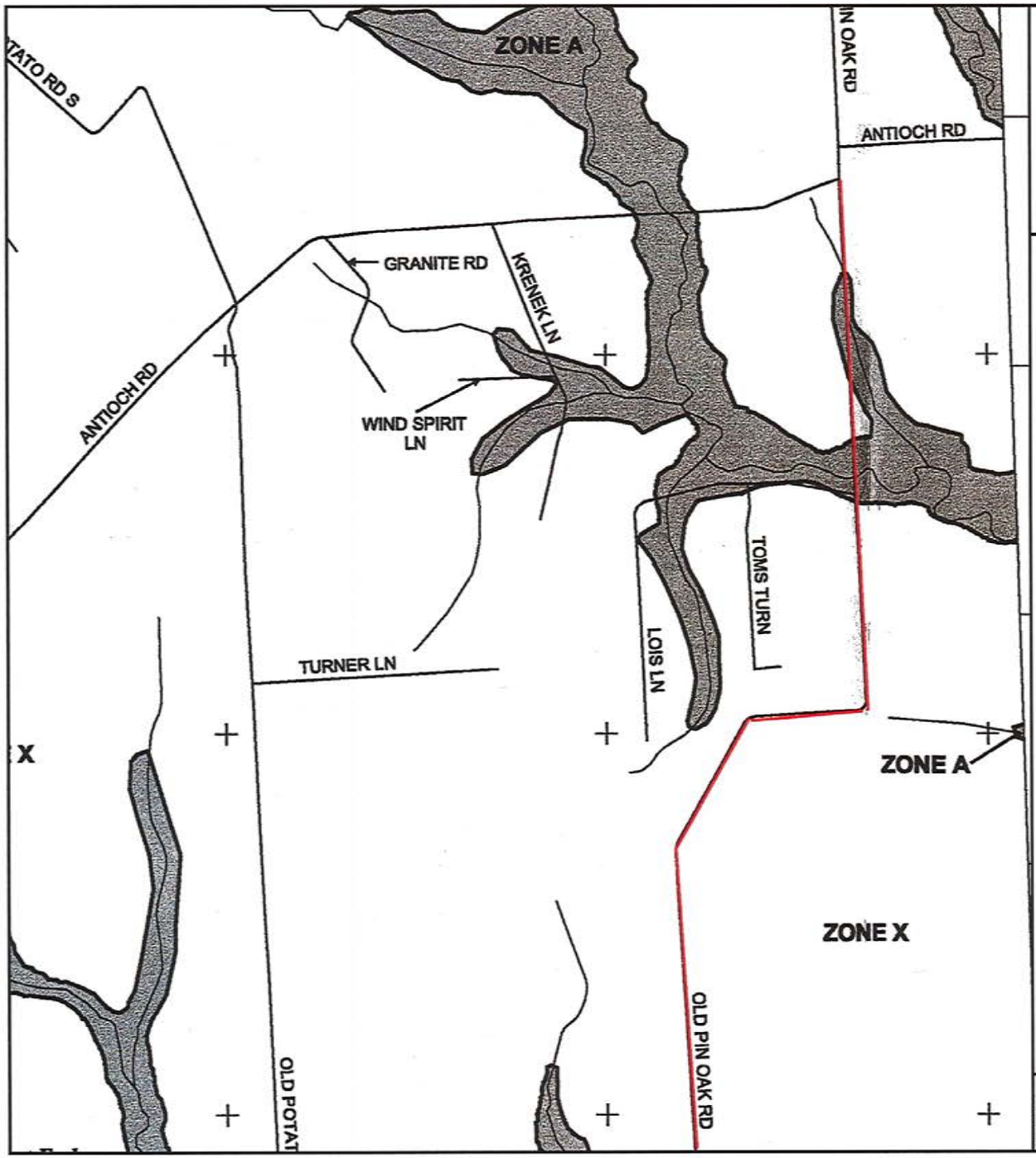
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0275	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0275E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0250E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 250 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

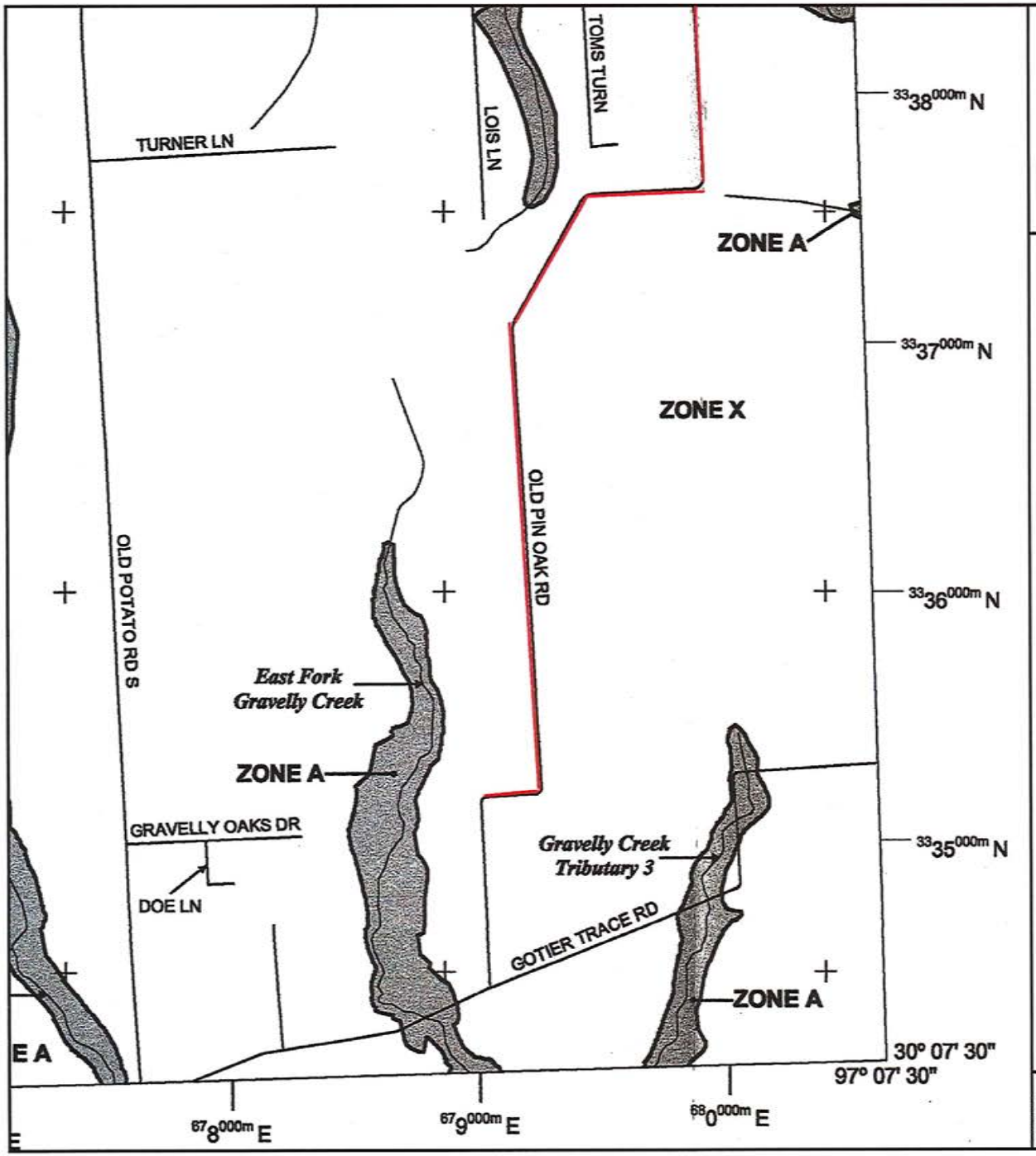
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0250	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0250E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



MAP SCALE 1" = 2000'

1000 0 2000 4000

PANEL 0250E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 250 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

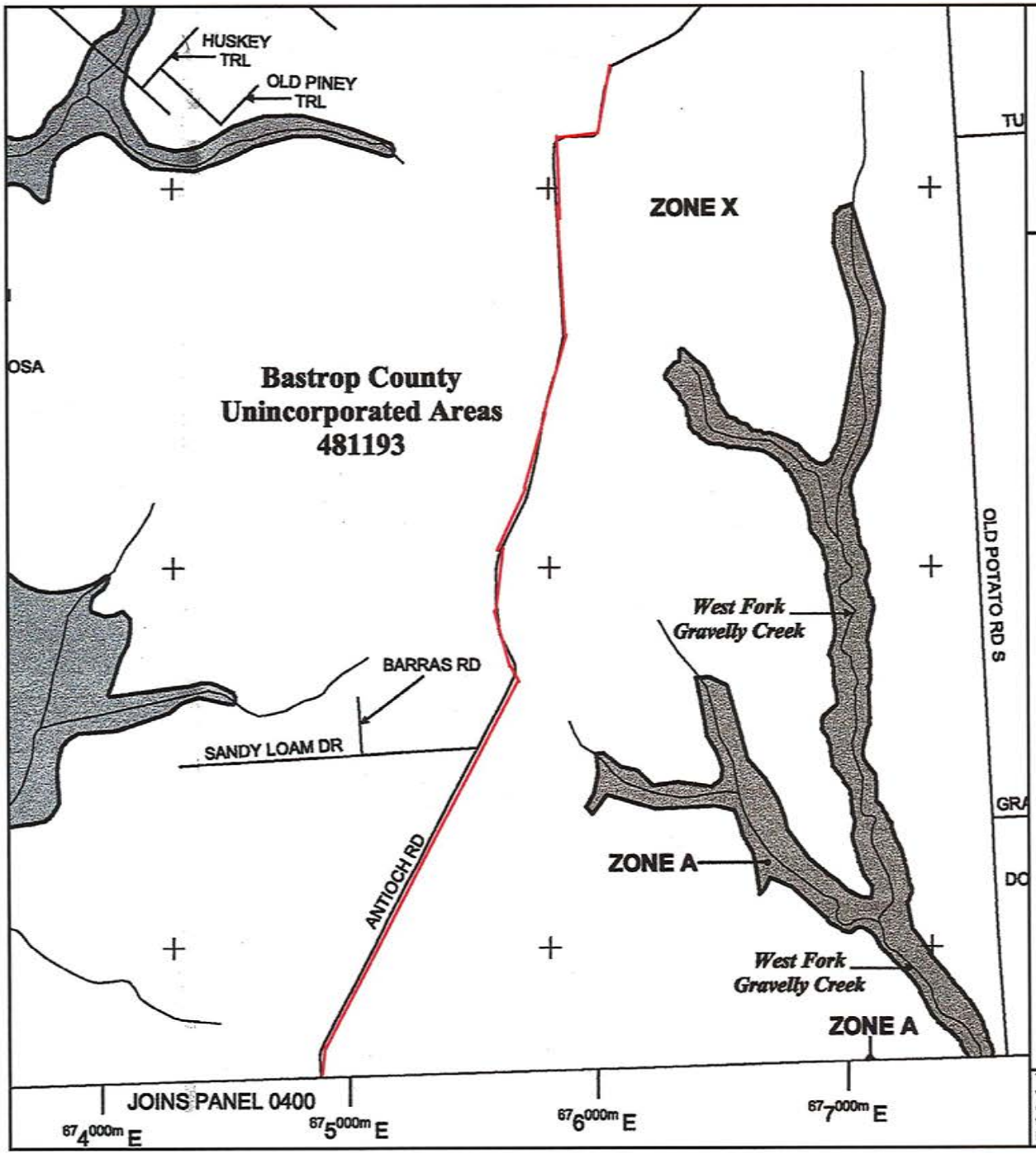
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0250	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0250E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0250E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 250 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

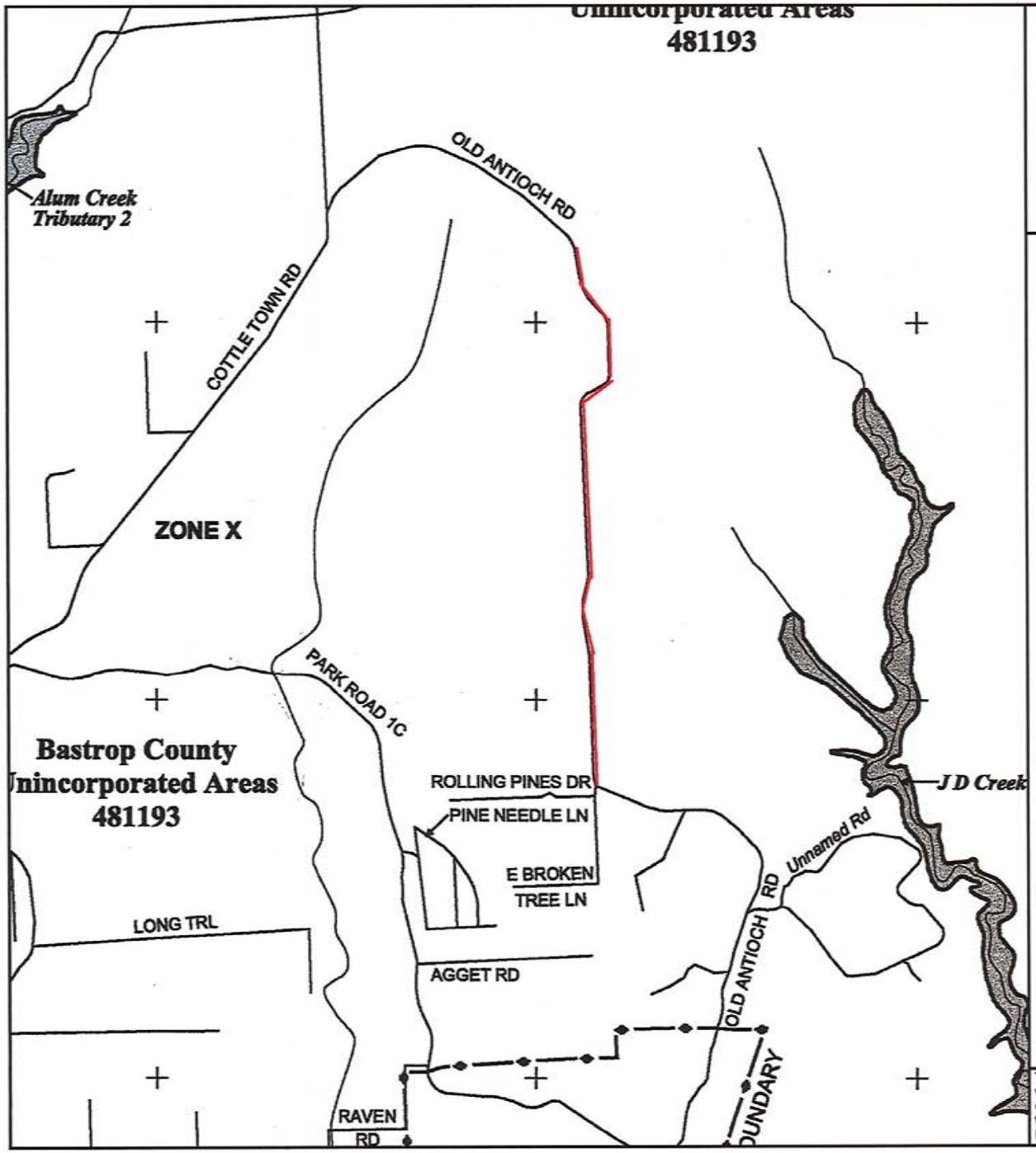
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0250	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0250E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0400E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 400 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

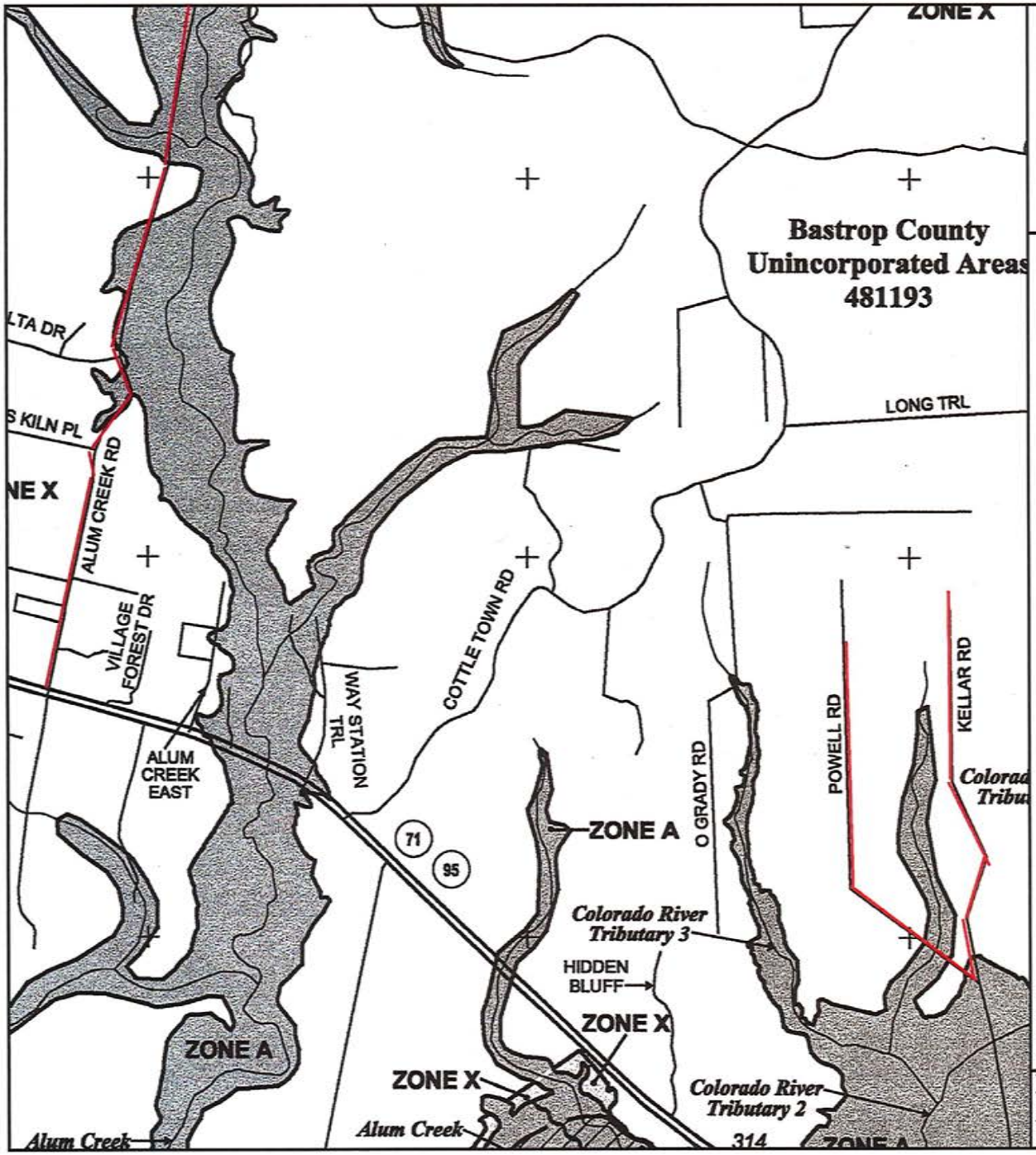
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0400	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0400E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0400E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

PANEL 400 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0400	E

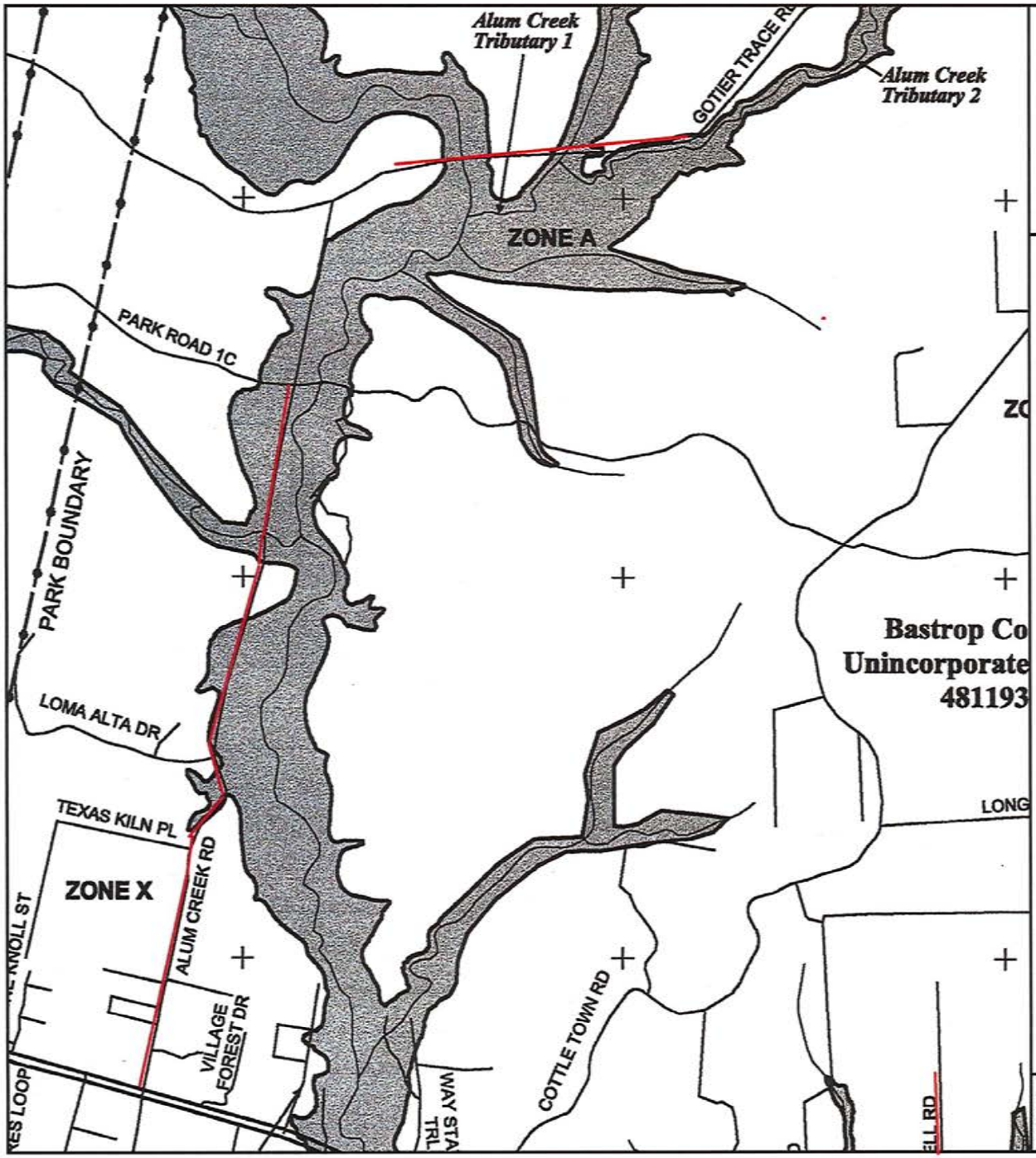
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0400E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



PANEL 0400E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 400 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

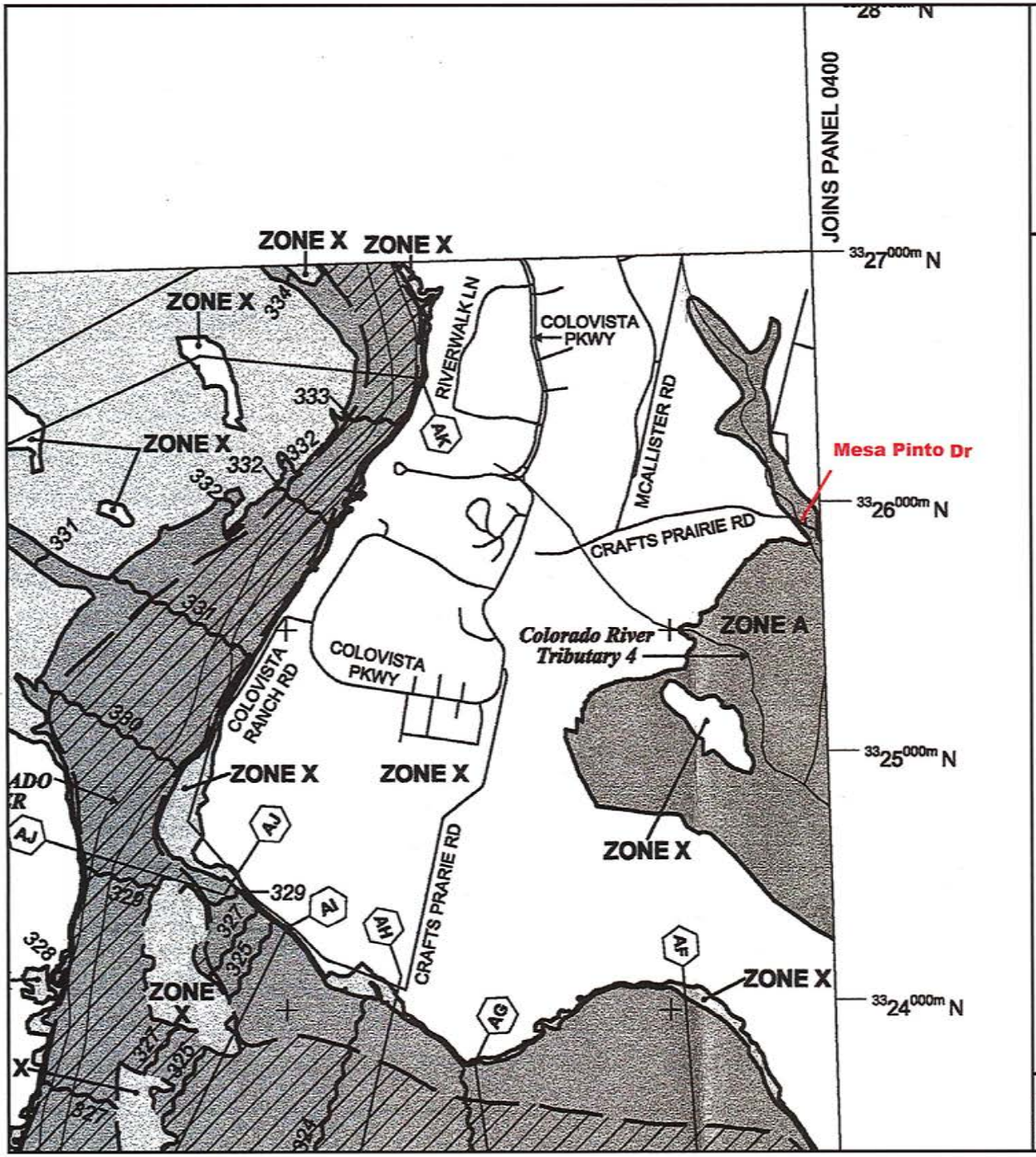
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0400	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0400E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0375E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

PANEL 375 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

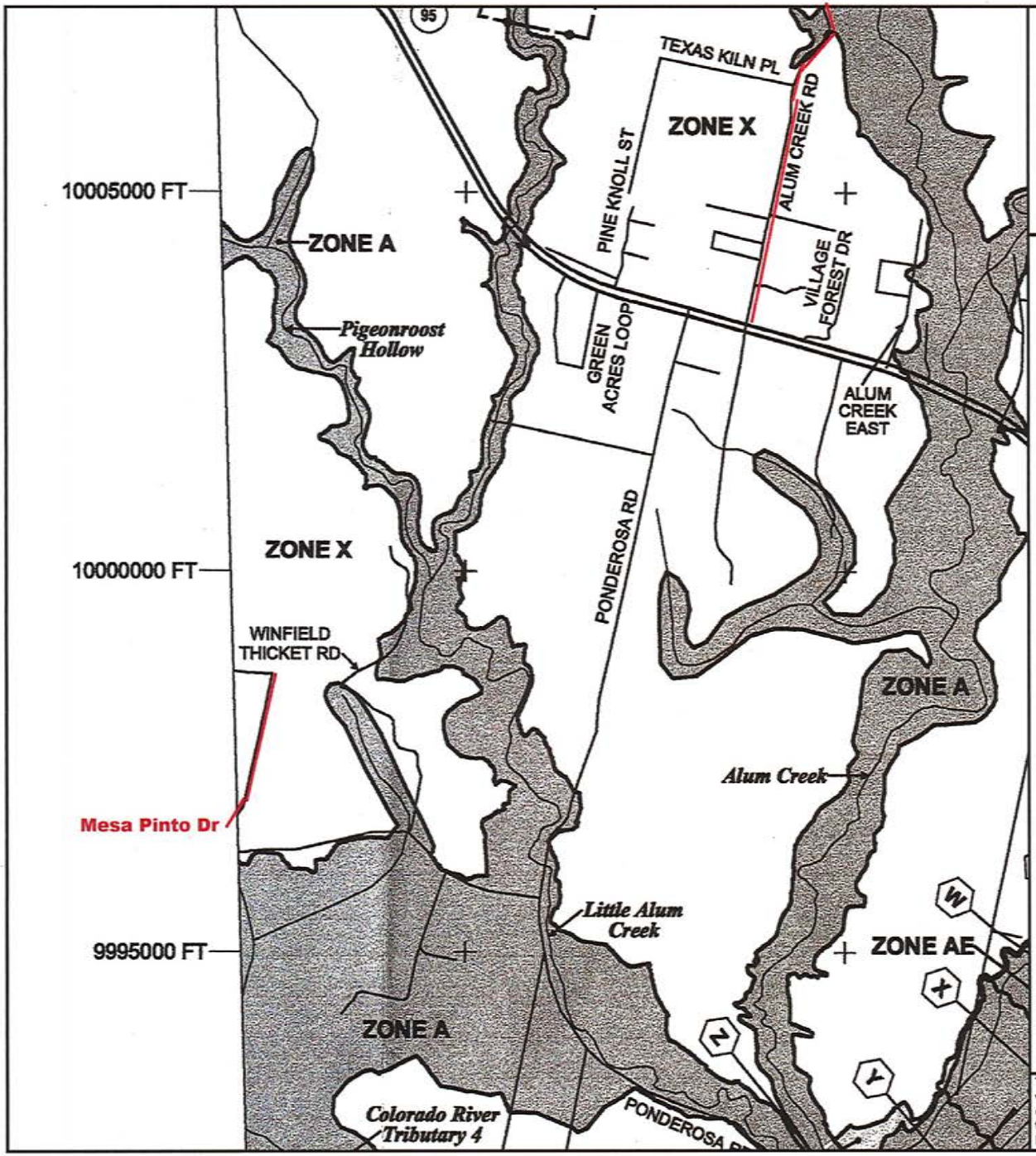
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0375	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0375E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0400E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 400 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

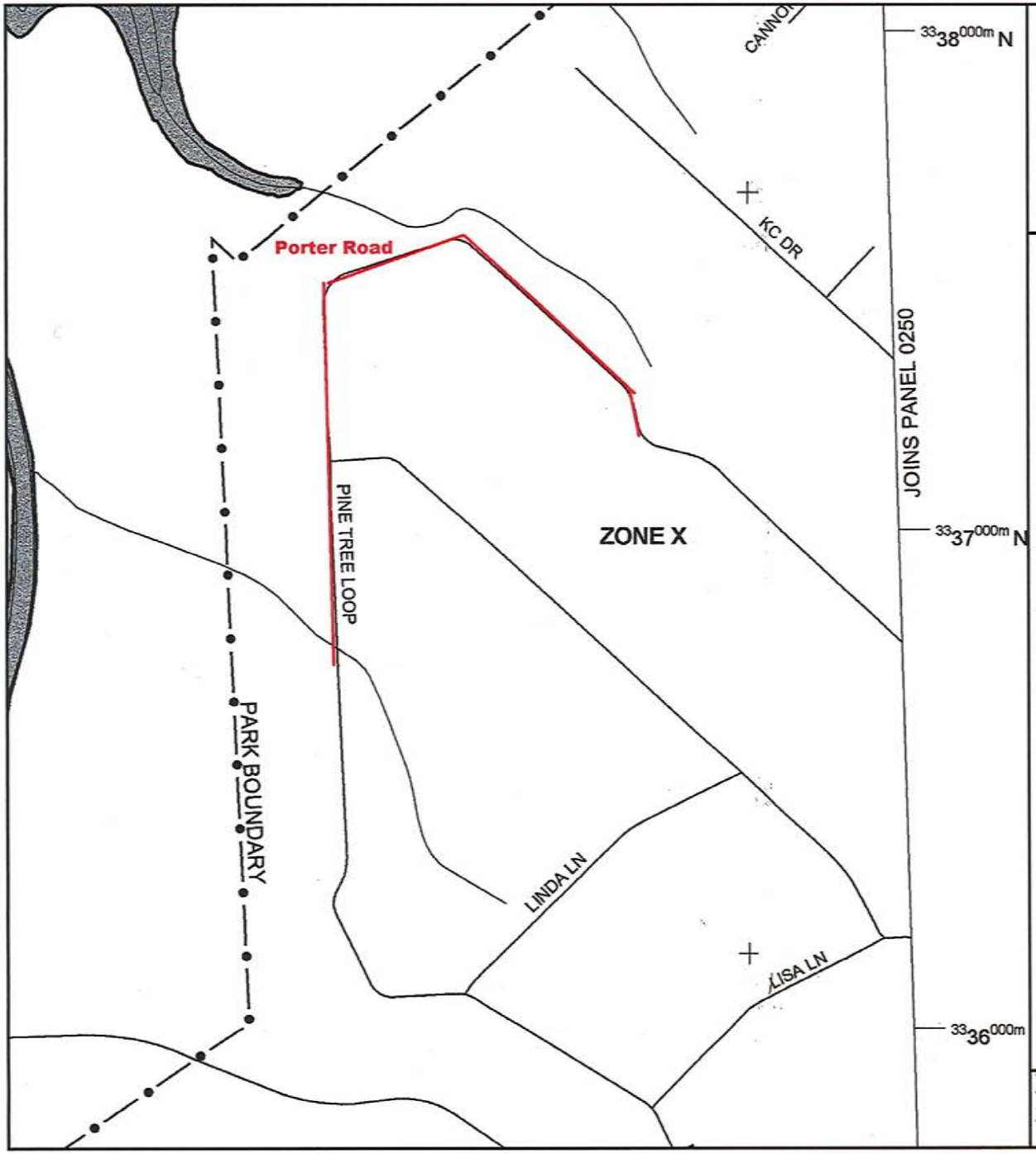
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0400	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0400E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0220E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 220 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

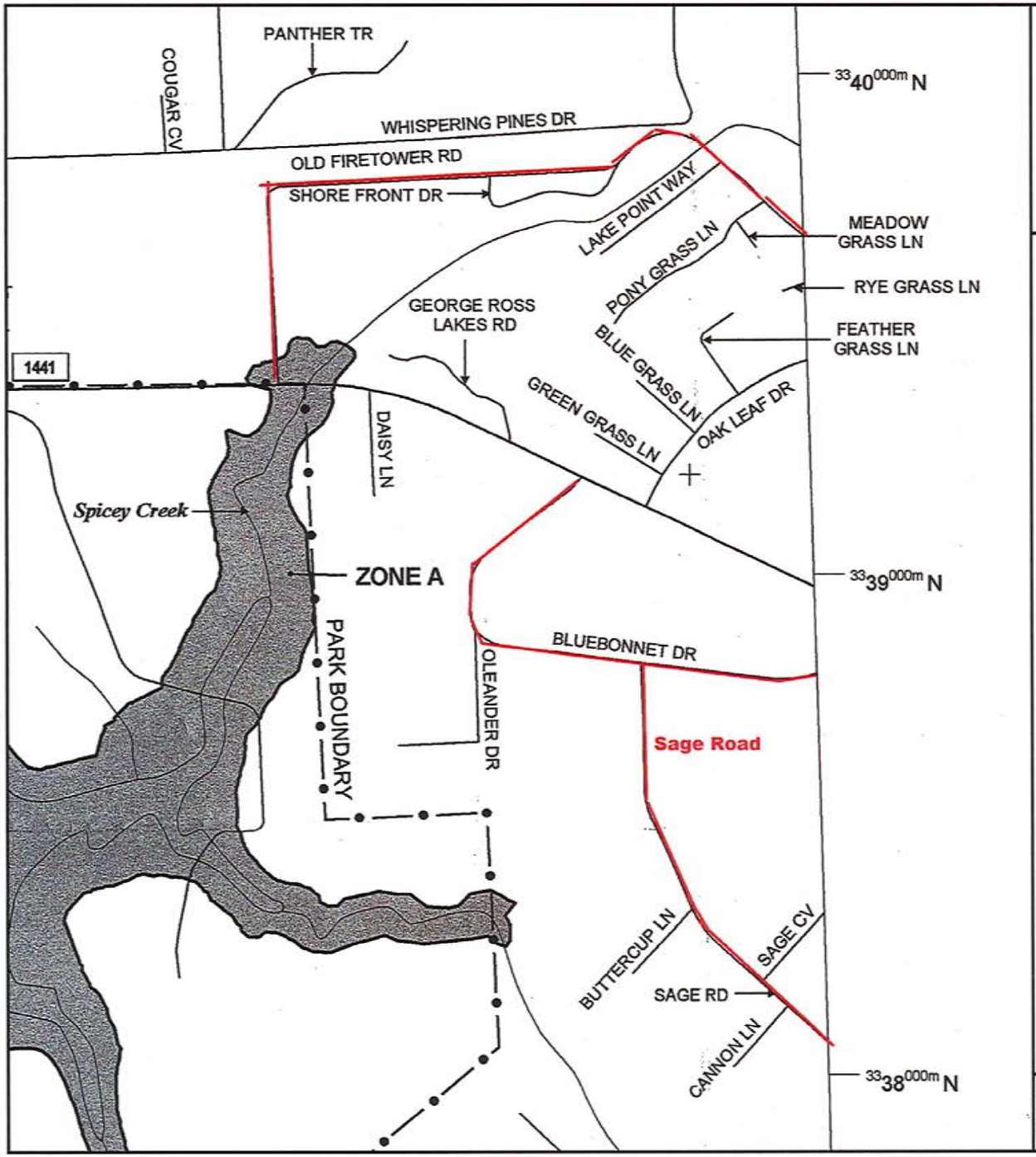
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	480022	0220	E
BASTROP, CITY OF	481193	0220	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0220E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0220E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 220 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

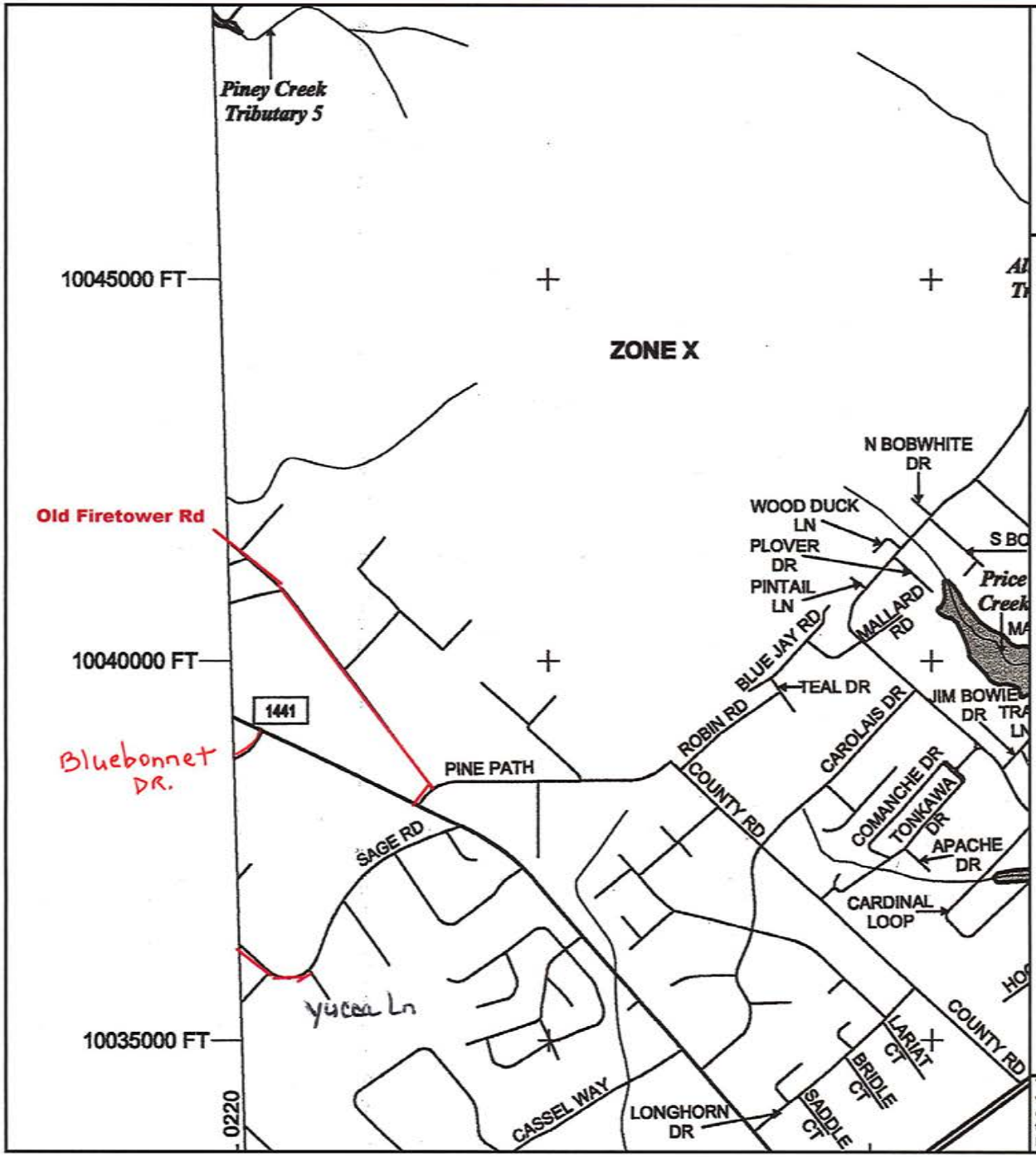
COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	480022	0220	E
BASTROP, CITY OF	481193	0220	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0220E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency



PANEL 0250E

FIRM

FLOOD INSURANCE RATE MAP

BASTROP COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 250 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BASTROP COUNTY	481193	0250	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48021C0250E

MAP REVISED
JANUARY 19, 2006

Federal Emergency Management Agency

APPENDIX D

8-Step Process for Floodplains and Wetlands

Step 1 Determine if the proposed action is located in the 100-year floodplain and wetlands

Portions of the proposed action are located within the 100-year floodplain per various Flood Insurance Rate maps dated 1/19/2006 as detailed below and in Appendix C:

St. Delight Road	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Friendship Road (aka Friendship Cemetery Road)	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Gotier Trace Road (aka Nink Road on portion that is east of St. Delight Road)	FEMA FIRM #48021C0275E, Panel 275 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Old Pin Oak Road	FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Powell Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Kellar Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Gotier Trace Road (near Alum Creek Rd)	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Alum Creek Road	FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. Most of the roadway is located within Zone A of the 100-year
Mesa Pinto Drive	FEMA FIRM #48021C0375E, Panel 375 of 625, revised 1/19/06 and FEMA FIRM #48021C0400E, Panel 400 of 625, revised 1/19/06. A portion of the roadway is located within Zone A of the 100-year Floodplain.
Old Firetower Road-Pine Path	FEMA FIRM #48021C0220E, Panel 220 of 625, revised 1/19/06 and FEMA FIRM #48021C0250E, Panel 250 of 625, revised 1/19/06. A small portion of the roadway is located within Zone A of the 100-year Floodplain.

Portions of the project may be located in wetlands per the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (See Appendix B and table below).

St. Delight Road Wetlands Maps 1, 1a, 1b, 2, 2a, 2b, 3, 3a	· A Riverine Wetland and a Freshwater Forested/Shrub Wetland (WL1) cross St. Delight Road approximately 786' south of the intersection with Friendship Road, stemming from Turner Creek. · Approximately 172' south of the intersection with Antioch Road, St. Delight Road is crossed by a Riverine Wetland (WL2) that ends in a Freshwater Pond approximately 229' to the west of the roadway. · A Riverine Wetland (WL3) crosses St. Delight Road approximately 1.26 miles south of the intersection with Antioch Road. This short Riverine Wetland ends approximately 146' to the east of St. Delight Road into a Freshwater Pond Wetland. · Approximately 1.08 miles north of the intersection with Gotier Trace Road/Nink Road, a Freshwater/Forested Shrub Wetland (Long Branch River) (WL4) crosses St. Delight Road. · Approximately 3,300' north of the intersection with Gotier Trace Road/Nink Road, a Riverine Wetland (WL5) crosses St. Delight Road. · There are a number of Freshwater Pond Wetlands on both sides of St. Delight Road, the nearest at approximately 21' to the east of the road.
Friendship Road (aka Friendship Cemetery Road) Wetlands Maps 1, 1a	Two Freshwater Forested/Shrub Wetlands (WL6 and WL7), from Turner Creek, cross Friendship Road at approximately 1,017' and again at approximately 2,549' east of the intersection with St. Delight Road.
Gotier Trace Road (aka Nink Road east of St. Delight Road) Wetlands Maps 3, 3b	· A Riverine Wetland (WL8) from Pin Oak Creek crosses Nink Road approximately 1,655' east of the intersection with St. Delight Road, and ends in a Freshwater Pond approximately 80' north of the roadway. · Approximately 394.6' north of the intersection with Frerich Road, a Riverine Wetland (WL9) from Pin Oak Creek crosses Nink Road.
Old Pin Oak Road Wetlands Maps 4, 4a, 5	A Riverine Wetland (WL10) crosses Old Pin Oak Road approximately 469' south of the intersection with Toms Turn, and ends approximately 516' west of Old Pin Oak Road.
Antioch Road Wetlands Maps 6, 6a, 7, 7a	· There is a Riverine Wetland (WL11) that crosses at the approximate start of construction area, and ends in a Freshwater Pond Wetland approximately 101' east of the roadway. · A Riverine Wetland (WL12) crosses Antioch Road approximately 1.19 miles north of the intersection with Gotier Trace Road, and ends in a Freshwater Pond Wetland approximately 548' east of the roadway.
Old Antioch Road Wetlands Maps 8, 8a	There is a Freshwater Forested/Shrub Wetland (WL13) that crosses at the approximate start of construction area, and ends in

	a Freshwater Pond Wetland approximately 527' east of the roadway.
Powell Road Kellar Road Wetlands Maps 9, 9a	There is a Riverine Wetland (WL14) that crosses Powell Road at approximately 725' northwest of the intersection with Kellar Road.
Alum Creek Road Wetlands Maps 10, 10a, 10b, 10c, 11, 11c	· A Riverine Wetland (WL15) from Alum Creek crosses Alum Creek Road approximately 1,957' south of the intersection with Park Road 1C. · A Riverine Wetland (WL16) from Alum Creek crosses Alum Creek Road approximately 1,170' north of the intersection with Loma Alta Drive and comes to an end in a Freshwater Pond Wetland approximately 1,687' west of the roadway. · A Riverine Wetland (WL17) from Alum Creek crosses Alum Creek Road approximately 297' south of the intersection with Loma Alta Drive. · A Riverine Wetland (WL18) from Alum Creek crosses Alum Creek Road approximately 1,414' south of the intersection with Gotier Trace Road.
Gotier Trace Road (near Alum Creek Rd) Wetlands Maps 11, 11a, 11b	Alum Creek and a Freshwater Forested/Shrub Wetland (WL19) cross Gotier Trace Road approximately 1,808' east of the intersection with Alum Creek Road. A Freshwater Forested/Shrub Wetland and Freshwater Pond Wetland (WL20) cross Gotier Trace Road approximately 3,206' east of the intersection with Alum Creek Road.
Mesa Pinto Drive Wetlands Maps 12, 12a	There is a Riverine Wetland (WL21) that runs along the southern end of Mesa Pinto Drive.
Porter Road Pine Tree Loop Wetlands Map 13	There are no wetlands on or near this site.
Old Firetower Road Pine Path Wetlands Maps 14, 14a, 14b	· Hicks Lake is located within the boundaries of Old Firetower Road, Pony Grass Lane and FM 1441. Spicer Creek flows from Bastrop Lake as a Freshwater Forested/Shrub Wetland, through Hicks Lake, and continues on as Riverine Wetland (WL22) that comes to an end approximately 1.11 miles to the northeast of Old Firetower Road. · A Riverine Wetland (WL23) crosses Old Firetower Road approximately 494' northwest of the intersection with Pine Path.
Bluebonnet Drive Wetlands Map 14	There are no wetlands on or near this site.
Sage Road Wetlands Maps 14, 14c	An unnamed tributary flows from Bastrop Lake as a Freshwater Forested/Shrub Wetland and then turns to a Riverine Wetland (WL24) that comes to an end approximately 1.72 miles to the northeast of Sage Road.

Step 2 Early public notice

In accordance with 44 CFR Part 9.8(b)(2), the publication of this draft Environmental Assessment will fulfill the early public notice requirement. A public notice concerning the proposed hazardous fuels reduction project and on the availability of the draft Environmental Assessment will be published in the *Bastrop Advertiser*, the local paper, and on FEMA's website (https://www.fema.gov/resource-document-library). Public comment on the proposed project and draft Environmental Assessment will be open for 30 calendar days. The notice will include the name, proposed location and description of the activity, and an indication that portions of the action are located in floodplains and/or wetlands.

Step 3 Identify and evaluate practicable alternatives to working in floodplains and wetlands

Avoiding work in the floodplain and/or wetlands would mean that portions of the project area will not undergo hazardous fuels reduction. In order to achieve the purpose and need (to reduce wildfire risk along county roads located in fire-prone areas to allow for ingress/egress for firefighters and first responders in the event of a wildfire and to allow for efficient evacuation of residents), the continuity of the fuels reduction footprint must not be broken. Eliminating the portions of the project area that are in the floodplain and/or wetlands from treatment, thereby taking the project out of the floodplain and wetlands, would leave a gap in the fire-barrier. Therefore, avoiding work in the floodplain and wetlands is not a practicable alternative because it may cause the entire project to fail and would not meet the purpose and need for the mitigation activity.

Taking no action would fail to address the threat of spreading wildfire along high risk county roads. No work would be conducted to reduce hazardous fuels in road rights-of-way within Bastrop County. Residents, homes, businesses and firefighting personnel would remain at an elevated risk for the spread of a catastrophic wildfire. The no action alternative would not meet the purpose and need for the project and is not a practicable alternative.

The proposed action is contingent on the project being partially located within the 100-year floodplain and wetlands, and there are no other practicable alternatives outside the floodplain.

Step 4 Identify impacts of proposed action associated with occupancy or modification of floodplains and wetlands

The proposed action would not significantly affect the functions and values of floodplains and wetlands in the project area. Although the proposed action would reduce the risk to structures in the project area, the proposed project would not promote development within floodplains and wetlands. Some vegetation will be removed, but soils and hydrology will remain unaltered. Soil disturbances in and near wetlands would be avoided by conducting the work by hand within wetlands and within 200 feet of wetlands. No significant soil disturbance would occur within the floodplain. The proposed action would not place any structures or fill within the floodplain that would impede or redirect flood flows, nor would it result in any excavation. No debris or mulch would be staged or stored in the floodplain.

The functions of floodplains and wetlands to filter nutrients and impurities from runoff; to provide floodwater storage; to reduced flood velocities; to reduce flood peaks; to reduce sedimentation; and to promote infiltration and aquifer recharge will remain intact after the implementation of this project because vegetation would be thinned but not removed completely. Floodplains and wetlands also provide services in the form of providing fish and wildlife habitat, breeding, and feeding grounds. These values will not be adversely impacted as a result of the proposed action and the overall integrity of the ecosystem will not be impacted. FEMA has determined the proposed action "may affect, but is not likely to adversely affect" the federally endangered Houston toad. The project would not adversely modify

designated critical habitat and would have no effect on other federally listed species. The proposed action would have negligible impacts to native species and their habitats and population levels of native species would not be affected. The potential for adverse impacts to migratory bird species would be avoided either by conducting the work during the fall and winter seasons when migratory species are not breeding or by deploying a biological monitor. The proposed action will not adversely affect the societal and recreational benefits provided by floodplains and wetlands. Open space and recreational uses in Bastrop County will not be affected by the proposed action.

The hazardous fuels reduction activities would reduce the potential for the negative effects of a major wildfire on soils if a wildfire occurs. A wildfire could alter the cycling of nutrients; the physical and chemical properties of soils; and the temperature, moisture, and biotic characteristics of the existing soils. These primary impacts from a wildfire could also result in decreased infiltration and increased runoff, which often causes increased erosion. These potential negative effects of a major wildfire on the natural wetland functions would be reduced through implementation of the proposed action.

Step 5 Minimize adverse impacts to floodplains and wetlands; restore and preserve the natural and beneficial floodplain values; preserve the natural and beneficial wetland values

The hazardous fuels reduction activities will not have significant adverse effects on the natural values provided by floodplains and wetlands. The controlled vegetation removal will protect the natural environment from spreading wildfire, and reduce the impact of destruction to property and possible loss of life. The proposed project would not result in the destruction, loss, or degradation of floodplains or wetlands.

Impacts to the Houston toad will be mitigated by the avoidance and minimization measures outlined in the consultation with the U.S. Fish and Wildlife Service (USFWS) in Section 4.3 of the EA. Impacts to migratory bird species will be minimized by seasonal restrictions and or biological monitoring.

Though a permit is not anticipated, Bastrop County must coordinate with the local floodplain administrator, obtain any required permits prior to initiating work, and comply with any conditions of the permit to ensure any harm to the floodplain is minimized.

In order to protect potential wetlands identified for hazardous fuels reduction activities, the County will implement best management practices (BMPs) within 200-feet of wetlands. Hazardous fuels reduction activities within 200-feet of a wetland would be restricted to hand-thinning and no motorized vehicles would be used. No root balls would be removed and stumps would be cut down to ground level, which would minimize impact to soils and the potential for erosion. No debris or mulch would be placed in a wetland or within the 200-foot buffer to prevent any potential impacts to the wetland. Vegetation removed within wetlands and within 200-feet of wetlands would not be mulched on site and would be hand-hauled outside of the 200-foot buffer. Silt fencing would be installed around wetlands to prevent mulch and sediment from flowing into the wetland during rain events.

Step 6 Determine if proposed action is practicable and re-evaluate alternatives.

FEMA maintains that the proposed action alternative is the only practicable alternative to meet the purpose and need of the project.

Step 7 Findings and public explanation (Final Notification)

For actions located in the floodplain, Bastrop County must issue a final public notice per 44 CFR Part 9.12(e) at least 15 days prior to the start of work. The final notice shall include the following: (1) A statement of why the proposed action must be located in an area affecting or affected by a floodplain or a wetland; (2) A description of all significant facts considered in making this determination; (3) A list of the alternatives considered; (4) A statement indicating whether the action conforms to applicable state and local floodplain protection standards; (5) A statement indicating how the action affects or is affected by the floodplain and/or wetland, and how mitigation is to be achieved; (6) Identification of the responsible official or organization for implementation and monitoring of the proposed action, and from whom further information can be obtained; and (7) A map of the area or a statement that such map is available for public inspection, including the location at which such map may be inspected and a telephone number to call for information

Step 8 Implement the action

Step 8 is the review of the implementation and post-implementation phases of the proposed action to ensure that the requirements stated in 44 CFR Part 9.11 are fully implemented. The proposed hazardous fuels reduction project will be conducted in accordance with applicable floodplain and wetland development requirements and any applicable permit conditions.

Bastrop County will adhere to the grant conditions outlined in the Finding of No Significant Impact issued for the EA for the proposed action.

APPENDIX E

Endangered Species Act Consultations

U. S. Department of Homeland Security
FEMA Region 6
800 North Loop 288
Denton, TX 76209-3698

FEMA

June 21, 2019

Adam Zerrenner
Field Supervisor
Austin Ecological Services Field Office
U.S. Fish and Wildlife Service
10711 Burnet Rd., Suite 200
Austin, Texas, 78758

Dear Mr. Zerrenner:

This letter is to initiate consultation between the Federal Emergency Management Agency (FEMA) and your office under Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) regarding hazardous fuels reduction activities along county road rights of way in Precinct #2 of Bastrop County, Texas using funds associated with FEMA's Hazard Mitigation Grant Program (HMGP); FMAG-5116-TX Project #2 Bastrop County Hidden Pines Hazardous Fuels Reduction Project. The intent of the project is to make fire-prone neighborhoods in Bastrop County more accessible to firefighters and to provide a route of escape and evacuation for residents in the event of a wildfire.

Four federally endangered species: Houston toad (*Bufo houstonensis*); Navasota ladies'-tresses (*Spiranthes parksii*); whooping crane (*Grus Americana*); and Least Tern (*Sterna antillarum*) and two federally threatened species: Piping Plover (*Charadrius melodus*) and Red Knot (*Calidris canutus rufa*) are known to occur in Bastrop County. In addition, the majority of the proposed work is located within designated critical habitat for the Houston toad (see Table 1 and Map 1 below).

FEMA is making a "no effect" determination for the Navasota ladies'-tresses (*Spiranthes parksii*); whooping crane (*Grus Americana*); Least Tern (*Sterna antillarum*); Piping Plover (*Charadrius melodus*); and Red Knot (*Calidris canutus rufa*) and therefore is not consulting with the U.S. Fish and Wildlife Service (USFWS) regarding these species.

However, the proposed action is taking place in critical habitat for the Houston toad, and the Houston toad is known to be present in the project area. Therefore, FEMA is requesting consultation with your office in regard to this species and its designated critical habitat.

FEDERAL ACTIONS INCLUDED IN THIS CONSULTATION

Through a FEMA HMGP grant, Bastrop County proposes to reduce heavy fuel loads along various county road rights of way (ROW) through understory thinning. Native trees, such as loblolly pine and oak 6 inches or more in diameter will not be removed. If necessary, these trees

will be limbed 8-10 feet above the ground to raise the height of the canopy and reduce the risk of crown fire. Bastrop County will focus on the reduction of ladder fuels by removing yaupon, cedar, downed timber and small trees located in the understory. The County will use a mechanical thinning process that uses a skid steer with a mulching head. These low impact machines will grind up the undesirable vegetation, leaving mulch on the ground in a layer not to exceed 2 inches thick. All vegetative debris will be mulched and left on site in the ROW. Vegetation will be mulched immediately, and debris piles will not be created. This project does not include the removal of native groundcover in ditches, culverts, and drain ways. All stumps will be left at ground level and will not be excavated or otherwise mechanically removed.

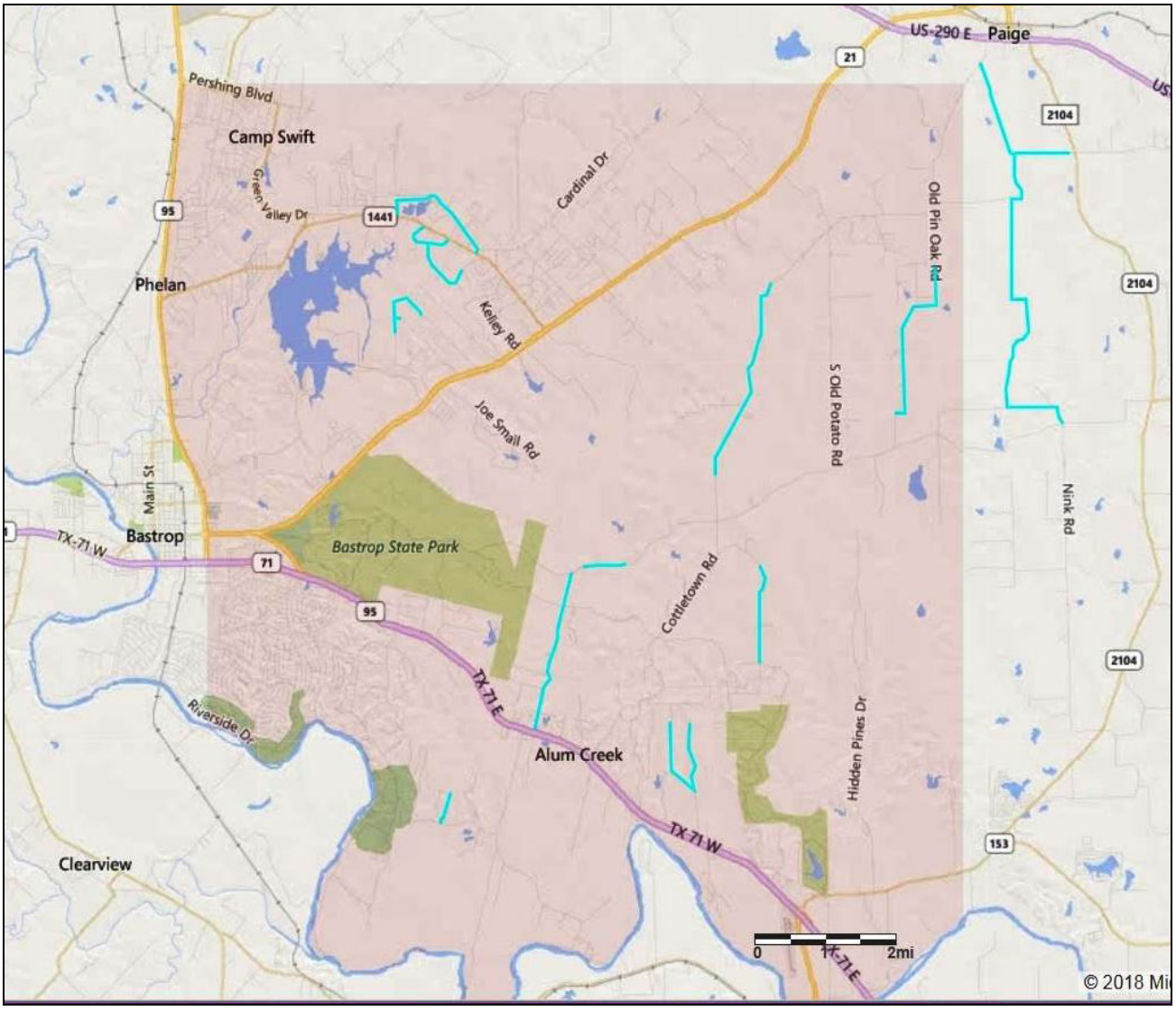
Table 1 and the enclosed maps provide detailed information on the road segments that are included as part of the FEMA-funded project. These roads are generally two lanes, paved or gravel, and the average width is about 20 feet. On average, the County will be treating 15 feet from the edge of the roadway on both sides of the road or up to the private property fence line, whatever distance they reach first. As shown on the enclosed aerial maps, certain areas along the proposed roads are already devoid of vegetation and will not require fuels reduction treatment.

Bastrop County will use County owned equipment and will hire full time, temporary personnel to complete this project. Equipment will be staged at the County maintenance yard and will not be staged in the ROW overnight. The project will be implemented from July 1 and December 31 to avoid the Houston toad's breeding and dispersal season. It is estimated that the project will take 6 months to complete.

Following the initial vegetation management conducted under the FEMA HMGP project, Bastrop County Road and Bridge Precinct 2 will maintain the ROWs on a regular schedule. Maintenance costs are the responsibility of Bastrop County and will not be funded by FEMA through this grant. The maintenance plan is to keep the ROW mowed so that no woody vegetation will be allowed to emerge. The cleared ROW areas will be mowed annually or more often as required. All maintenance work will be done in accordance with the County's Lost Pines Habitat Conservation Plan and permit which covers maintenance activities along county rights of way.

STATUS OF HOUSTON TOAD IN PROJECT AREA

The Houston toad depends on healthy and mature forest ecosystems with mixed species composition, significant canopy cover, an open understory layer with a diverse herbaceous component, and breeding areas (ephemeral wet-weather ponds and other water features, such as stock tanks, creeks, streams, wetlands, seeps, and springs) with shaded edges. They are most commonly found within the surrounding upland habitat adjacent to breeding sites. The Houston toad uses drainages and riparian areas for dispersal and movement. The edges of breeding ponds are used by emerging juvenile toadlets after they metamorphose from their larval (tadpole) stage (USFWS, 2011a).



MAP 1: Bastrop County Roads Proposed for Fuels Reduction in Relation to Houston Toad Critical Habitat

TABLE 1: Proposed Roads for ROW Vegetation Management

St. Delight Road: 30.205448,-97.120777 north end; 30.136187,-97.114176 south end; Aerial Site Maps 1-4 **{outside critical habitat}**
Friendship Road: 30.187165,-97.112356 west end; 30.187355,-97.097965 east end; Aerial Site Map 1 **{outside critical habitat}**
Nink Road (@ St. Delight Rd.) (aka **Gotier Trace Road**): 30.136129,-97.114220 west end; 30.133117,-97.100866 east end; Aerial Site Map 4 **{outside critical habitat}**
Old Pin Oak Road: 30.164494,-97.131740 north end; 30.131082,-97.141419 south end; Aerial Site Maps 5-6 **{within critical habitat}**
Antioch Road: 30.161486,-97.170890 north end; 30.122761,-97.184553 south end; Aerial Site Maps 7-8 **{within critical habitat}**
Old Antioch Road: 30.104542,-97.173994 north end; 30.085136,-97.173831 south end; Aerial Site Map 9 **{within critical habitat}**
Powell Road: 30.068653,-97.195369 north end; 30.059370,-97.190017 south end; Aerial Site Map 10 **{within critical habitat}**
Kellar Road: 30.073472,-97.190786 north end; 30.059408,-97.190004 south end; Aerial Site Map 10 **{within critical habitat}**
Gotier Trace Road (near Alum Creek Rd): 30.104136,-97.215927 west end; 30.104442,-97.207424 east end; Aerial Site Map 11 **{within critical habitat}**
Alum Creek Road: 30.096299,-97.221211 north end; 30.071141,-97.228236 south end; Aerial Site Maps 11-12 **{within critical habitat}**
Mesa Pinto Drive: 30.058719,-97.248519 north end; 30.052818,-97.250838 south end; Aerial Site Map 13 **{within critical habitat}**
Porter Road: 30.156837,-97.257312 east side; 30.154300,-97.261831 west side; Aerial Site Map 14 **{within critical habitat}**
Pine Tree Loop: 30.154228, -97.260464 east side; 30.152604, -97.261783 west side **{within critical habitat}**
Old Firetower Road / Pine Path: 30.174545,-97.261044 west side; 30.167158,-97.242254 east side; Aerial Site Map 15 **{within critical habitat}**
Bluebonnet Drive: 30.172621,-97.254890 west side; 30.169980, -97.248848 east side; Aerial Site Map 16 and 17 **{within critical habitat}**
Sage Road: 30.169158,-97.253672 north side; 30.161291,-97.247183 south side; Aerial Site Maps 17-19 **{within critical habitat}**

The Houston toad is largely inactive during hot, dry seasons and during the coldest months, though surface movement has been documented during the summer months (Brown et al, 2011; SSAR, 2012) depending on weather conditions. Most breeding occurs from February to April, when the minimum air temperature is above 14 C. Breeding has been reported as late as June. Breeding habitat consists of a body of water supporting the reproductive and larval toad life stages. Eggs and larvae develop in shallow water. For successful breeding, water must persist for at least 60 days. Larvae hatch in four to seven days and metamorphose in three to nine weeks, depending on the water temperature. The Houston toad locally migrates between breeding and non-breeding habitats. The adjacent uplands support adults year-round and provide patch connectivity outward from the ponds for juvenile dispersal (USFWS, 2011b). The Houston toad tends to occupy areas with 60 percent to100 percent canopy cover (Forstner et al, 2011). Upland forests in the Lost Pines area of Bastrop County serve as occupied and dispersal habitat for the Houston toad and cover/shade is a necessity to facilitate distribution without desiccation (LPRT, 2011).

Of the few remaining populations, the largest known occurrence is in Bastrop County (USFWS, 2016). Prior to the Bastrop County Complex Fire in 2011, the Houston toad range in Bastrop County was in poor condition as a result of what is speculated to be the worst one-year drought on recorded history for this area (LPRT, 2011). Approximately 41 percent of the high suitability habitat for the Houston toad within Bastrop County was moderately to heavily burned during the Bastrop County Complex Fire in 2011(Forstner et al, 2011). Houston toad egg strands, tadpoles, toadlets, juveniles, and adults have all been detected inside and outside the burn perimeter in the years following the fire. Houston toads have been detected in Bastrop during chorusing season and during dispersal from the ponds for multiple years since 2012. These encounters have substantiated that the Houston toad survived the wildfire and that it is present inside and outside the burn area in Bastrop County.

Proposed work at thirteen road locations falls within designated Houston toad critical habitat (see Table 1 and Map 1). All proposed road ROW work falls within the Lost Pines Habitat Conservation Plan (LPHCP) area.

AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measures must be implemented by Bastrop County for the proposed FEMA-funded fuels reduction activities along the specified county road rights of way in order to minimize impact to the Houston toad. Implementation of these measures is a requirement and condition of federal funding.

1. Vegetation management activities can only take place from July 1 to December 31 (generally outside of the Houston toad breeding season and emergence period). This period may begin or be extended, with approval of FEMA and USFWS, prior to July 1 or past December 31 if it is determined that Houston toads are not active in the area.

2. Bastrop County will deploy a Houston toad monitor that holds a 10(a)(1)(A) USFWS permit in identifying, locating, handling, removing, and transporting the Houston toad. Should a Houston toad be encountered during vegetation management activities, work must cease immediately. The biological monitor will secure and relocate the Houston toad per their permit. The USFWS Austin Ecological Services Field Office will be immediately contacted at (512) 490-0057. Work may only resume once USFWS has been contacted, and Houston toads have been cleared from the work area by the permitted Houston toad monitor.

3. All work crews must be trained by a Houston toad biologist prior to starting work. Training will include an overview of Houston toad characteristics, life cycle, and habitat requirements, and a review of the work conditions outlined in this agreement. New crew personnel must be trained prior to starting work.

4. Downed trees and logs that will be moved, mulched, or otherwise disturbed must be lifted and inspected by the Houston toad monitor to determine if any Houston toads are sheltering beneath.

5. A 2-inch accumulation of rain occurring within the work area (as recorded by NOAA weather rainfall total accumulation mapping) during the preceding 48-hour period shall result in a 24-hour minimum work stoppage.

6. The number and size of entry and exit points for heavy equipment moving into and out of work areas will be kept to the minimum needed for conducting safe and effective vegetation management operations. Soil disturbance will be kept to the minimum necessary for project completion.

7. Any mowing equipment used for clearing grass, forbs, and small-diameter woody vegetation will be set at a height of at least 5 inches above the ground to minimize the potential for striking toads.

8. Any mulch, chips, or other woody debris from fuels reduction that is left on site must cover the ground in no more than a 2-inch layer.

9. Vegetation that occurs within 200 feet of a potential Houston toad breeding site as determined by the Houston toad monitor (i.e. riparian areas, ravines, ephemeral wet weather ponds, creeks, streams, drainages, ponds, stock tanks, wetlands, seeps, and springs) will be hand cut unless otherwise approved by the Houston toad monitor. Any soil disturbance or operation of heavy equipment within 200 feet of a potential breeding site must be approved by the Houston toad monitor prior to the start of work.

10. Streams, riparian zones, and wetlands will not be used for staging equipment or refueling. Equipment must be stored, serviced, and fueled at least 200 feet away from these sensitive areas.

11. Gasoline and diesel fueled field equipment must be inspected daily for signs of fuel or hydraulic leaks; such leaks must be repaired promptly and measures will be taken to prevent soil contamination. All hazardous materials related to construction or maintenance activities will be properly contained, used, and/or disposed of properly.

12. Following vegetation management activities, Bastrop County will ensure that equipment use has not resulted in the creation of potential artificial breeding sites. For example, large tire ruts will be smoothed so as not to create an undesirable breeding pond.

13. Under no circumstances will stumps be removed mechanically (i.e., excavated or pushed).

DETERMINATION

As noted above, portions of the federal action covered by this consultation are taking place in designated critical habitat and FEMA has a responsibility to ensure that its actions will not likely result in the destruction or adverse modification of this habitat. Destruction or adverse modification of critical habitat is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include those adversely modifying any physical or biological features that were the

basis for determining the habitat to be critical. Primary constituent elements were not designated for the critical habitat of the Houston toad, but typical habitat for the species includes areas with a soil type that allows for the weak burrowing behavior of the species and both temporary and permanent ponds (White et al, 2006). Deep sandy soils and overstory vegetation have been identified as important habitat components (Forstner and Dixon, 2011). The activities proposed by Bastrop County will not impact temporary or permanent ponds nor will they alter soil type. The vegetation management activities proposed by Bastrop County do not involve extensive removal of large living pines and oaks. Native trees, such as loblolly pine and oak 6 inches or more in diameter will not be removed. If necessary, these trees will be limbed 8-10 feet above the ground to raise the height of the canopy and reduce the risk of crown fire. Therefore, existing canopy along these road rights of way, which can provide shaded habitat for toad dispersal, will be maintained. Measures are being taken to minimize impacts of any work that is conducted adjacent to breeding areas (ephemeral wet-weather ponds, creeks, streams, wetlands, seeps, and springs). Measures are being taken to minimize ground disturbance. The project is expected to benefit Houston toad habitat in the long term because it will contribute to a reduction in risk for the outbreak of a destructive wildfire. FEMA has determined that the proposed project will not destroy or adversely modify Houston toad critical habitat.

FEMA has determined that the proposed project may affect, but will not likely adversely affect the Houston toad because the impacts are expected to be discountable (extremely unlikely to occur) and/or insignificant (undetectable, not measurable, or so minor that they cannot be meaningfully evaluated). While the Houston toad is known to be present in the project area, the project will be conducted outside of chorusing and dispersal season when toads are known to be most active. Work will not take place after significant rains when toads may become more active on the surface. A federally permitted Houston toad monitor will be present and oversee work operations daily, and will train work crews on Houston toad characteristics and on the required minimization measures.

FEMA requests your concurrence with this effect determination and input on any additional minimization measures required to ensure accuracy of this determination. Thank you for your attention and assistance. Should you have any questions, please contact FEMA Senior Environmental Specialist, Dorothy Cook at Dorothy.Cook@fema.dhs.gov or at 940-435-9275.

Sincerely,

DWC for Kevin Jaynes
Regional Environmental Officer
FEMA Region 6

Enclosures:
Overall Map of Project Area
Aerial Maps of Road Segments
Representative Photos of Road Segments

REFERENCES

Brown, D., J. Baccus, D. Means, and M.R. Forstner. 2011. Potential positive effects for fire on juvenile amphibians in a southern USA pine forest. Journal of Fish and Wildlife Management 2(2): 135-145.

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SSAR (Society for the Study of Amphibian and Reptiles). 2012. Natural History Notes. Herpetological Review 43(2): 117-118.

USFWS (U.S. Fish and Wildlife Service). 2011a. Post-Wildfire Clean-Up and Response in Houston Toad Habitat Best Management Practices. Available online at *https://www.fws.gov/southwest/es/Documents/R2ES/Fire_CleanUp_and_Response_BMPs20110924.pdf*. Accessed June 14, 2019.

USFWS. 2011b. Houston toad (*Bufo houstonensis*) 5-Year Review: Summary and Evaluation. Available online at *https://ecos.fws.gov/docs/five_year_review/doc3958.pdf*. Accessed June 14, 2019.

USFWS. 2016. Houston Toad: Habitat and Distribution. Available online at *https://www.fws.gov/southwest/es/Houston_Toad_Habitat.html*. Accessed October 19, 2017.

White, J., C. Giggleman, and P. Connor. 2006. Recommended Water Quality for Federally Listed Species in Texas. Available online at *http://www.fws.gov/southwest/es/Documents/R2ES/Recommended_Water_Quality_for_Federally_Listed_Species_in_Texas.pdf*. Accessed November 10, 2014.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
10711 Burnet Road, Suite 200
Austin, Texas 78758

JUL 10 2019

In Reply Refer to:
ES-AUESFO/2019-I-1414

Mr. Kevin Jaynes
U.S. Department of Homeland Security
Federal Emergency Management Agency Region 6
800 N. Loop 288
Denton, Texas 76209

Dear Mr. Jaynes:

This responds to your request of June 21, 2019, in regards to FMAG-5116-TX Project #2 in which the Federal Emergency Management Agency (FEMA) proposes to provide funding through the Hazard Mitigation Grant Program (HMGP). The HMGP will provide funding for work associated with hazardous fuels reduction activities along county road rights of way in Precinct #2 in Bastrop County, Texas. The intent of the project is to make fire-prone neighborhoods in Bastrop County more accessible to firefighters and to provide a route of escape and evacuation for residents in the event of a wildfire. FEMA has submitted documentation to the U.S. Fish and Wildlife Service (Service) requesting concurrence that the proposed FEMA funded project may affect, but is not likely to adversely affect the Houston toad (*Bufo houstonensis*), a species listed as endangered pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.). FEMA has also requested concurrence that the proposed project will not result in the destruction or adverse modification of designated critical habitat for the Houston toad.

Section 7 of the Act requires that all Federal agencies consult with the Service to ensure that the actions authorized, funded, or carried out by such agencies do not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat of such species. FEMA will be providing federal funding to Bastrop County and is the federal agency associated with the proposed project.

Project Description

The proposed federally funded project will reduce heavy fuel loads along existing county road ROWs detailed in Table 1 of the FEMA's June 21, 2019, consultation request letter. Fuel loads will be reduce through understory thinning. Native trees such as loblolly pine and oak six inches or more in diameter will not be removed. To reduce the risk of crown fire, native trees equal to or greater than six inches in diameter will be limbed eight to ten feet above the ground to raise the height of the canopy. Understory ladder fuels such as yaupon, cedar, downed timber and small trees will be removed by mechanical means by way of a skid steer with a mulching head. All removed vegetation will be mulched immediately, and left on the ground in a layer not to exceed two inches thick within the existing ROW. No debris piles will be created as a result of this project. Any stumps will be left at ground level, and will not be excavated or mechanically removed.

All fuel removal work will be conducted by Bastrop County or personnel hired by Bastrop County. All equipment used will be Bastrop County owned and will be staged at the county's maintenance yard. Bastrop County will treat up to 15 feet from the edge of both sides of the roadway, or up to the private property line, whichever comes first. No equipment will be staged in the ROW overnight. The project will last approximately six months and is scheduled to be implemented between July 1 and December 31 in order to avoid the Houston toad breeding and emergence period. Post project maintenance of treated ROWs and associated costs will be the responsibility of Bastrop County. FEMA will not provide federal funding past the initial hazardous fuel removal project. All post project maintenance will be done in accordance with the County's Lost Pines Habitat Conservation Plan and permit.

Avoidance and Minimization Measures

The following avoidance and minimization measures must be implemented by Bastrop County as part of this federally funded project. Implementation of these measures is a requirement and condition of federal funding:

1. Vegetation management activities can only take place from July 1 to December 31 (outside of the typical Houston toad breeding and emergence period). This period may begin or be extended, with approval of FEMA and the Service, prior to July 1 or past December 31 if it is determined that Houston toads are not active in the area.

2. Bastrop County will deploy a Houston toad monitor that holds a 10(a)(1)(A) Service issued permit for identifying, locating, handling, removing, and transporting the Houston toad. If a Houston toad is encountered during vegetation management activities, work must cease immediately. The biological monitor will secure and relocate the Houston toad per their permit. The Service's Austin Ecological Services Field Office will be immediately contacted at 512-490-0057. Work may only resume once the Service has been contacted, and any encountered Houston toads have been cleared from the work area by the permitted Houston toad monitor.

3. All work crews must be trained by a Houston toad biologist prior to starting work. Training will include an overview of Houston toad characteristics, life cycle, and habitat requirements, and a review of the work conditions outlined in this agreement. New crew personnel must be trained prior to starting work.

4. Downed trees and logs that will be moved, mulched, or otherwise disturbed must be lifted and inspected by the Houston toad monitor to determine if any Houston toads are sheltering beneath.

5. A 2-inch accumulation of rain occurring within the work area (as recorded by NOAA weather rainfall total accumulation mapping) during the preceding 48-hour period shall result in a 24-hour minimum work stoppage.

6. The number and size of entry and exit points for heavy equipment moving into and out of work areas will be kept to the minimum needed for conducting safe and effective vegetation management operations. Soil disturbance will be kept to the minimum necessary for project completion.

7. Any mowing equipment used for clearing grass, forbs, and small-diameter woody vegetation will be set at a height of at least 5 inches above the ground to minimize the potential for striking toads.

8. Any mulch, chips, or other woody debris from fuels reduction that is left on site must cover the ground in no more than a 2-inch layer.

9. Vegetation that occurs within 200 feet of a potential Houston toad breeding site as determined by the Houston toad monitor (i.e. riparian areas, ravines, ephemeral wet weather ponds, creeks, streams drainages, ponds, stock tanks, wetlands, seeps, and springs) will be hand cut unless otherwise approved by the Houston toad monitor. Any soil disturbance or operation of heavy equipment within 200 feet of a potential breeding site must be approved by the Houston toad monitor prior to the start of work.

10. Streams, riparian zones, and wetlands will not be used for staging equipment or refueling. Equipment must be stored, serviced, and fueled at least 200 feet away from these sensitive areas.

11. Gasoline and diesel fueled field equipment must be inspected daily for signs of fuel or hydraulic leaks; such leaks must be repaired promptly and measures will be taken to prevent soil contamination. All hazardous materials related to construction or maintenance activities will be properly contained, used, and/or disposed of properly.

12. Following vegetation management activities, Bastrop County will ensure that equipment use has not resulted in the creation of potential artificial breeding sites. For example, large tire ruts will be smoothed so as not to create an undesirable breeding pond.

13. Under no circumstances will stumps be removed mechanically (i.e. excavated or pushed).

Conclusion

Based on the information provided and FEMA's proposed avoidance and minimization measures the Service believes any potential effects to the Houston toad as a result of the proposed federally funded project will be discountable or insignificant. All work will be conducted outside of the Houston toad breeding and emergence period occurring from January 1 to June 30, will require a qualified biologist holding a federal 10(a)(1)(A) permit to conduct monitoring, and will not require the removal or further fragmentation of intact Houston toad habitat. When conducting work outside of the prescribed July 1 to December 31 time period is absolutely unavoidable, Bastrop County will receive clearance from FEMA and the Service prior to conducting work in order to ensure Houston toads are not active in the area. All work will be conducted within an existing ROW, and work is intended to minimize the risk of catastrophic crown fires which may result in more Houston toad habitat destruction.

After reviewing the information provided to the Service we concur with FEMA's determination that the proposed federally funded project may affect, but is not likely to adversely affect the Houston toad. Also the Service concurs that the proposed project will not result in the destruction or adverse modification of designated critical habitat for the Houston toad.

No further endangered species consultation will be required unless: 1) the identified action is subsequently modified in a manner that causes an effect on a listed species or designated critical habitat; 2) new information reveals the identified action may affect federally protected species or designated critical habitat in a manner or to an extent not previously considered; or 3) a new species is listed or critical habitat is designated under the Act that may be affected by the identified action. If new effects are identified in the future, the project proposal should be resubmitted to our office for further consideration.

We appreciate your efforts to conserve this sensitive species. If you have any questions or comments, please contact Jacob Ogdee at 512-490-0057 (ext. 243) or at jacob_ogdee@fws.gov.

Sincerely,

Adam Zerrenner
Field Supervisor

From: Ogdee, Jacob
To: Cook, Dorothy
Subject: Re: [EXTERNAL] FEMA Section 7 Consultation: Bastrop County Hidden Pines Hazardous Fuels Reduction Project
Date: Thursday, July 25, 2019 12:12:45 PM

Hi Dorothy,

Thank you for sending this information over. We have no issues with the changes to the minimization measures for FMAG-5116-TX Project #2 Bastrop County Hidden Pines Hazardous Fuels Reduction Project. Please let me know if you have any questions. Thank you.

Jacob

On Thu, Jul 25, 2019 at 11:15 AM Cook, Dorothy <dorothy.cook@fema.dhs.gov> wrote:

> Hi Jacob,
>
> Based on discussions with our sub-applicant, Bastrop County, and in an effort to allow the project to be completed in a more timely manner, FEMA proposes an amendment to the consultation that we sent on June 21, 2019 and to which the USFWS concurred with on July 10, 2019. We propose to edit the first minimization measure to the following, to allow for work to continue during breeding season for certain road segments that are either outside critical habitat or are located in lower probability areas based on habitat suitability and past surveys/encounters. All other conditions as outlined in our consultation will remain the same, including the provision for a Houston toad monitor. With the monitor and other measures in place, FEMA feels our determination of "not likely to adversely affect" remains valid for this federal action, and we seek the Service's concurrence.
>
> If you have questions or need anything additional from FEMA, please let me know.
>
> Thanks,
>
> Dorothy
>
> **Proposed Revised Minimization Measures:**
>
> 1. Vegetation management activities at the following locations may take place at any time of year:
>
> - St. Delight Road
> - Friendship Road

- Nink Road (@ St. Delight Rd.) (aka Gotier Trace Road)
- Old Pin Oak Road
- Powell Road
- Kellar Road
- Mesa Pinto Drive

2. For the following locations, vegetation management activities can only take place from July 1 to December 31 (generally outside of the Houston toad breeding season and emergence period). This period may begin or be extended prior to July 1 or past December 31 if it is determined that Houston toads are not active in the area based on real-time information and with approval of FEMA and USFWS.

- Antioch Road
- Old Antioch Road
- Gotier Trace Road (near Alum Creek Rd)
- Alum Creek Road
- Porter Road
- Pine Tree Loop
- Old Firetower Road / Pine Path
- Bluebonnet Drive
- Sage Road

Dorothy Weir Cook

Senior Environmental Specialist/Team Lead

FEMA Region 6

800 N. Loop 288

Denton, TX 76209

Desk #: 940-383-7250

Cell #: 940-435-9275

From: Ogdee, Jacob <jacob_ogdee@fws.gov>
Sent: Wednesday, July 10, 2019 3:50 PM
To: Cook, Dorothy <dorothy.cook@fema.dhs.gov>

Subject: Re: [EXTERNAL] FEMA Section 7 Consultation: Bastrop County Hidden Pines Hazardous Fuels Reduction Project

Hi Dorothy,

Please see the attached signed concurrence letter for this project. The hard copy is in the mail. Please let me know if you have any questions. Thank you.

On Fri, Jun 21, 2019 at 5:09 PM Cook, Dorothy <dorothy.cook@fema.dhs.gov> wrote:

> Hi Adam et al,
>
> Please see attached a FEMA consultation package for a FEMA-funded fuels reduction project along roads in Bastrop County.
>
> Thanks,
>
> Dorothy
>
> PS—I will send the photos is a follow-up email as the file size is large.
>
> Dorothy Weir Cook
>
> Senior Environmental Specialist/Team Lead
>
> FEMA Region 6
>
> 800 N. Loop 288
>
> Denton, TX 76209
>
> Desk #: 940-383-7250
>
> Cell #: 940-435-9275

> --
>
> ***Jacob Ogdee***
>
> ***U.S. Fish and Wildlife Service***
>
> ***Austin Ecological Services Field Office***
>
> ***Phone: 512-490-0057 ext. 243***

--
Jacob Ogdee
U.S. Fish and Wildlife Service
Austin Ecological Services Field Office
Phone: 512-490-0057 ext. 243

APPENDIX F

Cultural Resources Consultations

Melisa Durham

From: noreply@thc.state.tx.us
Sent: Wednesday, November 14, 2018 2:23 PM
To: Melisa Durham; reviews@thc.state.tx.us
Subject: Project Review: 201901539

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
201901539
FEMA FMAG 5116 Bastrop County Hazardous Fuels Reduction
County-wide
Bastrop,TX 78602

Dear Melisa Durham:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff led by Jeff Durst and Kelly Little has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No historic properties present or affected. However, if buried cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: Jeff.Durst@thc.texas.gov, kellyl@thc.texas.gov.

Sincerely,

For Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

eTRAC

electronic THC review and compliance

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REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Project Information

Project Name* FEMA FMAG 5116 Bastrop County Haz
Project Address* County-wide
Project City* Bastrop
Project Zip 78602

Project County* Bastrop
Other Counties
Program* FEMA Applicant
Permit

***Brief Project Description:** Please provide a short explanation of the project. (200 characters or less)

Hazardous Fuels Reduction county-wide: remove woody vegetation from county road right-of-ways, to include standing or downed timber,stumps and overhanging limbs; to provide safe ingress/egress.

*Federal & State Involvement**

☑ **This project involves approval, funding, permit or license from a federal agency.**

Federal Agency* Federal Emergency Management Ac
Federal Program, Funding or Permit Type FMAG
Federal Contact Person
Federal Contact Email
Notes Best to contact Grant Administrator, Suellen Jordan, Langford Community Mgmt Services, 512-452-0432, suellen@lcmsinc.com

☑ **This project involves state or local public property.**

Type of State or Local Agency* County
County of Bastrop
Owner
State or Local Contact Person
State or Local Contact Email
Notes Best to contact Grant Administrator, Suellen Jordan, Langford Community Mgmt Services, 512-452-0432, suellen@lcmsinc.com

☐ **Neither of the above is true; this is for private due diligence only and the response will not suffice for regulatory review.**

Attachments:

Please attach relevant project documentation. The file size limit is 40MB. Accepted File Types: doc,docx,pdf,png,txt,rtf,jpg,xlsx,zip

Choose Files | No file chosen

x SHPO Request attachments - FEMA FMAG 5116 Bastrop Co Hazardous Fuels Reduction.pdf

ATTACHMENT
to Request for SHPO Consultation Form
Submitted Online 10/25/18

FEMA FMAG 5116 – Bastrop County
Hidden Pines Hazardous Fuels Reduction Project

Project Locations: Bastrop County, TX:

St. Delight Road: 30.205448,-97.120777 north end; 30.136187,-97.114176 south end; Aerial Site Maps 1-4
Friendship Road: 30.187165,-97.112356 west end; 30.187355,-97.097965 east end; Aerial Site Map 1
Nink Road (@ St. Delight Rd.) (aka Gotier Trace Road): 30.136129,-97.114220 west end; 30.133117,-97.100866 east end; Aerial Site Map 4
Old Pin Oak Road: 30.164494,-97.131740 north end; 30.131082,-97.141419 south end; Aerial Site Maps 5-6
Antioch Road: 30.161486,-97.170890 north end; 30.122761,-97.184553 south end; Aerial Site Maps 7-8
Old Antioch Road: 30.104542,-97.173994 north end; 30.085136,-97.173831 south end; Aerial Site Map 9
Powell Road: 30.068653,-97.195369 north end; 30.059370,-97.190017 south end; Aerial Site Map 10
Kellar Road: 30.073472,-97.190786 north end; 30.059408,-97.190004 south end; Aerial Site Map 10
Gotier Trace Road (near Alum Creek Rd): 30.104136,-97.215927 west end; 30.104442,-97.207424 east end; Aerial Site Map 11
Alum Creek Road: 30.096299,-97.221211 north end; 30.071141,-97.228236 south end; Aerial Site Maps 11-12
Mesa Pinto Drive: 30.058719,-97.248519 north end; 30.052818,-97.250838 south end; Aerial Site Map 13
Porter Road/Pine Tree Loop: 30.156837,-97.257312 east side; 30.154300,-97.261831 west side; Aerial Site Map 14
Old Firetower Road / Pine Path: 30.174545,-97.261044 west side; 30.167158,-97.242254 east side; Aerial Site Map 15
Bluebonnet Drive: 30.172621,-97.254890 west side; 30.169980, -97.248848 east side; Aerial Site Map 16 and 17
Sage Road: 30.169158,-97.253672 north side; 30.161291,-97.247183 south side; Aerial Site Maps 17-19

Project Description:
Bastrop County will use county-owned equipment and will hire full-time, temporary personnel to remove all woody vegetation from county road right of ways, to include standing or downed timber, stumps and overhanging limbs. The project does not include the removal (except for seasonal mowing) of grasses and native groundcover in ditches, culverts and drain ways. The area of work is on and along all county roads in Road and Bridge Precinct 2 north of the Colorado River. The work area will be from fence line to fence line or 25 feet left and right from the center of the roadway.

The fuels reduction will provide fire breaks along county roads where there is insufficient distance between tree canopies. The County will then clear these areas of brush and trees (fuel). The County will use various methods of clearing based upon the density and scope using the most efficient methods. The clearing will consist of hand clearing and mechanical removal, to include heavy skid steer mounted mulching and/or dozier work.

As roadways are completed Road and Bridge Precinct 2 will maintain the improvements as a matter of normal and routine maintenance. The maintenance plan will keep the ROW mowed so that no woody vegetation is allowed to emerge. The cleared ROW areas will be mowed annually or more often as required. A final Operations and Maintenance Plan will be submitted to State/FEMA before the project is closed.

Identification of Historic Properties, as per the THC Texas Historic Sites atlas:
There are six Cemeteries and one Historical Marker in the project areas:

St. John's Cemetery: Atlas Number 7021001605, Cemetery ID Number: BP-C016
This cemetery is located approximately 4,503 feet from the project activities on St. Delight's Road near Old Pin Oak Road. See THC Atlas Map 1.

Saint's Delight Baptist Cemetery: Atlas Number 7021011605, Cemetery ID Number: BP-C116
This cemetery is located alongside the west side of St. Delight Road in Paige. A photo from the *Find a Grave* website shows the head stones back away from the road. According to this site, the cemetery is now called Brown Family Cemetery. See THC Atlas Maps 2 and 2b.

Burkhardt Cemetery: Atlas Number 7021001005, Cemetery ID Number: BP-C010
This cemetery is located approximately 383 feet west of Old Pin Oak Road in Paige. See THC Atlas Maps 4 and 4b.

Antioch Cemetery: Atlas Number 7021000905, Cemetery ID Number: BP-C009
This cemetery is located approximately 3,335 feet from the end of project activities on Antioch Road. See THC Atlas Map 5.

Alum Creek Cemetery Historical Marker: Marker Number 13311; Atlas Number 5021013311; Marker Title: Alum Creek Cemetery.

Alum Creek Cemetery: Atlas Number 7021017105, Cemetery ID Number: BP-C171
This cemetery and Historical Marker are located approximately 4,460 feet southeast of project activities on Alum Creek Road @ TX-71 W. See THC Atlas Maps 6 and 7.

Claiborne Cemetery: Atlas Number 7021000405, Cemetery ID Number: BP-C004
This cemetery is located approximately 3,006 feet east of project activities on Mesa Pinto Drive. See THC Atlas Map 9.

Consulting Parties / Public Notification:
The Tribes of interest in Bastrop County will be contacted.

Area of Potential Effects:
The APE is depicted on the attached Road ROW Fuel Break map, prepared by Bastrop County. Note the purple dashed lines around the roadway areas. These represent a 2-mile buffer of

road ROW selected as fire buffer. Within these radii are approximately 3,200 structures that will be allowed fire protection during future fires because the access to their homes/streets will be made possible with the reduction of fuels in the ROW. This will give ingress/egress for firefighting apparatus and for evacuation if necessary.

Determination of Eligibility:
To be determined by the Texas Historical Commission.

Determination of Effect:
To be determined by the Texas Historical Commission.

ATTACHMENTS:

Photographs

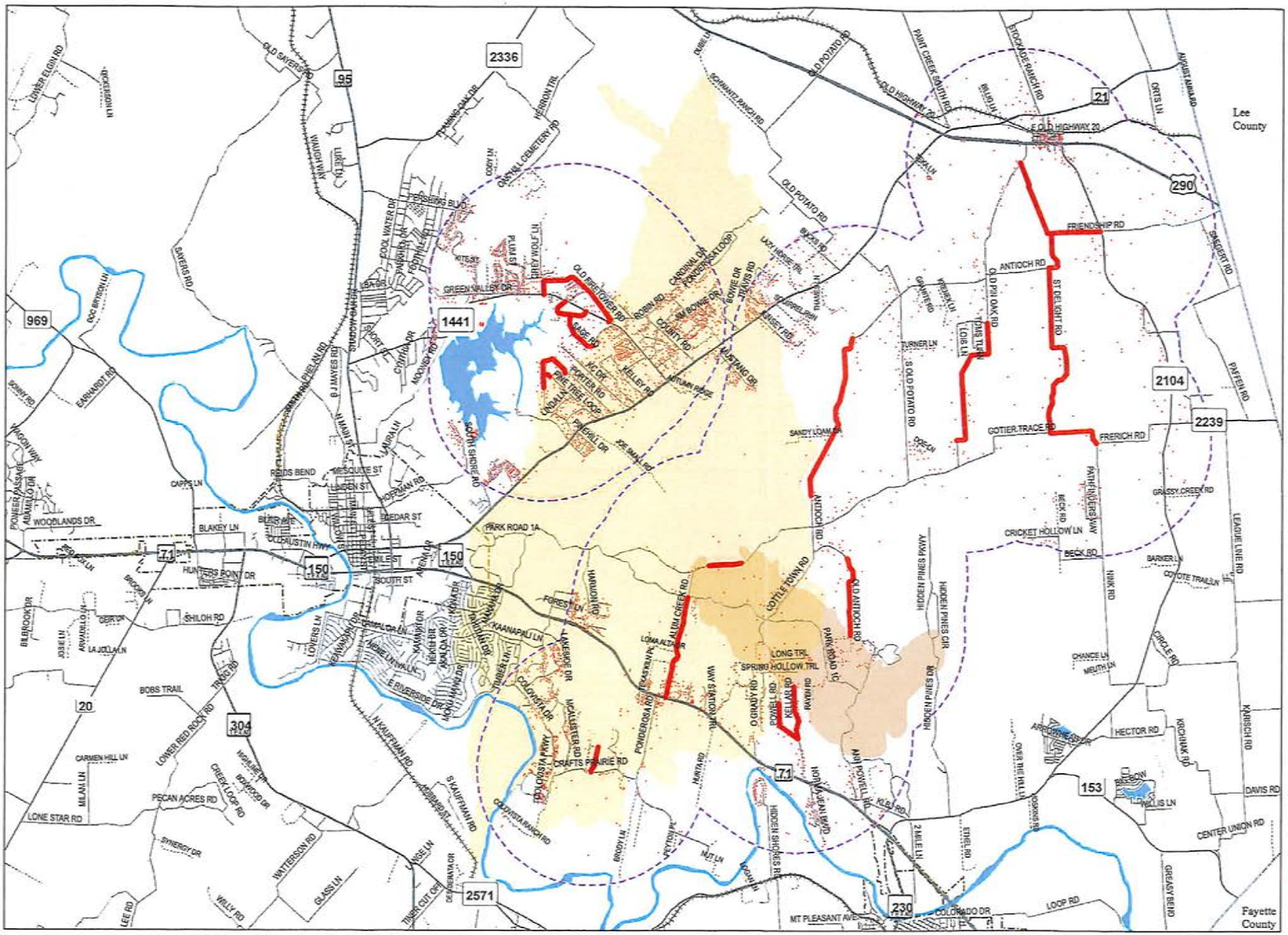
Maps:

- THC Texas Historic Sites Atlas maps (1-11)
- Google Aerial Site Maps (1-19)
- Proposed Fuel Reduction Project, Road ROW Fuel Break Map

Listing of Improvement/Building Values within 2-mile buffer of road ROW selected as fire buffer (80 pages of 40 addresses each)

THC Texas Historic Sites atlas Details for Saint's Delight Baptist Cemetery

Find a Grave Saint's Delight Cemetery Information



Proposed Fuel Reduction Project

Road ROW Fuel Break

N

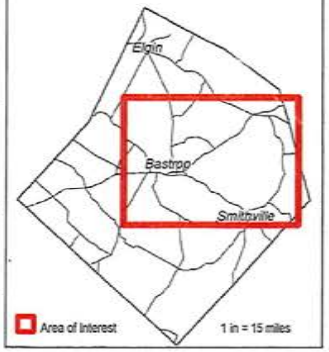
0 1 Miles

Legend

- Subject Road
- Address Point
- 2 Mile Buffer
- Roadway
- Rail Line
- Complex Fire Perimeter
- Hidden Pines Fire Perimeter
- City Limits
- County Line
- Water

Map Produced: 06/21/2017

LOCATION MAP



BASTROP COUNTY TEXAS

U.S. Department of Homeland Security
FEMA Region 6
800 N. Loop 288
Denton, TX 76209
FEMA

July 11, 2019

RE: Section 106 Review Consultation, FEMA-HMGP-FMAG-5116-TX, Project #2, Bastrop County Hidden Pines Hazardous Fuels Reduction, Bastrop County, TX

To: Representatives of Federally-recognized Tribes with Interest in this Project Area

The Federal Emergency Management Agency (FEMA) will be providing funds to Bastrop County (Applicant) in response to the Fire Management Assistance Declaration for FEMA-FMAG-5116-TX, for hazardous fuels reduction (Undertaking). FEMA is initiating Section 106 review for the above referenced project based on the Tribes ancestral interest in the project area.

Through FEMA's Hazard Mitigation Grant Program (HMGP), the Applicant proposes to reduce heavy fuel loads along various county road rights of way (ROW) through understory thinning. Native trees, such as loblolly pine and oak 6 inches or more in diameter will not be removed. If necessary, these trees will be limbed 8-10 feet above the ground to raise the height of the canopy and reduce the risk of crown fire. Bastrop County will focus on the reduction of ladder fuels by removing yaupon, cedar, downed timber and small trees located in the understory. The County will use a mechanical thinning process that uses a skid steer with a mulching head. These low impact machines will grind up the undesirable vegetation, leaving mulch on the ground in a layer not to exceed 2 inches thick. All vegetative debris will be mulched and left on site in the ROW. Vegetation will be mulched immediately, and debris piles will not be created. This project does not include the removal of native groundcover in ditches, culverts, and drain ways. All stumps will be left at ground level and will not be excavated or otherwise mechanically removed.

Table 1 and the enclosed maps provide detailed information on the road segments that are included as part of the FEMA-funded project. These roads are generally two lanes, paved or gravel, and the average width is about 20 feet. On average, the County will be treating 15 feet from the edge of the roadway on both sides of the road or up to the private property fence line, whatever distance they reach first. As shown on the enclosed aerial maps, certain areas along the proposed roads are already devoid of vegetation and will not require fuels reduction treatment.

Bastrop County will use County owned equipment and will hire full time, temporary personnel to complete this project. Equipment will be staged at the County maintenance yard and will not be staged in the ROW overnight. The project will be implemented from July 1 and December 31 to avoid the Houston toad's breeding and dispersal season. It is estimated that the project will take 6 months to complete.

Following the initial vegetation management conducted under the FEMA HMGP project, Bastrop County Road and Bridge Precinct 2 will maintain the ROWs on a regular schedule. Maintenance costs are the responsibility of Bastrop County and will not be funded by FEMA through this grant. The maintenance plan is to keep the ROW mowed so that no woody vegetation will be allowed to emerge. The cleared ROW areas will be mowed annually or more often as required. All maintenance work will

be done in accordance with the County's Lost Pines Habitat Conservation Plan and permit which covers maintenance activities along county rights of way.

FEMA has determined that the Area of Potential Affect (APE) for the proposed undertaking shall include the footprint of the project based on the scale and nature of the undertaking, as well as the area reasonably required to stage materials.

In a response letter for this project dated November 14, 2018, the Texas Historical Commission, as the State Historic Preservation Office (SHPO) found no historic properties present or affected.

Based on the available information gathered through this review process, there are no previously recorded archeological sites within the project area and it is unlikely that the Undertaking would impact any intact archeological deposits. FEMA has determined that there will be **No Historic Properties Affected** as a result of the Undertaking.

We are writing to request your comments on historic properties of cultural or religious significance to your Tribe that may be affected by the proposed project APE. Any comments you may have on FEMA's findings and recommendations should also be provided. Please provide your comments within 30 days of receipt of this letter. Any comments provided after 30 days will be taken into consideration. If you concur with FEMA's determination, please sign below. In the event that work discloses the presence of archeological deposits, we will contact your Tribe to continue consultation.

Aerial maps showing the project location are attached. Your prompt review of this project is greatly appreciated. Should you need additional information please contact Robert Scoggin, Interim EHP Tribal Liaison at Robert.w.scoggin@fema.dhs.gov (202) 719-4139.

Sincerely,

Dorothy Cook

for Kevin Jaynes
Regional Environmental Officer
FEMA Region 6

Concurrence by: _____ Date: _____

COMANCHE NATION

U.S. Department of Homeland Security
Attn: Mr. Robert W. Scoggin
800 Region 6
Texas 76209

July 30, 2019

Re: Section 106 Review Consultation, FEMA-HMGP-FMAG-5116-TX, Project #2, Bastrop County Hidden Pines Hazardous Fuels Reduction, Bastrop County, Texas

Dear Mr. Scoggin:

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 595-9960/9618) if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana , Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502

APPENDIX G

American FactFinder Demographic Data

S0501

SELECTED CHARACTERISTICS OF THE NATIVE AND FOREIGN-BORN POPULATIONS
2013-2017 American Community Survey 5-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Subject	Bastrop County, Texas									
	Total		Native		Foreign born		Foreign born; Naturalized citizen		Foreign born; Not a U.S. citizen	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total population	80,306	*****	71,610	+/-887	8,696	+/-887	1,785	+/-412	6,911	+/-846
SEX AND AGE										
Male	50.9%	+/-0.2	50.5%	+/-0.4	53.9%	+/-3.1	59.6%	+/-8.8	52.4%	+/-3.8
Female	49.1%	+/-0.2	49.5%	+/-0.4	46.1%	+/-3.1	40.4%	+/-8.8	47.6%	+/-3.8
Under 5 years	6.5%	+/-0.1	7.2%	+/-0.1	0.5%	+/-0.8	0.0%	+/-2.2	0.7%	+/-1.0
5 to 17 years	19.2%	+/-0.1	20.8%	+/-0.3	5.6%	+/-2.5	2.7%	+/-2.8	6.4%	+/-3.1
18 to 24 years	8.2%	+/-0.3	8.4%	+/-0.4	6.5%	+/-2.4	3.9%	+/-4.3	7.1%	+/-2.8
25 to 44 years	24.2%	+/-0.4	21.3%	+/-0.7	48.1%	+/-3.7	31.5%	+/-10.6	52.3%	+/-4.5
45 to 54 years	13.9%	+/-0.3	13.4%	+/-0.5	18.2%	+/-3.3	23.2%	+/-7.4	16.9%	+/-3.7
55 to 64 years	14.2%	+/-0.2	14.4%	+/-0.4	13.0%	+/-2.9	22.4%	+/-8.5	10.6%	+/-2.9
65 to 74 years	8.9%	+/-0.2	9.3%	+/-0.3	5.5%	+/-2.4	9.7%	+/-5.0	4.4%	+/-2.6
75 to 84 years	3.3%	+/-0.4	3.4%	+/-0.4	2.1%	+/-1.1	4.6%	+/-3.1	1.5%	+/-1.2
85 years and over	1.7%	+/-0.3	1.8%	+/-0.4	0.5%	+/-0.5	2.0%	+/-2.4	0.1%	+/-0.2
Median age (years)	38.8	+/-0.4	38.2	+/-0.8	40.2	+/-2.3	51.0	+/-4.5	38.6	+/-1.0
RACE AND HISPANIC OR LATINO ORIGIN										
One race	98.1%	+/-0.5	98.0%	+/-0.6	98.9%	+/-1.4	99.3%	+/-1.3	98.8%	+/-1.7
White	75.9%	+/-2.0	78.4%	+/-1.6	55.9%	+/-7.6	53.3%	+/-9.7	56.6%	+/-9.3
Black or African American	8.1%	+/-0.2	8.7%	+/-0.3	2.9%	+/-2.2	7.4%	+/-7.4	1.7%	+/-1.9
American Indian and Alaska Native	0.6%	+/-0.2	0.6%	+/-0.2	0.6%	+/-0.6	2.7%	+/-2.7	0.0%	+/-0.6
Asian	0.9%	+/-0.1	0.4%	+/-0.1	4.7%	+/-0.9	16.2%	+/-5.5	1.7%	+/-1.1
Native Hawaiian and Other Pacific Islander	0.0%	+/-0.1	0.0%	+/-0.1	0.0%	+/-0.5	0.0%	+/-2.2	0.0%	+/-0.6
Some other race	12.6%	+/-2.2	9.9%	+/-1.6	34.9%	+/-8.0	19.6%	+/-9.7	38.9%	+/-9.4
Two or more races	1.9%	+/-0.5	2.0%	+/-0.6	1.1%	+/-1.4	0.7%	+/-1.3	1.2%	+/-1.7
Hispanic or Latino origin (of any race)	36.0%	*****	30.5%	+/-0.8	81.1%	+/-4.1	57.4%	+/-11.3	87.3%	+/-4.9
White alone, not Hispanic or Latino	53.7%	+/-0.3	58.9%	+/-0.7	10.8%	+/-3.6	16.9%	+/-7.9	9.2%	+/-4.6
HOUSEHOLD TYPE										
In married-couple family	65.1%	+/-2.5	64.6%	+/-2.4	68.8%	+/-7.0	67.6%	+/-8.5	69.1%	+/-8.7
In other households	32.1%	+/-2.5	32.4%	+/-2.4	29.4%	+/-7.1	30.0%	+/-8.6	29.2%	+/-8.8
Average household size	3.00	+/-0.07	2.76	+/-0.08	4.84	+/-0.42	4.10	+/-0.69	5.20	+/-0.54
Average family size	3.56	+/-0.11	3.30	+/-0.12	5.11	+/-0.41	4.46	+/-0.63	5.41	+/-0.57
MARITAL STATUS										
Population 15 years and over	63,361	+/-37	54,960	+/-838	8,401	+/-837	1,764	+/-401	6,637	+/-789
Never married	28.2%	+/-1.3	29.3%	+/-1.3	20.9%	+/-4.5	13.0%	+/-7.6	22.9%	+/-4.8
Now married, except separated	52.7%	+/-1.7	50.6%	+/-1.8	66.3%	+/-4.8	69.2%	+/-8.5	65.6%	+/-5.5
Divorced or separated	13.6%	+/-1.2	14.3%	+/-1.3	9.0%	+/-2.7	11.2%	+/-6.3	8.5%	+/-3.1
Widowed	5.5%	+/-0.6	5.8%	+/-0.5	3.8%	+/-1.9	6.7%	+/-3.9	3.0%	+/-2.1
SCHOOL ENROLLMENT										
Population 3 years and over enrolled in school	20,072	+/-649	19,089	+/-774	983	+/-377	122	+/-104	861	+/-383
Nursery school, preschool	3.9%	+/-1.1	4.1%	+/-1.2	0.0%	+/-4.0	0.0%	+/-27.3	0.0%	+/-4.5

S1702

POVERTY STATUS IN THE PAST 12 MONTHS OF FAMILIES
2013-2017 American Community Survey 5-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

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	Bastrop County, Texas											
	All families				Married-couple families				Female householder, no husband present			
	Total		Percent below poverty level		Total		Percent below poverty level		Total		Percent below poverty level	
Subject	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Families	18,997	+/-713	9.7%	+/-1.8	14,709	+/-606	7.1%	+/-2.0	2,954	+/-431	20.2%	+/-6.2
With related children of householder under 18 years	9,218	+/-590	15.4%	+/-3.0	6,348	+/-555	11.2%	+/-3.5	1,992	+/-369	26.8%	+/-9.1
With related children of householder under 5 years	1,310	+/-300	22.1%	+/-10.0	835	+/-224	18.1%	+/-11.5	350	+/-174	23.4%	+/-24.4
With related children of householder under 5 years and 5 to 17 years	1,775	+/-327	18.8%	+/-7.4	1,253	+/-257	15.0%	+/-8.3	367	+/-159	39.5%	+/-20.6
With related children of householder 5 to 17 years	6,133	+/-608	12.9%	+/-3.2	4,260	+/-540	8.8%	+/-3.9	1,275	+/-297	24.0%	+/-11.1
RACE AND HISPANIC OR LATINO ORIGIN												
Families with a householder who is--												
White alone	15,536	+/-605	9.7%	+/-2.1	12,357	+/-599	7.5%	+/-2.2	2,050	+/-313	21.4%	+/-7.9
Black or African American alone	1,295	+/-221	7.0%	+/-5.1	742	+/-178	0.0%	+/-5.2	543	+/-175	16.8%	+/-12.2
American Indian and Alaska Native alone	137	+/-67	40.9%	+/-35.9	69	+/-46	0.0%	+/-39.6	12	+/-19	0.0%	+/-95.0
Asian alone	167	+/-42	16.8%	+/-16.1	152	+/-45	18.4%	+/-17.7	15	+/-19	0.0%	+/-84.9
Native Hawaiian and Other Pacific Islander alone	0	+/-31	-	**	0	+/-31	-	**	0	+/-31	-	**
Some other race alone	1,578	+/-300	9.9%	+/-6.8	1,135	+/-287	7.9%	+/-6.3	304	+/-143	21.7%	+/-26.0
Two or more races	284	+/-105	2.1%	+/-3.9	254	+/-103	2.4%	+/-4.4	30	+/-38	0.0%	+/-60.1
Hispanic or Latino origin (of any race)	5,216	+/-315	19.6%	+/-4.6	3,795	+/-352	16.7%	+/-6.0	950	+/-239	30.6%	+/-14.0
White alone, not Hispanic or Latino	12,046	+/-509	5.7%	+/-1.8	9,739	+/-470	3.9%	+/-1.7	1,454	+/-266	14.7%	+/-8.5
Householder worked	12,964	+/-683	5.6%	+/-1.9	10,119	+/-574	3.9%	+/-1.8	1,861	+/-345	15.0%	+/-6.7
Householder worked full-time, year-round in the past 12 months	9,772	+/-580	3.6%	+/-1.9	7,455	+/-513	2.7%	+/-2.0	1,473	+/-308	9.4%	+/-5.7
Householder 65 years and over	3,779	+/-327	7.0%	+/-3.2	2,949	+/-301	4.6%	+/-3.1	610	+/-170	5.4%	+/-7.4
Family received --												
Supplemental Security Income (SSI) and/or cash public assistance income in the past 12 months	1,281	+/-264	15.4%	+/-8.6	791	+/-226	11.3%	+/-10.3	417	+/-151	17.5%	+/-12.5
Social security income in the past 12 months	5,922	+/-457	5.7%	+/-2.6	4,708	+/-422	3.3%	+/-2.3	927	+/-242	11.1%	+/-8.5