Preliminary Environmental Assessment

Pleasant Hill Road Widening

From Church Road to SR 302 (Goodman Road)

Approval for Presentation at Public Hearing

Olive Branch, DeSoto County, Mississippi

Project STP-7899-00(001) LPA 108775-701000

Submitted Pursuant to the

National Environmental Policy Act of 1969

42 U.S.C. §4332(2)(c) and 23 C.F.R. §771

Submitted by:

US Department of Transportation, Federal Highway Administration

Mississippi Department of Transportation, Local Public Agencies Division

City of Olive Branch, Mississippi

Prepared by:

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For Jeffrey A. Schmidt, P.E.
Division Administrator,
Federal Highway Administration

12/15/2025
Date of Approval

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MDOT Commitments to Environmental Excellence

Project No: STP-7899-00(001) LPA / 108775-701000 **Hwy/Route:** Pleasant Hill Road **Date:** 12/11/2025
County: DeSoto – City of Olive Branch **Page 1 of** 1

***Value Engineering Study Recommended** ☐ **Yes** ☒ **No**

Commitments/Requirements	Source of Commitment	Responsible Office	Place on Plans	Requires A Special Provision	Status of Commitment/Requirement
Fence Impacts: If a fence cannot be avoided as a result of final design, in-kind replacement to mitigate any visual effect occurring as a result of fence removal will be accomplished during right-of-way phase.	Section 3.13 p. 22	City of Olive Branch – Design Team and Right-of-Way Team, District 2 LPA Division, Right-of-Way Division	No	No	Design Phase Consideration
Notification of MDOT Environmental Division for the notification of SHPO and Chickasaw Nation and Quapaw Nation should findings of human remains be discovered during the project construction	Section 3.9.3 p. 21 Appendix H	City of Olive Branch Construction Division District 2, LPA Division Environmental Division	Yes	No	To be addressed during construction as applicable

All practical and standard procedures and measures, including Best Management practices will be implemented to avoid or minimize impacts.

These commitments should be carried throughout each phase of the project development including Design, Right of Way, Construction, and Maintenance.

*Value Engineering (VE) Studies are recommended for projects on the NHS System with an estimated project costs approaching $50 Million, for bridge projects on the NHS System with an estimated project costs approaching $40 Million, and/or for all Major Projects approaching $500 Million.

On January 20, 2025, President Trump signed Executive Order (E.O.) 14148 --Initial Rescissions of Harmful Executive Orders and Actions and E.O. 14154 – Unleashing American Energy. The E.O.s revoked E.O. 13990 – Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (January 20, 2021) and E.O. 14008 – Tackling the Climate Crisis at Home and Abroad (January 27, 2021). Subsequently on January 29, 2025, Secretary Duffy signed a Memorandum for Secretarial Offices and Heads of Operating Administrations – Implementation of Executive Orders Addressing Energy, Climate Change, Diversity, and Gender. On February 25, 2025, the Council on Environmental Quality (CEQ) published an Interim Final Rule removing the CEQ's National Environmental Policy Act (NEPA) implementing regulations, effective April 11, 2025 (90 Fed. Reg. 10610). As a result of these actions, FHWA will not include greenhouse gas emissions and climate change analyses in the federal environmental review process. Any purported greenhouse gas emissions and climate change impacts were not considered in the federal decision. Accordingly, no greenhouse gas emissions or climate change analyses are included in this Environmental Assessment.

Also on January 20, 2025, President Trump signed Executive Order (E.O.) 14148 –Initial Rescissions of Harmful Executive Orders and Actions and E.O. 14154 – Unleashing American Energy. The E.O.s revoked E.O. 14096 – Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023). Subsequently on January 21, 2025, President Trump signed E.O. 14173 – Ending Illegal Discrimination and Restoring Merit-Based Opportunity. This E.O. revoked E.O. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). On February 25, 2025, the Council on Environmental Quality (CEQ) published an Interim Final Rule removing the CEQ's National Environmental Policy Act (NEPA) implementing regulations, effective April 11, 2025 (90 Fed. Reg. 10610).

As a result of these actions, all federal environmental justice requirements are revoked and no longer apply to the federal environmental review process. FHWA, FTA and FRA's Joint NEPA regulations (23 CFR part 771) and the agencies Interim Final Guidance on "Section 139 Environmental Review Process: Efficient Environmental Reviews for Project Decision-making and One Federal Decision" (12/17/2024) do not require an environmental justice analysis. Accordingly, no analysis of environmental justice is included in this Environmental Assessment. Any purported environmental justice impacts were not considered in the federal decision. Social, economic, and community impacts will continue to be disclosed where applicable in accordance with 23 CFR 771.

As a result of E.O. 14148, E.O. 14154, E.O. 14173, and the removal of the Council on Environmental Quality's regulations, all federal environmental justice requirements are revoked and no longer applicable to the federal environmental review process. Accordingly, this Environmental Assessment does not consider public comments regarding environmental justice.

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1.0 Purpose and Need for Action

1.1 Project Description

The City of Olive Branch proposes to improve access along Pleasant Hill Road between Church Road and SR 302 (Goodman Road) in DeSoto County, Mississippi (Figure 1). This segment of Pleasant Hill Road has seen considerable development, particularly residential development, and is slated for continued development as a residential area. The roadway itself has become an important north/south route for access to businesses to the north and northeast and is expected to be a route of choice as more development comes to the region.

The purpose of the project is to improve the overall operations and safety of Pleasant Hill Road in Olive Branch, DeSoto County, Mississippi. The project is needed to reduce congestion, to accommodate both current and imminent traffic capacity needs for the route, and to enhance traffic safety. Responding to these needs would also improve pedestrian, bicycle, and emergency vehicle mobility throughout the project corridor and allow the upgrade of existing hydraulic crossings foundational to accommodate these improvements and to meet local hydraulic requirements.

The project is in an area that connects residential areas to a successful business corridor that is widely used by residents of Olive Branch and Desoto County. As such, the City of Olive Branch has indicated that in addition to meeting the purpose of the project, a goal for the roadway is to be an aesthetically pleasing gateway into this business corridor including landscaped medians wherever practical. The landscaped median would facilitate control of future access points while also balancing the access needs of existing developed areas.

The project is consistent with state, regional, and local planning. The project is included in the Memphis Metropolitan Planning Organization (MPO) *Fiscal Year 2023-2026 Transportation Improvement Program (TIP)* as an Administrative Modification, Modified January 24, 2024, ID MS-LSTP-2008-01, PIN #108775.00. The TIP modification is also included in the MDOT *Statewide Improvement Program (STIP) 2025-2028* document, updated February 7, 2025. Similarly, the project is also included in the *Moving Together 2050 Regional Transportation Plan (RTP), Memphis MP Region*, as Amended November 2024, ID #s 195-A and 195-B. The project in general terms has even been included as far back as the *Comprehensive Plan for DeSoto County, Mississippi,* July 2004 as a Recommended Transportation Improvement, specifically as a realignment (*i.e.*, Pleasant Hill Road north of College Road (east); section of roadway needs alignment). The inclusion of the project in these various documents is indicative of the project's consistency with transportation planning efforts.

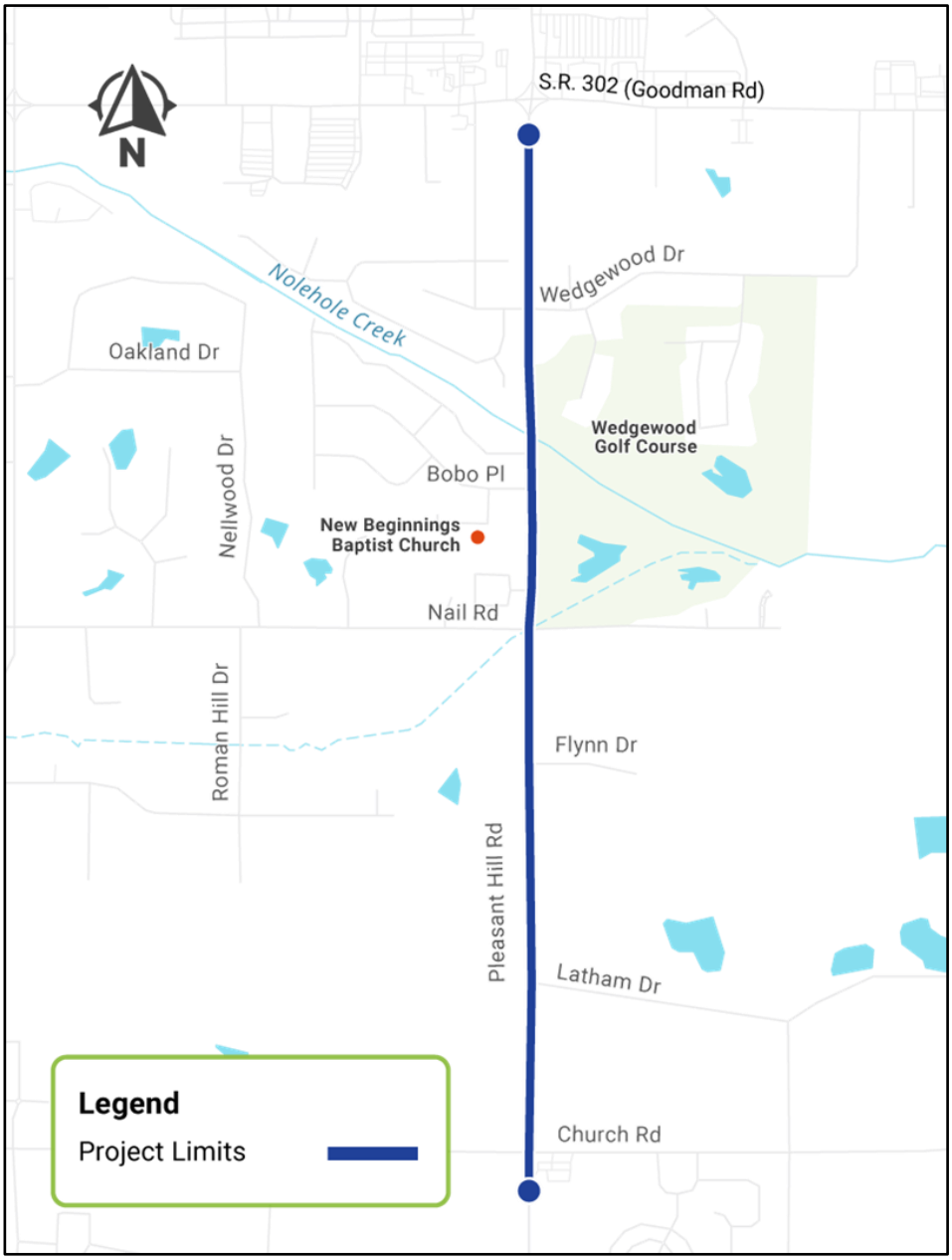


Figure 1 – Project Location

The need for the project is supported by analyses of traffic and crash data available for the project corridor. These analyses demonstrated issues experienced within the corridor. Similarly, an analysis of traffic operations was also completed for both the existing condition and with the implementation of proposed improvements to the project. These analyses collectively demonstrated how the improvements are expected to address the issues identified within the project corridor. A discussion of the analyses and the issues identified follows.

Addressing logical termini needs between Church Road and SR 302 (Goodman Road) as an element of the operational needs is part of this effort. Capacity improvements previously placed on the north end of Pleasant Hill Road in the immediate vicinity of SR 302 would be

incorporated between these logical termini. This work would incorporate tying into existing geometry south of the Church Road to satisfy design criteria at this terminus.

1.2 Traffic and Safety

The *Pleasant Hill Road Traffic Analysis Memo* (May 27, 2022) was prepared to analyze the intersections of Pleasant Hill Road with both Church Road and Nail Road. An additional analysis was completed in 2025 and documented in the *Pleasant Hill Road at Wedgewood Drive Traffic Analysis Memo* (April 24, 2025) (Appendix A). A correction memo was submitted on December 11, 2025 to address errata of the previous two memos.

Turning movement counts were collected and seasonally adjusted to provide peak hour volumes. Of the intersections analyzed, turning movements were highest at Church Road with intersection totals ranging from 1,090 (10-11 a.m.) to 2,698 (5-6 p.m.). A growth rate of 2.0 percent was used to calculate future year (2047) turning movements, leading to an intersection total ranging from 1,788 (10-11 a.m.) to 4,288 (5-6 p.m.) at Church Road.

A five-year crash analysis was also completed for both the Church Road and Nail Road intersections with the most recent 5 years of data at the time. From January 1, 2017, through December 31, 2021, there were 38 reported crashes at the Church Road intersection. No fatal crashes were reported during the five-year history, but one incapacitating injury crash, five non-incapacitating crashes, and nine possible injury crashes were reported during this timeframe. Of the crashes reported, there were 17 rear end crashes, 10 angle crashes, five left turn crashes, three run off road crashes, and three sideswipe crashes. Two of these 38 crashes were alcohol-related. At Nail Road intersection, there were 15 reported crashes in the five-year period. No fatal crashes were reported during the period, but one incapacitating injury crash, two non-incapacitating crashes, and five possible injury crashes were reported during this timeframe. Of the crashes reported, there were eight rear end crashes, four angle crashes, two run off road crashes, and one left-turn crash. No alcohol-related crashes were reported. No crashes involving pedestrians or bicyclists were reported at either Church Road or Nail Road intersections.

Crash rates were also estimated and compared to statewide crash rates for similar facility types. The analysis showed that the average crash rate for the Church Road intersection is 0.749, which is lower than the statewide average crash rate for similar facility types and lower than the critical crash rate for this intersection. For the Nail Road intersection, the average crash rate is 0.587, which is higher than the statewide average crash rate for similar facility types and higher than the critical crash rate for this intersection. A critical crash rate is unique to each site and allows for a relative comparison to other sites with similar characteristics; it is based on the average crash rate at similar sites, the traffic volume, and a statistical constant that represents a desired level of significance.

Table 1 – Crash Rate at Pleasant Hill Road and Church Road Intersection

Average Crash Rate per Million Vehicles (2017-2021)	
Pleasant Hill Road at Church Road	
Pleasant Hill Road AADT	9,800
Church Road AADT	18,000
Total Entering AADT	**27,800**
Number of Years	5
Millions of Entering Vehicles (MEV)	**50.735**
Number of Reported Crashes	38
Intersection Crash Rate	0.749
MDOT Statewide*	1.889
Critical Crash Rate	2.216

* Provided by the Mississippi Department of Transportation for similar facility types

Table 2 – Crash Rate at Pleasant Hill Road and Nail Road Intersection

Average Crash Rate per Million Vehicles (2017-2021)	
Pleasant Hill Road at Nail Road	
Pleasant Hill Road AADT	11,700
Nail Road AADT	2,300
Total Entering AADT	**14,000**
Number of Years	5
Millions of Entering Vehicles(MEV)	**25.550**
Number of Reported Crashes	15
Intersection Crash Rate	0.587
MDOT Statewide*	0.261
Critical Crash Rate	0.447

* Provided by the Mississippi Department of Transportation for similar facility types

1.3 Traffic Operations

The *Pleasant Hill Road Traffic Analysis Memo* (May 27, 2022) also included an operational analysis of the intersections of Pleasant Hill Road with Church Road and with Nail Road. The operational analysis determined the level of service (LOS) results. LOS measures a driver's experience on the roadway or at intersections based on speed (and related to travel time delay) and numbers of vehicles using the roadway and is designated by grades A (free flow) through F (gridlock). The LOS analyses of both alternatives show that LOS would be improved overall at both intersections with construction of the Build Alternative as compared to the No-Build Alternative. All tables below present future conditions (2047).

The table below shows delay and LOS for the No-Build Alternative and Build Alternative for the Church Road intersection. Note that the *Pleasant Hill Road Traffic Analysis Memo* utilized the terms Build 1 and Build 2 to describe construction phasing with widening to occur first from Church Road to Nail Road (Build 1) followed by widening from Nail Road north to Goodman

Church Road to Nail Road (Build 1) followed by widening from Nail Road north to Goodman Road (Build 2). The analysis showed that Build 1 and Build 2 are expected to operate identically as the geometry and volumes are consistent between both alternatives.

Table 3 – Pleasant Hill Road at Church Road Delay and LOS Results (2047)

Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
No Build (2047)										
AM Peak Hour	74.2	E	88.6	F	70.9	E	49.3	D	75.5	E
PM Peak Hour	92.6	F	178.6	F	73.6	E	147.0	F	133.6	F
Build 1* (2047)										
AM Peak Hour	24.0	C	25.7	C	40.7	D	30.8	C	29.6	C
PM Peak Hour	41.7	D	52.1	D	52.8	D	75.0	E	55.8	E
Build 2* (2047)										
AM Peak Hour	24.0	C	25.7	C	40.7	D	30.8	C	29.6	C
PM Peak Hour	41.7	D	52.1	D	52.8	D	75.0	E	55.8	E

*** Build 1 and Build 2 are terms used in the *Pleasant Hill Road Traffic Analysis Memo* (May 27, 2022). Build 1 assumed widening between Church Road and Nail Road. Build 2 assumed the continued widening from Nail Road north to the existing 5-lane cross-sections near Goodman Road.**

The tables below show delay and LOS for the No-Build Alternative and Build Alternative, respectively, for the Nail Road intersection. The No-Build Alternative for Nail Road intersection is unsignalized, whereas the Build Alternative is signalized.

Table 4 – Pleasant Hill Road at Nail Road Unsignalized Delay and LOS Results (2047) – No-Build Alternative

Peak Hour	Eastbound		Westbound		Northbound		Southbound	
	EBL		WBL		NBL		SBL	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM Peak Hour	3150.9	F	218.4	F	10.0	A	10.1	B
PM Peak Hour	24257.6	F	480.1	F	12.9	B	9.3	A

Table 5 – Pleasant Hill Road at Nail Road Signalized Delay and LOS Results (2047) – Build Alternative

Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Build 1*										
AM Peak Hour	35.2	D	32.2	C	12.8	B	7.2	A	13.7	B
PM Peak Hour	35.6	D	25.2	C	17.7	B	15.2	B	19.6	B
Build 2*										
AM Peak Hour	28.5	C	26.0	C	7.8	A	8.0	A	10.1	B
PM Peak Hour	35.2	D	25.1	C	11.0	B	15.3	B	17.3	B

*** Build 1 and Build 2 are terms used in the *Pleasant Hill Road Traffic Analysis Memo* (May 27, 2022). Build 1 assumes widening between Church Road and Nail Road. Build 2 assumes the continued widening from Nail Road northward with the Build Alternative complete from Church Road to Goodman Road.**

2.0 Description of Alternatives

2.1 No-Build Alternative

The No-Build Alternative is required by federal regulation to be evaluated as a viable alternative. In addition to being evaluated as an alternative for a project, the No-Build Alternative provides a baseline for comparison to any build alternatives considered. The No-Build Alternative means that Pleasant Hill Road would not be widened, and the existing roadway would remain as it is with no traffic signal at the Nail Road intersection and with only routine maintenance or minimally spot improvements occurring.

The No-Build Alternative would have positive and negative impacts. It would not require any residential relocations, and it would create no construction disturbance. Such disturbance can include construction noise, fugitive dust, siltation, water quality impacts, and traffic disruption, for examples. Negative impacts primarily result from a failure to meet the project's purpose and need. Level of service would be expected to decline from its current levels, which are less than desirable. Congestion would continue to be an issue, expected only to increase for this developing residential area as it provides access not only for surrounding residents but also for those traveling through to access the nearby business corridor. Safety concerns likewise would also be expected to trend similar to congestion.

Figure 2 below shows the typical section of the No-Build Alternative.

Figure 2 – Existing Typical Section

2.2 Build Alternative

Due to numerous constraints along the project corridor only one build alternative has been considered. Constraints are particularly noted in the immediate area adjacent to the existing roadway in the northern half of the project corridor where several residential neighborhoods, individual homes (with individual access points), and a golf course are located adjacent to the existing roadway. Additional constraints exist in the southern half of the corridor where the

DeSoto County Landfill is located to the east of Pleasant Hill Road. Other constraints in the southern section include a fire station, water tank, and residences. In addition, the Build Alternative in the southern section was constrained by maintenance of traffic considerations during construction. Due to these many existing constraints along the corridor, one Build Alternative, which would widen Pleasant Hill Road along the existing roadway, was proposed.

The Build Alternative would convert Pleasant Hill Road from an existing two-lane roadway to a multi-lane roadway, utilizing a combination of four-lane divided roadway with a narrow, raised median and five-lane sections with a center two-way, left-turn lane (TWLTL). The four-lane typical section would include four 12-foot lanes with a 12-foot or 18-foot raised narrow median. The five-lane section with TWLTL would include four 12-foot lanes with a 12-foot, continuous center turn lane. Outside the travel lanes, there would be a three-foot buffer and then a five-foot sidewalk on both sides of the roadway except for the segment adjacent to the Wedgewood Golf Club golf course. In this area, sidewalks would only be adjacent to the southbound side of Pleasant Hill Road. Flynn Road would also be slightly realigned at its intersection with Pleasant Hill Road.

The Build Alternative proposes four-lane or five-lane typical sections to be utilized in the project corridor as described below.

- **Four-Lane Divided Roadway**
    - Church Road to approximately 600 feet south of existing Flynn Road
    - Approximately 200 feet north of Flynn Road to Nail Road
    - Approximately 100 feet north of New Beginnings Baptist Church to Bobo Place
    - Approximately 200 feet north of Graham Lake Drive to approximately 2,000 feet north of Wedgewood Drive
- **Five-Lane Divided with a Continuous Center Turn Lane**
    - Approximately 600 feet south of Flynn Road to approximately 200 feet north of Flynn Road
    - Nail Road to approximately 100 feet north of New Beginnings Baptist Church
    - Bobo Place to approximately 200 feet north of Graham Lake Drive
    - Approximately 2,000 feet north of Wedgewood Drive to the existing five-lane section just south of SR 302 (Goodman Road)

Figures 3 through 6 on the following pages show the typical sections proposed for the project. The Build Alternative is shown in plan view in Appendix B.

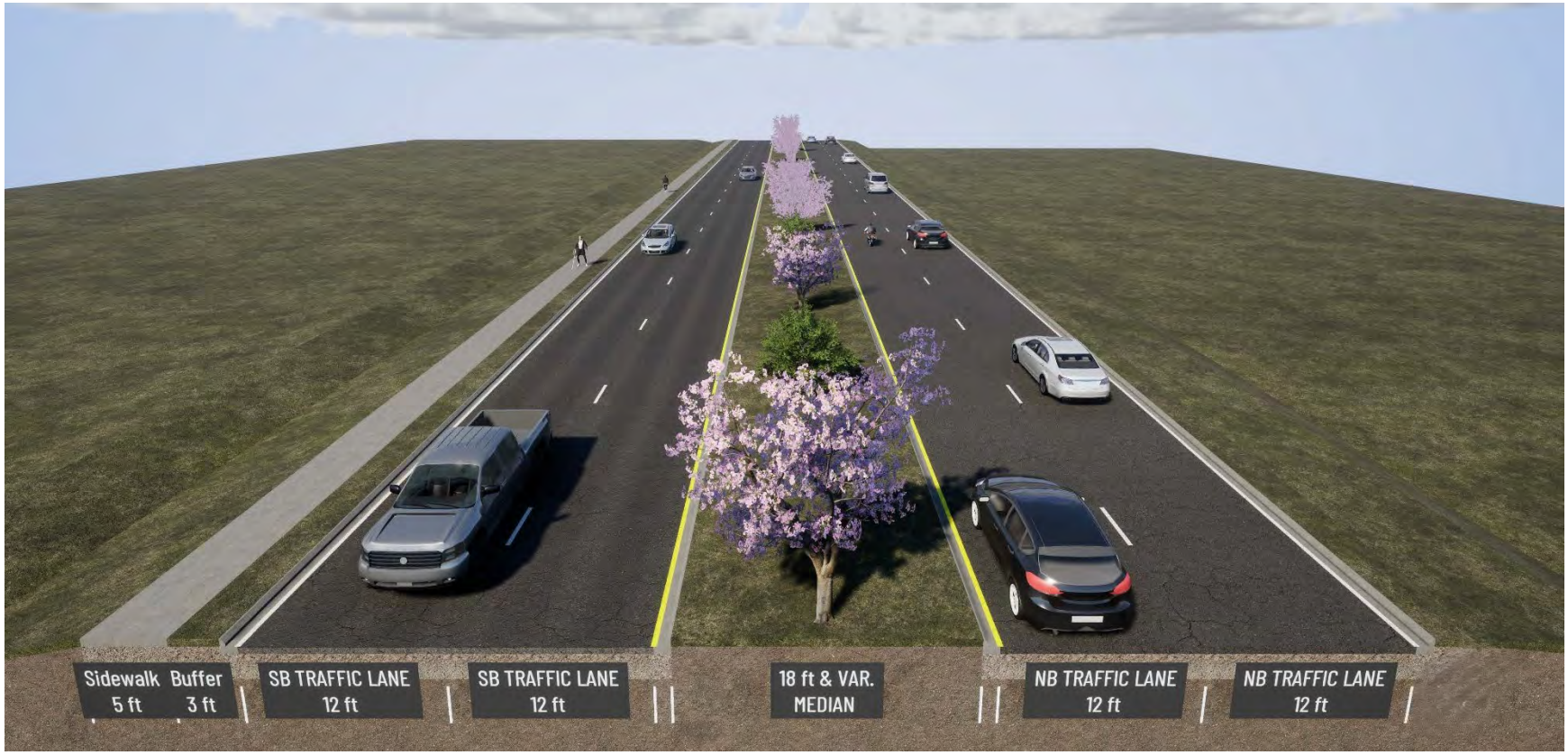


Figure 3 (Adjacent to the Wedgewood Golf Club) – Four-Lane Divided Typical Section with 18-Foot Raised Median and Sidewalk on Southbound Side

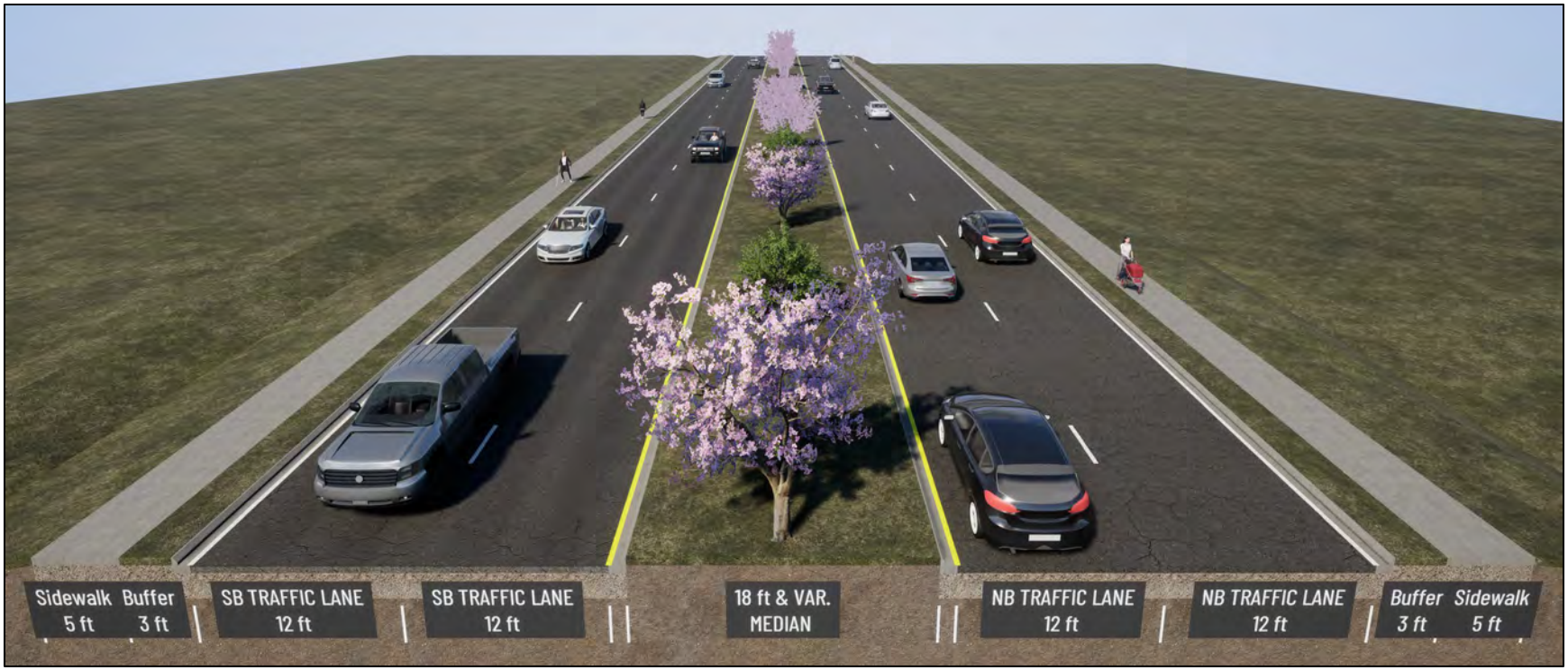


Figure 4 – Four-Lane Divided Typical Section with 18-Foot Raised Median and Sidewalks

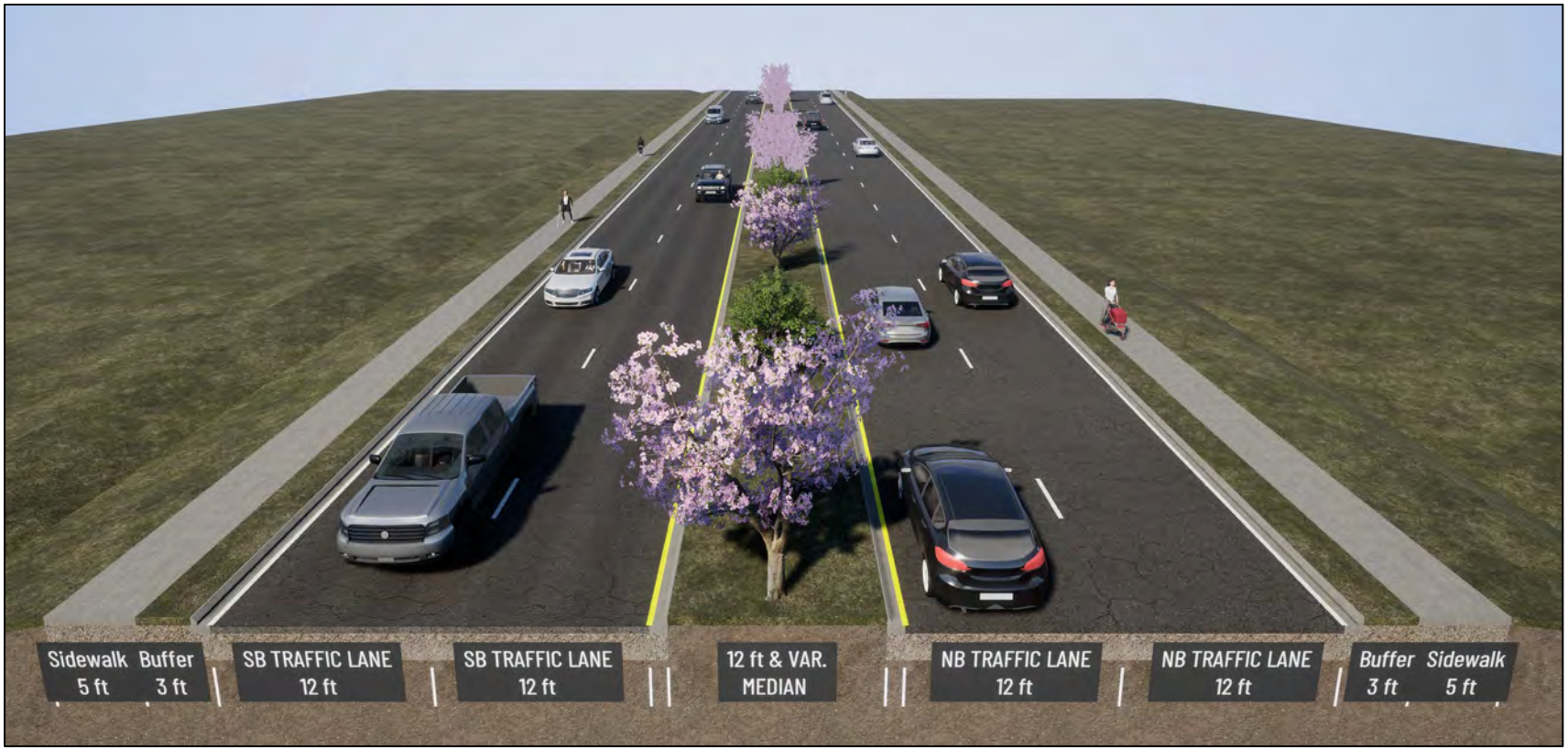


Figure 5 – Four-Lane Divided Typical Section with 12-Foot Raised Median and Sidewalks

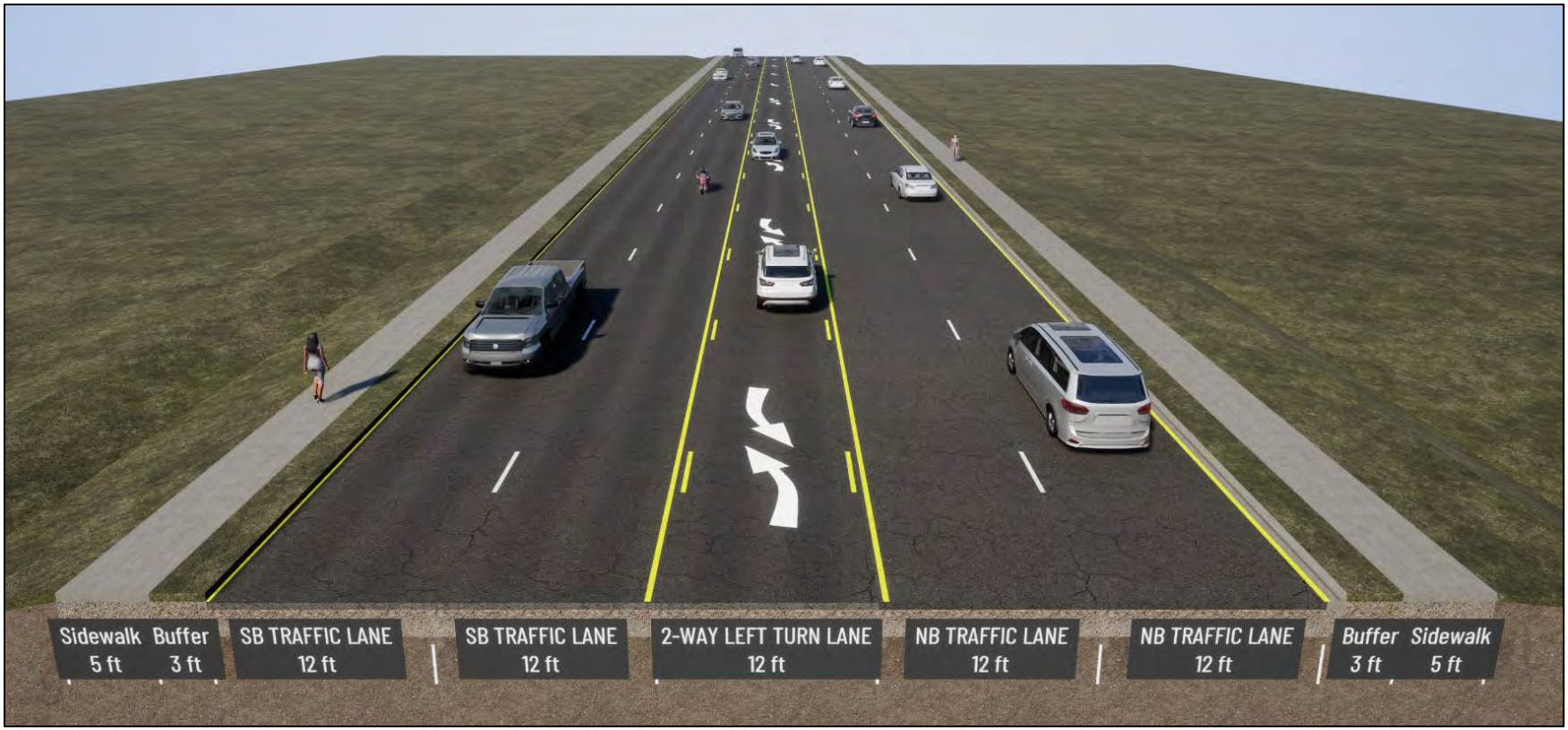


Figure 6 – Five-Lane Typical Section with Two-Way Left-Turn Lane and Sidewalks

3.0 Affected Environment and Environmental Consequences

3.1 Land Use

Pleasant Hill Road is surrounded in the north by a number of traditional neighborhood areas with relatively new homes. The Pleasant Hill Road project corridor has shown a progression of development from open land to increasingly residential uses since the early 2000s. Nearly all of the northern half of the project corridor, from Nail Road to Goodman Road, has been developed. This portion of the project area is dominated by residential use and a large golf course with smaller amounts of commercial and community facility uses. The southern half of the project corridor, specifically to the west of Pleasant Hill Road, is presently less developed but includes zoning designations in preparation for pending or future development. The southern half of the corridor shows evidence of older rural residences mixed in with newer single-family residences, pasturelands, a fire station, and the Desoto County Landfill.

Zoning in the project corridor is consistent with existing land use in the northern half of the corridor and shows a continued progression toward development, primarily residential, in the south. Zoning indicates that the area from Church Road northward to Nail Road is zoned consistent with developed land uses.

Zoning in the project corridor consists of residential, commercial, and planned development. Commercial zoning is primarily reserved for the project termini locations at Church Road and Goodman Road. The project corridor includes the following zoning designations for land adjacent to Pleasant Hill Road:

- PUD Planned unit development district
- A-R Single-family residential district
- R-3 Planned residential district
- R-1 Single-family residential district
- C-4 Planned commercial district
- C-2 Highway commercial

Under the No-Build Alternative, no project-related impacts to land use or zoning would occur. Existing land use would remain primarily residential with any zoning designations for future planned residential and commercial remaining unchanged. The corridor would likely continue its trend toward development.

The Build Alternative would not be anticipated to result in any substantive land use or zoning impacts. Some land would be converted from private to public land use as small strip-takings adjacent to the existing roadway are converted to right of way to accommodate the widening. Zoning would not be anticipated to change as a result of the Build Alternative; rather, it would be in part undertaken to accommodate the development anticipated for the project area. Current zoning designations in the project corridor are already reflective of these pending developments and their supporting accommodations.

3.2 Farmland

The Farmland Protection Policy Act (FPPA) of 1981 (7 U.S.C. 4201 and 7 CFR Ch. VI Part 658) is intended to minimize conversion of farmland through consideration of impacts and alternative actions. The FPPA applies to activities where federal funds are involved and an irreversible conversion of prime, unique, or state and locally important farmland to non-agricultural use occurs. Some lands are exempt. Those lands may include lands not considered farmland, such as land that has been previously developed (e.g., US Census urban areas or existing rights of way) or is committed to urban development or water storage. The northern half of the project corridor from Nail Road to Goodman Road is within the US Census Memphis TN-MS-AR Urban Area and therefore does not contain any farmland subject to the FPPA.

Based on a review of USDA, Natural Resources Conservation Services' (NRCS) Web Soil Survey, the southern portion of the project corridor between Nail Road and the southern terminus at Church Road contains prime farmland soils. The area to the west of Pleasant Hill Road shows some evidence of light farmland uses such as hayfield and pastureland. This portion of the project corridor is, however, zoned as a Planned Unit Development District (PUD), indicating that it is in transition to non-farmland uses. Completion of the NRCS Land Evaluation and Site Assessment (LESA) form (NRCS-CPA-106) where Part V Land Evaluation Information Criterion assumes the maximum possible 100 points and Part VI Corridor Assignment Criteria is completed, indicates that the southern portion of the corridor is not subject to the FPPA (Appendix C). Part VI criteria completion resulted in assignment of nine points out of 160 possible points, which when added to the 100 points maximum possible for Part V indicates that the southern portion of the Build Alternative falls well under the combined 160 points necessary for the land to be covered by the FPPA.

Neither the No-Build Alternative nor Build Alternative impact farmlands subject to the FPPA along the project corridor. The northern portion of the project corridor is exempt due to its inclusion in a US Census urban area, and the southern portion is not subject to the FPPA for the Build Alternative as demonstrated by the LESA form.

3.3 Community

Title VI of the Civil Rights Act of 1964, prohibits discrimination based upon race, color, and national origin. Specifically, 42 USC 2000d states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

The most recent American Community Survey (ACS) five-year estimates (2023) indicate that the population of the project area is predominantly white alone. Five 2020 US census tract block groups encompass the project corridor. Of these five block groups, four have a percentage of white alone that is considerably higher compared to either DeSoto County or the state. Census Tract 706.31 Block Group 2 has an estimated 60.0 percent of its population that identified as white alone, compared to 59.5 and 56.3 percent for DeSoto County and Mississippi, respectively. The white alone populations of the four other census tract block groups range from 70.1 percent to 86.4 percent.

Due to the nature and extent of the Build Alternative, i.e. widening along an existing roadway, neighborhoods and communities would not be negatively impacted. The Build Alternative would in large part be undertaken to provide positive social impacts for the communities and neighborhoods surrounding Pleasant Hill Road. Capacity would be increased in the corridor, leading to improved accessibility and user comfort while in the project corridor. Access would be improved for all residents (regardless of race, color, or national origin), businesses, community facilities, commuters, pedestrians, bicyclists, emergency vehicles, and school traffic. The Build Alternative is also in part proposed to increase safety, which would benefit residents of nearby neighborhoods and communities and business owners.

Long-term impacts of the Build Alternative are anticipated to be positive for all populations with increased capacity and improved safety in the project corridor. Any negative impacts are anticipated to be short-term and limited to the period of construction.

The No-Build Alternative would not result in any of the negative or positive project-related impacts to populations under Title VI. No short-term negative impacts would occur to populations during the period of construction. Conversely, though, no positive impacts including capacity increases or safety enhancements would occur for any populations as well.

3.4 Right of Way and Relocations

The No-Build Alternative would not result in any project-related impacts to property right of way or result in any relocations. Property boundaries would be expected to remain as they currently exist, and no property would be converted from private to public ownership.

The Build Alternative design was developed to minimize right-of-way impacts and relocations to the extent possible. However, some right-of-way impacts would be unavoidable for the alternative to meet the purpose and provide additional capacity in the corridor. Thus, widening from two lanes to four and five-lane sections would result in strip takings from the properties along Pleasant Hill Road. The Build Alternative is estimated to require 24.70 acres of right of way and 3.64 acres of temporary easements.

As a result of the Build Alternative, no businesses, farms, or community facilities would be relocated. The Build Alternative is anticipated to require the relocation of one residential structure at 5750 Flynn Road, at the intersection of Pleasant Hill Road and Flynn Road. Based on online Real Property information available online (https://www.desotoms.gov), the 1,200 square-foot home on the property was built in 1960 and has been owned by the same person since January 1961.

In public meeting comments, the property owner expressed concern regarding the acquisition itself due to the long-term family ownership of the residence as well as displacement of the family residing in the home. The owner’s public comment also included a preference for rebuilding on the remainder of the parcel if possible. In response to the owner’s concerns, the right of way required from this parcel was minimized and/or converted to temporary construction easement to the extent feasible.

Google Street View of the parcel indicates that the structure is quite old and in disrepair. Zillow.com and Realtor.com listings for DeSoto County currently have two listings that are reasonably comparable homes; the two comparable homes are listed at $99,900. Decent, safe, and sanitary replacement housing in the vicinity of the residential structure to be acquired may be difficult to obtain. Any relocation would, however, be completed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Last resort housing, if necessary, would be provided as required by the Relocation Assistance Program.

Right-of-way acquisition for the Build Alternative would also encompass the boundary of a wastewater pumping station near the Nolehoe Creek crossing of Pleasant Hill Road. The City of Olive Branch would take the pumping station offline as part of a separate sewer line project occurring at present in the project area; the pumping station would be replaced by a manhole prior to the Pleasant Hill Road widening and construction of the roadway project would not impact the manhole. Due to the City's planned project for the pumping station to be taken offline and replaced by the manhole prior to the Pleasant Hill widening, the Build Alternative does not impact the pumping station.

3.5 Air Quality

DeSoto County as part of the Memphis, TN-MS-AR Environmental Protection Area (EPA) area was designated non-attainment (Marginal) for the 8-hour Ozone (2008) standard on July 20, 2012. The project corridor is included in the Memphis Metropolitan Planning Organization (MPO) *Fiscal Year 2023-2026 Transportation Improvement Program (TIP)* as an Administrative Modification, Modified January 24, 2024, ID MS-LSTP-2008-01, PIN #108775.00. The TIP modification is also included in the MDOT *Statewide Improvement Program (STIP) 2025-2028* document, updated February 7, 2025. Similarly, the project corridor is also included in the *Moving Together 2050 Regional Transportation Plan (RTP), Memphis MP Region*, as Amended November 2024, ID #s 195-A and 195-B. This project corridor is included in a transportation plan that demonstrates air quality conformity and therefore this project corridor has been addressed for ozone. All areas in Mississippi are in attainment for all other Clean Air Act National Ambient Air Quality Standards criteria pollutants.

This Build Alternative would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in Mobile Source Air Toxics (MSAT) impacts of the Build Alternative from that of the No-Build Alternative. The Build Alternative would not cause a significant increase in diesel usage or result in a predicted 150,000 average annual daily traffic (AADT) in the design year. Further, USEPA regulations for vehicle engines and fuels would cause overall MSAT emissions to decline substantially over the next several decades. Based on current regulations, an analysis of national trends with EPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emission rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent. This would both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. Thus, the Build Alternative has not been linked with any special MSAT concerns as compared to the No-Build Alternative.

The No-Build Alternative would be expected to maintain air quality as it currently is with respect to the roadway and vehicular traffic. The No-Build Alternative would not improve flow of traffic in the corridor, and improved traffic flow can improve air quality as harmful emissions and pollution are reduced as vehicle idling is reduced. However, the No-Build Alternative does not include a signalized intersection at Nail Road as does the Build Alternative. Any reduction in vehicle emissions and pollution resulting from decreased idling throughout the corridor as a result of the Build Alternative may be offset by increased idling at the intersection of Nail Road when compared to the No-Build Alternative.

3.6 Noise

Under the No-Build Alternative, the proposed widening of Pleasant Hill Road would not occur. Therefore, no project-related impacts on the ambient sound environment would occur and the sound levels in the corridor would likely remain unchanged.

The Build Alternative was determined to be a Type I project, meaning that it would require a noise study based on Federal Highway Administration (FHWA) regulations. The study would identify noise impacts resulting from the Build Alternative and evaluate noise abatement measures, as needed, to mitigate any impacts. Accordingly, a *Traffic Noise* Analysis Technical Report Pleasant Hill Road Widening Between Goodman Road and Church Street, Olive Branch, DeSoto County, Mississippi (*Noise Technical Report*) was prepared for the Build Alternative (Dated July 2024) (Appendix D). The study was conducted per the FHWA noise regulation and current MDOT *Highway Noise Policy* and utilized the current conceptual project plans and traffic projections.

A review of electronic mapping and field reconnaissance identified ten areas of noise sensitive land use, referred to as noise study areas (NSAs), adjacent to Pleasant Hill Road within the project limits. Most noise sensitive land uses in the project corridor were identified as Activity Category B residences and associated common areas. Other land uses included the Activity Category C Wedgwood Golf Course and the Activity Category D New Beginnings Church, the latter of which required evaluation for interior noise impacts. No Activity Category E land uses were identified in the project corridor.

Noise measurements were recorded from the project corridor on February 10, 2022, and June 28, 2024 to provide representative existing noise levels at a subset of the affected land uses. The FHWA Traffic Noise Model Version 2.5 (TNM) computer program then predicted existing worst-hour noise levels for all receptors. The predicted existing noise levels were compared to the measured noise levels per MDOT's noise policy to determine if the model was validated. The model was determined to be validated based on the comparison. TNM was then used to predict design year 2047 worst-hour noise levels under the Build Alternative for the land uses in each NSA. Noise impacts were identified by comparing design year noise levels to FHWA's Noise Abatement Criteria (NAC) and existing noise levels.

The Build Alternative was predicted to impact 11 receptors including nine Activity Category B residences in NSAs 1, 8, 9, and 10 and two areas of the Wedgewood Golf Club in NSAs 3 and 5. All the uses were predicted to be impacted based on the NAC. Noise impacts were not predicted in NSAs 2, 4, 6, and 7.

The FHWA noise regulation requires that noise abatement be evaluated first for “feasibility” and, if feasible, for “reasonableness.” Noise barriers must be both feasible and reasonable to be deemed “likely” for construction. Pleasant Hill Road is not a limited access facility and noise barriers could not be constructed in areas with driveway access or local road intersections including NSAs 1, 9, and 10. Noise barriers were designed and evaluated, however, for the impacted land uses in NSAs 3 and 5 (Wedgwood Golf Course) and NSA 8 (Arbors of Wedgewood). MDOT’s noise policy does not specify a noise barrier design philosophy. Therefore, noise barriers were designed to provide 7 decibel (dB) noise reduction for impacted receptors while meeting the noise reduction design goal and minimizing the barrier cost. Noise barriers were determined to be acoustically feasible for all the NSAs. The barriers also met MDOT’s Noise Reduction Design Goal by providing 7 dB insertion loss for at least 10 percent of the benefited receptors. However, the cost per benefited residence for NSAs 3, 5, and 8 exceeded MDOT’s threshold of $42,000 per benefited residence. Therefore, noise abatement was not proposed for the project.

The *Noise Technical Report* indicated that construction activities may generate intermittent and temporary noise above existing noise levels. The noise levels from construction activities would depend on the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. However, these noise level increases would be temporary and would not constitute a noise impact as defined by MDOT’s noise policy.

3.7 Ecological

To document ecological resources and impacts resulting from the project, two primary ecological studies/analyses were conducted (Appendix E and F). The *Wetland and Other Waters Assessment Report, Preliminary Design, Pleasant Hill Road Widening, DeSoto County, MS* (June 2024) was completed to document all considerations relative to waters in the project corridor. Likewise, the technical report *Threatened and Endangered Species Review* (June 2024) was prepared to document potential effects to federally threatened or endangered species by the Build Alternative.

3.7.1 WATER QUALITY

In the southern half of the project corridor, surface waters generally drain west away from the existing roadway before entering an unnamed tributary that runs north off the eastern project boundary towards Nolehoe Creek. In the northern half of the project corridor, surface waters generally drain south toward Nolehoe Creek, except for within the northern extent of the corridor near Goodman Road where there is a topographic divide, and waters drain toward and into roadside channels along Goodman Road.

No waters in the project corridor are navigable waters (Section 10) nor state-listed 303d (impaired) waters; the project corridor does not contain any sole source aquifers. However, as an incorporated place in a decennial US Census Urban Area, Olive Branch is a designated Municipal Separate Storm Sewer System (MS4) Phase II community.

The Mississippi Department of Transportation requires prevention of pollution entering streams and other waters through use of best management practices (BMPs) as part of compliance to meet requirements of Section 402 of the Clean Water Act as part of the National Pollutant

Discharge Elimination System (NPDES) permits. Such permits require projects that involve clearing, grading, and excavation activities and result in the disturbance of five or more acres to file a Large Construction Notice of Intent (LCNOI) MSR10 with the MS Department of Environmental Quality (MDEQ). The Build Alternative would require such a filing due to its exceedance of the five acres. Similarly, Phase II MS4 communities are required to obtain an NPDES permit for stormwater discharges and adhere to those permit requirements as well.

The No-Build Alternative would maintain the existing drainage patterns as currently exist in the corridor. No permits as described above for the Build Alternative would be required for the No-Build Alternative.

3.7.2 PERMITS

Jurisdictional Waters of the U.S., which include both streams and wetlands, are protected under the Clean Water Act (CWA). The US Army Corps of Engineers (USACE) issues Department of the Army permits for impact to Water of the U.S., either Nationwide, General, or Individual, under Section 404 of the CWA. Currently, Section 404 Nationwide Permits (NWP) are being reevaluated, but the Build Alternative would be expected to require a NWP 14 for Linear Transportation Projects due to the presence of streams and wetlands within the project footprint. Based on previous NWPs and draft guidelines for the reevaluation of NWPs, a NWP 14 requires impacts be less than 0.5 acre. Further, Section 401 of the CWA requires any applicant for a federal permit which may result in a discharge into Waters of the U.S to obtain Water Quality Certification (*i.e.*, 401 WQC) from the certifying authority. In this case, the Mississippi Department of Environmental Quality (MDEQ) per WQC No. WQC2021041 dated October 12, 2021, has approved this certification for any NWP 14 issued by USACE under set parameters (Appendix E). WQC certifies that the discharge complies with all applicable water quality requirements. Minimizing impacts to aquatic features is a requirement for any permits that may be required from the USACE or the MDEQ.

Under the No-Build Alternative, no project-related impacts to Water of the U.S would occur. The No-Build Alternative would not require any 401/404 permits as described above for the Build Alternative.

3.7.3 STREAMS AND WETLANDS

The effort to complete the *Wetland and Other Waters Assessment Report* included a review of various data, datasets, and mapping prior to conducting site surveys. Potential jurisdictional areas within approximately 100 feet either side of the Build Alternative centerline were assessed during the surveys. An approximate 300 feet to the east and west (as applicable) of Nail Road, Flynn Road, and Latham Drive were also surveyed where these roads intersected Pleasant Hill Road. The site survey included delineations conducted to identify and describe potential jurisdictional areas such as wetlands and other waters of the US within the project corridor.
A total of two palustrine emergent wetlands (0.70 acres), six perennial and intermittent waters (2,659 linear feet), and 32 drainage ditches (11,705 feet, primarily roadside ditches) were found in or immediately adjacent to the project corridor. Generally, roadside ditches are not considered jurisdictional waters; however, these areas along with the wetlands and intermittent and perennial waters should be considered potentially jurisdictional until concurrence is given by a representative of the US Army Corps of Engineers.

The No-Build Alternative would not result in any project-related impacts to streams or wetlands in the project corridor. Streams and wetlands would exist in their current state.

3.7.4 THREATENED AND ENDANGERED SPECIES

A review for threatened and endangered species and/or critical habitat within the project corridor was completed (Appendix F). Consultation with the U.S. Fish and Wildlife Service (USFWS) and the Mississippi Department of Wildlife, Fisheries, and Parks' Natural Heritage Program was initiated. Both agencies were provided a narrative description of the project and the project boundary in digital format. The USFWS review was conducted through their online Information for Planning and Consultation (IPaC) system.

The IPaC review identified four species that should be considered in an effects analysis for the project: the northern long-eared bat (*Myotis septentrionalis*) (Status: Endangered), tricolored bat (*Perimyotis subflavus*) (Status: Proposed Endangered), alligator snapping turtle (*Macrochelys temminckii*) (Status: Proposed Threatened), and monarch butterfly (*Danaus plexippus*) (Status: Candidate). No Critical Habitat was identified in the area. Utilizing the most current design available and project narrative, the project was checked for consistency under the revised February 5, 2018, *FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat*, which determined that the project would have "No Effect" on the threatened northern long-eared bat. The documents noted that the tricolored bat is not known to be present in the area, and suitable habitat for the other species was not noted during a site reconnaissance. Based on these findings, the Build Alternative would have "No Effect" on federally listed threatened or endangered species.

The MS Natural Heritage Program responded that they had no records of occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the project. The Natural Heritage Program, however, recommend the following:

> "*Precautions should be taken to ensure that the proposed actions do not result in increased stream flow or further stream channel, bed, or bank degradation upstream or downstream, as well as potential head-cutting, downstream of the proposed project site. We recommend that best management practices be properly implemented, maintained, and monitored regularly for compliance, both upstream and downstream of any crossings. Specific emphasis should be Widening of Pleasant Hill Road placed on measures that help look for signs of increased erosion, and minimize the occurrence of excess sedimentation, suspended particulate matter, and contaminants at all project sites and surrounding areas from leaving in stormwater run-off or from direct entry into nearby streams and waterbodies. If such signs are discovered, then appropriate actions to address the issue should be taken. Please check MS Department of Environmental Quality for BMP.*"

The No-Build Alternative, like the Build Alternative, will have no effect on threatened and endangered species.

3.8 Floodplains

Based on a review of Federal Emergency Management Agency National Flood Insurance maps, the project would cross the regulatory floodway and 100-year floodplain of Nolehoe Creek located in the northern half of the project corridor. The project corridor is located on Panels 84 and 92 of 375, Map Numbers 28033C0084G and 28033C0092H, effective May 5, 2014 (Appendix G). The Build Alternative does not cross FEMA floodplain in any other location.

The Build Alternative has been designed to minimize impacts to the FEMA floodplain. The design of the project has been and will be completed in accordance with FEMA's Executive Order 11988 regarding Floodplain Management, which also incorporates FHWA's Bridges, Structures, and Hydraulics regulations (23 CFR 650). The proposed structures on the Nolehoe Creek floodways meet FEMA requirements for No-rise Certification. Should the project not meet No-rise Certification (as a result of any future design development), project design will be coordinated with the local floodplain administrator consistent with FEMA guidance.

The No-Build Alternative would not result in any project-related impacts to floodplains. The FEMA floodplain of Nolehoe Creek would be expected to remain in its current state.

3.9 Cultural Resources

3.9.1 HISTORIC RESOURCES

In compliance with Section 106 of the National Historic Preservation Act (NHPA), a *Phase I Cultural Resources Survey for the Pleasant Hill Road Improvements, DeSoto County, Mississippi* (*Phase I Survey*) was completed for the project (Final dated November 2024). The survey consisted of cultural resources literature and records reviews, followed by field investigations within the project's Area of Potential Effects (APE). The *Phase I Survey* did not identify any resources eligible for or listed in the National Register of Historic Places (NRHP) within or near the APE. The survey was reviewed by the State Historic Preservation Officer (SHPO), Mississippi Department of Archives and History. The SHPO concurred that "no resources eligible for listing in the NRHP were identified within the project area or are likely to be affected by the project. As such, we have no objections to the project" (Appendix H). Thus, the Build Alternative, and likewise, the No-Build Alternative would not impact any cultural historic resources.

3.9.2 ARCHEOLOGICAL

The *Phase I Survey* discussed above under Section 2.10.1, Historic Resources included literature and records reviews and field investigations for archaeological resource. Field investigations primarily included shovel testing at 30-meter intervals, resulting in 227 shovel tests being completed along the project corridor. The *Phase I Survey* identified one early-middle twentieth-century historic archaeological site. The site was not considered eligible for listing in the NRHP. The survey was reviewed by the State Historic Preservation Officer (SHPO), Mississippi Department of Archives and History. As indicated previously, the SHPO concurred that "no resources eligible for listing in the NRHP were identified within the project area or are likely to be affected by the project. As such, we have no objections to the project" (Appendix H). Thus, the Build Alternative would not impact any archaeological resources.

As with the Build Alternative, the No-Build Alternative would not be anticipated to impact any archaeological resources due to no resources being identified or likely to be identified from within the corridor.

3.9.3 NATIVE AMERICAN CONSULTATION

In compliance with Section 106 of the NHPA, the *Phase I Survey* was also provided to federally recognized Native American Tribes in Mississippi. Tribes that responded included the Mississippi Band of Choctaw Indians, Choctaw Nation of Oklahoma, the Quapaw Nation, and the Chickasaw Nation. The Mississippi Band of Choctaw Indians and the Choctaw Nation of Oklahoma both responded that the project was outside their areas of interest. The Quapaw Nation stated that “Based upon the information you provided we believe that Pleasant Hill Road De Soto County, Mississippi, will have no effect on known properties of cultural or sacred significance to the Quapaw Nation.” The Chickasaw Nation indicated its acceptance of the invitation to consult under Section 106 of the NHPA and requested that they be notified in future in the event that it becomes necessary to do so under applicable statutes. Copies of the consultation letters sent and the responses received from the tribes are in Appendix H.

3.10 Section 4(f)

Section 4(f) [of the U.S. Department of Transportation Act of 1966 as amended in 1983 (49 U.S.C. Section 303)] was enacted to preserve publicly owned land used for recreation, wildlife, and waterfowl refuges. Section 4(f) properties are publicly owned parks, wildlife management areas (WMAs), historic resources that are listed on or eligible for listing in the NRHP and archaeological sites that are listed on or eligible for listing on the NRHP and warrant preservation in place.

Reviews of publicly available online resources indicate that no publicly owned parks or wildlife management areas are located in or adjacent to the project corridor. The Wedgewood Golf Club golf course while recreational in nature is not publicly owned and therefore not a Section 4(f) resource. Similarly, the Phase I Cultural Resources Survey, as discussed above in Section 2.10, Cultural Resources, indicated that no historic resources or archaeological resources that are eligible for the NRHP are located in or adjacent to the project corridor. Consequently, neither the No-Build Alternative nor the Build Alternative would be anticipated to affect any Section 4(f) resources.

3.11 Section 6(f)

Public parks and trails can be subject to Section 6(f) of the Land and Water Conservation Act (LWCF) of 1965 (16 U.S.C. 4601-4). The Act, commonly referred to as Section 6(f), established a funding source for both federal acquisition of park and recreations land and matching grants to state and local governments for recreation planning, acquisition, and development. Section 6(f) prohibits the conversion of property acquired or developed with Section 6(f) grants to a nonrecreational purpose without the approval of the National Park Service. Section 6(f) applies only to parks that have received such grant funds. If impacts occur to a Section 6(f) resource, additional coordination is required with the National Park Service and the Mississippi Department of Wildlife, Fisheries and Parks.

Based on review of online data (https://lwcfcoalition.org/), Section 6(f) funds have not been used for any lands within or adjacent to the project corridor. Furthermore, a review of aerial imagery and design mapping for the project indicates that no publicly owned parks or trails are in or adjacent to the project corridor. Thus, the No-Build Alternative nor the Build Alternative would be anticipated to result in any impact on Section 6(f) resources.

3.12 Hazardous Materials

A Phase I Environmental Site Assessment (ESA) was performed consistent with the procedures included in ASTM E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* to assist in identifying recognized environmental conditions (RECs) in connection with the project corridor (Appendix I). The ESA considered the entire project corridor along Pleasant Hill Road and portions of intersecting roadways including Church Road, Nail Road, and Goodman Road. The ESA included a review of historical information; federal, state, and local regulatory database information; and site reconnaissance.

RECs, Controlled RECs (CRECs), and/or Signification Data Gaps (SDGs) were not identified in connection with the project corridor. As a result, no additional investigations were recommended for the project. The Build Alternative is not anticipated to encounter or impact any hazardous materials. Likewise, as no hazardous materials have been identified in the project corridor, the No-Build Alternative would not be expected to impact any such materials as well.

3.13 Visual

The project corridor is presently bound by a variety of visual resources. No visually sensitive resources such as cultural resources or scenic rivers or byways occur in the corridor, however. Those resources in the corridor include common elements such as residences and associated lawns, fences, neighborhood entryways; small amounts of commercial activities; vegetation including trees and brushy plants; a golf course; and a powerline corridor.

The Build Alternative would widen the roadway along the existing corridor. Substantive visual changes are not expected to occur with construction of the Build Alternative. No significant cut or fill sections would be required with the Build Alternative. The viewshed would remain comprised of the same existing resources as seen by those living in and/or traveling through the corridor, although the view of the roadway would be that of a larger (*i.e.*, wider) transportation facility that is, in some cases, closer to adjacent structures. In addition, the Build Alternative has been designed to avoid all fences to the extent possible. If a fence cannot be avoided as a result of final design, in-kind replacement to mitigate any visual effect occurring as a result of fence removal will be accomplished during right-of-way phase.

Under the No-Build Alternative, visual resources in the corridor would not be impacted by any project-related activities. Existing views in the corridor would remain relatively unchanged. Visual changes may occur over time as the corridor continues transitioning from an undeveloped to developed area.

3.14 Energy

The No-Build Alternative would not create any additional energy requirements other than routine maintenance of the existing facility. No energy expenditures associated with the Build

Alternative, particularly those occurring during construction activities, would occur with the No-Build Alternative.

The energy used by the Build Alternative can be characterized in terms of construction, maintenance, and vehicle use. Energy would be used for the manufacturing and transport of the construction materials and by the heavy equipment utilized for roadway construction. Traffic delays may accompany the construction activities and result in temporary increases in energy use. Further, the Build Alternative would require routine maintenance that would result in energy use for maintenance activities. Traffic delays could accompany the maintenance activities and result in temporary increases in energy use. In terms of vehicle use, the Build Alternative would improve traffic flow and reduce travel time in the design year, which would result in a decrease in energy use compared to existing conditions.

In summary, the amount of energy required to construct a highway project of this type is substantive, but an improved roadway generally leads to reduced operating costs once the project is completed and for an extended period beyond the design year. A reduction in costs and energy use could come from improved access, reduced travel time and increased safety (*i.e.*, fewer crashes that delay traffic and require emergency services). With such improvements, the Build Alternative is also in keeping with the Mississippi Energy Sustainability and Development Act of 2012, which seeks to promote energy efficiency to realize environmental benefits of energy efficiency.

3.15 Construction

Highway construction activities are designed to have minimal and temporary impacts to traffic patterns and access, air quality, water quality, noise, and landscape. Erosion and in-stream siltation are potential short-term, temporary impacts during construction with potential to impact water quality. Impacts would be minimized for the Build Alternative through adherence to Mississippi's *Standard Specifications for Road and Bridge Construction* (2017). An erosion control plan, including best management practices (BMPs), would be developed for the Build Alternative.

Construction impacts from the Build Alternative would be predominantly indirect and temporary. Because the project involves improvements to existing infrastructure, construction activities would occur on or adjacent to Pleasant Hill Road and its intersecting roadways. These activities would result in unavoidable disruption of travel to those not only living or working in or adjacent to the roadway, but to all travelers along this route. The Build Alternative would create short-term negative impacts as access may be limited during certain construction activities, particularly those involving the intersecting roadways. Residential, commercial and community facilities could be impacted by short-term delays and limited access during construction. A formal Traffic Control Plan would be prepared for the Build Alternative and would be followed to maintain adequate access to these locations. Information regarding maintenance of traffic during construction would be communicated to the public prior to and during construction activities.

The No-Build Alternative would result in no construction-related impacts. No construction-related delays, disruption, or limited access would occur with the No-Build Alternative and no Traffic Control Plan would be required.

3.16 Pedestrians and Bicyclists

Pleasant Hill Road currently has limited pedestrian facilities (*i.e.*, sidewalks) and no separate bicycle facilities. Based on a review of aerial imagery, no sidewalks are currently located between Church Road and Nail Road. North of Nail Road, sidewalks are provided in some locations, but connections are disjoined and lacking in some areas.

The Build Alternative proposes to provide five-foot sidewalks along the entire project corridor between Church Road and Goodman Road with one exception. No sidewalk would be constructed on the east side of Pleasant Hill adjacent to the Wedgewood Golf Club golf course between Nail Road and Wedgewood Drive. In this area, rather, sidewalks would be constructed on the west side of Pleasant Hill Road only.

No separate bicycle facilities are proposed as part of the Build Alternative due to the extent of right of way required to accommodate them. Bicycles would be required to share the road as is the case for the No-Build alternative.

The No-Build Alternative would maintain the corridor in its existing state with regard to sidewalks. Sidewalks would continue to exit in limited locations and provide disjointed facilities to pedestrians.

3.17 Reasonably Foreseeable Impacts

Reasonably foreseeable impacts can include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems. As a widening project to occur within and adjacent to the existing right of way, the Build Alternative is not expected to create growth-inducing effects, changes in land use, create population or growth rate changes, nor lead to indirect air or noise impacts.

Reasonably foreseeable impacts can also include effects on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Impacts from the Build Alternative and planned residential development along Pleasant Hill Road are reasonably foreseeable, for example. However, this project is being completed in response to a need for additional capacity along the existing roadway, rather than precipitating the development. Further, the Build Alternative would have relatively minor effects with the conversion of land from private land to public right of way being one of the most substantive and quantifiable impacts. Collectively, this project along with the planned development in the corridor seeks to provide positive impacts for residents, businesses, and community facilities located in this area of DeSoto County. The change from a two-way roadway to a four or five-lane roadway would make for a safer and more amenable roadway for the traveling public, residents, and pedestrians who travel to and through the corridor. No other

transportation projects would occur in the vicinity of this project within a similar timeframe as this project.

The No-Build Alternative would maintain Pleasant Hill Road in its current state. Reasonably foreseeable impacts of the No-Build Alternative include the likelihood that congestion would continue to worsen, particularly as development continues in the corridor. Correspondingly, safety concerns would likely continue to grow.

4.0 Public & Stakeholder Involvement

The public involvement process for this project was composed of a public meeting, multiple stakeholder meetings, and opportunities to connect with the project team via email. Organizations that were present at stakeholder meetings were directly invited, while the public meeting was broadly advertised in a local newspaper and other venues and was open to all. Through both stakeholder meetings and the public meeting, attendees were given contact information for the project team and were encouraged to connect with them on future comments, concerns, or questions.

Copies of public involvement materials are in Appendix J.

4.1 Public Meeting

A public meeting was held on Wednesday, August 28, 2024 from 5 – 7pm Central Time at Olive Branch Senior Center in Olive Branch, Mississippi. This meeting was publicized in the DeSoto Times-Tribune on Thursday August 15, 2024 and Thursday August 22, 2024. The meeting was also publicized through property owner notification letters and handouts, elected/appointed officials notification letters and handouts, a press release, and a posting on the City of Olive Branch's calendar on their website.

There were 55 attendees to the meeting, not including the project team and City of Olive Branch staff. Of those attendees, there were four elected officials including Mayor Ken Adams and two Board of Aldermen members, Pat Hamilton and David Wallace. No local media organizations were present.

Throughout the public involvement process, all were encouraged to reach out to the project team via email or phone. The DeSoto Times-Tribune advertisement listed the phone numbers and emails of two project team representatives that were available to answer questions and collect comments. This meeting later resulted in a member of the public emailing their comments to the project team.

There were 24 comments that were collected from the public during that meeting. Most of these comments expressed concern about a proposed multilane section of the project requesting three lanes to be considered instead. The community showed concern about impacts at Flynn Road, the median openings at Wedgewood Farms, the addition of sidewalks and the impacts these sidewalks would have on some properties, and the potential removal of trees near the Wedgewood Golf Club golf course.

Eight of the 24 comments, or about one third of the comments received from the public, expressed support for Pleasant Hill Road widening improvements and the project overall.

4.2 Stakeholder Meetings

Meetings were organized for three stakeholder groups – for local landowners, homeowners, and residents, for utilities, and for those associated with the Wedgewood Golf Club adjacent to the Build Alternative.

On the afternoon of August 27, 2024, a stakeholder meeting for the homeowners and residents along Flynn Road was held with five individuals represented from that location. An additional meeting was held with 2 local landholders / representatives in the early afternoon of August 28, 2024.

The stakeholder meeting for utilities' stakeholders was held the following day on August 29, 2024. There were 14 signed-in attendees at the utility-focused meeting. Representatives from the following companies were present: Atmos Energy, C Spire (Internet), Desoto County Regional Utility Authority (DCRUA), Brightspeed (Fiber Internet), and Northcentral Electric Cooperative. There was also a representative from the Public Works department at the City of Olive Branch attending.

The stakeholder meeting with three representatives of the adjacent Wedgewood Golf Course was held on the morning of August 28, 2024.

At each meeting, preliminary right-of-way limits were shown including any potential impacts associated with the Build Alternative as developed to date. Meeting formats were informal allowing for open discussion between the project team and stakeholders. The presentation provided an overview of the project including process, schedule, and project need as well as visuals of the proposed four-lane and five-lane sections between the project termini. All stakeholder meetings were held at the City Engineer's offices.

No formal comments were documented from the stakeholders' meetings. Primary objectives of these meetings were to provide information to these stakeholders, to listen to any concerns regarding the project, and to address those concerns to the extent feasible in the context of the design while continuing to meet the project's purpose and need.

4.3 Public Hearing (Pending)

This preliminary environmental assessment has been prepared for presentation at the public hearing that will be scheduled soon after the approval of this document for display at the public hearing. After the public hearing, this portion of the document will be updated to incorporate information collected from the public hearing and other comments received during the document's review period.

5.0 Summary of Impacts

The environmental assessment of the Build Alternative in comparison with the No-build Alternative did not identify any significant impacts to the natural, human, or cultural environments as a result of the Build Alternative's construction. The table below provides a

summary of the impacts of the No-build Alternative and Build Alternative relative to the various resource areas considered.

Table 6 – Alternative Impact Comparison

	No-build Alternative	Build Alternative
Land Use	None	Conversion of some land use from private to public through strip-takings
Farmland	None	None
Community	No potential for roadway capacity increases or safety enhancements for all users	Increased roadway capacity and enhanced safety for all users
Right of Way and Relocations	None	Approximately 24.7 acres of right of-way; Approximately 3.7 acres of temporary easement; One residential relocation
Air Quality	None	None
Noise	None	11 impacted receptors No noise barriers determined to be feasible and reasonable Temporary exceedances during construction
Ecological		
Water Quality	None	Phase II MS4 community requiring NPDES permit
Permits	None	Section 404 (NWP 14) and 401 WQC
Streams and Wetlands	Stream stability concerns and structural needs at the crossings would be left unaddressed	2 palustrine emergent wetlands (approximately 0.7 acres); 6 perennial & intermittent waters (approximately 2,700 linear feet); 32 drainage ditches (approximately 11,700 feet, primarily roadside ditches not typically jurisdictional) in or immediately adjacent to the corridor. Impacts not yet determined but features should be considered potentially jurisdictional until concurrence by USACE representative
Threatened & Endangered Species	No effect	No effect
Floodplains	None	Minimal – meets or exceeds FEMA No-rise Certification requirements with potential of improving existing conditions.
Cultural Resources	No effect	No effect
Section 4(f)	None	None
Section 6(f)	None	None
Hazardous Materials	None	None
Visual	None	Minor
Energy	No potential for reduced energy use from improved access, reduced travel time and enhanced safety	Minor impacts with potential reduction in energy use from improved access, travel time, and enhanced safety
Construction	None	Temporary disruption of roadway travel
Future Level of Service (LOS) Conditions for Design Year Traffic (Approaches for Intersections)	Pleasant Hill Road at Church Road am (pm): SB: D (F) – NB: E (E) Nail Road at Pleasant Hill Road: am (pm): EB: F (F) – WB: F (F)	Pleasant Hill Road at Church Road am (pm): SB: C (E) – NB: D (D) Nail Road at Pleasant Hill Road: am (pm): EB: C (D) – WB: C (C)
Pedestrians and Bicyclists	No potential to eliminate disjointed sidewalks	Development of continuous pedestrian system throughout the project
Reasonably Foreseeable Impacts	None	None

Appendix A
Traffic Analysis Memoranda

May 27, 2022

and

April 24, 2025

Memorandum

Date:	Friday, May 27, 2022
Project:	Pleasant Hill Road
To:	Andy Swims, City Engineer
From:	Richard Pittman, P.E.
Subject:	Pleasant Hill Road Traffic Analysis Memo (revised)

1. Introduction

This report provides an intersection analysis for the existing intersections of Pleasant Hill Road at Church Road and Pleasant Hill Road at Nail Road in Desoto County (see the vicinity map in **Figure 1** and). The City of Olive Branch, MS has requested a traffic analysis study for both intersections to explore the effects of two (2) build alternatives; Build Alternative 1: widening from a 2-lane roadway to a 4-lane roadway along Pleasant Hill Road between Church Road and Nail Road and Build Alternative 2: in addition to the widening from a 2-lane roadway to a multilane roadway along Pleasant Hill Road between Church Road and Nail Road, widening from a 2-lane roadway to a multilane roadway north of Nail Road. Additionally, the City has requested a signal warrant analysis for Pleasant Hill Road at Nail Road under both existing (2022) and future (2047) design year conditions. If signalization is warranted, Pleasant Hill Road at Nail Road would be analyzed as a signalized intersection under Build Alternative 1 and Build Alternative 2.

2. Existing Conditions

Both intersections fall within the Memphis Urban area. The Church Road intersection is signalized. Pleasant Hill Road is a two-lane, undivided roadway with a posted speed limit of 45 miles per hour (mph). Church Road is a five-lane roadway with a Two-Way-Left-Turn-Lane (TWLTL) with a posted speed limit of 45 mph. At its intersection with Church Road, Pleasant Hill Road has a left-turn lane, a through lane and a right-turn lane in the northbound and southbound directions. At its intersection with Pleasant Hill Road, Church Road has a left-turn lane, a through lane and a shared-through-right lane in the eastbound and westbound directions. A summary of existing conditions is provided in **Table 1**.

The Nail Road intersection is unsignalized, with Pleasant Hill Road running freely and Nail Road stop controlled. Pleasant Hill Road is a two-lane roadway with a posted speed limit of 45 mph. Nail Road is a two-lane roadway with a posted speed limit of 30 mph in the eastbound direction and 35 mph in the westbound direction. At its intersection with Nail Road, Pleasant Hill Road has a shared-left-through-right lane in the northbound direction and a shared-left-through lane and a right-turn lane in the southbound direction. At its intersection with Pleasant Hill Road, Nail Road has a shared-left-through-right lane in the eastbound and westbound directions. A summary of existing conditions is provided in **Table 2**.

Table 1 | Summary of Existing Conditions at Pleasant Hill Road and Church Road Intersection

Feature	Description
Main Street	Pleasant Hill Road
Intersecting Street	Church Road
Area Location	Southwest corner of the City of Olive Branch
Surrounding Development	Commercial
Land Uses at Intersection	Northeast – Vacant Northwest – Vacant Southeast – Commercial Southwest – Vacant
Pedestrian Generators	Commercial property in the southeast quadrant
Traffic Control	Signalized
Adjacent Signalized Intersections	The nearest signalized intersection is approximately 2.0 miles to the west.
Pleasant Hill Road	• Functional Classification – Urban Minor Arterial • Cross Section – Two-lane undivided roadway • Speed Limit – 45 mph • Northbound Approach – One left-turn lane, one through lane and one right-turn lane • Southbound Approach – One left-turn lane, one through lane and one right-turn lane • Lane Alignment – Straight and level • Sidewalks – None • Utilities – Overhead power lines exists on the west side of the roadway • Street Lighting – Present at intersection
Church Road	• Functional Classification –Urban Major Collector • Speed Limit – 45 mph • Cross Section – Four-lane TWLTL divided roadway • Eastbound Approach – One left-turn lane, one through lane and one shared-through-right lane • Westbound Approach – One left-turn lane, one through lane and one shared-through-right lane • Sidewalk – None • Utilities – Overhead power lines exists on the south side of the roadway • Street Lighting – Present at intersection
Other Distinct Features	• No Crosswalk present at intersection • Small portion of sidewalk present along the northbound approach on the south leg, along the frontage of the commercial property in the southeast quadrant

Table 2 | Summary of Existing Conditions at Pleasant Hill Road and Nail Road Intersection

Feature	Description
Main Street	Pleasant Hill Road
Intersecting Street	Nail Road
Area Location	Southwest corner of the City of Olive Branch
Surrounding Development	Residential
Land Uses at Intersection	Northeast – Golf Course Northwest – Residential Southeast – Vacant Southwest – Vacant
Pedestrian Generators	Residential properties in the northwest quadrant
Traffic Control	Unsignalized
Adjacent Signalized Intersections	The nearest signalized intersection is approximately 1.0 miles to the South.
Pleasant Hill Road	• Functional Classification – Urban Minor Arterial • Cross Section – Two-lane undivided roadway • Speed Limit – 45 mph • Northbound Approach – One shared-left-through-right lane • Southbound Approach – One shared-left-through lane and one right-turn lane • Lane Alignment – Straight and level • Sidewalks – Along the southbound approach on the north leg of the intersection • Utilities – Overhead power lines exists on the west side of the roadway • Street Lighting – Present at intersection
Nail Road	• Functional Classification –Urban Minor Arterial • Speed Limit – 30 mph in the eastbound direction and 35 mph in the westbound direction • Cross Section – Two-lane undivided roadway • Eastbound Approach – One shared-left-through-right lane • Westbound Approach – One shared-left-through-right lane • Sidewalks – Along the westbound approach on the west leg of the intersection • Utilities – Overhead power lines exists on the north side of the roadway • Street Lighting – Present at intersection
Other Distinct Features	• No Crosswalk present at intersection

Figure 1 | Pleasant Hill Road at Church Road Vicinity Map

Figure 2 | Pleasant Hill Road at Nail Road Vicinity Map

3. Traffic Data Collection

The data collection effort for this study consisted of 12-hour turning movement (7:00 AM to 7:00 PM) counts collected on April 6, 2022, at the Church Road intersection, and on April 7, 2022, at the Nail Road intersection. The AM peak hour was determined to be from 7:15 AM – 8:15 AM at the Church Road intersection and from 7:30 AM – 8:30 AM at the Nail Road intersection. The PM peak hour was determined to be from 4:45 PM – 5:45 PM at the Church Road intersection and from 3:15 PM – 4:15 PM at the Nail Road intersection. Data collection was conducted in accordance with MDOT standards. Vehicles, trucks, pedestrians, and bicycles were included in the counts. The traffic count data is included in **Appendix A**.

3.1 Seasonal Factor

MDOT develops seasonal factors (SF) based on roadway functional classes, which were provided by MDOT. The most current Traffic Adjustment Factors for 2019 is included in **Appendix B**. The 0.98 SF corresponding to April 6 and April 7 was applied to the raw traffic data to seasonally adjust the volumes.

3.2 Existing Traffic Volumes

The seasonally adjusted 12-hour turning movement counts data are summarized in **Table 3** and **Table 4**, for the Church Road and Nail Road intersections, respectively. **Table 5** and **Table 6** provide a summary of the peak hour turning movement count data for the Church Road and Nail Road intersections, respectively. Counts showed no pedestrians or bicyclists were observed at either intersection.

Table 3 | Seasonally Adjusted Turning Movement Counts at Pleasant Hill Road and Church Road Intersection

Hour of Day	Minor Approach											Major Approach										
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Minor Approach Total	Eastbound Church Road					Westbound Church Road					Major Approach Total	Intersection Total
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
7:00-8:00 AM	0	116	363	13	492	0	51	75	76	202	694	0	164	451	29	644	0	4	532	162	698	1342	**2036**
8:00-9:00 AM	0	82	193	16	291	0	71	121	66	258	549	0	126	356	37	519	0	7	392	88	487	1006	**1555**
9:00-10:00 AM	0	55	116	9	180	0	47	79	66	192	372	0	89	299	19	407	0	7	322	77	406	813	**1185**
10:00-11:00 AM	0	42	108	14	164	0	50	74	72	196	360	0	87	293	33	413	0	12	239	66	317	730	**1090**
11:00 AM-12:00 PM	0	58	103	15	176	0	51	113	99	263	439	0	110	319	45	474	0	8	294	65	367	841	**1280**
12:00-1:00 PM	0	39	96	22	157	0	77	112	97	286	443	0	125	304	41	470	0	8	311	68	387	857	**1300**
1:00-2:00 PM	0	34	95	14	143	0	99	186	123	408	551	0	124	339	40	503	0	11	306	61	378	881	**1432**
2:00-3:00 PM	0	58	100	21	179	0	82	173	93	348	527	0	100	399	50	549	0	14	429	72	515	1064	**1591**
3:00-4:00 PM	0	82	175	7	264	0	170	302	152	624	888	0	144	551	80	775	0	21	595	96	712	1487	**2375**
4:00-5:00 PM	0	88	176	22	286	0	202	355	161	718	1004	0	149	564	90	803	0	16	707	86	809	1612	**2616**
5:00-6:00 PM	0	78	145	11	234	0	216	393	191	800	1034	0	143	607	96	846	0	16	702	100	818	1664	**2698**
6:00-7:00 PM	0	56	123	9	188	0	98	203	152	453	641	0	121	382	61	564	0	11	432	89	532	1096	**1737**

Table 4 | Seasonally Adjusted Turning Movement Counts at Pleasant Hill Road and Nail Road Intersection

Hour of Day	Major Approach											Minor Approach										
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Major Approach Total	Eastbound Nail Road					Westbound Nail Road					Minor Approach Total	Intersection Total
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
7:00-8:00 AM	0	128	461	5	594	0	8	180	76	264	858	0	42	2	24	68	0	3	4	12	19	87	**945**
8:00-9:00 AM	0	77	385	7	469	0	5	214	66	285	754	0	71	4	42	117	0	3	6	6	15	132	**886**
9:00-10:00 AM	0	30	293	2	325	0	7	189	31	227	552	0	30	2	29	61	0	6	9	9	24	85	**637**
10:00-11:00 AM	0	34	240	8	282	0	4	225	38	267	549	0	37	4	25	66	0	7	5	7	19	85	**634**
11:00 AM-12:00 PM	0	35	266	5	306	0	7	235	47	289	595	0	59	6	33	98	0	4	7	12	23	121	**716**
12:00-1:00 PM	0	30	359	9	398	0	7	291	50	348	746	0	71	7	48	126	0	4	13	6	23	149	**895**
1:00-2:00 PM	0	19	263	6	288	0	7	263	58	328	616	0	61	5	63	129	0	8	7	6	21	150	**766**
2:00-3:00 PM	0	47	278	6	331	0	6	349	66	421	752	0	58	3	70	131	0	6	9	12	27	158	**910**
3:00-4:00 PM	0	66	431	7	504	0	9	531	72	612	1116	0	72	3	121	196	0	14	12	7	33	229	**1345**
4:00-5:00 PM	0	62	386	7	455	0	10	591	74	675	1130	0	77	12	156	245	0	6	15	7	28	273	**1403**
5:00-6:00 PM	0	101	411	7	519	0	10	606	88	704	1223	0	69	7	164	240	0	4	2	7	13	253	**1476**
6:00-7:00 PM	0	50	292	3	345	0	10	379	79	468	813	0	56	6	89	151	0	4	3	5	12	163	**976**

Table 5 | Seasonally Adjusted Turning Movement Counts – Peak Hours at Pleasant Hill Road and Church Road Intersection

Hour of Day	Minor Approach											Major Approach											Intersection Total
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Minor Approach Total	Eastbound Church Road					Westbound Church Road					Major Approach Total	
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
AM Peak Hour 7:15-8:15 AM	0	130	410	11	551	0	62	99	77	238	789	0	161	435	35	631	0	4	560	164	728	1359	**2148**
PM Peak Hour 4:45-5:45 PM	0	74	159	14	247	0	225	404	175	804	1051	0	140	594	93	827	0	15	737	90	842	1669	**2720**

Table 6 | Seasonally Adjusted Turning Movement Counts – Peak Hours at Pleasant Hill Road and Nail Road Intersection

Hour of Day	Major Approach											Minor Approach											Intersection Total
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Major Approach Total	Eastbound Nail Road					Westbound Nail Road					Minor Approach Total	
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
AM Peak Hour 7:30-8:30 AM	0	166	551	4	721	0	3	233	90	326	1047	0	74	2	39	115	0	4	4	10	18	133	**1180**
PM Peak Hour 3:15-4:15 PM	0	69	437	6	512	0	8	631	80	719	1231	0	88	2	155	245	0	13	15	10	38	283	**1514**

4. Crash Analysis

4.1 5-Year Crash Analysis

A crash analysis was conducted for the study intersections. Crash data for the most recent five (5) years to date at the Church Road and the Nail Road intersections were provided by MDOT. The crash data covers the time period between January 1, 2017, and December 31, 2021.

The results for the Church Road intersection are summarized in the tables below. **Table 7** shows the crashes that occurred in a given year by the type of crash. **Table 8** shows the crashes by the highest severity of incident that resulted by year. **Table 9** shows crash lighting conditions by year.

As shown, from January 1, 2017, through December 31, 2021, there were 38 reported crashes in the five-year period at the Church Road intersection. No fatal crashes were reported during the five-year history, but one (1) incapacitating injury crash, five (5) non-incapacitating crashes and nine (9) possible injury crashes were reported during this timeframe. There were 17 rear end crashes reported, 10 angle crashes, five (5) left turn crashes, three (3) run off road crashes and three (3) sideswipe crashes. No crashes involving pedestrians or bicyclists were reported, and two (2) alcohol-related crashes were reported.

The results for the Nail Road intersection are summarized in the tables below. **Table 10** shows the crashes that occurred in a given year by the type of crash. **Table 11** shows the crashes by the highest severity of incident that resulted by year. **Table 12** shows crash lighting conditions by year.

As shown, from January 1, 2017, through December 31, 2021, there were 15 reported crashes in the five-year period at the Nail Road intersection. No fatal crashes were reported during the five-year history, but one (1) incapacitating injury crash, two (2) non-incapacitating crashes and five (5) possible injury crashes were reported during this timeframe. There were eight (8) rear end crashes reported, four (4) angle crashes, two (2) run off road crashes and one (1) left turn crash. No crashes involving pedestrians or bicyclists were reported, and no alcohol-related crashes were reported. Within the five-year period, nine (9) of the 15 reported crashes were in daylight conditions, three (3) were in dark-lighted conditions and three (3) were in dark-not lighted conditions.

Five (5) crashes during the five-year history are susceptible to correction by a traffic signal: four (4) angle crashes and one (1) left-turn crash. However, no five (5) correctible crashes occurred within the same 12-month period.

Table 7 | Crash Type by Year at Pleasant Hill Road at Church Road intersection

Year	Angle Crashes	Left turn Crashes	Rear end Crashes	Run off Road Crashes	Sideswipe Crashes	Total Crashes
2017	2	0	6	0	0	**8**
2018	0	0	3	0	1	**4**
2019	2	0	4	0	0	**6**
2020	4	2	2	2	2	**12**
2021	2	3	2	1	0	**8**
2017-2021 Total	**10**	**5**	**17**	**3**	**3**	**38**

Table 8 | Crash Severity by Year at Pleasant Hill Road at Church Road intersection

Year	Fatal Crashes	Incapacitating Injury Crashes	Non-Incapacitating Injury Crashes	Possible Injury Crashes	Property Damage Only Crashes	Total Crashes
2017	0	0	1	3	**4**	**8**
2018	0	0	0	1	**3**	**4**
2019	0	0	0	2	**4**	**6**
2020	0	1	0	2	**9**	**12**
2021	0	0	4	1	**3**	**8**
2017-2021 Total	**0**	**1**	**5**	**9**	**23**	**38**

Table 9 | Crash Lighting Conditions by Year at Pleasant Hill Road at Church Road intersection

Year	Dark - lighted	Dark - not lighted	Dawn/dusk	Daylight	Total Crashes
2017	1	2	0	5	**8**
2018	0	0	0	4	**4**
2019	1	0	0	5	**6**
2020	3	0	1	8	**12**
2021	1	0	0	7	**8**
2017-2021 Total	**6**	**2**	**1**	**29**	**38**

Table 10 | Crash Type by Year at Pleasant Hill Road at Nail Road intersection

Year	Angle Crashes	Left turn Crashes	Rear end Crashes	Run off Road Crashes	Total Crashes
2017	1	0	0	2	**3**
2018	0	0	3	0	**3**
2019	1	1	3	0	**5**
2020	1	0	0	0	**1**
2021	1	0	2	0	**3**
2017-2021 Total	**4**	**1**	**8**	**2**	**15**

Table 11 | Crash Severity by Year at Pleasant Hill Road at Nail Road intersection

Year	Fatal Crashes	Incapacitating Injury Crashes	Non-Incapacitating Injury Crashes	Possible Injury Crashes	Property Damage Only Crashes	Total Crashes
2017	0	0	0	1	**2**	**3**
2018	0	0	0	3	**0**	**3**
2019	0	1	1	0	**3**	**5**
2020	0	0	0	1	**0**	**1**
2021	0	0	1	0	**2**	**3**
2017-2021 Total	**0**	**1**	**2**	**5**	**7**	**15**

Table 12 | Crash Lighting Conditions by Year at Pleasant Hill Road at Nail Road intersection

Year	Dark - lighted	Dark - not lighted	Daylight	Total Crashes
2017	1	1	1	**3**
2018	0	1	2	**3**
2019	2	0	3	**5**
2020	0	0	1	**1**
2021	0	1	2	**3**
2017-2021 Total	**3**	**3**	**9**	**15**

4.2 Crash Rate

The crash rate for the Church Road and Nail Road intersections were estimated and compared to statewide crash rates for similar facility types. The intersection crash rate is estimated by dividing the number of crashes by the millions of entering vehicles. The millions of entering vehicles (MEV) are the total number of vehicles passing through the intersection, which is calculated by summing the annual average daily traffic (AADT) of all the roadways at the intersection, then multiplying the calculated sum by the number of days in the analysis (365 days per year) and dividing by one million. The entering AADTs were estimated using AADTs available on the MDOT Traffic Volume Portal 2019 in conjunction with back calculated AADTs using the traffic movement counts. The back calculated AADTs used the standard K Factors from the Traffic Adjustment Factors for 2019 report, which was provided by MDOT. As shown below, the entering AADT at the Church Road intersection was 27,800, and the entering AADT at the Nail Road intersection was 14,000. The critical crash rate was then calculated for each intersection. This rate is unique to each site and allows for a relative comparison to other sites with similar characteristics; it is based on the average crash rate at similar sites, the traffic volume, and a statistical constant that represents a desired level of significance.

As shown in **Table 13**, the average crash rate for the Church Road intersection is 0.749, which is lower than the statewide average crash rate for similar facility types and lower than the critical crash rate for this intersection.

As shown in **Table 14**, the average crash rate for the Nail Road intersection is 0.587, which is higher than the statewide average crash rate for similar facility types and higher than the critical crash rate for this intersection.

Table 13 | Crash Rate at the Pleasant Hill Road at Church Road intersection

Average Crash Rate per Million Vehicles (2017-2021)	
Pleasant Hill Road at Church Road	
Pleasant Hill Road AADT	9,800
Church Road AADT	18,000
Total Entering AADT	**27,800**
Number of Years	5
MEV	**50.735**
Number of Reported Crashes	38
Intersection Crash Rate	0.749
MDOT Statewide*	1.889
Critical Crash Rate	2.216

Table 14 | Crash Rate at the Pleasant Hill Road at Nail Road intersection

Average Crash Rate per Million Vehicles (2017-2021)	
Pleasant Hill Road at Nail Road	
Pleasant Hill Road AADT	11,700
Nail Road AADT	2,300
Total Entering AADT	**14,000**
Number of Years	5
MEV	**25.550**
Number of Reported Crashes	15
Intersection Crash Rate	0.587
MDOT Statewide*	0.261
Critical Crash Rate	0.447

5. Future Conditions

5.1 Growth Rate Determination

Various sources were reviewed to determine an appropriate growth rate for the study area, including historical traffic data, future developments, and census data.

5.2 Historical Traffic Growth

Historical AADT volumes obtained from the MDOT Traffic Volume Portal 2019 were analyzed for compounded growth trends, as shown in **Table 15**. The weighted average compound growth rate for the study was around 2.49% for the 5-year time period 2014 to 2019. A site map is provided in **Appendix B**.

Table 15 | Compound Growth Rate Summary for MDOT Traffic Volume Sites

Appendix Map ID	Site Number	2019 AADT	Compound Growth Rate (2010-2019)	Compound Growth Rate (2014-2019)
1	170494	36,000	0.64%	1.15%
2	170510	37,000	1.63%	0.55%
3	170900	5,300	3.77%	6.33%
4	171020	6,300	0.18%	1.67%
5	171040	6,300	6.42%	7.94%
6	171125*	20,000	N/A	N/A
7	171192	4,600	3.08%	6.87%
8	171195	18,000	2.83%	3.71%
9	171400	16,000	3.25%	4.24%
Weighted Average Based on 2019 AADT			**2.02%**	**2.49%**

** AADT Data Available for 2015-2019 only, compound growth rate was 1.29% for the 4-year period*

5.3 City of Olive Branch Census Population Growth

The annual growth rate for the City of Olive Branch, according the 2020 Census provided by the city, was 1.81%.

5.4 Growth Rate Recommendation

An annual compounded growth rate of 2.00% was used to forecast future traffic volumes.

5.5 Future Volume Projections

Design Year (2047) 12-hour turning movement counts are summarized in **Table 16** and **Table 17**. **Table 18** and **Table 19** provides a summary of Design Year (2047) peak hour turning movement counts.

Table 16 | Future 2047 Turning Movement Counts at Pleasant Hill Road and Church Road Intersection

Hour of Day	Minor Approach											Major Approach										
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Minor Approach Total	Eastbound Church Road					Westbound Church Road					Major Approach Total	Intersection Total
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
7:00-8:00 AM	0	190	595	21	806	0	84	124	125	333	1139	0	269	740	48	1057	0	6	873	265	1144	2201	**3340**
8:00-9:00 AM	0	135	317	26	478	0	116	198	108	422	900	0	207	584	61	852	0	11	643	145	799	1651	**2551**
9:00-10:00 AM	0	90	190	14	294	0	77	130	108	315	609	0	146	490	31	667	0	11	529	127	667	1334	**1943**
10:00-11:00 AM	0	69	177	23	269	0	82	121	117	320	589	0	143	481	55	679	0	19	392	108	519	1198	**1787**
11:00 AM-12:00 PM	0	95	169	24	288	0	84	185	162	431	719	0	180	524	74	778	0	13	482	106	601	1379	**2098**
12:00-1:00 PM	0	64	158	35	257	0	127	183	159	469	726	0	206	498	68	772	0	13	510	111	634	1406	**2132**
1:00-2:00 PM	0	56	156	23	235	0	162	305	201	668	903	0	204	556	66	826	0	18	502	100	620	1446	**2349**
2:00-3:00 PM	0	95	164	34	293	0	135	285	153	573	866	0	164	654	82	900	0	23	704	117	844	1744	**2610**
3:00-4:00 PM	0	135	288	11	434	0	278	495	249	1022	1456	0	236	904	132	1272	0	34	976	158	1168	2440	**3896**
4:00-5:00 PM	0	145	289	35	469	0	331	582	264	1177	1646	0	244	924	148	1316	0	26	1159	141	1326	2642	**4288**
5:00-6:00 PM	0	129	238	18	385	0	354	645	314	1313	1698	0	235	995	158	1388	0	26	1151	164	1341	2729	**4427**
6:00-7:00 PM	0	92	203	14	309	0	161	333	249	743	1052	0	198	627	100	925	0	18	709	146	873	1798	**2850**

Table 17 | Future 2047 Turning Movement Counts at Pleasant Hill Road and Nail Road Intersection

Hour of Day	Major Approach											Minor Approach										
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Major Approach Total	Eastbound Nail Road					Westbound Nail Road					Minor Approach Total	Intersection Total
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
7:00-8:00 AM	0	211	756	8	975	0	13	296	125	434	1409	0	69	3	39	111	0	5	6	19	30	141	**1550**
8:00-9:00 AM	0	127	632	11	770	0	8	350	108	466	1236	0	116	6	69	191	0	5	10	10	25	216	**1452**
9:00-10:00 AM	0	50	481	3	534	0	11	310	51	372	906	0	50	3	48	101	0	10	14	14	38	139	**1045**
10:00-11:00 AM	0	56	394	13	463	0	6	370	63	439	902	0	61	6	40	107	0	11	8	11	30	137	**1039**
11:00 AM-12:00 PM	0	58	436	8	502	0	11	386	77	474	976	0	96	10	55	161	0	6	11	19	36	197	**1173**
12:00-1:00 PM	0	50	588	14	652	0	11	478	82	571	1223	0	116	11	79	206	0	6	21	10	37	243	**1466**
1:00-2:00 PM	0	31	431	10	472	0	11	431	95	537	1009	0	100	8	103	211	0	13	11	10	34	245	**1254**
2:00-3:00 PM	0	77	457	10	544	0	10	572	108	690	1234	0	95	5	114	214	0	10	14	19	43	257	**1491**
3:00-4:00 PM	0	108	707	11	826	0	14	871	117	1002	1828	0	117	5	198	320	0	23	19	11	53	373	**2201**
4:00-5:00 PM	0	101	633	11	745	0	16	969	122	1107	1852	0	127	19	256	402	0	10	24	11	45	447	**2299**
5:00-6:00 PM	0	166	674	11	851	0	16	994	145	1155	2006	0	113	11	269	393	0	6	3	11	20	413	**2419**
6:00-7:00 PM	0	82	479	5	566	0	16	622	130	768	1334	0	92	10	146	248	0	6	5	8	19	267	**1601**

Table 18 | Future 2047 Turning Movement Counts – Peak Hours at Pleasant Hill Road and Church Road Intersection

Hour of Day	Minor Approach											Major Approach											Intersection Total
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Major Approach Total	Eastbound Church Road					Westbound Church Road					Minor Approach Total	
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
AM Peak Hour 7:15-8:15 AM	0	214	672	18	904	0	101	162	127	390	1294	0	264	714	58	1036	0	6	918	269	1193	2229	3523
PM Peak Hour 4:45-5:45 PM	0	121	260	23	404	0	370	662	288	1320	1724	0	230	974	153	1357	0	24	1209	148	1381	2738	4462

Table 19 | Future 2047 Turning Movement Counts – Peak Hours at Pleasant Hill Road and Nail Road Intersection

Hour of Day	Major Approach											Minor Approach											Intersection Total
	Northbound Pleasant Hill Road					Southbound Pleasant Hill Road					Major Approach Total	Eastbound Nail Road					Westbound Nail Road					Minor Approach Total	
	UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		UT	LT	TH	RT	Total	UT	LT	TH	RT	Total		
AM Peak Hour 7:30-8:30 AM	0	272	904	6	1182	0	5	383	148	536	1718	0	122	3	64	189	0	6	6	16	28	217	1935
PM Peak Hour 3:15-4:15 PM	0	113	717	10	840	0	13	1035	132	1180	2020	0	145	3	254	402	0	21	24	16	61	463	2483

6. Signal Warrant Analysis at Pleasant Hill Road at Nail Road intersection

A signal warrant analysis was performed for the study intersection using the traffic volume data, crash data and other pertinent information. The signal warrants and calculations used are defined in Chapter 3 of the 2016 Manual on Uniform Traffic Studies (MUTS). The signal warrants, defined by the Manual of Uniform Traffic Control Devices (MUTCD), were evaluated using guidance and worksheets from the MUTS Chapter 3 and worksheet 750-020-01. Signal warrants provide an analytical basis for deciding whether signalization will improve intersection operations or safety.

The criteria outlined by the MUTCD states that a signal may be warranted if one or more of the signal warrants that are deemed to be applicable are met. However, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

The signal warrant analysis evaluated the intersection using the existing 2022 traffic volumes and the future 2047 traffic volumes in order to evaluate the need for signalization over the long term. Based on the posted speed limit of 45 mph on Pleasant Hill Road, the 70 percent volume criterion was applied to the analysis. The right turn traffic volumes were not included in the minor street volumes.

The nine (9) signal warrants are listed and evaluated in this section. The signal warrant analysis can be found in **Appendix C.**

6.1 Under Existing 2022 Volumes:

6.1.1 Eight-Hour Vehicular Volume

6.1.1.1 Condition A: Minimum Vehicular Volume – Not Satisfied

The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Under the existing 2022 volume, the minor street volumes did not meet the minimum volume criterion for any of the required eight (8) hours to satisfy this warrant, while the major street volumes met all eight (8) of the required eight (8) hours to satisfy this warrant.

6.1.1.2 Condition B: Interruption of Continuous Traffic – Satisfied

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied, and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Under the existing 2022 volume, the minor and the major street volumes met all eight (8) of the required eight (8) hours to satisfy this warrant.

The existing 2022 turning movement counts warrant a signal based on the Eight-Hour Vehicle Volume warrant.

6.1.2 Four-Hour Vehicular Volume – Satisfied

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Under the existing 2022 volumes, the study intersection meets the peak hour warrant criterion using the 70% chart.

6.1.3 Peak-Hour Vehicular Volume – Not Applicable

The Peak Hour Vehicular Volume signal warrant is intended for use at a location where the minor-street traffic experiences excessive delay when entering or crossing the major street for a minimum of one (1) hour of an average day.

This warrant is not applicable at the study intersection. This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The collected traffic and turning movement volumes and results from the delay study do not satisfy this warrant.

6.1.4 Pedestrian Volume – Not Applicable

The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Based on the traffic count data, no pedestrians were observed at either study intersection. This warrant is not applicable.

6.1.5 School Crossing – Not Applicable

The School Crossing signal warrant is intended for application where school children crossing the major street is the principal reason to consider installing a traffic control signal.

The study intersection does not include a crossing utilized by children walking to school. This warrant is not applicable.

6.1.6 Coordinated Signal System– Not Applicable

Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

The isolated nature of this intersection does not lend itself to signalization based on this warrant. This warrant is not applicable.

6.1.7 Crash Experience– Not Satisfied

The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Based on crash experience, both the number of crashes and intersection vehicle volumes do not warrant a signal. A more detailed crash analysis is provided in the Crash Analysis section of this report.

6.1.8 Roadway Network – Not Applicable

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network. This warrant is not applicable.

6.1.9 Intersection Near a Grade Crossing – Not Applicable

Installing a traffic control signal at some intersections might be justified to manage grade crossings if no other warrant is met. This warrant is not applicable; the study intersection is not near a grade crossing.

6.1.10 Existing 2022 Volumes Warrants Summary

Table 20 summarizes the results from the signal warrant analysis under the existing 2022 volumes. Two (2) of the nine (9) warrants are met at this time.

Table 20 | Signal Warrant Analysis Summary Under Existing 2022 Volumes

Warrant #	Warrant Name	Satisfied
1A	8-Hour Volume Condition A	No
1B	8-Hour Volume Condition B	Yes
2	4-Hour Vehicular Volume	Yes
3	Peak Hour	Not Applicable
4	Pedestrian Volume	Not Applicable
5	School Crossing	Not Applicable
6	Coordinated Signal System	Not Applicable
7	Crash Experience	No
8	Roadway Network	Not Applicable
9	Intersection Near a Grade Crossing	Not Applicable

6.2 Under Future 2047 Volumes:

6.2.1 Eight-Hour Vehicular Volume

6.2.1.1 Condition A: Minimum Vehicular Volume – Not Satisfied

The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Under the future 2047 volume, the minor volumes met only seven (7) of the required eight (8) hours to satisfy this warrant, while the major street volumes met all eight (8) of the required eight (8) hours to satisfy this warrant.

6.2.1.2 Condition B: Interruption of Continuous Traffic – Satisfied

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Under the future 2047 volume, the minor and the major street volumes met all eight (8) of the required eight (8) hours to satisfy this warrant.

The future 2047 turning movement counts warrant a signal based on the Eight-Hour Vehicle Volume warrant.

6.2.2 Four-Hour Vehicular Volume – Satisfied

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Under the future 2047 volume, the study intersection meets the peak hour warrant criterion using the 70% chart.

6.2.3 Peak-Hour Vehicular Volume – Not Applicable

The Peak Hour Vehicular Volume signal warrant is intended for use at a location where the minor-street traffic experiences excessive delay when entering or crossing the major street for a minimum of one (1) hour of an average day.

This warrant is not applicable at the study intersection. The signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The collected traffic and turning movement volumes and results from the delay study do not satisfy this warrant.

6.2.4 Pedestrian Volume – Not Applicable

The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Based on the traffic count data, no pedestrians were observed at the study intersection. This warrant is not applicable.

6.2.5 School Crossing – Not Applicable

The School Crossing signal warrant is intended for application where school children crossing the major street is the principal reason to consider installing a traffic control signal.

The study intersection does not include a crossing utilized by children walking to school. This warrant is not applicable.

6.2.6 Coordinated Signal System– Not Applicable

Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would otherwise not be needed in order to maintain proper platooning of vehicles.

The isolated nature of this intersection does not lend itself to signalization based on this warrant. This warrant is not applicable.

6.2.7 Crash Experience– Not Applicable

The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

This warrant is not applicable; this analysis is assuming future condition, and no crash prediction was performed at this intersection.

6.2.8 Roadway Network – Not Applicable

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network. This warrant is not applicable.

6.2.9 Intersection Near a Grade Crossing – Not Applicable

Installing a traffic control signal at some intersections might be justified to manage grade crossings if no other warrant is met. This warrant is not applicable. The study intersection is not near a grade crossing.

6.2.10 Future 2047 Volumes Warrants Summary

Table 21 summarizes the results from the signal warrant analysis under the future 2047 volumes. Two (2) of the nine (9) warrants are met at this time.

Table 21 | Signal Warrant Analysis Summary Under Future 2047 Volumes

Warrant #	Warrant Name	Satisfied
1A	8-Hour Volume Condition A	No
1B	8-Hour Volume Condition B	Yes
2	4-Hour Vehicular Volume	Yes
3	Peak Hour	Not Applicable
4	Pedestrian Volume	Not Applicable
5	School Crossing	Not Applicable
6	Coordinated Signal System	Not Applicable
7	Crash Experience	Not Applicable
8	Roadway Network	Not Applicable
9	Intersection Near a Grade Crossing	Not Applicable

7. Operational and Queue Analysis

7.1 Existing Conditions Operational Analysis

An operational analysis under existing conditions was conducted for both study intersections utilizing Synchro Version 11 software. Level of service (LOS) results are based on the Highway Capacity Manual 6 (HCM 6). Synchro results can be found in **Appendix D**.

HCM 6 Delay and LOS results are summarized in **Table 22** for the Church Road intersection under the existing conditions from 2022. The analysis results show that the overall intersection operates at LOS C and D in the AM and PM Peak hours, respectively. Under the AM peak hour, the eastbound approach operates at LOS B, the westbound approach operates at LOS C, the northbound approach operates at LOS C and the southbound approach operates at LOS C. Under the PM peak hour, the eastbound approach operates at LOS C, the westbound approach operates at LOS C, the northbound approach operates at LOS C and the southbound approach operates at LOS F.

Table 22 | Pleasant Hill Road at Church Road Delay and LOS Results

Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM Peak Hour	18.6	B	29.1	C	32.4	C	24.4	C	26.5	C
PM Peak Hour	23.9	C	34.7	C	26.3	C	83.8	F	46.2	D

HCM 6 Delay and LOS results are summarized in **Table 23** for the Nail Road intersection under the existing conditions from 2022. The analysis results show the eastbound left movement operates at LOS F for both the AM and PM peak hours, the westbound left movement operates at LOS E and LOS F for the AM and PM peak hours, respectively, while the northbound left and southbound left movements operate at LOS A for both the AM and PM peak hours.

Table 23 | Pleasant Hill Road at Nail Road Delay and LOS Results

Peak Hour	Eastbound		Westbound		Northbound		Southbound	
	EBL		WBL		NBL		SBL	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM Peak Hour	385.0	F	42.7	E	8.9	A	9.1	A
PM Peak Hour	430.8	F	96.9	F	10.0	A	8.4	A

7.2 Existing Conditions Queue Analysis

Synchro Version 11 software was also utilized for a queue analysis for both study intersections. Synchro results can be found in **Appendix D**. **Table 24** shows the existing turn bay length inventory for the Church Road and the Nail Road intersections.

Table 24 | Existing Turn Bay Inventory in Feet

Intersection	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Pleasant Hill Road at Church Road	175	-	200	-	225	225	105	-
Pleasant Hill Road at Nail Road	-	-	-	-	-	-	-	285

HCM 6 95th percentile queues results rounded up to the nearest 25 feet are summarized in **Table 25** for the Church Road intersection under the existing conditions for 2022. The analysis results show that queue lengths don't exceed existing turn bay lengths for all movements except for the southbound left movement in the PM peak hour.

Table 25 | Pleasant Hill Road at Church Road 95th percentile Queue Results

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM Peak Hour	100	150	150	25	300	300	100	375	25	50	0	175
PM Peak Hour	100	250	250	25	350	350	75	150	25	175	0	900

HCM 6 95th percentile queues results rounded up to the nearest 25 feet are summarized in **Table 26** for the Nail Road intersection under the existing conditions for 2022. The intersection doesn't have any turn bays except for the southbound right movement; the analysis results indicate sufficient capacity for queues experienced at the intersection.

Table 26 | Pleasant Hill Road at Nail Road 95th percentile Queue Results

Approach	Eastbound	Westbound	Northbound	Southbound
Movement	EBL	WBL	NBL	SBL
AM Peak Hour	325	25	25	0
PM Peak Hour	600	75	25	0

7.3 Future Alternative

In addition to the No Build Alternative (No Build), which assumes no changes from existing conditions, two (2) build alternatives were analyzed. Build Alternative 1 (Build 1) assumes a roadway widening along Pleasant Hill Road between Church Road and Nail Road. Build Alternative 2 (Build 2) assumes roadway widening along Pleasant Hill Road from Church Road to the north of Nail Road. Under both build alternatives, the Nail Road intersection was analyzed as a signalized intersection; the signal warrant analysis indicated that the intersection would meet two (2) of the nine (9) MUTCD signal warrants. Additionally, at the Church Road intersection, dual left turn lanes were added for the eastbound, northbound, and southbound approaches, and right turn lanes were added for all approaches. Signal timing was optimized for future alternatives. A PHF of 95% was utilized for all future models, and heavy vehicle percentages were assumed to be 3% based on the Traffic Adjustment Factors for 2019 report provided by MDOT.

7.4 Future Conditions Operational Analysis

Synchro Version 11 software was utilized for future conditions analysis at both study intersections. Synchro results can be found in **Appendix D**. HCM 6 Delay and LOS results are summarized in **Table 27** for the Church Road intersection under the future conditions for 2047. The analysis results show that Build 1 and Build 2 are expected to operate identically, as the geometry and volumes are consistent between both alternatives. Under the No Build, the overall intersection is expected to operate at LOS E and F in the AM and PM Peak hours, respectively. Under Build 1 and Build 2, the overall intersection is expected to operate at LOS C and E in the AM and PM Peak hours, respectively.

Under the No Build, the eastbound approach is expected to operate at LOS E and F in the AM and PM Peak hours, respectively; under Build 1 and Build 2, the eastbound approach is expected to operate at LOS C and D in the AM and PM Peak hours, respectively. Under the No Build, the westbound approach is expected to operate at LOS F in both the AM and PM Peak hours; under Build 1 and Build 2, the westbound approach is expected to operate at LOS C and D in the AM and PM Peak hours, respectively. Under the No Build, the northbound approach is expected to operate at LOS E in both the AM and PM Peak hours, and under Build 1 and Build 2, the northbound approach is expected to operate at LOS D in both the AM and PM Peak hours. Under the No Build, the southbound approach is expected to operate at LOS D and F in the AM and PM Peak hours, respectively; under Build 1 and Build 2, the southbound approach is expected to operate at LOS C and E in the AM and PM Peak hours, respectively.

Table 27 | Pleasant Hill Road at Church Road Delay and LOS Results

Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
No Build										
AM Peak Hour	74.2	E	88.6	F	70.9	E	49.3	D	75.5	E
PM Peak Hour	92.6	F	178.6	F	73.6	E	147.0	F	133.6	F
Build 1										
AM Peak Hour	24.0	C	25.7	C	40.7	D	30.8	C	29.6	C
PM Peak Hour	41.7	D	52.1	D	52.8	D	75.0	E	55.8	E
Build 2										
AM Peak Hour	24.0	C	25.7	C	40.7	D	30.8	C	29.6	C
PM Peak Hour	41.7	D	52.1	D	52.8	D	75.0	E	55.8	E

Under the No Build, the Nail Road intersection remains unsignalized. Using the future volumes, the HCM 6 module in Synchro Version 11 failed to calculate the delay and LOS for the minor approach in the PM Peak hour. The southbound through movement was reduced by 25 vehicles to allow the HCM 6 module to compute delay and LOS results; both Synchro results can be found in **Appendix D**. HCM 6 Delay and LOS results are summarized in **Table 28** for the unsignalized Nail Road intersection under the future conditions for 2047.

The analysis results show that the eastbound left and the westbound left movements are expected to operate at LOS F for both the AM and PM peak hours. The northbound left movement is expected to operate at LOS A and LOS B for the AM and PM peak hours, respectively, and the southbound left movement is expected to operate at LOS B and LOS A for the AM and PM peak hours, respectively.

Table 28 | Pleasant Hill Road at Nail Road Unsignalized Delay and LOS Results

Peak Hour	Eastbound		Westbound		Northbound		Southbound	
	EBL		WBL		NBL		SBL	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM Peak Hour	3150.9	F	218.4	F	10.0	A	10.1	B
PM Peak Hour	24257.6	F	480.1	F	12.9	B	9.3	A

Under Build 1 and Build 2, the Nail Road intersection was analyzed as a signalized intersection; the signal warrant analysis indicated that the intersection would meet two (2) of the nine (9) MUTCD signal warrants. HCM 6 Delay and LOS results are summarized in **Table 29** for the signalized Nail Road intersection under the future conditions for 2047. Under Build 1 and Build 2, the overall intersection is expected to operate at LOS B in both the AM and PM Peak hours.

Under Build 1, the eastbound approach is expected to operate at LOS D in both the AM and PM Peak hours, and under Build 2, the eastbound approach is expected to operate at LOS C and D in the AM and

PM Peak hours, respectively. Under Build 1 and Build 2, the westbound approach is expected to operate at LOS C in both the AM and PM Peak hours. Under Build 1, the northbound approach is expected to operate at LOS B in both the AM and PM Peak hours, and under Build 2, the northbound approach is expected to operate at LOS A and B in the AM and PM Peak hours, respectively. Under Build 1 and Build 2, the southbound approach is expected to operate at LOS A and B in the AM and PM Peak hours, respectively.

Table 29 | Pleasant Hill Road at Nail Road Signalized Delay and LOS Results

Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Build 1										
AM Peak Hour	35.2	D	32.2	C	12.8	B	7.2	A	13.7	B
PM Peak Hour	35.6	D	25.2	C	17.7	B	15.2	B	19.6	B
Build 2										
AM Peak Hour	28.5	C	26.0	C	7.8	A	8.0	A	10.1	B
PM Peak Hour	35.2	D	25.1	C	11.0	B	15.3	B	17.3	B

7.5 Future Conditions Queue Analysis

HCM 6 95th percentile queues results rounded up to the nearest 25 feet are summarized in **Table 30** for the Church Road intersection under the future conditions for 2047. The analysis results show that under the No Build, the queue lengths are expected to exceed the existing turn bay lengths for the eastbound left and southbound left movements in both the AM and PM peak hours. The analysis results show that Build 1 and Build 2 are expected to produce identical queue results, as the geometry and volumes are consistent between both alternatives.

Table 30 | Pleasant Hill Road at Church Road 95th percentile Queue Results

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
No Build												
AM Peak Hour	550	375	400	25	950	925	225	1025	25	175	0	350
PM Peak Hour	550	800	800	50	1475	1525	225	325	50	375	0	2150
Build 1												
AM Peak Hour	150	225	25	25	350	175	125	325	25	50	150	100
PM Peak Hour	225	475	150	50	750	125	125	175	25	275	1075	275
Build 2												
AM Peak Hour	150	225	25	25	350	175	125	325	25	50	150	100
PM Peak Hour	225	475	150	50	750	125	125	175	25	275	1075	275

HCM 6 95th percentile queues results rounded up to the nearest 25 feet are summarized in **Table 31** for the unsignalized Nail Road intersection under the future conditions for 2047. The Nail Road intersection under the No Build does not have any turn bays, except for the southbound right movement. Analysis results indicate that excessive queuing is expected for the eastbound movement in both the AM and PM peak hours.

Table 31 | Pleasant Hill Road at Nail Road Unsignalized 95th percentile Queue Results

No Build	Eastbound	Westbound	Northbound	Southbound
	EBL	WBL	NBL	SBL
AM Peak Hour	625	75	50	0
PM Peak Hour	1375	175	25	0

HCM 6 95th percentile queues results rounded up to the nearest 25 feet are summarized in **Table 32** for the signalized Nail Road intersection under the future conditions for 2047. No excessive queues are expected under Build 1 and Build 2.

Table 32 | Pleasant Hill Road at Nail Road Signalized 95th percentile Queue Results

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Build 1												
AM Peak Hour	125	0	75	25	0	0	50	0	400	0	100	100
PM Peak Hour	125	0	250	50	0	0	50	0	375	25	275	275
Build 2												
AM Peak Hour	100	0	50	25	0	0	50	150	150	0	75	75
PM Peak Hour	125	0	250	50	0	0	50	150	150	25	275	275

Table 33 shows Build 1 and Build 2 turn bay length needs for both the Church Road and the Nail Road intersections.

Table 33 | Build 1 and Build 2 Turn Bay Storage Needs in Feet

Intersection	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Pleasant Hill Road at Church Road	250	175	200	225	225	225	300	-
Pleasant Hill Road at Nail Road	150	-	150	-	150*	-	150	285

**Build 1 does not include a northbound left turn bay*

8. Conclusion

As part of the Pleasant Hill Road widening effort, a signal warrant at the Nail Road intersection was conducted using existing and future traffic volumes. The signal warrant analysis concluded that Warrant 1 (Eight-Hour Vehicular Volume) and Warrant 2 (Four-Hour Vehicular Volume) were met under both the existing and future traffic volumes. As such, it is recommended to signalize the Nail Road intersection under the future build alternatives.

The Highway Capacity Manual (HCM) module of the Synchro Version 11 was utilized to assess existing conditions and future conditions. Under the future conditions, three (3) alternatives were assessed: the No Build alternative, the Build Alternative 1, and the Build Alternative 2. Build 1 assumes a roadway widening along Pleasant Hill Road between Church Road and Nail Road and Build 2 assumes roadway widening along Pleasant Hill Road from Church Road to the north of Nail Road. The No Build assumes that the Nail Road intersection remains unsignalized, Build 1 and Build 2 assume that the Nail Road intersection is signalized. Build 1 and Build 2 also assume additional eastbound left, northbound left and southbound left turn lanes at the Nail Road intersection as part of the signalization of the intersection. The northbound left turn lane acts as a drop lane under Build 1. Additionally, under Build 1 and Build 2 at the Church Road intersection, dual left turn lanes were added for the eastbound, northbound, and southbound approaches; right turn lanes were added for all approaches.

At the Church Road intersection, operational analysis indicated that under the No Build, the overall intersection is expected to operate at LOS E and F in the AM and PM Peak hours, respectively. Under Build 1 and Build 2, the overall intersection is expected to operate at LOS C and E in the AM and PM Peak hours, respectively. Build 1 and Build 2 offer LOS improvements over the No Build. However, the Church Road intersection is expected to operate at LOS E, despite the Build 1 and Build 2 improvements. These improvements include dual left turn lanes added for the eastbound, northbound, and southbound approaches, and right turn lanes added for all approaches. Number and length of turn bay lanes under Build 1 and Build 2 are summarized below in **Table 34**. A further study is recommended at the Church Road intersection to improve traffic operations.

Table 34 | Number of Turn Bay Lanes and Turn Bay Lane Length at Pleasant Hill Road at Church Road

Attribute	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Number of Turn Bay Lanes	2	1	1	1	2	1	2	1
Turn Bay Lane Length (feet)	250	175	200	225	225	225	300	-

At the Nail Road intersection, the operational analysis indicated that under the No Build, the intersection is expected to operate at LOS F, with the minor approach expected to experience unreasonable delays. However, under Build 1 and Build 2, the overall intersection is expected to operate at LOS B in both the AM and PM Peak hours. It is recommended to signalize the Nail Road intersection as indicated by the signal warrant analysis. **Figure 3** and **Figure 4** illustrate the geometry at the Nail Road intersection for Build 1 and Build 2, respectively. The intersection meets warrants 1 and 2 of the nine (9) MUTCD signal warrants,

and the operational analysis indicates that the intersection is expected to operate at LOS B under signalized conditions.

Figure 3 | Pleasant Hill Road at Nail Road Build 1 Geometry

Figure 4 | Pleasant Hill Road at Nail Road Build 2 Geometry

9. Recommendations

The study recommendation includes the following:

- Install a signal at the Nail Road intersection using the Build 2 geometry as depicted in **Figure 4**. This includes:
    - Signalization.
    - Northbound Approach – Left-turn lane, through lane, shared through-right lane.
    - Southbound Approach – Left-turn lane, through lane, shared through-right lane.
    - Eastbound Approach - Left-turn lane, shared through-right lane.
    - Westbound Approach - Shared left-through-right lane.

  Note, if Pleasant Hill Road is not widened north of the Nail Road as a part of this project, a second northbound receiving lane will need to be constructed.

Appendix A: Traffic Data

Plesant Hill Road and Church Road

4/6/2022	Plesant Hill Road From North					Church Road From East					PLeasant Hill Road From South					Church Road From West				
Start Time	Right	Thru	Left	Bicycles	Peds	Right	Thru	Left	Bicycles	Peds	Right	Thru	Left	Bicycles	Peds	Right	Thru	Left	Bicycles	Peds
7:00 AM	19	18	13	0	0	24	106	1	0	0	2	41	17	0	0	7	117	36	0	0
7:15 AM	23	17	12	0	0	36	140	0	0	0	4	79	29	0	0	6	110	45	0	0
7:30 AM	12	19	8	0	0	39	172	1	0	0	1	117	37	0	0	7	123	40	0	0
7:45 AM	20	19	16	0	0	65	124	1	0	0	4	132	33	0	0	8	109	43	0	0
8:00 AM	21	42	24	0	0	24	133	0	0	0	2	88	31	0	0	11	101	33	0	0
8:15 AM	19	41	23	0	0	31	85	1	0	0	4	41	22	0	0	10	107	38	0	0
8:30 AM	15	22	17	0	0	16	107	2	0	0	4	35	13	0	0	9	93	21	0	0
8:45 AM	10	14	6	0	0	17	73	1	0	0	4	30	16	0	0	4	57	35	0	0
9:00 AM	15	13	9	0	0	18	79	1	0	0	2	24	14	0	0	3	76	11	0	0
9:15 AM	19	15	12	0	0	20	81	2	0	0	1	31	11	0	0	2	74	30	0	0
9:30 AM	18	16	12	0	0	15	100	0	0	0	3	18	13	0	0	5	71	27	0	0
9:45 AM	12	16	11	0	0	21	65	2	0	0	3	38	15	0	0	7	66	18	0	0
10:00 AM	13	18	14	0	0	19	59	1	0	0	4	34	12	0	0	9	68	21	0	0
10:15 AM	15	18	12	0	0	13	61	2	0	0	3	29	11	0	0	7	72	25	0	0
10:30 AM	14	20	13	0	0	10	60	2	0	0	1	22	7	0	0	8	77	24	0	0
10:45 AM	24	13	11	0	0	22	64	3	0	0	2	24	11	0	0	10	73	18	0	0
11:00 AM	29	23	13	0	0	15	59	2	0	0	3	14	16	0	0	5	82	32	0	0
11:15 AM	22	22	14	0	0	19	79	0	0	0	4	24	11	0	0	7	73	26	0	0
11:30 AM	16	29	10	0	0	13	82	1	0	0	4	37	15	0	0	7	74	20	0	0
11:45 AM	28	20	11	0	0	12	78	2	0	0	2	20	13	0	0	18	77	31	0	0
12:00 PM	27	31	22	0	0	16	89	1	0	0	6	28	6	0	0	10	76	37	0	0
12:15 PM	25	21	18	0	0	19	72	2	0	0	4	23	7	0	0	15	81	35	0	0
12:30 PM	22	19	15	0	0	16	77	1	0	0	5	16	14	0	0	7	67	34	0	0
12:45 PM	21	25	21	0	0	15	73	1	0	0	5	21	10	0	0	7	59	17	0	0
1:00 PM	26	38	13	0	0	14	77	2	0	0	4	27	6	0	0	10	67	27	0	0
1:15 PM	36	46	29	0	0	15	72	0	0	0	2	23	7	0	0	6	76	34	0	0
1:30 PM	30	43	31	0	0	17	75	2	0	0	1	21	9	0	0	9	85	30	0	0
1:45 PM	27	44	27	0	0	15	84	2	0	0	4	22	11	0	0	12	92	32	0	0
2:00 PM	28	41	24	0	0	16	97	6	0	0	5	19	9	0	0	18	104	28	0	0
2:15 PM	14	34	13	0	0	18	106	4	0	0	6	21	15	0	0	8	83	28	0	0
2:30 PM	22	37	22	0	0	14	94	0	0	0	1	22	14	0	0	14	91	21	0	0
2:45 PM	29	43	24	0	0	23	136	3	0	0	4	34	17	0	0	9	117	22	0	0
3:00 PM	35	70	34	0	0	28	132	0	0	0	2	35	26	0	0	11	112	37	0	0
3:15 PM	35	73	41	0	0	29	147	1	0	0	2	54	23	0	0	8	113	35	0	0
3:30 PM	33	55	42	0	0	22	144	2	0	0	1	40	15	0	0	27	131	31	0	0
3:45 PM	49	94	51	0	0	15	175	1	0	0	1	45	15	0	0	33	172	41	0	0
4:00 PM	38	96	60	0	0	17	175	8	0	0	7	39	9	0	0	25	147	37	0	0
4:15 PM	41	87	46	0	0	22	162	2	0	0	5	47	31	0	0	21	122	39	0	0
4:30 PM	40	85	48	0	0	24	176	0	0	0	3	42	27	0	0	22	131	37	0	0
4:45 PM	41	82	51	0	0	22	198	3	0	0	4	39	19	0	0	19	147	35	0	0
5:00 PM	42	78	59	0	0	23	206	2	0	0	2	33	13	0	0	16	162	31	0	0
5:15 PM	38	116	62	0	0	17	206	4	0	0	2	38	18	0	0	34	141	40	0	0
5:30 PM	55	130	55	0	0	28	140	4	0	0	3	46	22	0	0	22	141	33	0	0
5:45 PM	58	72	41	0	0	31	163	2	0	0	1	26	24	0	0	24	167	40	0	0
6:00 PM	53	57	25	0	0	20	162	5	0	0	1	36	12	0	0	20	126	30	0	0
6:15 PM	39	65	24	0	0	26	114	2	0	0	2	26	20	0	0	10	105	32	0	0
6:30 PM	32	46	29	0	0	22	92	2	0	0	3	31	11	0	0	19	79	31	0	0
6:45 PM	28	36	19	0	0	21	70	1	0	0	1	29	9	0	0	11	73	26	0	0

TRUCKS

4/6/2022	Plesant Hill Road From North					Church Road From East					Pleasant Hill Road From South					Church Road From West				
Start Time	Right	Thru	Left	Peds	Bicycles	Right	Thru	Left	Peds	Bicycles	Right	Thru	Left	Peds	Bicycles	Right	Thru	Left	Peds	Bicycles
7:00 AM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	1	0	0
7:30 AM	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
8:00 AM	0	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:30 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	1	0	0	0	0	0	0	0	1	1	0	0	0	2	2	1	0	0
9:00 AM	0	4	0	0	0	1	1	0	0	0	0	1	1	0	0	0	4	0	0	0
9:15 AM	0	4	0	0	0	1	0	1	0	0	0	0	0	0	0	0	3	1	0	0
9:30 AM	0	7	1	0	0	0	2	1	0	0	0	0	0	0	0	0	3	2	0	0
9:45 AM	1	5	0	0	0	2	1	0	0	0	0	1	1	0	0	0	5	0	0	0
10:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0
10:30 AM	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0
10:45 AM	4	1	0	0	0	1	0	2	0	0	0	1	1	0	0	0	4	0	0	0
11:00 AM	1	6	1	0	0	3	0	0	0	0	0	2	1	0	0	0	4	1	0	0
11:15 AM	0	1	0	0	0	2	0	1	0	0	0	0	1	0	0	0	3	1	0	0
11:30 AM	2	7	0	0	0	1	1	0	0	0	1	0	0	0	0	1	6	0	0	0
11:45 AM	2	6	1	0	0	1	0	1	0	0	0	1	1	0	0	1	3	1	0	0
12:00 PM	0	5	1	0	0	0	1	0	0	0	0	1	0	0	0	0	7	1	0	0
12:15 PM	1	6	1	0	0	2	3	0	0	0	0	3	1	0	0	0	3	2	0	0
12:30 PM	1	2	0	0	0	0	1	1	0	0	1	0	1	0	0	2	6	1	0	0
12:45 PM	1	4	0	0	0	0	0	1	0	0	1	1	0	0	0	0	6	0	0	0
1:00 PM	1	5	0	0	0	0	1	0	0	0	0	0	1	0	0	2	4	0	0	0
1:15 PM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0
1:30 PM	1	6	0	0	0	0	1	1	0	0	2	1	0	0	0	0	8	1	0	0
1:45 PM	2	5	0	0	0	1	2	3	0	0	0	1	0	0	0	0	5	1	0	0
2:00 PM	0	10	0	0	0	1	0	0	0	0	1	1	0	0	0	1	2	2	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0
2:45 PM	0	9	1	0	0	1	2	0	0	0	0	1	2	0	0	0	8	0	0	0
3:00 PM	0	6	0	0	0	0	0	2	0	0	1	2	1	0	0	1	9	1	0	0
3:15 PM	1	5	0	0	0	1	3	3	0	0	0	0	1	0	0	0	5	1	0	0
3:30 PM	0	2	0	0	0	1	4	7	0	0	0	0	1	0	0	1	6	0	0	0
3:45 PM	1	2	0	0	0	1	1	1	0	0	0	0	1	0	0	1	9	0	0	0
4:00 PM	0	5	0	0	0	1	2	1	0	0	0	1	2	0	0	0	9	0	0	0
4:15 PM	0	3	0	0	0	0	2	1	0	0	1	5	0	0	0	1	4	0	0	0

4:30 PM	1	2	0	0	0	1	4	0	0	0	0	2	1	0	0	0	4	1	0	0
4:45 PM	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0	1	6	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0
5:15 PM	1	2	1	0	0	1	0	1	0	0	0	0	0	0	0	0	3	1	0	0
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	0	0	0
5:45 PM	0	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0
6:15 PM	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
6:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0
6:45 PM	1	0	1	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	0	0

Heavy Trucks

4/6/2022	Pleasant Hill Road From North					Church Road From East					Pleasant Hill Road From South					Church Road From West				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Bicycles**	**Right**	**Thru**	**Left**	**Peds**	**Bicycles**	**Right**	**Thru**	**Left**	**Peds**	**Bicycles**	**Right**	**Thru**	**Left**	**Peds**	**Bicycles**
7:00 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	1	0	0	0
9:00 AM	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0
9:30 AM	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	3	1	0	0
9:45 AM	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
10:00 AM	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	1	0	0	0
10:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
11:00 AM	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0	4	1	0	0	0
11:15 AM	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
11:45 AM	0	1	2	0	0	0	0	0	0	0	1	2	0	0	0	1	2	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	3	0	0	0
12:30 PM	0	1	1	0	0	0	0	1	0	0	0	2	0	0	0	1	1	1	0	0
12:45 PM	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0
1:45 PM	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0
2:00 PM	0	0	0	0	0	0	1	1	0	0	1	1	2	0	0	0	1	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
2:45 PM	1	0	0	0	0	0	0	0	0	0	3	2	0	0	0	1	0	0	0	0
3:00 PM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0
3:15 PM	1	1	0	0	0	0	0	2	0	0	0	1	1	0	0	0	1	0	0	0
3:30 PM	0	0	1	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0
3:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
4:00 PM	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	0	0	0
4:15 PM	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	0
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	1	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	1	0	0
5:00 PM	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	1	0	0	0	1	1	1	0	0	1	2	1	0	0
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0
6:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1	0	0
6:30 PM	1	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
6:45 PM	0	1	1	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0

Appendix B: Traffic Factors and Historical Data

Traffic Adjustment Factors for 2019

Planning Division

2019 Factors	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	FC=1	FC=11&12	FC=2-6	FC>14-18	Gaming GRPC	Gaming Tunica
Seasonal						
January	1.11	1.08	1.11	1.09	1.08	1.08
February	1.08	1.03	1.06	1.03	1.07	0.99
March	0.96	0.97	0.96	0.97	0.98	0.94
April	1.00	0.99	1.00	0.98	1.00	0.99
May	0.96	0.97	0.96	0.96	0.96	0.95
June	0.93	0.95	0.95	0.97	0.91	0.99
July	0.90	0.98	0.95	0.99	0.93	0.98
August	0.99	0.99	0.98	0.98	0.99	1.01
September	1.03	1.00	0.99	0.99	1.01	1.00
October	1.02	0.99	0.98	0.99	1.01	1.00
November	1.02	1.03	1.02	1.01	1.05	1.02
December	1.04	1.04	1.04	1.03	1.07	1.08
Daily						
Sunday	1.05	1.28	1.19	1.29	1.14	0.98
Monday	1.07	1.01	1.02	1.02	1.04	1.13
Tuesday	1.07	0.98	1.03	1.00	1.04	1.17
Wednesday	1.03	0.96	1.01	0.98	1.00	1.13
Thursday	0.98	0.93	0.96	0.97	0.98	1.07
Friday	0.85	0.85	0.84	0.87	0.87	0.85
Saturday	0.99	1.09	1.03	1.04	0.98	0.82
KIP Loading						
Rigid Pavement	1945	1945	1445	985		
Flex Pavement	1260	1260	935	635		

FC	Description	Axle	Axle GRPC US 49	Axle GRPC I-110	Increase	K	D	T
1	Rural Interstate	0.75			1.01	8	54	26
2	Rural Principal Arterial	0.85			1.00	9	55	17
3	Rural Minor Arterial	0.91			1.00	9	57	14
4	Rural Major Collector	0.95			1.00	11	59	11
5	Rural Minor Collector	0.96			1.00	12	61	10
6	Rural Local	0.97			1.00	11	59	8
11	Urban Interstate	0.84			1.01	9	56	17
12	Urban Principal Arterial-Other	0.87			1.01	9	57	13
14	Urban Principal Arterial	0.97			1.00	9	57	6
16	Urban Minor Arterial	0.98			1.01	10	57	5
17	Urban Collector	0.99			1.00	11	57	5
18	Urban Local	0.98			1.00	11	59	5

Seasonal Factors are applied to all short term counts (Volume, Classification, WIM).
Axle Factors are applied to short term volume counts only.
Increase Factors are applied to counts from previous years.

Site ID	**170494**
ADT 2010	34000
ADT 2011	34000
ADT 2012	34000
ADT 2013	34000
ADT 2014	34000
ADT 2015	34000
ADT 2016	37000
ADT 2017	37000
ADT 2018	37000
ADT 2019	36000

Site ID	**170510**
ADT 2010	32000
ADT 2011	31000
ADT 2012	32000
ADT 2013	36000
ADT 2014	36000
ADT 2015	37000
ADT 2016	37000
ADT 2017	38000
ADT 2018	38000
ADT 2019	37000

Site ID	**170900**
ADT 2010	3800
ADT 2011	3700
ADT 2012	3700
ADT 2013	3900
ADT 2014	3900
ADT 2015	3900
ADT 2016	4100
ADT 2017	4200
ADT 2018	4200
ADT 2019	5300

Site ID	**171020**
ADT 2010	6200
ADT 2011	5700
ADT 2012	5700
ADT 2013	5700
ADT 2014	5800
ADT 2015	5900
ADT 2016	6000
ADT 2017	6200
ADT 2018	6300
ADT 2019	6300

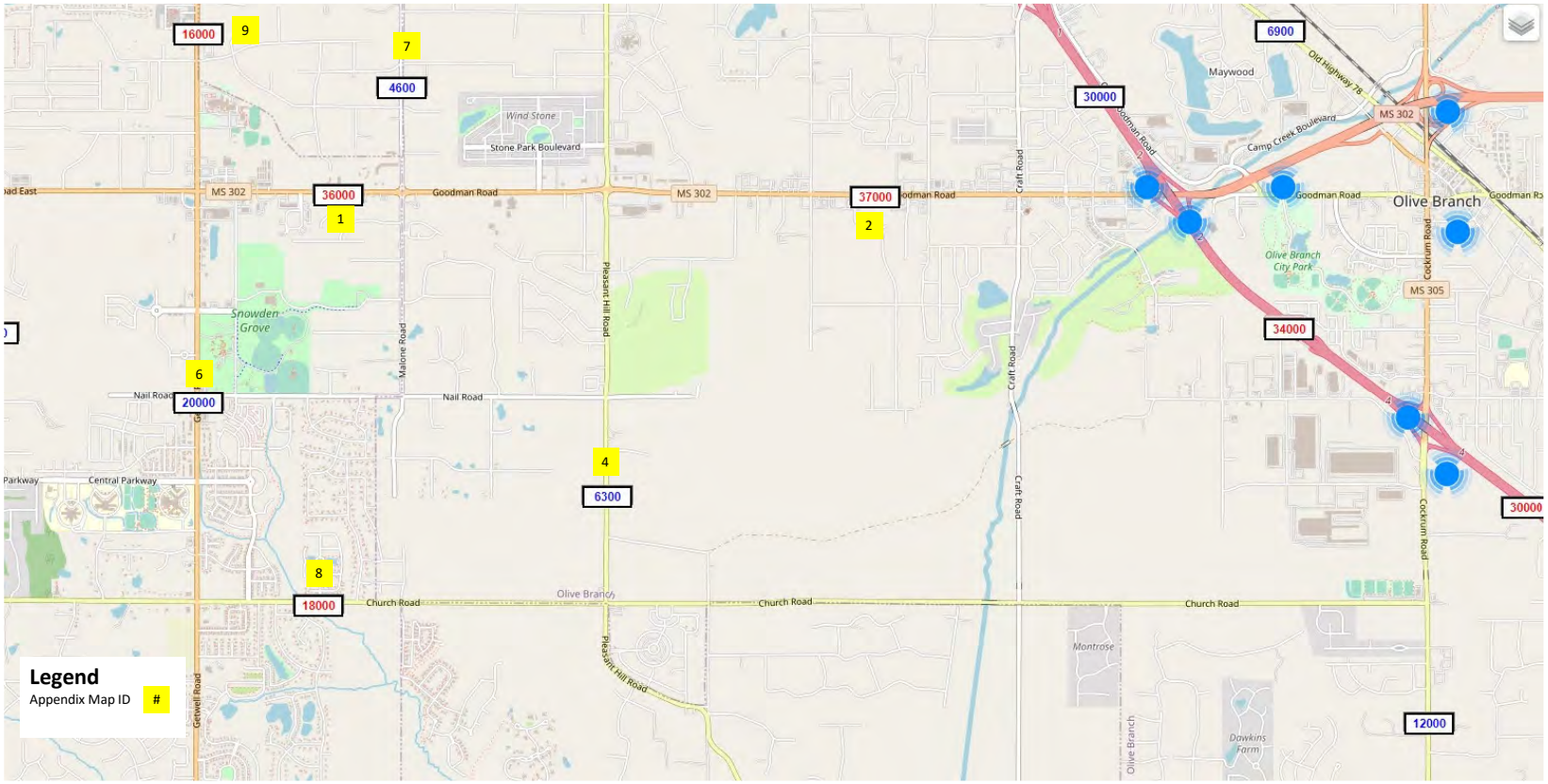
Site ID	**171040**
ADT 2010	3600
ADT 2011	4300
ADT 2012	4300
ADT 2013	4300
ADT 2014	4300
ADT 2015	4400
ADT 2016	4400
ADT 2017	6200
ADT 2018	6200
ADT 2019	6300

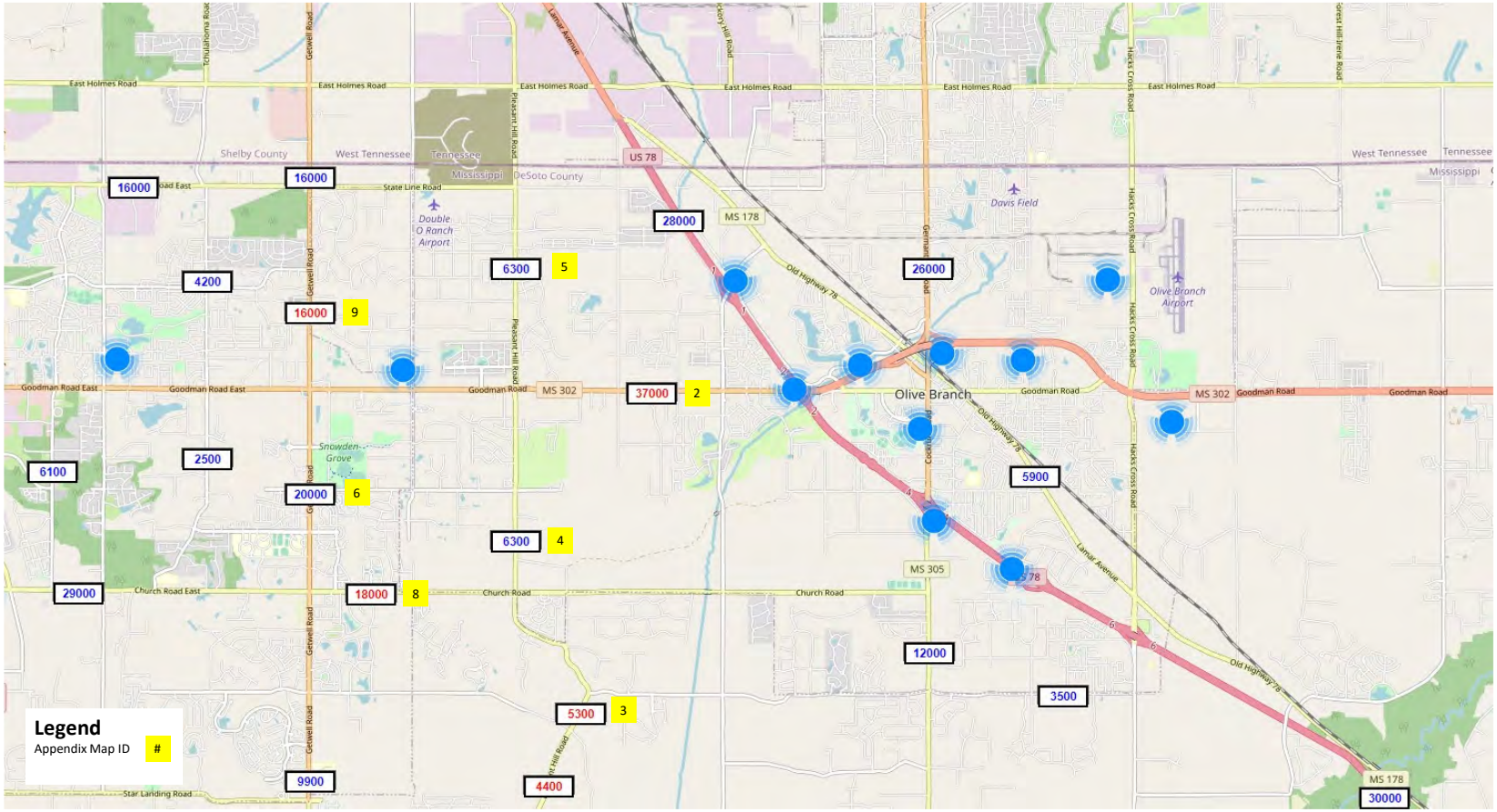
Site ID	**171125**
ADT 2010	
ADT 2011	
ADT 2012	
ADT 2013	
ADT 2014	
ADT 2015	19000
ADT 2016	20000
ADT 2017	20000
ADT 2018	20000
ADT 2019	20000

Site ID	**171192**
ADT 2010	3500
ADT 2011	3500
ADT 2012	3500
ADT 2013	3500
ADT 2014	3300
ADT 2015	3300
ADT 2016	3300
ADT 2017	4500
ADT 2018	4500
ADT 2019	4600

Site ID	**171195**
ADT 2010	14000
ADT 2011	14000
ADT 2012	14000
ADT 2013	15000
ADT 2014	15000
ADT 2015	15000
ADT 2016	19000
ADT 2017	19000
ADT 2018	20000
ADT 2019	18000

Site ID	**171400**
ADT 2010	12000
ADT 2011	13000
ADT 2012	13000
ADT 2013	13000
ADT 2014	13000
ADT 2015	13000
ADT 2016	14000
ADT 2017	14000
ADT 2018	14000
ADT 2019	16000


16000
9
7
4600
Wind Stone
Stone Park Boulevard
MS 302
36000
1
Goodman Road
MS 302
37000
2
Craft Road
30000
6900
Maywood
Old Highway 78
Camp Creek Boulevard
MS 302
Goodman Road
Olive Branch
Olive Branch City Park
MS 305
Cockrum Road
34000
Snowden Grove
Malone Road
Pleasant Hill Road
6
Nail Road
20000
Nail Road
Craft Road
4
6300
Central Parkway
30000
8
18000
Church Road
Olive Branch
Church Road
Church Road
Montrose
Pleasant Hill Road
Getwell Road
Olive Branch
Dawkins Farm
12000
Legend
Appendix Map ID
#


Legend
Appendix Map ID #
16000
16000
4200
16000 9
6300 5
28000
26000
37000 2
6100
2500
20000 6
5900
6300 4
29000
18000 8
12000
3500
5300 3
9900
4400
30000
Olive Branch
MS 178
MS 302
MS 305
US 78
Goodman Road
Goodman Road East
East Holmes Road
Church Road
Church Road East
Star Landing Road
State Line Road
Shelby County
DeSoto County
West Tennessee
Tennessee
Mississippi
Lamar Avenue
Old Highway 78
Hacks Cross Road
Pleasant Hill Road
Getwell Road
Snowden Grove
Double O Ranch Airport
Davis Field
Olive Branch Airport

Appendix C: Signal Warrant Analysis

TRAFFIC SIGNAL WARRANT SUMMARY

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only	
Automated cells based on in Input Data in "orange" cells	
General Information	Fill in below the general information including: District, County (drop-down menu) City, Engineer, Date Major and Minor Street with corresponding number of lanes and speed limits
Enter Eight Hour Volumes	Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall **not** be required to be the same 8 hours satisfied in Condition B **for 80% columns only.** On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
Enter Four Hour Volumes	Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)
Enter Pedestrian Volumes (4-h	Pedestrians per hour crossing the major street (total of all crossings)
Enter Peak Hour Volumes	Vehicular: Any four consecutive 15-minute periods of an average day Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input Data

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City:
County:
District:
Engineer:
Date:

Major Street: **Pleasant Hill Road** Major Street # Lanes: **2** Major Approach Speed: **45**
Minor Street: **Nail Road** Minor Street # Lanes: **2** Minor Approach Speed: **30**

Eight Hour Volumes (Condition A)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)	For Warrant 7: Ped Crossings on Major Street
8:00-9:00 AM	754	75	0
11:00 AM-12:00	595	65	0
12:00-1:00 PM	746	78	0
1:00-2:00 PM	616	66	0
3:00-4:00 PM	1116	75	0
4:00-5:00 PM	1130	89	0
5:00-6:00 PM	1223	76	0
6:00-7:00 PM	813	62	0

Eight Hour Volumes (Condition B)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
8:00-9:00 AM	754	75
11:00 AM-12:00	595	65
12:00-1:00 PM	746	78
1:00-2:00 PM	616	66
3:00-4:00 PM	1116	75
4:00-5:00 PM	1130	89
5:00-6:00 PM	1223	76
6:00-7:00 PM	813	62

Highest Four Hour Vehicular Volumes

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
12:00-1:00 PM	746	78
3:00-4:00 PM	1116	75
4:00-5:00 PM	1130	89
5:00-6:00 PM	1223	76

Highest Four Hour Pedestrian Volumes

Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street
12:00-1:00 PM	746	
3:00-4:00 PM	1116	
4:00-5:00 PM	1130	
5:00-6:00 PM	1223	

Vehicular Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
3:15-4:15 PM	1231	90	1514

Pedestrian Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street
3:15-4:15 PM	1231	0

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☐ Yes ☑ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☐ Yes	☑ No
70% Satisfied:	☐ Yes	☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	8:00-9:00 AM	11:00 AM-12:0	12:00-1:00 PM	1:00-2:00 PM	3:00-4:00 PM	4:00-5:00 PM	5:00-6:00 PM	6:00-7:00 PM
Major	754	595	746	616	1,116	1,130	1,223	813
Minor	75	65	78	66	75	89	76	62

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☐ Yes	☑ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**8:00-9:00 AM**	**11:00 AM-12:00**	**12:00-1:00 PM**	**1:00-2:00 PM**	**3:00-4:00 PM**	**4:00-5:00 PM**	**5:00-6:00 PM**	**6:00-7:00 PM**
Major	754	595	746	616	1,116	1,130	1,223	813
Minor	75	65	78	66	75	89	76	62

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** Lanes: **2** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

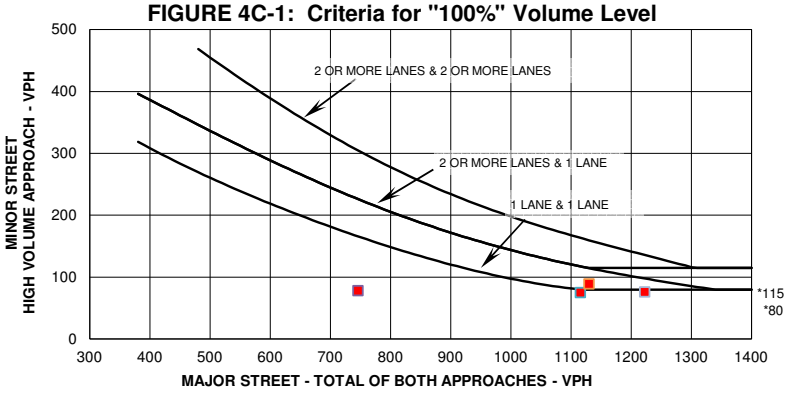
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
12:00-1:00 PM	746	78
3:00-4:00 PM	1116	75
4:00-5:00 PM	1130	89
5:00-6:00 PM	1223	76

FIGURE 4C-1: Criteria for "100%" Volume Level



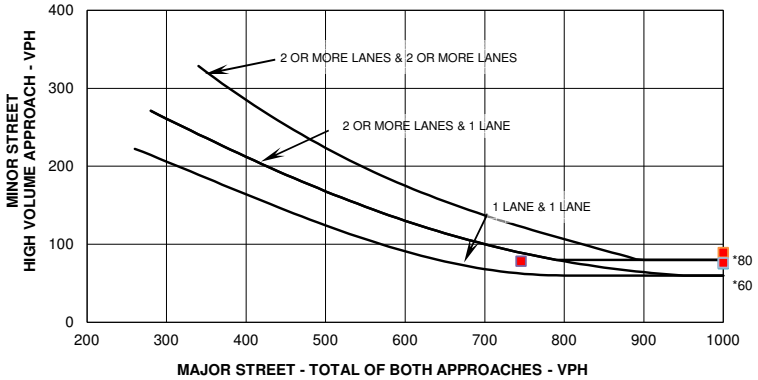
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
12:00-1:00 PM	746	78
3:00-4:00 PM	1116	75
4:00-5:00 PM	1130	89
5:00-6:00 PM	1223	76

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

-

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
3:15-4:15 PM	1231	90

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
3:15-4:15 PM	1231	90

Criteria

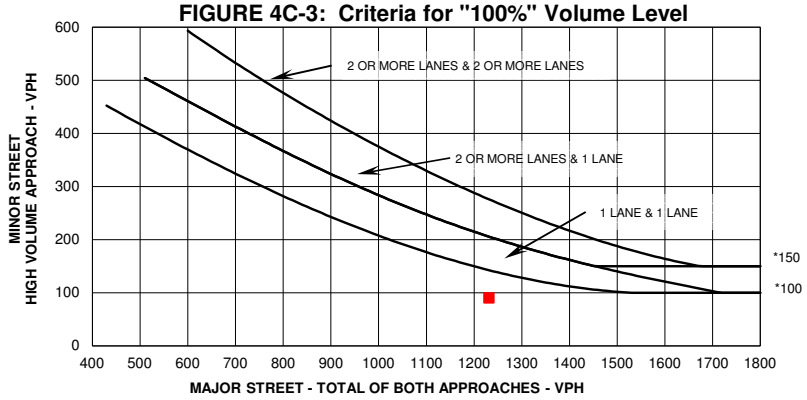
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☐ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes ☐ No	

Plot volume combination on the applicable figure below.

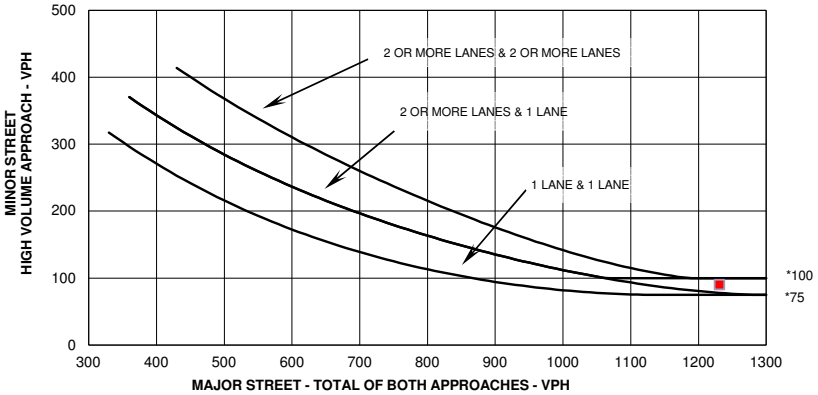
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: ttp://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pc

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 35 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

Option

*Pedestrian volume crossing the major street **may** be reduced as much as 50% if the 15th-percentile crossing speed of pedestrians is less than 3.5 ft/sec.* A walking speed study was conducted which reported a pedestrian speed less than 3.5 ft/sec for the 15th percentile. ☐ Yes ☑ No

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

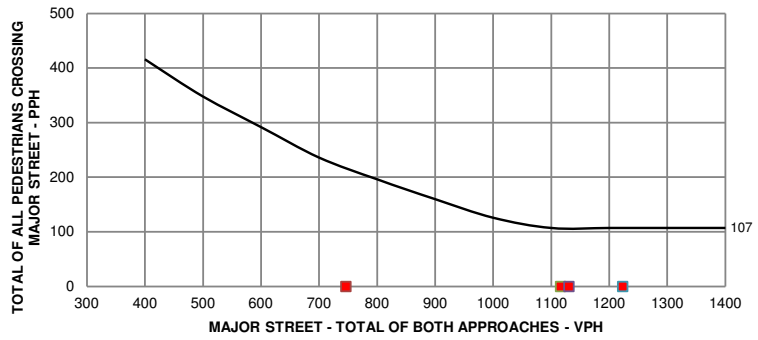
Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
12:00-1:00 PM	746	
3:00-4:00 PM	1116	
4:00-5:00 PM	1130	
4:00-5:00 PM	1223	

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

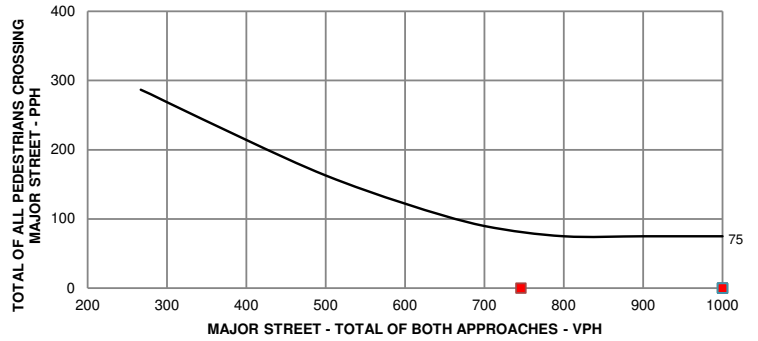


** Note: 107 pph applies as the lower threshold volume for 100% volume level*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
12:00-1:00 PM	746	
3:00-4:00 PM	1116	
4:00-5:00 PM	1130	
5:00-6:00 PM	1223	

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume for 70% volume level*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

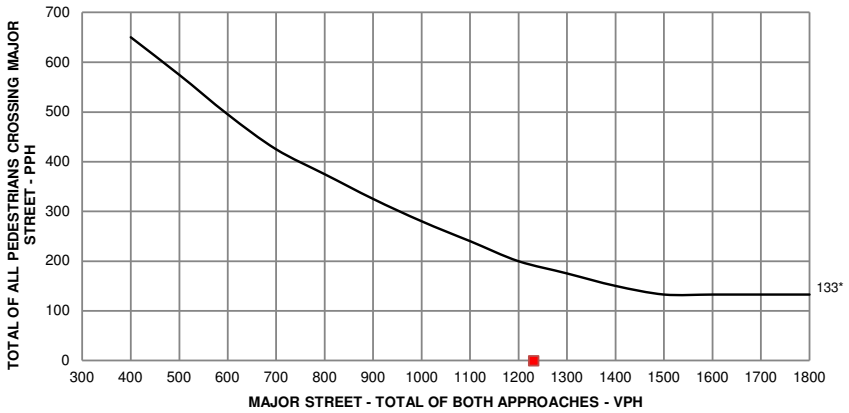
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
3:15-4:15 PM	1231	

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour



** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
3:15-4:15 PM	1231	

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour

** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** | Lanes: **2** | Major Approach Speed: **45**
Minor Street: **Nail Road** | Lanes: **2** | Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

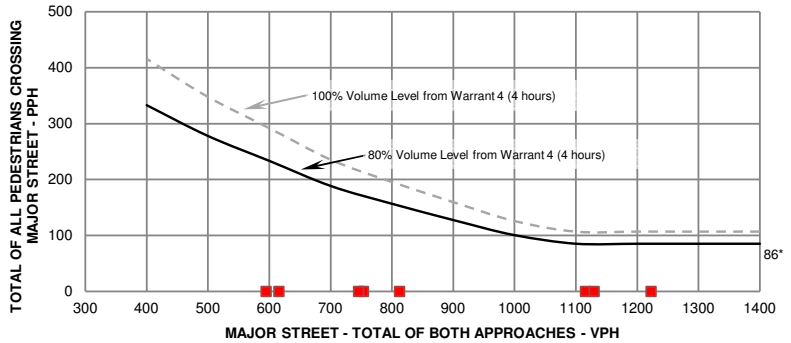
WARRANT 7 - CRASH EXPERIENCE

*Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if **all three** of the criteria are fulfilled.*

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Criteria					Fulfilled? Yes	Fulfilled? No
1. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:					No
2. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:	Angle, Left Turn	Number of crashes per 12 months:	1		No
3. **One of the following volume warrants is met:**				**Met?**		No
Warrant 1, Condition A (80% satisfied), or				No		
Warrant 1, Condition B (80% satisfied), or				No		
Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.	**Hour**	**Major Street Volume**	**Ped Crossings Volume**	No		
	8:00-9:00 AM	754				
	10 AM-12:00	595				
	12:00-1:00 PM	746				
	1:00-2:00 PM	616				
	3:00-4:00 PM	1116				
	4:00-5:00 PM	1130				
	5:00-6:00 PM	1223				
	6:00-7:00 PM	813				

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 86 pph applies as the lower threshold volume for the 80% volume threshold.

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** Lanes: **2** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:								
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3					
			Satisfied?:								
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or more

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☑
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☑

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Approach Lane at Track Crossing		**1.00**
Enter D (feet)		
% of Tractor-Trailer Trucks on Approach Lane at Track Crossing		**0.50**

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		

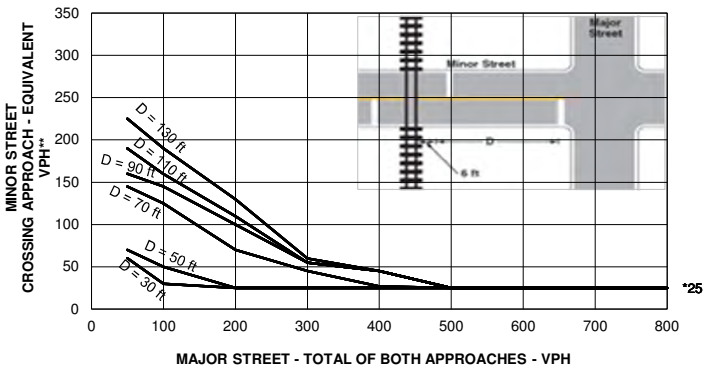
D (ft) Major Vol. Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		

D (ft) Major Vol. Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		

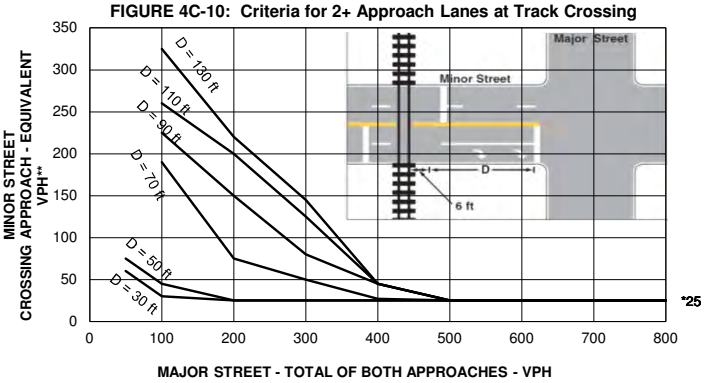
D (ft) Major Vol. Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		

D (ft) Major Vol. Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street:	**Pleasant Hill Road**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

Remarks:

WARRANTS SATISFIED:

Warrant 1	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 2	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 3	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 4	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 5	☑ Not Applicable	☐ Met	☑ Not Met
Warrant 6	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 7	☐ Not Applicable	☐ Met	☑ Not Met
Warrant 8	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 9	☑ Not Applicable	☐ Met	☐ Not Met

TRAFFIC SIGNAL WARRANT SUMMARY

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only	
Automated cells based on in Input Data in "orange" cells	
General Information	Fill in below the general information including: District, County (drop-down menu) City, Engineer, Date Major and Minor Street with corresponding number of lanes and speed limits
Enter Eight Hour Volumes	Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall **not** be required to be the same 8 hours satisfied in Condition B **for 80% columns only.** On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
Enter Four Hour Volumes	Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)
Enter Pedestrian Volumes (4-h	Pedestrians per hour crossing the major street (total of all crossings)
Enter Peak Hour Volumes	Vehicular: Any four consecutive 15-minute periods of an average day Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input Data

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City:
County:
District:
Engineer:
Date:

Major Street: **Pleasant Hill Road** Major Street # Lanes: **4** Major Approach Speed: **45**
Minor Street: **Nail Road** Minor Street # Lanes: **2** Minor Approach Speed: **30**

Eight Hour Volumes (Condition A)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)	For Warrant 7: Ped Crossings on Major Street
8:00-9:00 AM	1236	122	0
11:00 AM-12:00	976	106	0
12:00-1:00 PM	1223	127	0
1:00-2:00 PM	1009	108	0
3:00-4:00 PM	1828	122	0
4:00-5:00 PM	1852	146	0
5:00-6:00 PM	2006	124	0
6:00-7:00 PM	1334	102	0

Eight Hour Volumes (Condition B)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
8:00-9:00 AM	1236	122
11:00 AM-12:00	976	106
12:00-1:00 PM	1223	127
1:00-2:00 PM	1009	108
3:00-4:00 PM	1828	122
4:00-5:00 PM	1852	146
5:00-6:00 PM	2006	124
6:00-7:00 PM	1334	102

Highest Four Hour Vehicular Volumes

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
12:00-1:00 PM	1223	127
3:00-4:00 PM	1828	122
4:00-5:00 PM	1852	146
5:00-6:00 PM	2006	124

Highest Four Hour Pedestrian Volumes

Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street
12:00-1:00 PM	1223	0
3:00-4:00 PM	1828	0
4:00-5:00 PM	1852	0
5:00-6:00 PM	2006	0

Vehicular Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
3:15-4:15 PM	2020	148	2483

Pedestrian Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street
3:15-4:15 PM	2020	0

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** Lanes: **4** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☑ Yes ☐ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☐ Yes ☑ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	8:00-9:00 AM	11:00 AM-12:0	12:00-1:00 PM	1:00-2:00 PM	3:00-4:00 PM	4:00-5:00 PM	5:00-6:00 PM	6:00-7:00 PM
Major	1,236	976	1,223	1,009	1,828	1,852	2,006	1,334
Minor	122	106	127	108	122	146	124	102

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☑ Yes	☐ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**8:00-9:00 AM**	**11:00 AM-12:00**	**12:00-1:00 PM**	**1:00-2:00 PM**	**3:00-4:00 PM**	**4:00-5:00 PM**	**5:00-6:00 PM**	**6:00-7:00 PM**
Major	1,236	976	1,223	1,009	1,828	1,852	2,006	1,334
Minor	122	106	127	108	122	146	124	102

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street: **Pleasant Hill Road** Lanes: **4** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

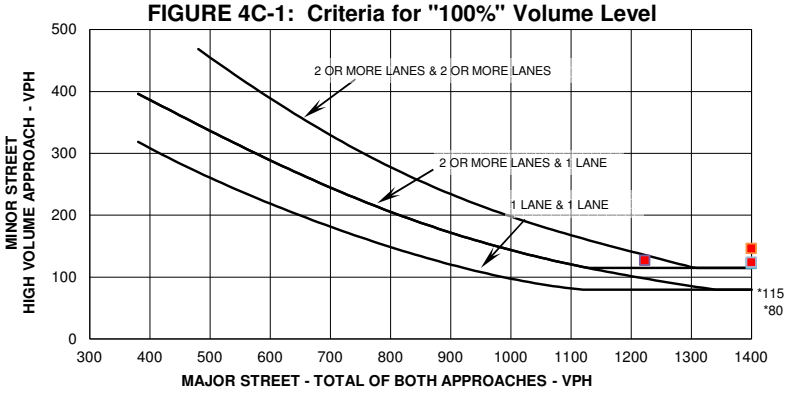
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
12:00-1:00 PM	1223	127
3:00-4:00 PM	1828	122
4:00-5:00 PM	1852	146
5:00-6:00 PM	2006	124

FIGURE 4C-1: Criteria for "100%" Volume Level



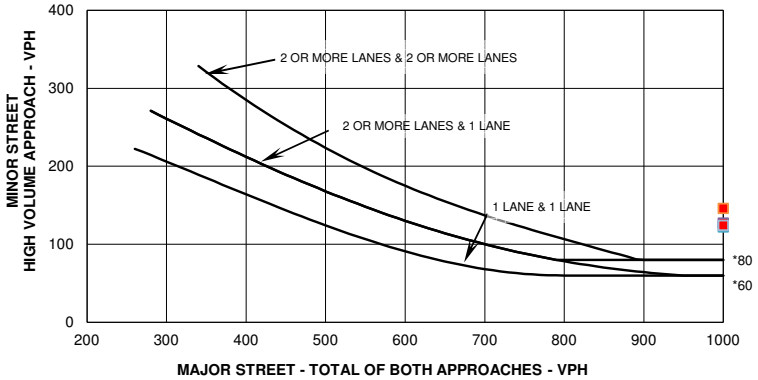
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
12:00-1:00 PM	1223	127
3:00-4:00 PM	1828	122
4:00-5:00 PM	1852	146
5:00-6:00 PM	2006	124

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street:	**Pleasant Hill Road**	Lanes:	**4**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY — ☑ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

-

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
3:15-4:15 PM	2020	148

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
3:15-4:15 PM	2020	148

Criteria

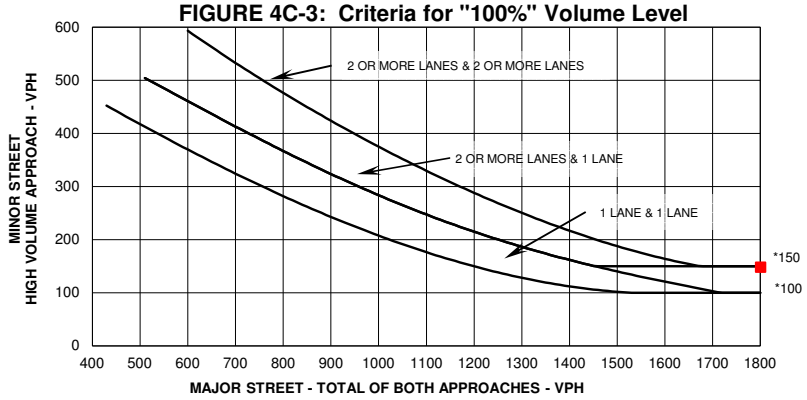
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☐ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes ☐ No	

Plot volume combination on the applicable figure below.

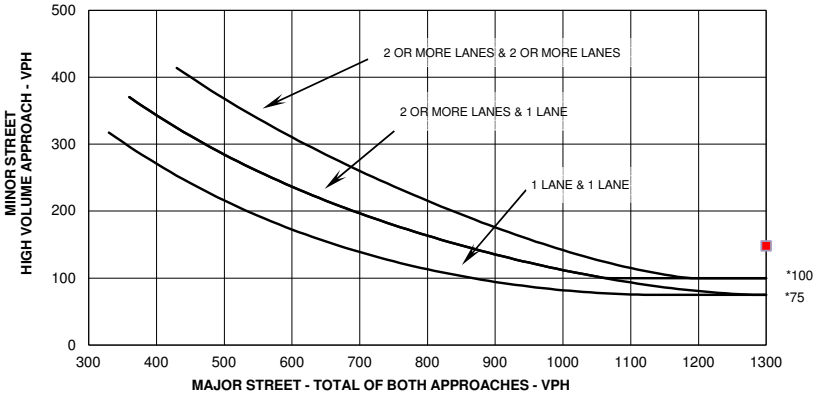
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street:	**Pleasant Hill Road**	Lanes:	**4**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: ttp://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pc

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 35 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☑ 100%

Option

*Pedestrian volume crossing the major street **may** be reduced as much as 50% if the 15th-percentile crossing speed of pedestrians is less than 3.5 ft/sec.* A walking speed study was conducted which reported a pedestrian speed less than 3.5 ft/sec for the 15th percentile. ☐ Yes ☐ No

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

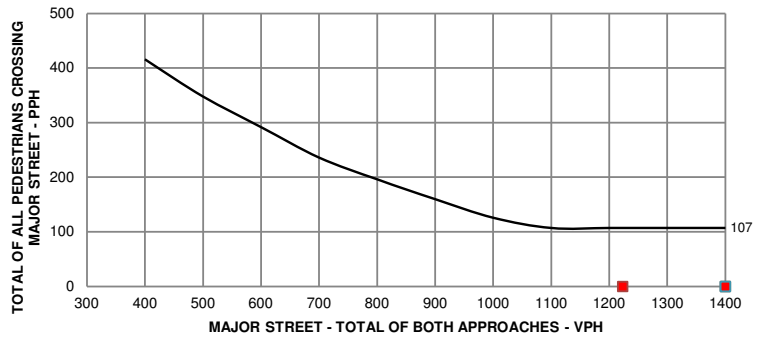
Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
12:00-1:00 PM	1223	
3:00-4:00 PM	1828	
4:00-5:00 PM	1852	
4:00-5:00 PM	2006	

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

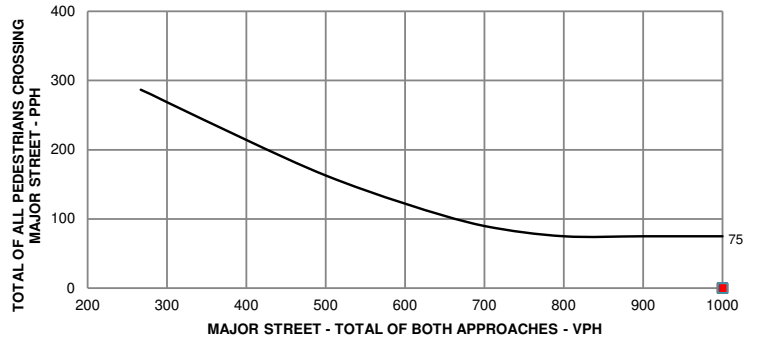


** Note: 107 pph applies as the lower threshold volume for 100% volume level*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
12:00-1:00 PM	1223	
3:00-4:00 PM	1828	
4:00-5:00 PM	1852	
5:00-6:00 PM	2006	

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume for 70% volume level*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

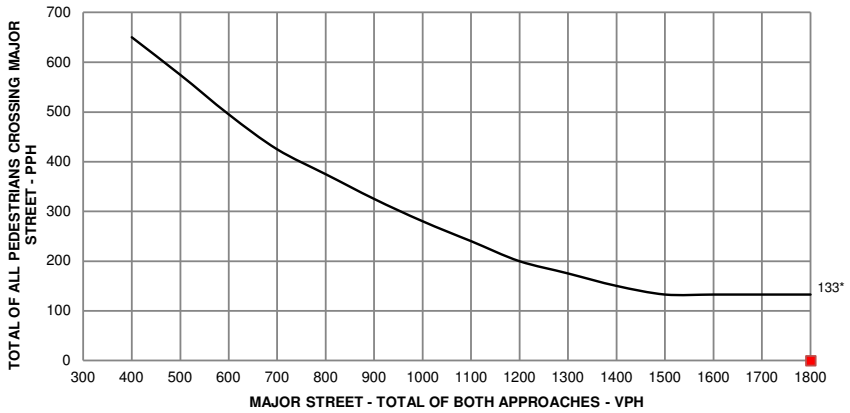
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
3:15-4:15 PM	2020	

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour



** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
3:15-4:15 PM	2020	

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour

** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: _____ Engineer: _____
County: _____ Date: _____
District: _____

Major Street:	**Pleasant Hill Road**	Lanes:	**4**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street:	**Pleasant Hill Road**	Lanes:	**4**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** | Lanes: **4** | Major Approach Speed: **45**
Minor Street: **Nail Road** | Lanes: **2** | Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

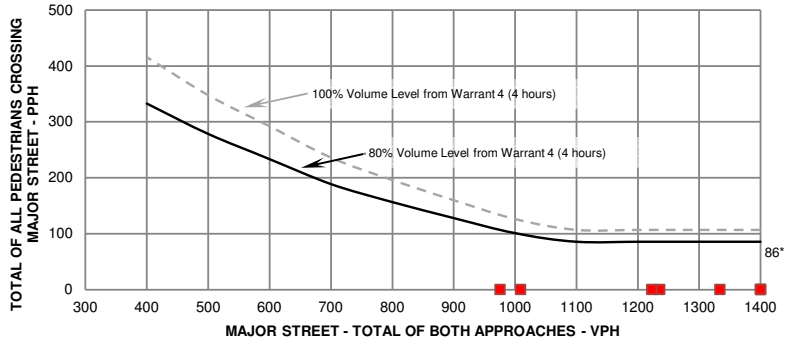
WARRANT 7 - CRASH EXPERIENCE

*Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if **all three** of the criteria are fulfilled.*

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Criteria					Fulfilled? Yes	Fulfilled? No
1. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:					No
2. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:		Number of crashes per 12 months:			
3. **One of the following volume warrants is met:**				**Met?**	Yes	
Warrant 1, Condition A (80% satisfied), or				No		
Warrant 1, Condition B (80% satisfied), or				Yes		
Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.	**Hour**	**Major Street Volume**	**Ped Crossings Volume**	No		
	8:00-9:00 AM	1236				
	10 AM-12:00	976				
	12:00-1:00 PM	1223				
	1:00-2:00 PM	1009				
	3:00-4:00 PM	1828				
	4:00-5:00 PM	1852				
	5:00-6:00 PM	2006				
	6:00-7:00 PM	1334				

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 86 pph applies as the lower threshold volume for the 80% volume threshold.

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street:	**Pleasant Hill Road**	Lanes:	**4**	Major Approach Speed:	**45**
Minor Street:	**Nail Road**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:								
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3					
			Satisfied?:								
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City: | Engineer:
County: | Date:
District:

Major Street: **Pleasant Hill Road** Lanes: **4** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or more

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☑
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☑

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Approach Lane at Track Crossing		1.00
Enter D (feet)		
% of Tractor-Trailer Trucks on Approach Lane at Track Crossing		0.50

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		

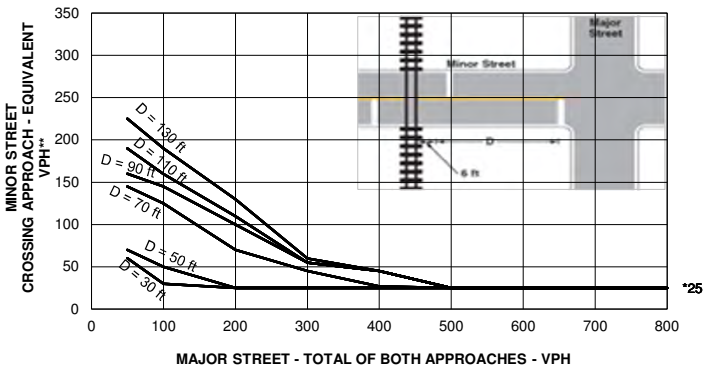
D (ft) Major Vol. Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		

D (ft) Major Vol. Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		

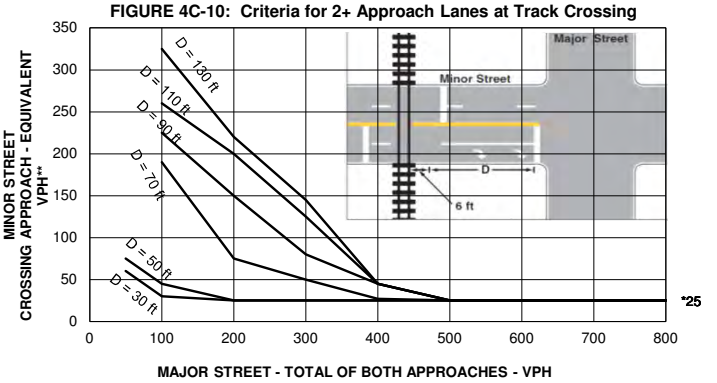
D (ft) Major Vol. Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		

D (ft) Major Vol. Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County:
District:

Engineer:
Date:

Major Street: **Pleasant Hill Road** Lanes: **4** Major Approach Speed: **45**
Minor Street: **Nail Road** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

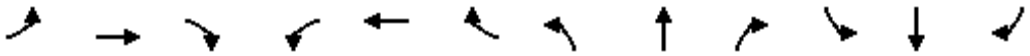
Remarks:

WARRANTS SATISFIED:

Warrant 1	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 2	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 3	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 4	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 5	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 6	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 7	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 8	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 9	☑ Not Applicable	☐ Met	☐ Not Met

Appendix D: Synchro Reports

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	435	35	4	560	164	130	410	11	62	99	77
Future Volume (veh/h)	161	435	35	4	560	164	130	410	11	62	99	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1841	1841	1841
Adj Flow Rate, veh/h	171	463	37	5	644	189	157	494	13	91	146	113
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.83	0.83	0.83	0.68	0.68	0.68
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	4	4	4
Cap, veh/h	302	1269	101	356	812	238	412	561	475	247	266	206
Arrive On Green	0.09	0.38	0.38	0.01	0.30	0.30	0.09	0.30	0.30	0.07	0.28	0.28
Sat Flow, veh/h	1795	3360	268	1795	2731	801	1795	1885	1598	1753	962	745
Grp Volume(v), veh/h	171	246	254	5	422	411	157	494	13	91	0	259
Grp Sat Flow(s),veh/h/ln	1795	1791	1837	1795	1791	1741	1795	1885	1598	1753	0	1707
Q Serve(g_s), s	4.9	7.9	7.9	0.2	17.2	17.2	4.9	19.8	0.5	2.9	0.0	10.3
Cycle Q Clear(g_c), s	4.9	7.9	7.9	0.2	17.2	17.2	4.9	19.8	0.5	2.9	0.0	10.3
Prop In Lane	1.00		0.15	1.00		0.46	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	302	676	694	356	532	517	412	561	475	247	0	472
V/C Ratio(X)	0.57	0.36	0.37	0.01	0.79	0.79	0.38	0.88	0.03	0.37	0.00	0.55
Avail Cap(c_a), veh/h	483	789	809	681	789	767	596	712	603	464	0	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	17.8	17.9	19.2	25.7	25.7	18.5	26.6	19.8	20.5	0.0	24.5
Incr Delay (d2), s/veh	1.7	0.3	0.3	0.0	3.4	3.5	0.6	10.4	0.0	0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	5.3	5.5	0.1	11.5	11.3	3.4	14.7	0.3	2.0	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	18.2	18.2	19.3	29.1	29.2	19.0	37.0	19.8	21.4	0.0	25.5
LnGrp LOS	C	B	B	B	C	C	B	D	B	C	A	C
Approach Vol, veh/h		671			838			664			350	
Approach Delay, s/veh		18.6			29.1			32.4			24.4	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	28.6	11.9	27.0	5.6	35.0	10.2	28.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	35.0	15.0	30.0	15.0	35.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.9	19.2	6.9	12.3	2.2	9.9	4.9	21.8
Green Ext Time (p_c), s	0.3	4.4	0.2	1.2	0.0	2.7	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	41.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	2	39	4	4	10	166	551	4	3	233	90
Future Vol, veh/h	74	2	39	4	4	10	166	551	4	3	233	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	285
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	56	56	56	77	77	77	76	76	76
Heavy Vehicles, %	3	3	3	2	2	2	1	1	1	2	2	2
Mvmt Flow	103	3	54	7	7	18	216	716	5	4	307	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1478	1468	307	1554	1584	719	425	0	0	721	0	0
Stage 1	315	315	-	1151	1151	-	-	-	-	-	-	-
Stage 2	1163	1153	-	403	433	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	103	127	731	92	108	428	1140	-	-	881	-	-
Stage 1	694	654	-	241	272	-	-	-	-	-	-	-
Stage 2	236	271	-	624	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 69	86	731	63	73	428	1140	-	-	881	-	-
Mov Cap-2 Maneuver	~ 69	86	-	63	73	-	-	-	-	-	-	-
Stage 1	475	650	-	165	186	-	-	-	-	-	-	-
Stage 2	149	185	-	572	579	-	-	-	-	-	-	-

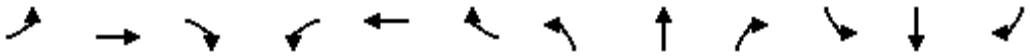
Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 385	42.7	2	0.1
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1140	-	-	100	127	881	-	-
HCM Lane V/C Ratio	0.189	-	-	1.597	0.253	0.004	-	-
HCM Control Delay (s)	8.9	0	-	$ 385	42.7	9.1	0	-
HCM Lane LOS	A	A	-	F	E	A	A	-
HCM 95th %tile Q(veh)	0.7	-	-	12.3	0.9	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	594	93	15	737	90	74	159	14	225	404	175
Future Volume (veh/h)	140	594	93	15	737	90	74	159	14	225	404	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	146	619	97	16	792	97	88	189	17	265	475	206
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.84	0.84	0.84	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	1	1	1	5	5	5	2	2	2
Cap, veh/h	260	1082	169	261	961	118	185	496	420	527	419	182
Arrive On Green	0.08	0.35	0.35	0.02	0.30	0.30	0.06	0.27	0.27	0.13	0.34	0.34
Sat Flow, veh/h	1767	3055	478	1795	3212	393	1739	1826	1547	1781	1237	537
Grp Volume(v), veh/h	146	357	359	16	442	447	88	189	17	265	0	681
Grp Sat Flow(s),veh/h/ln	1767	1763	1770	1795	1791	1814	1739	1826	1547	1781	0	1774
Q Serve(g_s), s	4.8	14.5	14.6	0.5	20.3	20.3	3.2	7.5	0.7	9.0	0.0	30.0
Cycle Q Clear(g_c), s	4.8	14.5	14.6	0.5	20.3	20.3	3.2	7.5	0.7	9.0	0.0	30.0
Prop In Lane	1.00		0.27	1.00		0.22	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	260	624	627	261	536	543	185	496	420	527	0	600
V/C Ratio(X)	0.56	0.57	0.57	0.06	0.82	0.82	0.47	0.38	0.04	0.50	0.00	1.13
Avail Cap(c_a), veh/h	423	696	699	525	707	716	375	618	524	603	0	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	23.2	23.2	21.2	28.9	28.9	24.1	26.2	23.8	18.1	0.0	29.3
Incr Delay (d2), s/veh	1.9	0.9	0.9	0.1	6.0	6.0	1.9	0.5	0.0	0.7	0.0	79.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	9.6	9.6	0.4	13.8	14.0	2.3	5.6	0.5	6.2	0.0	35.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	24.1	24.1	21.3	34.9	34.9	26.0	26.7	23.8	18.9	0.0	109.1
LnGrp LOS	C	C	C	C	C	C	C	C	C	B	A	F
Approach Vol, veh/h		862			905			294			946	
Approach Delay, s/veh		23.9			34.7			26.3			83.8	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	31.5	10.3	35.0	7.0	36.4	16.2	29.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	35.0	15.0	30.0	15.0	35.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.8	22.3	5.2	32.0	2.5	16.6	11.0	9.5
Green Ext Time (p_c), s	0.2	4.2	0.1	0.0	0.0	3.8	0.3	0.9

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	82.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Traffic Vol, veh/h	88	2	155	13	15	10	69	437	6	8	631	80
Future Vol, veh/h	88	2	155	13	15	10	69	437	6	8	631	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	285
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	73	73	73	88	88	88	90	90	90
Heavy Vehicles, %	4	4	4	2	2	2	8	8	8	3	3	3
Mvmt Flow	116	3	204	18	21	14	78	497	7	9	701	89

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1393	1379	701	1524	1465	501	790	0	0	504	0	0
Stage 1	719	719	-	657	657	-	-	-	-	-	-	-
Stage 2	674	660	-	867	808	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.12	6.52	6.22	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.518	4.018	3.318	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	118	143	435	97	128	570	804	-	-	1055	-	-
Stage 1	416	430	-	454	462	-	-	-	-	-	-	-
Stage 2	441	457	-	348	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 88	122	435	45	109	570	804	-	-	1055	-	-
Mov Cap-2 Maneuver	~ 88	122	-	45	109	-	-	-	-	-	-	-
Stage 1	360	424	-	393	400	-	-	-	-	-	-	-
Stage 2	353	395	-	181	388	-	-	-	-	-	-	-

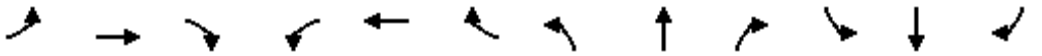
Approach	EB	WB	NB	SB
HCM Control Delay, s$	430.8	96.9	1.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	804	-	-	178	86	1055	-	-
HCM Lane V/C Ratio	0.098	-	-	1.811	0.605	0.008	-	-
HCM Control Delay (s)	10	0	-	$ 430.8	96.9	8.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	23.2	2.8	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Future Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	278	752	61	6	966	283	225	707	19	106	171	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	1433	116	245	942	275	404	689	584	127	305	239
Arrive On Green	0.09	0.43	0.43	0.01	0.35	0.35	0.10	0.37	0.37	0.04	0.32	0.32
Sat Flow, veh/h	1767	3302	268	1767	2692	785	1767	1856	1572	1767	964	755
Grp Volume(v), veh/h	278	401	412	6	631	618	225	707	19	106	0	305
Grp Sat Flow(s),veh/h/ln	1767	1763	1807	1767	1763	1714	1767	1856	1572	1767	0	1720
Q Serve(g_s), s	13.0	23.4	23.4	0.3	49.0	49.0	11.7	52.0	1.1	5.7	0.0	20.6
Cycle Q Clear(g_c), s	13.0	23.4	23.4	0.3	49.0	49.0	11.7	52.0	1.1	5.7	0.0	20.6
Prop In Lane	1.00		0.15	1.00		0.46	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	216	765	784	245	617	600	404	689	584	127	0	544
V/C Ratio(X)	1.29	0.52	0.52	0.02	1.02	1.03	0.56	1.03	0.03	0.83	0.00	0.56
Avail Cap(c_a), veh/h	216	765	784	330	617	600	408	689	584	127	0	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	29.0	29.0	29.4	45.5	45.5	28.5	44.0	28.0	37.6	0.0	39.8
Incr Delay (d2), s/veh	160.6	0.7	0.6	0.0	42.3	44.5	1.6	41.0	0.0	35.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.9	14.8	15.2	0.2	37.1	36.8	8.6	40.6	0.7	6.6	0.0	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	204.4	29.7	29.7	29.4	87.8	90.0	30.1	85.0	28.0	73.1	0.0	41.1
LnGrp LOS	F	C	C	C	F	F	C	F	C	E	A	D
Approach Vol, veh/h		1091			1255			951			411	
Approach Delay, s/veh		74.2			88.6			70.9			49.3	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	54.0	18.7	49.3	6.2	65.8	11.0	57.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	49.0	14.0	44.0	8.0	54.0	6.0	52.0
Max Q Clear Time (g_c+I1), s	15.0	51.0	13.7	22.6	2.3	25.4	7.7	54.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	5.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.5
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	312.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	122	3	64	6	6	16	272	904	6	5	383	148
Future Vol, veh/h	122	3	64	6	6	16	272	904	6	5	383	148
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	285
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	128	3	67	6	6	17	286	952	6	5	403	156

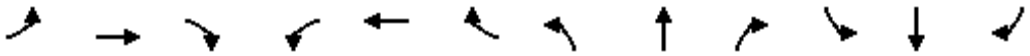
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1952	1943	403	2053	2096	955	559	0	0	958	0	0
Stage 1	413	413	-	1527	1527	-	-	-	-	-	-	-
Stage 2	1539	1530	-	526	569	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 48	65	645	41	52	312	1007	-	-	714	-	-
Stage 1	614	592	-	146	179	-	-	-	-	-	-	-
Stage 2	144	178	-	533	504	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 18	25	645	17	20	312	1007	-	-	714	-	-
Mov Cap-2 Maneuver	~ 18	25	-	17	20	-	-	-	-	-	-	-
Stage 1	241	586	-	57	70	-	-	-	-	-	-	-
Stage 2	~ 49	70	-	470	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	3150.9	218.4	2.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1007	-	-	27	40	714	-	-
HCM Lane V/C Ratio	0.284	-	-	7.368	0.737	0.007	-	-
HCM Control Delay (s)	10	0	-	$ 3150.9	218.4	10.1	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	1.2	-	-	24.5	2.7	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Future Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	242	1025	161	25	1273	156	127	274	24	389	697	303
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	1122	176	116	1012	123	119	577	489	540	531	231
Arrive On Green	0.07	0.37	0.37	0.03	0.32	0.32	0.04	0.31	0.31	0.16	0.43	0.43
Sat Flow, veh/h	1767	3053	479	1767	3163	386	1767	1856	1572	1767	1226	533
Grp Volume(v), veh/h	242	591	595	25	707	722	127	274	24	389	0	1000
Grp Sat Flow(s),veh/h/ln	1767	1763	1769	1767	1763	1786	1767	1856	1572	1767	0	1760
Q Serve(g_s), s	11.0	47.9	48.0	1.4	48.0	48.0	6.0	17.9	1.6	21.7	0.0	65.0
Cycle Q Clear(g_c), s	11.0	47.9	48.0	1.4	48.0	48.0	6.0	17.9	1.6	21.7	0.0	65.0
Prop In Lane	1.00		0.27	1.00		0.22	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	178	648	650	116	564	572	119	577	489	540	0	762
V/C Ratio(X)	1.36	0.91	0.91	0.22	1.25	1.26	1.07	0.47	0.05	0.72	0.00	1.31
Avail Cap(c_a), veh/h	178	648	650	164	564	572	119	577	489	595	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	45.2	45.2	38.4	51.0	51.0	45.4	41.7	36.1	27.4	0.0	42.5
Incr Delay (d2), s/veh	195.1	17.4	17.6	0.9	128.0	132.1	102.7	0.6	0.0	3.8	0.0	149.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.9	31.3	31.6	1.1	58.5	60.3	8.8	12.9	1.1	14.5	0.0	85.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	239.0	62.6	62.8	39.4	179.0	183.1	148.1	42.4	36.2	31.2	0.0	192.0
LnGrp LOS	F	E	E	D	F	F	F	D	D	C	A	F
Approach Vol, veh/h		1428			1454			425			1389	
Approach Delay, s/veh		92.6			178.6			73.6			147.0	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	53.0	11.0	70.0	8.9	60.1	29.3	51.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	48.0	6.0	65.0	8.0	51.0	29.0	42.0
Max Q Clear Time (g_c+I1), s	13.0	50.0	8.0	67.0	3.4	50.0	23.7	19.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.6	1.4

Intersection Summary	
HCM 6th Ctrl Delay	133.6
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	3979.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Traffic Vol, veh/h	145	3	254	21	24	16	113	717	10	13	1010	132
Future Vol, veh/h	145	3	254	21	24	16	113	717	10	13	1010	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	285
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	153	3	267	22	25	17	119	755	11	14	1063	139

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2111	2095	1063	2295	2229	761	1202	0	0	766	0	0
Stage 1	1091	1091	-	999	999	-	-	-	-	-	-	-
Stage 2	1020	1004	-	1296	1230	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 37	52	270	27	43	404	577	-	-	843	-	-
Stage 1	259	290	-	292	320	-	-	-	-	-	-	-
Stage 2	284	318	-	198	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 3	32	270	0	26	404	577	-	-	843	-	-
Mov Cap-2 Maneuver	~ 3	32	-	0	26	-	-	-	-	-	-	-
Stage 1	166	275	-	187	205	-	-	-	-	-	-	-
Stage 2	153	204	-	~ 2	236	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay	$ 24257.6	$ 480.1	1.7	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	8	42	843	-	-
HCM Lane V/C Ratio	0.206	-	-	52.895	1.529	0.016	-	-
HCM Control Delay (s)	12.9	0	-	$ 24257.6	$ 480.1	9.3	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	54.8	6.5	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	145	3	254	21	24	16	113	717	10	13	1035	132
Future Vol, veh/h	145	3	254	21	24	16	113	717	10	13	1035	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	285
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	153	3	267	22	25	17	119	755	11	14	1089	139

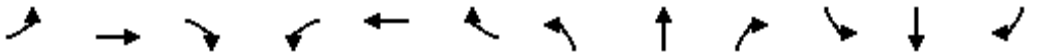
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2137	2121	1089	2321	2255	761	1228	0	0	766	0	0
Stage 1	1117	1117	-	999	999	-	-	-	-	-	-	-
Stage 2	1020	1004	-	1322	1256	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 35	50	~ 261	26	41	404	564	-	-	843	-	-
Stage 1	251	282	-	292	320	-	-	-	-	-	-	-
Stage 2	284	318	-	192	242	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	30	~ 261	-	~ 24	404	564	-	-	843	-	-
Mov Cap-2 Maneuver	-	30	-	-	~ 24	-	-	-	-	-	-	-
Stage 1	159	266	-	185	202	-	-	-	-	-	-	-
Stage 2	~ 150	201	-	-	229	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.8	0.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	564	-	-	-	-	843	-	-
HCM Lane V/C Ratio	0.211	-	-	-	-	0.016	-	-
HCM Control Delay (s)	13.1	0	-	-	-	9.3	0	-
HCM Lane LOS	B	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	-	-	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road

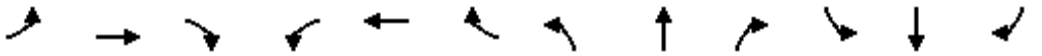


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Future Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	278	752	61	6	966	283	225	707	19	106	171	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	355	1635	869	16	1303	682	304	819	380	219	385	489
Arrive On Green	0.10	0.46	0.46	0.01	0.37	0.37	0.09	0.23	0.23	0.06	0.21	0.21
Sat Flow, veh/h	3428	3526	1572	1767	3526	1572	3428	3526	1572	3428	1856	1572
Grp Volume(v), veh/h	278	752	61	6	966	283	225	707	19	106	171	134
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1763	1572	1714	1763	1572	1714	1856	1572
Q Serve(g_s), s	6.9	12.6	1.6	0.3	20.6	10.8	5.5	16.7	0.8	2.6	7.0	5.6
Cycle Q Clear(g_c), s	6.9	12.6	1.6	0.3	20.6	10.8	5.5	16.7	0.8	2.6	7.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	1635	869	16	1303	682	304	819	380	219	385	489
V/C Ratio(X)	0.78	0.46	0.07	0.36	0.74	0.42	0.74	0.86	0.05	0.48	0.44	0.27
Avail Cap(c_a), veh/h	396	1635	869	163	1303	682	396	896	414	238	386	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	15.8	9.0	42.6	23.7	16.9	38.5	31.9	25.2	39.2	30.0	22.5
Incr Delay (d2), s/veh	9.0	0.9	0.2	13.0	3.8	1.9	5.2	8.2	0.1	1.7	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	8.2	0.9	0.3	13.2	7.0	4.4	12.1	0.5	2.0	5.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	16.8	9.2	55.6	27.5	18.8	43.7	40.2	25.3	40.8	30.8	22.8
LnGrp LOS	D	B	A	E	C	B	D	D	C	D	C	C
Approach Vol, veh/h		1091			1255			951			411	
Approach Delay, s/veh		24.0			25.7			40.7			30.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	37.0	12.7	23.0	5.8	45.1	10.5	25.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	10.0	18.0	8.0	34.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	8.9	22.6	7.5	9.0	2.3	14.6	4.6	18.7
Green Ext Time (p_c), s	0.1	4.8	0.2	0.9	0.0	4.8	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
102: Pleasant Hill Road & Nail Road

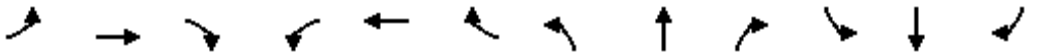


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	3	64	6	6	16	272	904	6	5	383	148
Future Volume (veh/h)	122	3	64	6	6	16	272	904	6	5	383	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	128	3	67	6	6	17	286	952	6	5	403	156
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	255	8	175	71	61	110	713	1204	8	365	1567	600
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.09	0.65	0.65	0.06	0.63	0.63
Sat Flow, veh/h	1377	68	1515	147	525	952	1767	1842	12	1767	2493	954
Grp Volume(v), veh/h	128	0	70	29	0	0	286	0	958	5	284	275
Grp Sat Flow(s),veh/h/ln	1377	0	1583	1624	0	0	1767	0	1853	1767	1763	1684
Q Serve(g_s), s	5.6	0.0	3.3	0.0	0.0	0.0	4.4	0.0	29.7	0.1	5.7	5.8
Cycle Q Clear(g_c), s	6.9	0.0	3.3	1.2	0.0	0.0	4.4	0.0	29.7	0.1	5.7	5.8
Prop In Lane	1.00		0.96	0.21		0.59	1.00		0.01	1.00		0.57
Lane Grp Cap(c), veh/h	255	0	183	242	0	0	713	0	1212	365	1108	1059
V/C Ratio(X)	0.50	0.00	0.38	0.12	0.00	0.00	0.40	0.00	0.79	0.01	0.26	0.26
Avail Cap(c_a), veh/h	404	0	355	411	0	0	955	0	1212	651	1108	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	0.0	32.9	32.0	0.0	0.0	4.2	0.0	10.0	8.7	6.6	6.6
Incr Delay (d2), s/veh	1.5	0.0	1.3	0.2	0.0	0.0	0.4	0.0	5.3	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	0.0	2.3	0.9	0.0	0.0	1.8	0.0	15.2	0.0	3.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.0	34.2	32.2	0.0	0.0	4.5	0.0	15.3	8.7	7.2	7.2
LnGrp LOS	D	A	C	C	A	A	A	A	B	A	A	A
Approach Vol, veh/h		198			29			1244			564	
Approach Delay, s/veh		35.2			32.2			12.8			7.2	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	57.0		13.8	11.5	55.0		13.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	50.5		18.0	18.0	50.5		18.0				
Max Q Clear Time (g_c+I1), s	2.1	31.7		8.9	6.4	7.8		3.2				
Green Ext Time (p_c), s	0.0	6.7		0.5	0.6	3.9		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road

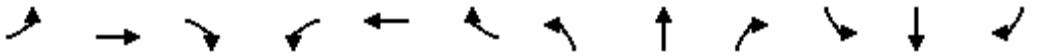


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Future Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	242	1025	161	25	1273	156	127	274	24	389	697	303
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	264	1503	743	48	1329	803	158	912	450	458	642	665
Arrive On Green	0.08	0.43	0.43	0.03	0.38	0.38	0.05	0.26	0.26	0.13	0.35	0.35
Sat Flow, veh/h	3428	3526	1572	1767	3526	1572	3428	3526	1572	3428	1856	1572
Grp Volume(v), veh/h	242	1025	161	25	1273	156	127	274	24	389	697	303
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1763	1572	1714	1763	1572	1714	1856	1572
Q Serve(g_s), s	9.1	30.6	7.8	1.8	45.8	7.0	4.8	8.1	1.4	14.4	45.0	17.9
Cycle Q Clear(g_c), s	9.1	30.6	7.8	1.8	45.8	7.0	4.8	8.1	1.4	14.4	45.0	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	1503	743	48	1329	803	158	912	450	458	642	665
V/C Ratio(X)	0.92	0.68	0.22	0.52	0.96	0.19	0.80	0.30	0.05	0.85	1.09	0.46
Avail Cap(c_a), veh/h	264	1503	743	353	1329	803	158	912	450	686	642	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	30.2	20.1	62.4	39.5	17.3	61.4	38.7	33.6	55.0	42.5	26.8
Incr Delay (d2), s/veh	34.4	2.5	0.7	8.2	16.5	0.5	24.9	0.2	0.0	6.5	60.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	18.8	5.3	1.6	29.6	4.7	4.7	6.3	1.0	10.7	42.1	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.0	32.7	20.8	70.6	56.0	17.8	86.4	38.9	33.7	61.5	103.3	27.3
LnGrp LOS	F	C	C	E	E	B	F	D	C	E	F	C
Approach Vol, veh/h		1428			1454			425			1389	
Approach Delay, s/veh		41.7			52.1			52.8			75.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	54.0	11.0	50.0	8.6	60.4	22.4	38.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	49.0	6.0	45.0	26.0	33.0	26.0	25.0
Max Q Clear Time (g_c+I1), s	11.1	47.8	6.8	47.0	3.8	32.6	16.4	10.1
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	0.3	1.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
102: Pleasant Hill Road & Nail Road

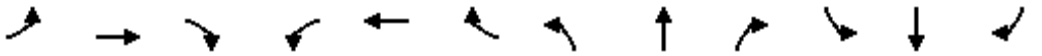


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	3	254	21	24	16	113	717	10	13	1035	132
Future Volume (veh/h)	145	3	254	21	24	16	113	717	10	13	1035	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	153	3	267	22	25	17	119	755	11	14	1089	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	294	4	328	89	91	42	349	986	14	366	1700	217
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.54	0.54	0.07	0.54	0.54
Sat Flow, veh/h	1354	18	1558	112	432	197	1767	1824	27	1767	3145	401
Grp Volume(v), veh/h	153	0	270	64	0	0	119	0	766	14	610	618
Grp Sat Flow(s),veh/h/ln	1354	0	1575	741	0	0	1767	0	1851	1767	1763	1783
Q Serve(g_s), s	0.4	0.0	12.1	0.4	0.0	0.0	2.1	0.0	24.1	0.2	18.1	18.1
Cycle Q Clear(g_c), s	13.0	0.0	12.1	12.5	0.0	0.0	2.1	0.0	24.1	0.2	18.1	18.1
Prop In Lane	1.00		0.99	0.34		0.27	1.00		0.01	1.00		0.22
Lane Grp Cap(c), veh/h	294	0	332	221	0	0	349	0	1000	366	953	964
V/C Ratio(X)	0.52	0.00	0.81	0.29	0.00	0.00	0.34	0.00	0.77	0.04	0.64	0.64
Avail Cap(c_a), veh/h	341	0	388	272	0	0	660	0	1000	675	953	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	28.0	24.5	0.0	0.0	9.1	0.0	13.4	9.8	12.0	12.0
Incr Delay (d2), s/veh	1.4	0.0	10.9	0.7	0.0	0.0	0.6	0.0	5.6	0.0	3.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	9.2	1.7	0.0	0.0	1.1	0.0	14.3	0.1	10.6	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	0.0	38.9	25.2	0.0	0.0	9.7	0.0	19.0	9.8	15.3	15.3
LnGrp LOS	C	A	D	C	A	A	A	A	B	A	B	B
Approach Vol, veh/h		423			64			885			1242	
Approach Delay, s/veh		35.6			25.2			17.7			15.2	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	44.7		20.2	9.5	44.7		20.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	40.2		18.3	18.1	40.1		18.3				
Max Q Clear Time (g_c+I1), s	2.2	26.1		15.0	4.1	20.1		14.5				
Green Ext Time (p_c), s	0.0	4.2		0.7	0.2	7.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road

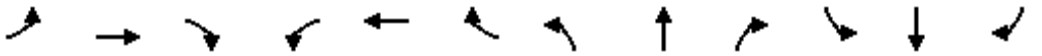


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Future Volume (veh/h)	264	714	58	6	918	269	214	672	18	101	162	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	278	752	61	6	966	283	225	707	19	106	171	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	355	1635	869	16	1303	682	304	819	380	219	385	489
Arrive On Green	0.10	0.46	0.46	0.01	0.37	0.37	0.09	0.23	0.23	0.06	0.21	0.21
Sat Flow, veh/h	3428	3526	1572	1767	3526	1572	3428	3526	1572	3428	1856	1572
Grp Volume(v), veh/h	278	752	61	6	966	283	225	707	19	106	171	134
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1763	1572	1714	1763	1572	1714	1856	1572
Q Serve(g_s), s	6.9	12.6	1.6	0.3	20.6	10.8	5.5	16.7	0.8	2.6	7.0	5.6
Cycle Q Clear(g_c), s	6.9	12.6	1.6	0.3	20.6	10.8	5.5	16.7	0.8	2.6	7.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	1635	869	16	1303	682	304	819	380	219	385	489
V/C Ratio(X)	0.78	0.46	0.07	0.36	0.74	0.42	0.74	0.86	0.05	0.48	0.44	0.27
Avail Cap(c_a), veh/h	396	1635	869	163	1303	682	396	896	414	238	386	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	15.8	9.0	42.6	23.7	16.9	38.5	31.9	25.2	39.2	30.0	22.5
Incr Delay (d2), s/veh	9.0	0.9	0.2	13.0	3.8	1.9	5.2	8.2	0.1	1.7	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	8.2	0.9	0.3	13.2	7.0	4.4	12.1	0.5	2.0	5.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	16.8	9.2	55.6	27.5	18.8	43.7	40.2	25.3	40.8	30.8	22.8
LnGrp LOS	D	B	A	E	C	B	D	D	C	D	C	C
Approach Vol, veh/h		1091			1255			951			411	
Approach Delay, s/veh		24.0			25.7			40.7			30.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	37.0	12.7	23.0	5.8	45.1	10.5	25.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	10.0	18.0	8.0	34.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	8.9	22.6	7.5	9.0	2.3	14.6	4.6	18.7
Green Ext Time (p_c), s	0.1	4.8	0.2	0.9	0.0	4.8	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
102: Pleasant Hill Road & Nail Road

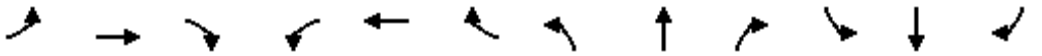


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	3	64	6	6	16	272	904	6	5	383	148
Future Volume (veh/h)	122	3	64	6	6	16	272	904	6	5	383	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	128	3	67	6	6	17	286	952	6	5	403	156
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	283	8	185	83	65	116	702	2145	14	506	1420	543
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.10	0.60	0.60	0.08	0.57	0.57
Sat Flow, veh/h	1377	68	1515	143	530	953	1767	3592	23	1767	2493	954
Grp Volume(v), veh/h	128	0	70	29	0	0	286	467	491	5	284	275
Grp Sat Flow(s),veh/h/ln	1377	0	1583	1626	0	0	1767	1763	1851	1767	1763	1684
Q Serve(g_s), s	4.6	0.0	2.7	0.0	0.0	0.0	4.2	9.6	9.6	0.1	5.4	5.5
Cycle Q Clear(g_c), s	5.6	0.0	2.7	1.0	0.0	0.0	4.2	9.6	9.6	0.1	5.4	5.5
Prop In Lane	1.00		0.96	0.21		0.59	1.00		0.01	1.00		0.57
Lane Grp Cap(c), veh/h	283	0	193	264	0	0	702	1053	1105	506	1004	959
V/C Ratio(X)	0.45	0.00	0.36	0.11	0.00	0.00	0.41	0.44	0.44	0.01	0.28	0.29
Avail Cap(c_a), veh/h	523	0	469	536	0	0	1042	1053	1105	858	1004	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	26.6	25.8	0.0	0.0	4.6	7.3	7.3	4.6	7.3	7.3
Incr Delay (d2), s/veh	1.1	0.0	1.1	0.2	0.0	0.0	0.4	1.4	1.3	0.0	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	0.0	1.8	0.7	0.0	0.0	1.6	5.1	5.3	0.0	3.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	27.7	26.0	0.0	0.0	4.9	8.6	8.6	4.6	8.0	8.1
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		198			29			1244			564	
Approach Delay, s/veh		28.5			26.0			7.8			8.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	43.8		12.5	11.3	42.0		12.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.1	38.9		19.5	19.5	37.5		19.5				
Max Q Clear Time (g_c+I1), s	2.1	11.6		7.6	6.2	7.5		3.0				
Green Ext Time (p_c), s	0.0	6.1		0.6	0.7	3.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
101: Pleasant Hill Road & Church Road

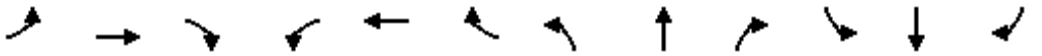


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Future Volume (veh/h)	230	974	153	24	1209	148	121	260	23	370	662	288
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	242	1025	161	25	1273	156	127	274	24	389	697	303
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	264	1503	743	48	1329	803	158	912	450	458	642	665
Arrive On Green	0.08	0.43	0.43	0.03	0.38	0.38	0.05	0.26	0.26	0.13	0.35	0.35
Sat Flow, veh/h	3428	3526	1572	1767	3526	1572	3428	3526	1572	3428	1856	1572
Grp Volume(v), veh/h	242	1025	161	25	1273	156	127	274	24	389	697	303
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1763	1572	1714	1763	1572	1714	1856	1572
Q Serve(g_s), s	9.1	30.6	7.8	1.8	45.8	7.0	4.8	8.1	1.4	14.4	45.0	17.9
Cycle Q Clear(g_c), s	9.1	30.6	7.8	1.8	45.8	7.0	4.8	8.1	1.4	14.4	45.0	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	1503	743	48	1329	803	158	912	450	458	642	665
V/C Ratio(X)	0.92	0.68	0.22	0.52	0.96	0.19	0.80	0.30	0.05	0.85	1.09	0.46
Avail Cap(c_a), veh/h	264	1503	743	353	1329	803	158	912	450	686	642	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	30.2	20.1	62.4	39.5	17.3	61.4	38.7	33.6	55.0	42.5	26.8
Incr Delay (d2), s/veh	34.4	2.5	0.7	8.2	16.5	0.5	24.9	0.2	0.0	6.5	60.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	18.8	5.3	1.6	29.6	4.7	4.7	6.3	1.0	10.7	42.1	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.0	32.7	20.8	70.6	56.0	17.8	86.4	38.9	33.7	61.5	103.3	27.3
LnGrp LOS	F	C	C	E	E	B	F	D	C	E	F	C
Approach Vol, veh/h		1428			1454			425			1389	
Approach Delay, s/veh		41.7			52.1			52.8			75.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	54.0	11.0	50.0	8.6	60.4	22.4	38.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	49.0	6.0	45.0	26.0	33.0	26.0	25.0
Max Q Clear Time (g_c+I1), s	11.1	47.8	6.8	47.0	3.8	32.6	16.4	10.1
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	0.3	1.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
102: Pleasant Hill Road & Nail Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	3	254	21	24	16	113	717	10	13	1035	132
Future Volume (veh/h)	145	3	254	21	24	16	113	717	10	13	1035	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	153	3	267	22	25	17	119	755	11	14	1089	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	295	4	329	89	92	42	349	1917	28	505	1695	216
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.54	0.54	0.07	0.54	0.54
Sat Flow, veh/h	1354	18	1558	113	434	198	1767	3557	52	1767	3145	401
Grp Volume(v), veh/h	153	0	270	64	0	0	119	374	392	14	610	618
Grp Sat Flow(s),veh/h/ln	1354	0	1575	745	0	0	1767	1763	1846	1767	1763	1783
Q Serve(g_s), s	0.4	0.0	12.1	0.4	0.0	0.0	2.1	9.2	9.2	0.2	18.1	18.1
Cycle Q Clear(g_c), s	12.9	0.0	12.1	12.5	0.0	0.0	2.1	9.2	9.2	0.2	18.1	18.1
Prop In Lane	1.00		0.99	0.34		0.27	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	295	0	333	223	0	0	349	950	995	505	950	961
V/C Ratio(X)	0.52	0.00	0.81	0.29	0.00	0.00	0.34	0.39	0.39	0.03	0.64	0.64
Avail Cap(c_a), veh/h	347	0	394	279	0	0	662	950	995	818	950	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	27.8	24.4	0.0	0.0	9.2	10.0	10.0	6.4	12.0	12.1
Incr Delay (d2), s/veh	1.4	0.0	10.5	0.7	0.0	0.0	0.6	1.2	1.2	0.0	3.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	9.1	1.6	0.0	0.0	1.1	5.6	5.9	0.1	10.5	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	0.0	38.3	25.1	0.0	0.0	9.7	11.2	11.2	6.4	15.4	15.4
LnGrp LOS	C	A	D	C	A	A	A	B	B	A	B	B
Approach Vol, veh/h		423			64			885			1242	
Approach Delay, s/veh		35.2			25.1			11.0			15.3	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	44.4		20.1	9.5	44.4		20.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.1	39.9		18.5	18.1	39.9		18.5				
Max Q Clear Time (g_c+I1), s	2.2	11.2		14.9	4.1	20.1		14.5				
Green Ext Time (p_c), s	0.0	4.6		0.8	0.2	7.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		17.3	
HCM 6th LOS		B	

Memorandum

Date:	Thursday, April 24, 2025
Project:	Pleasant Hill Road
To:	Andy Swims, City Engineer
From:	Richard Pittman, P.E.
Subject:	Pleasant Hill Road at Wedgewood Drive Traffic Analysis Memo (revised)

1. Introduction

This report provides an intersection analysis for the existing intersection of Pleasant Hill Road at Wedgewood Drive in Desoto County (see the vicinity map in **Figure 1**). The City of Olive Branch, MS has requested a traffic analysis study for this intersection to explore the effects of Build Alternative: widening from a 2-lane roadway to a multilane roadway along Pleasant Hill Road between Church Road and north of Nail Road.

2. Existing Conditions

The intersection falls within the Memphis Urban area. The subject Wedgewood Drive intersection is unsignalized. Pleasant Hill Road is a two-lane, undivided roadway with a posted speed limit of 40 miles per hour (mph). Wedgewood Drive is a two-lane, undivided roadway with a posted speed limit of 25 mph.

3. Traffic Data Collection

The data collection effort for this study consisted of 12-hour turning movement (7:00 AM to 7:00 PM) counts collected on January 15, 2025. The AM peak hour was determined to be from 7:15 AM – 8:15 AM and the PM peak hour was determined to be from 4:45 PM – 5:45 PM. The traffic count data is included in **Appendix A**.

3.1 Seasonal Factor

MDOT develops seasonal factors (SF) based on roadway functional classes, which were provided by MDOT. The most current Traffic Adjustment Factors for 2023 is included in **Appendix B**. The 1.08 SF corresponding to January was applied to the raw traffic data to seasonally adjust the volumes.

3.2 Existing Traffic Volumes

The seasonally adjusted peak hour turning movement counts data are summarized in **Table 1**.

Figure 1 | Pleasant Hill Road at Wedgewood Drive Vicinity Map

Table 1 Seasonally Adjusted Turning Movement Counts – Peak Hours

	Northbound Pleasant Hill Road				Southbound Pleasant Hill Road				Eastbound Wedgewood Drive				Westbound Wedgewood Drive			
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT
AM	0	9	753	10	0	8	316	14	0	40	0	23	0	8	2	37
PM	0	21	501	12	0	23	699	41	0	28	0	14	0	6	0	17

4. Future Conditions

4.1 Growth Rate

Various sources were reviewed to determine an appropriate growth rate for the study area, as a part of Pleasant Hill Road Traffic Analysis Memo dated May 27, 2022. In line with the findings of the memo, this study applied an annual compounded growth rate of 2.00% to project future traffic volumes.

4.2 Future Volume Projections

Design Year (2047) peak hour turning movement counts are summarized in **Table 2.**

Table 2 Future 2047 Peak Hour Turning Movement Counts

	Northbound Pleasant Hill Road				Southbound Pleasant Hill Road				Eastbound Wedgewood Drive				Westbound Wedgewood Drive			
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT
AM	0	13	1164	15	0	12	489	22	0	62	0	35	0	12	3	57
PM	0	32	775	18	0	35	1080	63	0	43	0	22	0	10	0	27

5. Operational and Queue Analysis

5.1 Existing Conditions Operational Analysis

An operational analysis under existing conditions was conducted for the study intersection utilizing Synchro Version 11 software. Level of service (LOS) results are based on the Highway Capacity Manual 7 (HCM 7). Synchro results can be found in **Appendix C**.

The performance measures used for the intersection operational analysis include average vehicle delay and Level of Service (LOS). Vehicle delay is reported in seconds of delay per vehicle for intersection approaches and for each intersection overall.

LOS is a qualitative measure of vehicle operator satisfaction with the overall driving experience. It is based on criteria in the HCM 7 and is used to define the operational performance of an intersection, approach, or movement. LOS designations range from LOS A to LOS F. LOS A represents free-flow conditions with little or no delay or queuing. LOS F represents heavily congested conditions with long delays and queues. Typically, LOS A through LOS D are considered acceptable for intersection traffic operations in urban areas. LOS E is the threshold for intersection capacity, and LOS F typically indicates the intersection, approach, or movement is over capacity.

Intersection LOS is determined by two factors: control delay and volume-to-capacity (V/C) ratio. HCM 7 defines the Volume-to-Capacity Ratio (V/C) as a measure that reflects mobility and quality of travel on a facility or a section of a facility. It compares roadway demand (vehicle volumes) with roadway supply (carrying capacity). Control delay quantifies the increase in travel time due to traffic control (signs or signals). Differing levels of delay result in different levels of service, as shown in **Table 3.** As indicated, the LOS thresholds differ for signalized and unsignalized intersections. If the V/C ratio is greater than or equal to 1.0, then the movement or approach is LOS F regardless of the delay value.

For minor-street stop-controlled intersections, the minor street approach delay or minor street left-turn delay is reported. Those are typically the major capacity constraints for minor-street stop-controlled intersections.

Table 3 HCM 7 LOS Thresholds for Intersections

LOS	Unsignalized/ Roundabout	Signalized
	Control Delay	Control Delay
A	≤ 10	≤ 10
B	>10-15	>10-20
C	>15-25	>20-35
D	>25-35	>35-55
E	>35-50	>55-80
F	>50	>80

LOS is F when volume/capacity ≥ 1.0.

Control Delay = seconds per vehicle.

HCM 7 delay, LOS and queue results are summarized in **Table 4** for the Wedgewood Drive intersection under the existing conditions.

The analysis results indicate that the minor street approach (eastbound) is operating at a Level of Service (LOS) F during both the AM and PM peak periods. Pleasant Hill Road is expected to operate at a LOS A during both the AM and PM peak periods. The analysis shows a 95th percentile queue on the eastbound approach of 4 vehicles during the AM peak period and 2 vehicles during the PM peak period. On the westbound approach, the 95th percentile queue is less than 2 vehicles during both the AM and PM peak periods.

Table 4 Existing Condition (2025) Operational Analysis Result

Intersection	Control Type	Movement	Delay (sec/veh)		Level of Service		95th percentile Queue (veh)	
			AM	PM	AM	PM	AM	PM
Pleasant Hill Road at Wedgewood Drive	TWSC	NBL	8.4	9.7	A	A	0.1	0.2
		SBL	9.6	8.7	A	A	0.1	0.1
		EB	**76.3**	**59.8**	**F**	**F**	**3.8**	**2.0**
		WB	27.6	27.9	D	D	1.4	0.7

TWSC: Two-Way Stop-Controlled.

NB: Northbound. SB: Southbound. EB: Eastbound. WB: Westbound. L: Left.

5.2 Future Alternative

In addition to the No Build Alternative, which assumes no changes from existing conditions, a build alternative was analyzed. Build Alternative assumes a roadway widening along Pleasant Hill Road between Church Road and north of Nail Road. A PHF of 95% was utilized for all future models, and heavy vehicle percentages were assumed to be 3% consistent with the Pleasant Hill Road Traffic Analysis Memo dated May 27, 2022.

5.3 Future Conditions Operational Analysis

Synchro Version 11 software was utilized for future conditions analysis. Synchro results can be found in **Appendix C**. HCM 7 delay, LOS and queue results for the No Build and Build Alternatives are summarized in **Table 5** and **Table 6**, respectively.

No-Build Alternative

- Both minor street approaches (eastbound and westbound) are estimated to operate at a Level of Service F during the AM and PM peak periods. Pleasant Hill Road is expected to operate at a LOS B or better during both the AM and PM peak periods.
- The 95th percentile queue on the eastbound approach is projected to be about 10 vehicles during the AM peak period and about 7 vehicles during the PM peak period. On the westbound approach, the 95th percentile queue is expected to be less than 3 vehicles during both the AM and PM peak periods.

Build Alternative

- The minor street approach (eastbound) is estimated to operate at a Level of Service F during both the AM and PM peak periods. The westbound approach is expected to operate at a LOS D or better during both the AM and PM peak periods. Pleasant Hill Road is expected to operate at a LOS B or better during both the AM and PM peak periods.
- The 95th percentile queue on the eastbound approach is projected to be about 4 vehicles during the AM peak period and about 5 vehicles during the PM peak period. On the westbound approach, the 95th percentile queue is expected to be less than 2 vehicles during both the AM and PM peak periods.

Table 5 No-Build Alternative (2047) Operational Analysis Result

Intersection	Control Type	Movement	Delay (sec/veh)		Level of Service		95th percentile Queue (veh)	
			AM	PM	AM	PM	AM	PM
Pleasant Hill Road at Wedgewood Drive	TWSC	NBL	8.6	11.6	A	B	0.0	0.2
		SBL	11.6	9.8	B	A	0.1	0.1
		EB	**>300**	**>300**	**F**	**F**	**9.6**	**7.2**
		WB	63.0	85.2	F	F	2.8	2.0

TWSC: Two-Way Stop-Controlled.

NB: Northbound. SB: Southbound. EB: Eastbound. WB: Westbound. L: Left.

Table 6 Build Alternative (2047) Operational Analysis Result

Intersection	Control Type	Movement	Delay (sec/veh)		Level of Service		95th percentile Queue (veh)	
			AM	PM	AM	PM	AM	PM
Pleasant Hill Road at Wedgewood Drive	TWSC	NBL	8.6	11.8	A	B	0.0	0.2
		SBL	11.8	9.8	B	A	0.1	0.1
		EB	**61.9**	**222.5**	**F**	**F**	**3.6**	**5.2**
		WB	32.4	29.6	D	D	1.6	0.8

TWSC: Two-Way Stop-Controlled.

NB: Northbound. SB: Southbound. EB: Eastbound. WB: Westbound. L: Left.

5.4 Future Alternative Queue Analysis

According to the 2020 MDOT Roadway Design Manual, when a turn lane is provided, the storage length (L_S) must be adequate to accommodate the number of vehicles expected to accumulate during the design hour. For non-signalized intersections, the storage length should be determined based on the anticipated number of turning vehicles during the design hour (**Table 7**). The minimum storage length should be sufficient to accommodate at least two vehicles, typically equivalent to 50 feet.

Table 7 MDOT Recommended Storage Lengths (L_S) For Non-Signalized Turn Lanes

DHV* (vph)	Storage length (ft)
≤ 60	50 – 75
61 – 120	100
120 – 180	150
> 180	200 or greater

**The storage length should be based on the number of turning vehicles likely to arrive within the design hour.*

Based on the northbound and southbound left turn design hourly volume at Pleasant Hill Road and Wedgewood Drive intersection, a minimum storage length of 50 feet should be sufficient to accommodate the traffic (**Table 8**). This recommendation is consistent with the HCM 7 95th percentile queue results shown in **Table 6.**

The length of auxiliary lanes consists of a combination of the deceleration length (L_D) (which includes the taper length (L_T)) and the storage length (L_S). According to the 2020 MDOT Roadway Design Manual, the taper length (L_T) for deceleration lanes should typically be 150 feet. The manual also recommends a deceleration length (L_D) of 155 ft for design speed of 40 mph.

Table 8 | Build Recommended Storage Lengths Feet

Intersection	NBL	SBL
Pleasant Hill Road at Wedgewood Drive	50 ft	50 ft

6. Recommendations

The study recommendation includes the following:

- A northbound and southbound left turn bay at Pleasant Hill Road and Wedgewood Drive intersection with a storage length (L_S) of 50 feet and deceleration length (L_D) of 155 ft.
- Further study can be considered should there be operational or safety concerns at the subject intersection.

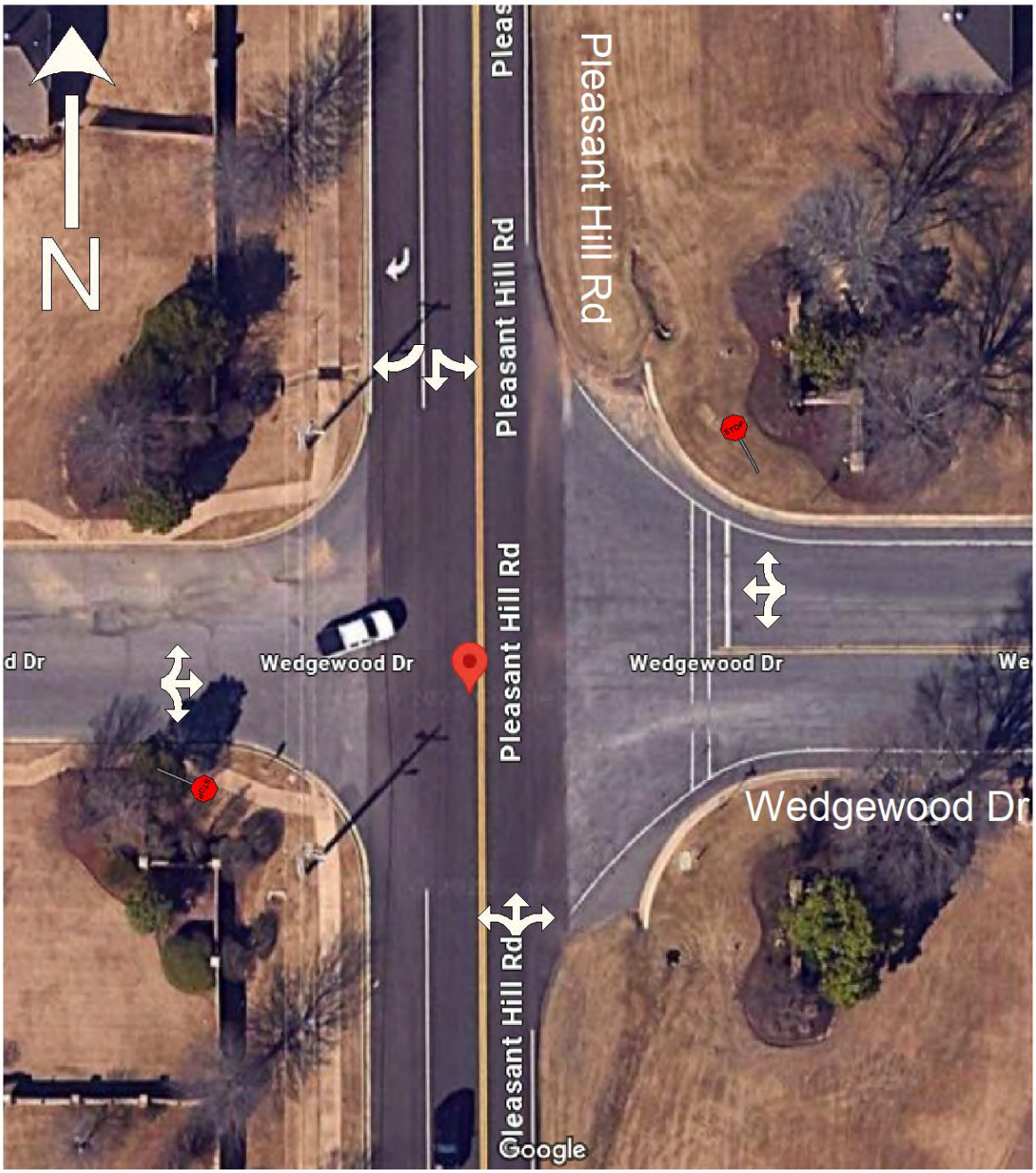
Appendix A: Traffic Data

The Traffic Group
Turning Movement Count
Supplemental Drawing

Merging Innovation and Excellence®

Station ID: 2510014 **Job Number:** 2019-0705

Location: Pleasant Hill Rd at Wedgewood Dr, Desoto County, Mississippi



Comments:

The Traffic Group, Inc.

(800) 583-8411
www.trafficgroup.com
Merging Innovation and Excellence

Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025

Groups Printed- Lights - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	6	224	7	0	237	35	2	6	0	43	11	664	8	0	683	19	0	32	0	51	1014
08:00 AM	14	282	12	0	308	21	0	4	0	25	3	480	5	0	488	15	0	20	0	35	856
09:00 AM	5	190	18	0	213	23	0	6	0	29	2	309	6	0	317	4	0	13	0	17	576
10:00 AM	11	199	16	0	226	31	0	6	0	37	3	290	4	1	298	6	1	12	0	19	580
11:00 AM	6	272	16	0	294	20	1	5	0	26	5	296	1	1	303	7	0	6	0	13	636
12:00 PM	10	278	16	0	304	20	0	4	1	25	10	335	7	0	352	8	0	7	0	15	696
01:00 PM	6	311	21	1	339	14	1	5	0	20	4	325	4	0	333	9	0	10	0	19	711
02:00 PM	16	498	24	0	538	21	0	11	0	32	7	368	5	0	380	7	0	12	1	20	970
03:00 PM	18	620	34	0	672	16	0	5	0	21	10	441	14	0	465	13	1	16	0	30	1188
04:00 PM	38	685	27	0	750	24	1	11	0	36	11	419	9	0	439	12	1	14	0	27	1252
05:00 PM	32	614	22	0	668	17	0	4	0	21	15	458	20	0	493	13	0	28	0	41	1223
06:00 PM	20	398	24	0	442	11	0	8	0	19	5	297	2	0	304	6	1	15	0	22	787
Grand Total	182	4571	237	1	4991	253	5	75	1	334	86	4682	85	2	4855	119	4	185	1	309	10489
Apprch %	3.6	91.6	4.7	0		75.7	1.5	22.5	0.3		1.8	96.4	1.8	0		38.5	1.3	59.9	0.3		
Total %	1.7	43.6	2.3	0	47.6	2.4	0	0.7	0	3.2	0.8	44.6	0.8	0	46.3	1.1	0	1.8	0	2.9	
Lights	176	4501	233	1	4911	248	2	75	1	326	83	4588	83	2	4756	112	3	185	1	301	10294
% Lights	96.7	98.5	98.3	100	98.4	98	40	100	100	97.6	96.5	98	97.6	100	98	94.1	75	100	100	97.4	98.1
Buses	3	14	0	0	17	1	3	0	0	4	3	24	1	0	28	4	1	0	0	5	54
% Buses	1.6	0.3	0	0	0.3	0.4	60	0	0	1.2	3.5	0.5	1.2	0	0.6	3.4	25	0	0	1.6	0.5
Unit Trucks	3	51	4	0	58	4	0	0	0	4	0	63	1	0	64	3	0	0	0	3	129
% Unit Trucks	1.6	1.1	1.7	0	1.2	1.6	0	0	0	1.2	0	1.3	1.2	0	1.3	2.5	0	0	0	1	1.2
Articulated Trucks	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	12
% Articulated Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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07:00 AM	0	39	2	0	41	6	0	1	0	7	2	125	1	0	128	2	0	2	0	4	180
07:15 AM	3	35	0	0	38	10	0	1	0	11	1	170	2	0	173	7	0	11	0	18	240
07:30 AM	2	63	0	0	65	13	2	3	0	18	6	183	1	0	190	7	0	14	0	21	294
07:45 AM	1	87	5	0	93	6	0	1	0	7	2	186	4	0	192	3	0	5	0	8	300
Total	6	224	7	0	237	35	2	6	0	43	11	664	8	0	683	19	0	32	0	51	1014
08:00 AM	7	108	2	0	117	5	0	2	0	7	0	158	1	0	159	4	0	7	0	11	294
08:15 AM	3	64	2	0	69	4	0	2	0	6	2	149	1	0	152	4	0	6	0	10	237
08:30 AM	1	51	3	0	55	6	0	0	0	6	0	89	1	0	90	4	0	5	0	9	160
08:45 AM	3	59	5	0	67	6	0	0	0	6	1	84	2	0	87	3	0	2	0	5	165
Total	14	282	12	0	308	21	0	4	0	25	3	480	5	0	488	15	0	20	0	35	856
09:00 AM	0	51	4	0	55	9	0	1	0	10	0	79	3	0	82	1	0	2	0	3	150
09:15 AM	3	46	6	0	55	3	0	1	0	4	0	71	2	0	73	2	0	4	0	6	138
09:30 AM	1	36	6	0	43	7	0	2	0	9	1	71	0	0	72	0	0	3	0	3	127
09:45 AM	1	57	2	0	60	4	0	2	0	6	1	88	1	0	90	1	0	4	0	5	161
Total	5	190	18	0	213	23	0	6	0	29	2	309	6	0	317	4	0	13	0	17	576
10:00 AM	4	46	4	0	54	8	0	1	0	9	0	71	0	0	71	1	0	3	0	4	138
10:15 AM	3	45	5	0	53	6	0	1	0	7	1	56	4	1	62	2	0	3	0	5	127
10:30 AM	2	57	4	0	63	7	0	3	0	10	1	88	0	0	89	2	0	4	0	6	168
10:45 AM	2	51	3	0	56	10	0	1	0	11	1	75	0	0	76	1	1	2	0	4	147
Total	11	199	16	0	226	31	0	6	0	37	3	290	4	1	298	6	1	12	0	19	580
11:00 AM	1	69	4	0	74	4	0	1	0	5	3	72	1	0	76	0	0	1	0	1	156
11:15 AM	1	59	7	0	67	8	0	2	0	10	1	73	0	0	74	1	0	5	0	6	157
11:30 AM	2	72	4	0	78	3	0	0	0	3	0	56	0	1	57	2	0	0	0	2	140
11:45 AM	2	72	1	0	75	5	1	2	0	8	1	95	0	0	96	4	0	0	0	4	183
Total	6	272	16	0	294	20	1	5	0	26	5	296	1	1	303	7	0	6	0	13	636
12:00 PM	3	63	3	0	69	3	0	2	0	5	3	88	0	0	91	2	0	1	0	3	168
12:15 PM	2	75	6	0	83	6	0	1	0	7	2	64	3	0	69	2	0	2	0	4	163
12:30 PM	2	68	3	0	73	6	0	1	1	8	2	92	3	0	97	1	0	3	0	4	182
12:45 PM	3	72	4	0	79	5	0	0	0	5	3	91	1	0	95	3	0	1	0	4	183
Total	10	278	16	0	304	20	0	4	1	25	10	335	7	0	352	8	0	7	0	15	696
01:00 PM	2	86	3	1	92	4	0	1	0	5	1	65	1	0	67	1	0	1	0	2	166
01:15 PM	2	78	11	0	91	2	1	1	0	4	1	77	0	0	78	2	0	3	0	5	178
01:30 PM	0	65	2	0	67	3	0	0	0	3	1	83	0	0	84	4	0	4	0	8	162
01:45 PM	2	82	5	0	89	5	0	3	0	8	1	100	3	0	104	2	0	2	0	4	205
Total	6	311	21	1	339	14	1	5	0	20	4	325	4	0	333	9	0	10	0	19	711
02:00 PM	5	103	8	0	116	9	0	2	0	11	3	77	2	0	82	3	0	1	1	5	214
02:15 PM	3	151	8	0	162	3	0	4	0	7	1	77	1	0	79	3	0	6	0	9	257
02:30 PM	5	129	3	0	137	4	0	1	0	5	2	114	1	0	117	1	0	4	0	5	264
02:45 PM	3	115	5	0	123	5	0	4	0	9	1	100	1	0	102	0	0	1	0	1	235
Total	16	498	24	0	538	21	0	11	0	32	7	368	5	0	380	7	0	12	1	20	970
03:00 PM	1	150	11	0	162	3	0	1	0	4	6	107	3	0	116	2	0	4	0	6	288
03:15 PM	5	149	8	0	162	7	0	2	0	9	0	121	3	0	124	6	0	2	0	8	303
03:30 PM	4	166	9	0	179	4	0	0	0	4	0	104	3	0	107	1	1	5	0	7	297
03:45 PM	8	155	6	0	169	2	0	2	0	4	4	109	5	0	118	4	0	5	0	9	300
Total	18	620	34	0	672	16	0	5	0	21	10	441	14	0	465	13	1	16	0	30	1188
04:00 PM	14	159	8	0	181	9	1	5	0	15	8	101	3	0	112	6	1	6	0	13	321
04:15 PM	5	181	6	0	192	7	0	3	0	10	1	109	2	0	112	1	0	2	0	3	317
04:30 PM	8	163	6	0	177	4	0	1	0	5	2	94	1	0	97	2	0	2	0	4	283

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Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025

Groups Printed- Lights - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:45 PM	11	182	7	0	200	4	0	2	0	6	0	115	3	0	118	3	0	4	0	7	331
Total	38	685	27	0	750	24	1	11	0	36	11	419	9	0	439	12	1	14	0	27	1252
05:00 PM	5	155	5	0	165	3	0	0	0	3	3	132	5	0	140	4	0	8	0	12	320
05:15 PM	10	155	5	0	170	3	0	3	0	6	5	118	2	0	125	3	0	7	0	10	311
05:30 PM	12	155	4	0	171	6	0	1	0	7	3	99	9	0	111	3	0	7	0	10	299
05:45 PM	5	149	8	0	162	5	0	0	0	5	4	109	4	0	117	3	0	6	0	9	293
Total	32	614	22	0	668	17	0	4	0	21	15	458	20	0	493	13	0	28	0	41	1223
06:00 PM	10	136	7	0	153	4	0	3	0	7	1	81	0	0	82	4	0	5	0	9	251
06:15 PM	1	97	7	0	105	3	0	2	0	5	3	83	0	0	86	0	0	2	0	2	198
06:30 PM	6	81	4	0	91	1	0	0	0	1	0	67	1	0	68	0	0	5	0	5	165
06:45 PM	3	84	6	0	93	3	0	3	0	6	1	66	1	0	68	2	1	3	0	6	173
Total	20	398	24	0	442	11	0	8	0	19	5	297	2	0	304	6	1	15	0	22	787
Grand Total	182	4571	237	1	4991	253	5	75	1	334	86	4682	85	2	4855	119	4	185	1	309	10489
Apprch %	3.6	91.6	4.7	0		75.7	1.5	22.5	0.3		1.8	96.4	1.8	0		38.5	1.3	59.9	0.3		
Total %	1.7	43.6	2.3	0	47.6	2.4	0	0.7	0	3.2	0.8	44.6	0.8	0	46.3	1.1	0	1.8	0	2.9	
Lights	176	4501	233	1	4911	248	2	75	1	326	83	4588	83	2	4756	112	3	185	1	301	10294
% Lights	96.7	98.5	98.3	100	98.4	98	40	100	100	97.6	96.5	98	97.6	100	98	94.1	75	100	100	97.4	98.1
Buses	3	14	0	0	17	1	3	0	0	4	3	24	1	0	28	4	1	0	0	5	54
% Buses	1.6	0.3	0	0	0.3	0.4	60	0	0	1.2	3.5	0.5	1.2	0	0.6	3.4	25	0	0	1.6	0.5
Unit Trucks	3	51	4	0	58	4	0	0	0	4	0	63	1	0	64	3	0	0	0	3	129
% Unit Trucks	1.6	1.1	1.7	0	1.2	1.6	0	0	0	1.2	0	1.3	1.2	0	1.3	2.5	0	0	0	1	1.2
Articulated Trucks	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	12
% Articulated Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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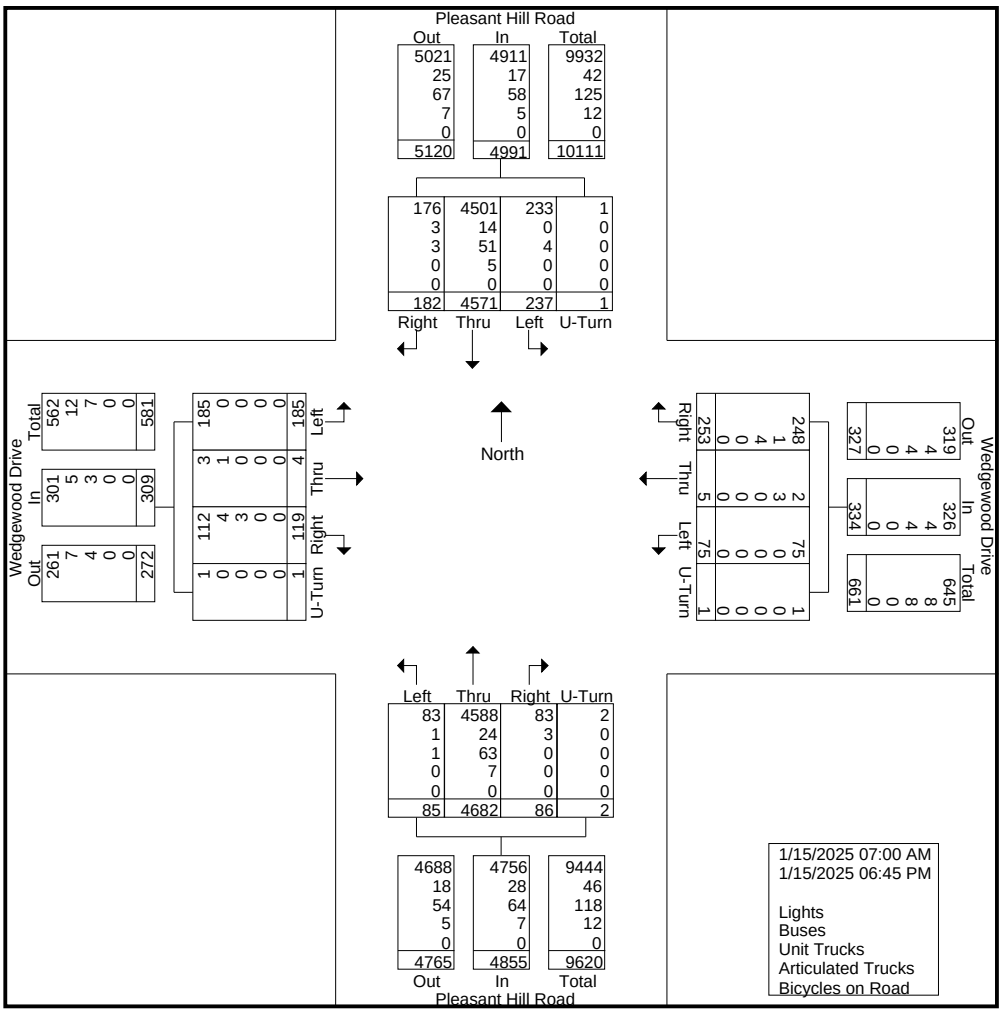
Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025



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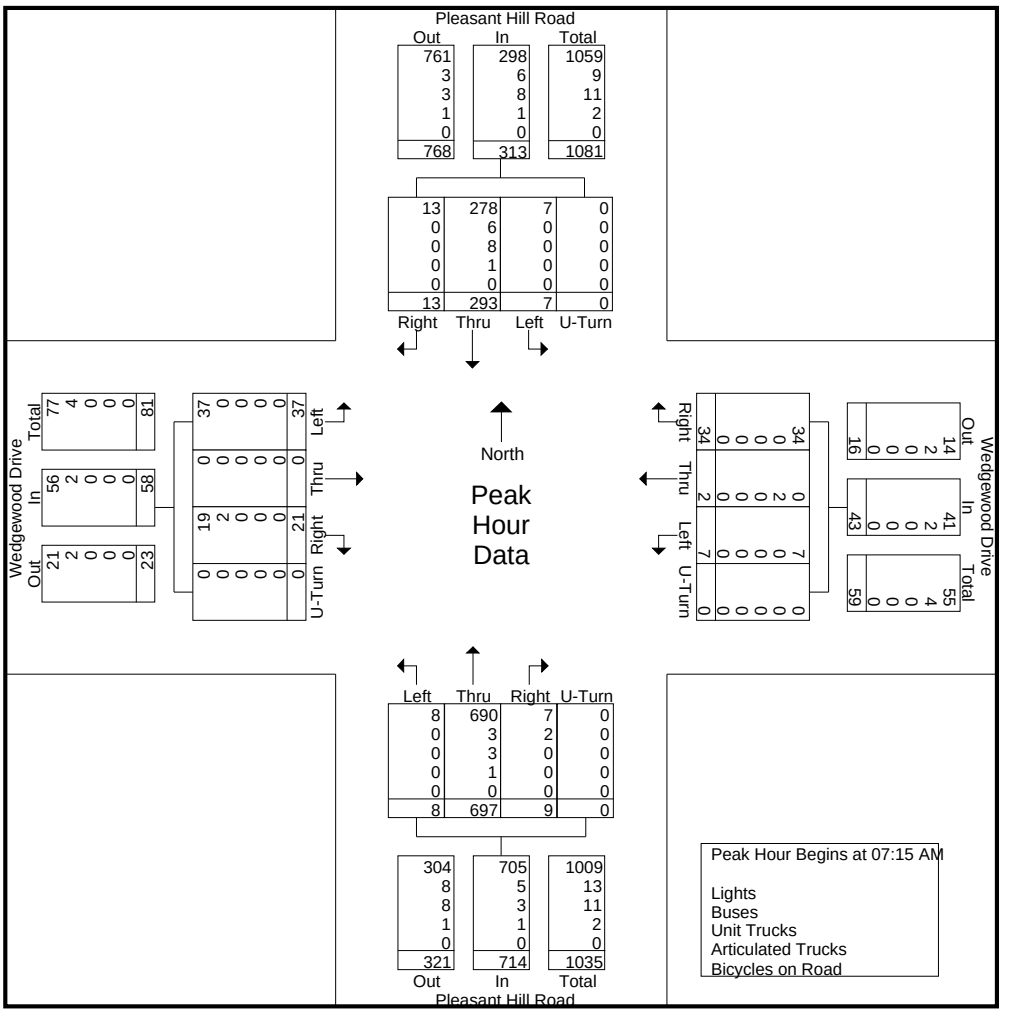
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	35	0	0	38	10	0	1	0	11	1	170	2	0	173	**7**	0	11	0	18	240
07:30 AM	2	63	0	0	65	**13**	**2**	**3**	0	**18**	**6**	183	1	0	190	7	0	**14**	0	**21**	294
07:45 AM	1	87	**5**	0	93	6	0	1	0	7	2	**186**	**4**	0	**192**	3	0	5	0	8	**300**
08:00 AM	**7**	**108**	2	0	**117**	5	0	2	0	7	0	158	1	0	159	4	0	7	0	11	294
Total Volume	13	293	7	0	313	34	2	7	0	43	9	697	8	0	714	21	0	37	0	58	1128
% App. Total	4.2	93.6	2.2	0		79.1	4.7	16.3	0		1.3	97.6	1.1	0		36.2	0	63.8	0		
PHF	.464	.678	.350	.000	.669	.654	.250	.583	.000	.597	.375	.937	.500	.000	.930	.750	.000	.661	.000	.690	.940
Lights	13	278	7	0	298	34	0	7	0	41	7	690	8	0	705	19	0	37	0	56	1100
% Lights	100	94.9	100	0	95.2	100	0	100	0	95.3	77.8	99.0	100	0	98.7	90.5	0	100	0	96.6	97.5
Buses	0	6	0	0	6	0	2	0	0	2	2	3	0	0	5	2	0	0	0	2	15
% Buses	0	2.0	0	0	1.9	0	100	0	0	4.7	22.2	0.4	0	0	0.7	9.5	0	0	0	3.4	1.3
Unit Trucks																					
% Unit Trucks	0	2.7	0	0	2.6	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	1.0
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Articulated Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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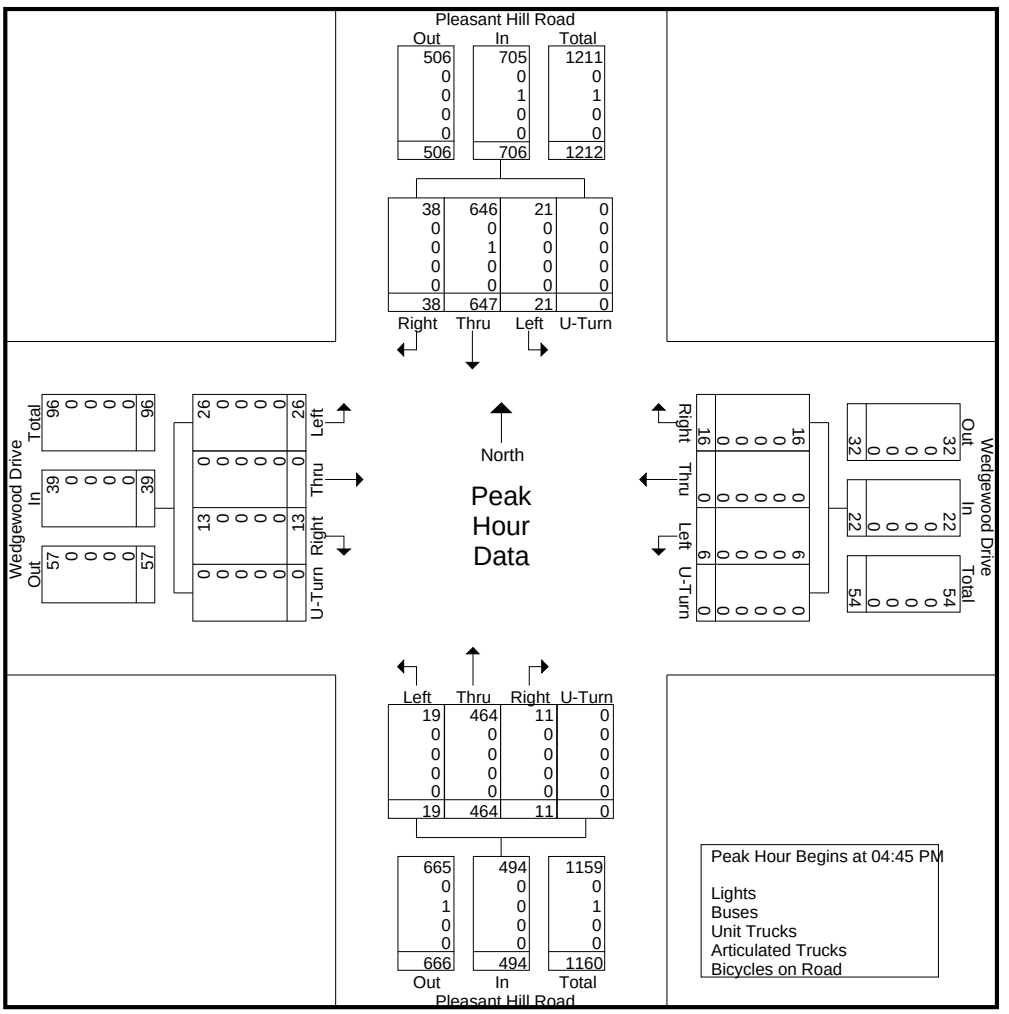
Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	11	**182**	**7**	0	**200**	4	0	2	0	6	0	115	3	0	118	3	0	4	0	7	**331**
05:00 PM	5	155	5	0	165	3	0	0	0	3	3	**132**	5	0	**140**	**4**	0	**8**	0	**12**	320
05:15 PM	10	155	5	0	170	3	0	**3**	0	6	**5**	118	2	0	125	3	0	7	0	10	311
05:30 PM	**12**	155	4	0	171	**6**	0	1	0	**7**	3	99	**9**	0	111	3	0	7	0	10	299
Total Volume	38	647	21	0	706	16	0	6	0	22	11	464	19	0	494	13	0	26	0	39	1261
% App. Total	5.4	91.6	3	0		72.7	0	27.3	0		2.2	93.9	3.8	0		33.3	0	66.7	0		
PHF	.792	.889	.750	.000	.883	.667	.000	.500	.000	.786	.550	.879	.528	.000	.882	.813	.000	.813	.000	.813	.952
Lights	38	646	21	0	705	16	0	6	0	22	11	464	19	0	494	13	0	26	0	39	1260
% Lights	100	99.8	100	0	99.9	100	0	100	0	100	100	100	100	0	100	100	0	100	0	100	99.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unit Trucks																					
% Unit Trucks	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025
Page No : 1

Groups Printed- Buses - Unit Trucks - Articulated Trucks

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	9
07:15 AM	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	1	0	0	0	1	7
07:30 AM	0	5	0	0	5	0	2	0	0	2	1	1	0	0	2	1	0	0	0	1	10
07:45 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Total	0	15	0	0	15	0	2	0	0	2	2	10	0	0	12	2	0	0	0	2	31
08:00 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
08:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
Total	0	8	0	0	8	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	19
09:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
09:15 AM	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
09:30 AM	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	3
09:45 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
Total	0	6	1	0	7	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	17
10:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
10:15 AM	0	2	1	0	3	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	8
10:30 AM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	8
10:45 AM	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
Total	0	6	2	0	8	1	0	0	0	1	0	13	1	0	14	1	0	0	0	1	24
11:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
11:15 AM	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	4
11:30 AM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
11:45 AM	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	12
Total	0	10	0	0	10	1	0	0	0	1	0	17	0	0	17	0	0	0	0	0	28
12:00 PM	0	3	1	0	4	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	7
12:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
12:45 PM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Total	1	7	1	0	9	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	15
01:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
01:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	3
01:45 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
Total	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	13
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
02:15 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
02:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Total	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	11
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
03:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
03:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
03:45 PM	1	0	0	0	1	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	8
Total	1	3	0	0	4	0	0	0	0	0	0	9	1	0	10	2	0	0	0	2	16
04:00 PM	1	3	0	0	4	1	1	0	0	2	1	2	0	0	3	1	1	0	0	2	11
04:15 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1

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Intersection of Pleasant Hill Road
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File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025

Groups Printed- Buses - Unit Trucks - Articulated Trucks

	Pleasant Hill Road From North					Wedgewood Drive From East					Pleasant Hill Road From South					Wedgewood Drive From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	4	0	0	6	1	1	0	0	2	1	4	0	0	5	1	1	0	0	2	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Grand Total	6	70	4	0	80	5	3	0	0	8	3	94	2	0	99	7	1	0	0	8	195
Apprch %	7.5	87.5	5	0		62.5	37.5	0	0		3	94.9	2	0		87.5	12.5	0	0		
Total %	3.1	35.9	2.1	0	41	2.6	1.5	0	0	4.1	1.5	48.2	1	0	50.8	3.6	0.5	0	0	4.1	
Buses	3	14	0	0	17	1	3	0	0	4	3	24	1	0	28	4	1	0	0	5	54
% Buses	50	20	0	0	21.2	20	100	0	0	50	100	25.5	50	0	28.3	57.1	100	0	0	62.5	27.7
Unit Trucks	3	51	4	0	58	4	0	0	0	4	0	63	1	0	64	3	0	0	0	3	129
% Unit Trucks	50	72.9	100	0	72.5	80	0	0	0	50	0	67	50	0	64.6	42.9	0	0	0	37.5	66.2
Articulated Trucks	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	12
% Articulated Trucks	0	7.1	0	0	6.2	0	0	0	0	0	0	7.4	0	0	7.1	0	0	0	0	0	6.2

The Traffic Group, Inc.

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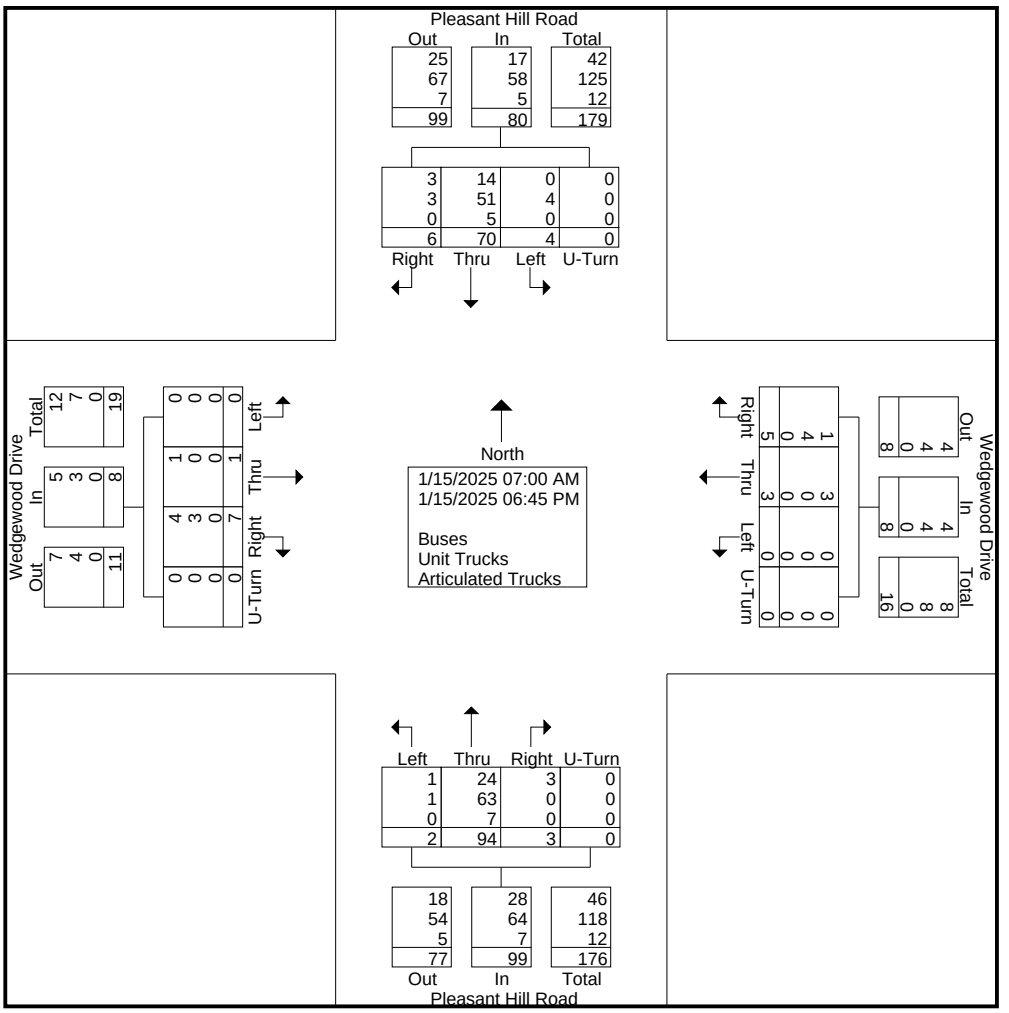
Intersection of Pleasant Hill Road
and Wedgewood Drive
DeSoto County, Mississippi

File Name : 2510014-Pleasant Hill Rd at Wedgewood Dr
Site Code : 2510014
Start Date : 1/15/2025



Appendix B: Traffic Factors and Historical Data

Traffic Adjustment Factors for 2023

Planning Division

2023 Factors	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	FC=1	FC=11&12	FC=2-6	FC>14-18	Gaming GRPC	Gaming Tunica
Seasonal						
January	1.11	1.08	1.12	1.08	1.09	1.10
February	1.06	1.02	1.06	1.02	1.01	1.05
March	1.00	0.98	0.99	0.98	0.96	1.01
April	1.00	0.99	0.99	0.97	0.97	0.98
May	0.96	0.98	0.95	0.97	0.97	0.98
June	0.92	0.97	0.95	0.99	0.95	0.98
July	0.93	0.99	0.96	0.98	0.94	0.99
August	1.01	0.99	0.99	0.98	1.02	0.99
September	1.00	1.01	1.00	0.97	1.00	0.95
October	1.00	0.98	0.98	0.97	1.00	0.93
November	0.98	1.01	1.02	1.03	1.03	1.01
December	1.03	1.02	1.06	1.05	1.03	1.05
Daily						
Sunday	1.08	1.29	1.21	1.26	1.16	1.08
Monday	1.05	1.00	1.02	1.02	1.04	1.11
Tuesday	1.06	0.97	1.02	1.00	1.03	1.11
Wednesday	1.02	0.95	0.99	0.97	0.99	1.03
Thursday	0.96	0.92	0.95	0.95	0.96	0.97
Friday	0.87	0.87	0.85	0.87	0.88	0.86
Saturday	1.00	1.11	1.04	1.03	0.99	0.90
KIP Loading						
Rigid Pavement	1945	1945	1445	985		
Flex Pavement	1260	1260	935	635		

FC	Description	Axle	Axle GRPC US 49	Axle GRPC I-110	Increase	K	D	T
1	Rural Interstate	0.77			1.01	10	54	25
2	Rural Principal Arterial	0.85			1.03	11	53	17
3	Rural Minor Arterial	0.88			1.00	11	60	15
4	Rural Major Collector	0.91			0.98	12	59	11
5	Rural Minor Collector	0.96			0.99	14	61	8
6	Rural Local	0.96			0.99	12	61	9
11	Urban Interstate	0.84			1.02	10	57	17
12	Urban Principal Arterial-Other	0.88			1.02	10	55	12
14	Urban Principal Arterial	0.94			1.00	10	54	7
16	Urban Minor Arterial	0.96			1.01	12	58	6
17	Urban Collector	0.98			0.98	11	60	3
18	Urban Local	0.97			0.98	13	58	6

Seasonal Factors are applied to all short term counts (Volume, Classification, WIM).
Axle Factors are applied to short term volume counts only.
Increase Factors are applied to counts from previous years.

Appendix C: Synchro Reports

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Traffic Vol, veh/h	40	0	23	8	2	37	9	753	10	8	316	14
Future Vol, veh/h	40	0	23	8	2	37	9	753	10	8	316	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	540
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	94	75	58	25	65	50	94	38	35	68	46
Heavy Vehicles, %	0	0	10	0	0	0	0	1	22	0	5	0
Mvmt Flow	61	0	31	14	8	57	18	801	26	23	465	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1351	1374	465	1361	1391	814	495	0	0	827	0	0
Stage 1	510	510	-	850	850	-	-	-	-	-	-	-
Stage 2	841	863	-	510	541	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.3	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	129	147	581	127	143	381	1079	-	-	813	-	-
Stage 1	549	541	-	358	380	-	-	-	-	-	-	-
Stage 2	362	374	-	549	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	96	137	581	112	134	381	1079	-	-	813	-	-
Mov Cap-2 Maneuver	96	137	-	112	134	-	-	-	-	-	-	-
Stage 1	528	520	-	347	368	-	-	-	-	-	-	-
Stage 2	292	363	-	500	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	76.27	27.62	0.18	0.42
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	38	-	-	134	237	84	-	-
HCM Lane V/C Ratio	0.017	-	-	0.683	0.333	0.028	-	-
HCM Control Delay (s/veh)	8.4	0	-	76.3	27.6	9.6	0	-
HCM Lane LOS	A	A	-	F	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.8	1.4	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Traffic Vol, veh/h	28	0	14	6	0	17	21	501	12	23	699	41
Future Vol, veh/h	28	0	14	6	0	17	21	501	12	23	699	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	540
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	92	81	50	92	67	53	88	55	75	89	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	35	0	17	12	0	25	40	569	22	31	785	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1495	1517	785	1506	1558	580	837	0	0	591	0	0
Stage 1	847	847	-	659	659	-	-	-	-	-	-	-
Stage 2	649	670	-	847	899	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	102	120	396	100	114	518	806	-	-	994	-	-
Stage 1	360	381	-	456	464	-	-	-	-	-	-	-
Stage 2	462	458	-	360	361	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	105	396	84	99	518	806	-	-	994	-	-
Mov Cap-2 Maneuver	85	105	-	84	99	-	-	-	-	-	-	-
Stage 1	339	359	-	422	430	-	-	-	-	-	-	-
Stage 2	407	425	-	324	340	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	59.84	27.86	0.61	0.31
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	112	-	-	115	194	68	-	-
HCM Lane V/C Ratio	0.049	-	-	0.451	0.192	0.031	-	-
HCM Control Delay (s/veh)	9.7	0	-	59.8	27.9	8.7	0	-
HCM Lane LOS	A	A	-	F	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↑	↱
Traffic Vol, veh/h	62	0	35	12	3	57	13	1164	15	12	489	22
Future Vol, veh/h	62	0	35	12	3	57	13	1164	15	12	489	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	540
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	65	0	37	13	3	60	14	1225	16	13	515	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1834	1810	515	1832	1825	1233	538	0	0	1241	0	0
Stage 1	541	541	-	1261	1261	-	-	-	-	-	-	-
Stage 2	1293	1269	-	571	564	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 58	78	558	58	77	215	1025	-	-	558	-	-
Stage 1	523	519	-	208	240	-	-	-	-	-	-	-
Stage 2	199	238	-	504	507	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 38	72	558	51	71	215	1025	-	-	558	-	-
Mov Cap-2 Maneuver	~ 38	72	-	51	71	-	-	-	-	-	-	-
Stage 1	500	502	-	199	229	-	-	-	-	-	-	-
Stage 2	135	228	-	455	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	$ 533.6	63	0.1	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1025	-	-	57	133	558	-	-
HCM Lane V/C Ratio	0.013	-	-	1.791	0.57	0.023	-	-
HCM Control Delay (s/veh)	8.6	0	-	$ 533.6	63	11.6	-	-
HCM Lane LOS	A	A	-	F	F	B	-	-
HCM 95th %tile Q (veh)	0	-	-	9.6	2.8	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↑	↱
Traffic Vol, veh/h	43	0	22	10	0	27	32	775	18	35	1080	63
Future Vol, veh/h	43	0	22	10	0	27	32	775	18	35	1080	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	540
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	45	0	23	11	0	28	34	816	19	37	1137	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2119	2114	1137	2150	2171	826	1203	0	0	835	0	0
Stage 1	1211	1211	-	894	894	-	-	-	-	-	-	-
Stage 2	908	903	-	1256	1277	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 36	50	244	35	46	370	577	-	-	794	-	-
Stage 1	222	254	-	334	358	-	-	-	-	-	-	-
Stage 2	328	355	-	209	236	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 27	38	244	26	35	370	577	-	-	794	-	-
Mov Cap-2 Maneuver	~ 27	38	-	26	35	-	-	-	-	-	-	-
Stage 1	198	217	-	297	319	-	-	-	-	-	-	-
Stage 2	269	316	-	162	202	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 585.9	85.2	0.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	39	81	794	-	-
HCM Lane V/C Ratio	0.058	-	-	1.754	0.481	0.046	-	-
HCM Control Delay (s/veh)	11.6	0	-	$ 585.9	85.2	9.8	-	-
HCM Lane LOS	B	A	-	F	F	A	-	-
HCM 95th %tile Q (veh)	0.2	-	-	7.2	2	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	0	35	12	3	57	13	1175	15	12	494	22
Future Vol, veh/h	62	0	35	12	3	57	13	1175	15	12	494	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	65	0	37	13	3	60	14	1237	16	13	520	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1204	1837	272	1557	1841	626	543	0	0	1253	0	0
Stage 1	557	557	-	1272	1272	-	-	-	-	-	-	-
Stage 2	647	1280	-	285	568	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	139	74	723	76	74	424	1015	-	-	546	-	-
Stage 1	480	508	-	176	235	-	-	-	-	-	-	-
Stage 2	423	233	-	695	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	71	723	69	71	424	1015	-	-	546	-	-
Mov Cap-2 Maneuver	110	71	-	69	71	-	-	-	-	-	-	-
Stage 1	469	496	-	173	232	-	-	-	-	-	-	-
Stage 2	354	230	-	644	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	61.91	32.39	0.09	0.27
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1015	-	-	158	206	546	-	-
HCM Lane V/C Ratio	0.013	-	-	0.646	0.369	0.023	-	-
HCM Control Delay (s/veh)	8.6	-	-	61.9	32.4	11.8	-	-
HCM Lane LOS	A	-	-	F	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.6	1.6	0.1	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	0	22	10	0	27	32	782	19	35	1090	64
Future Vol, veh/h	44	0	22	10	0	27	32	782	19	35	1090	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	46	0	23	11	0	28	34	823	20	37	1147	67

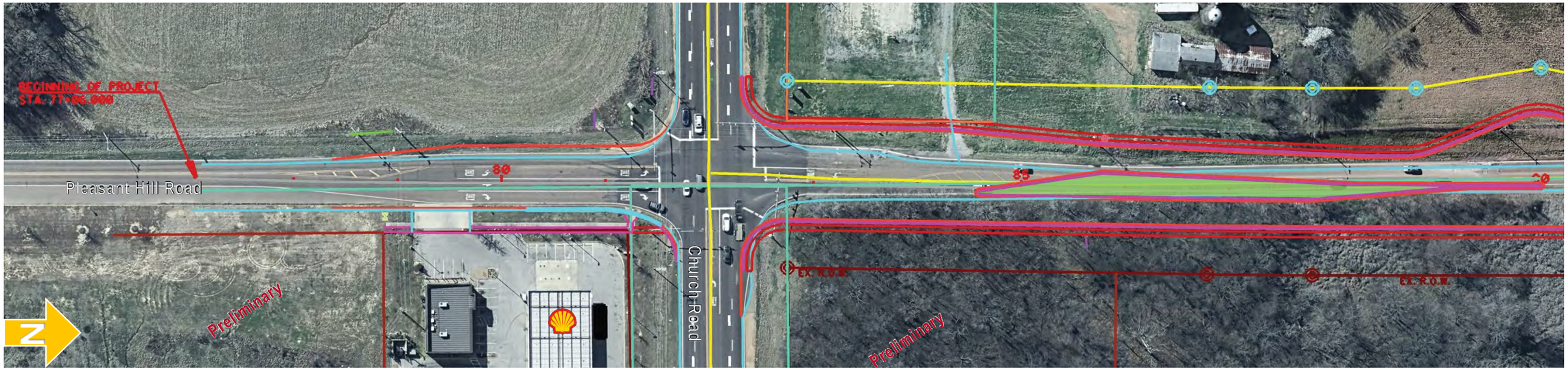
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1734	2165	607	1548	2189	422	1215	0	0	843	0	0
Stage 1	1255	1255	-	901	901	-	-	-	-	-	-	-
Stage 2	479	911	-	647	1288	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	56	46	437	77	44	578	564	-	-	782	-	-
Stage 1	180	239	-	298	353	-	-	-	-	-	-	-
Stage 2	534	349	-	423	231	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	41	437	65	40	578	564	-	-	782	-	-
Mov Cap-2 Maneuver	47	41	-	65	40	-	-	-	-	-	-	-
Stage 1	172	228	-	280	332	-	-	-	-	-	-	-
Stage 2	477	328	-	382	220	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/veh	222.55	29.6	0.45	0.29
HCM LOS	F	D		

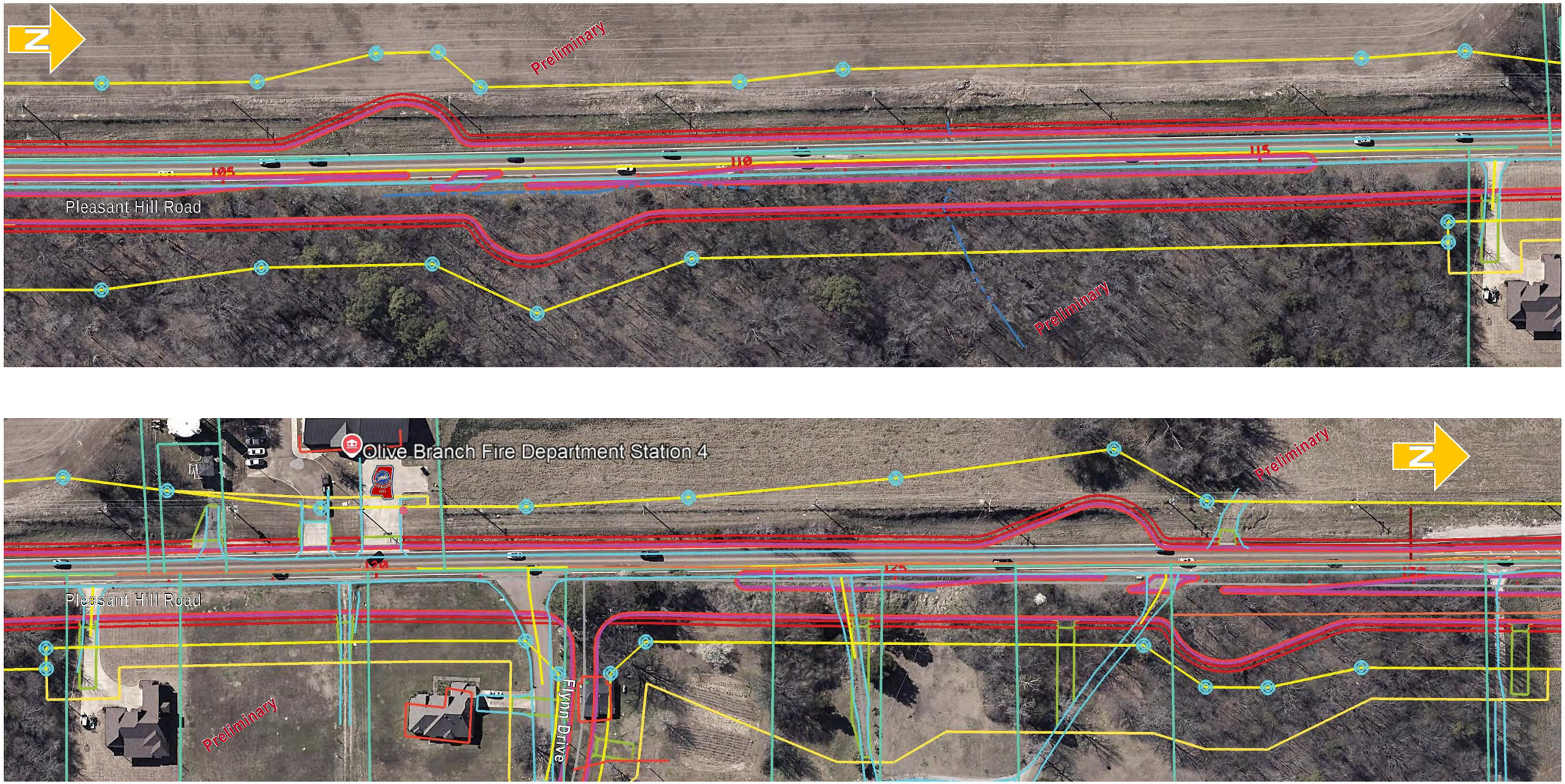
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	564	-	-	67	185	782	-	-
HCM Lane V/C Ratio	0.06	-	-	1.03	0.211	0.047	-	-
HCM Control Delay (s/veh)	11.8	-	-	222.5	29.6	9.8	-	-
HCM Lane LOS	B	-	-	F	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.2	0.8	0.1	-	-

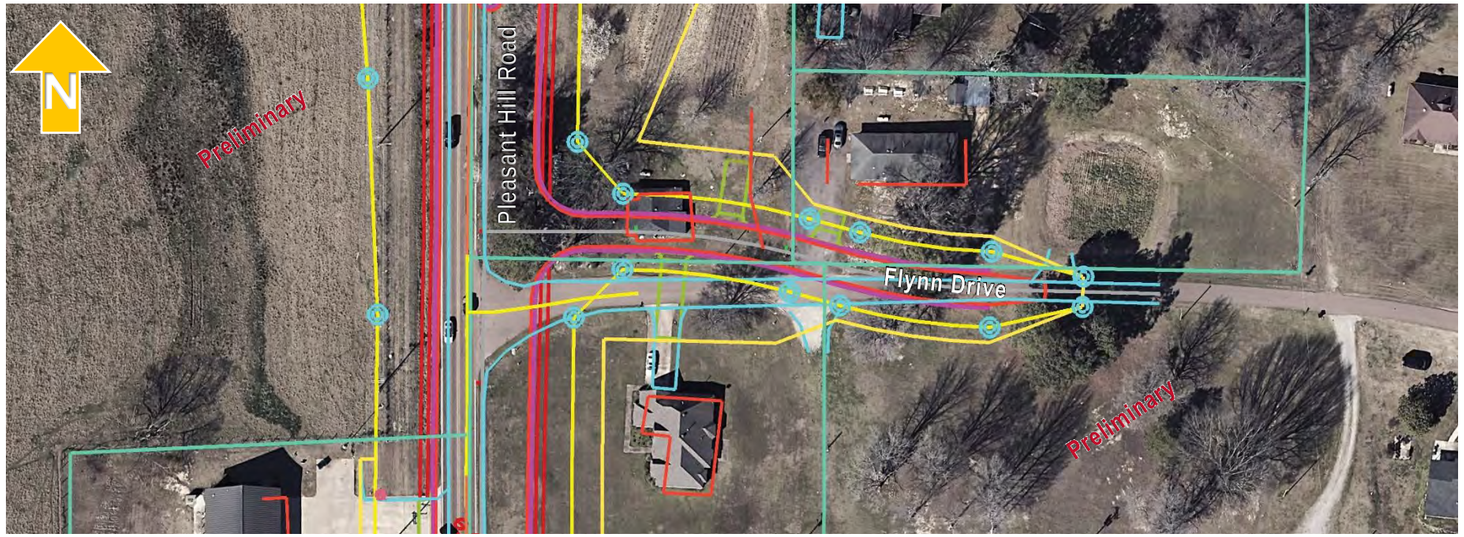
Appendix B

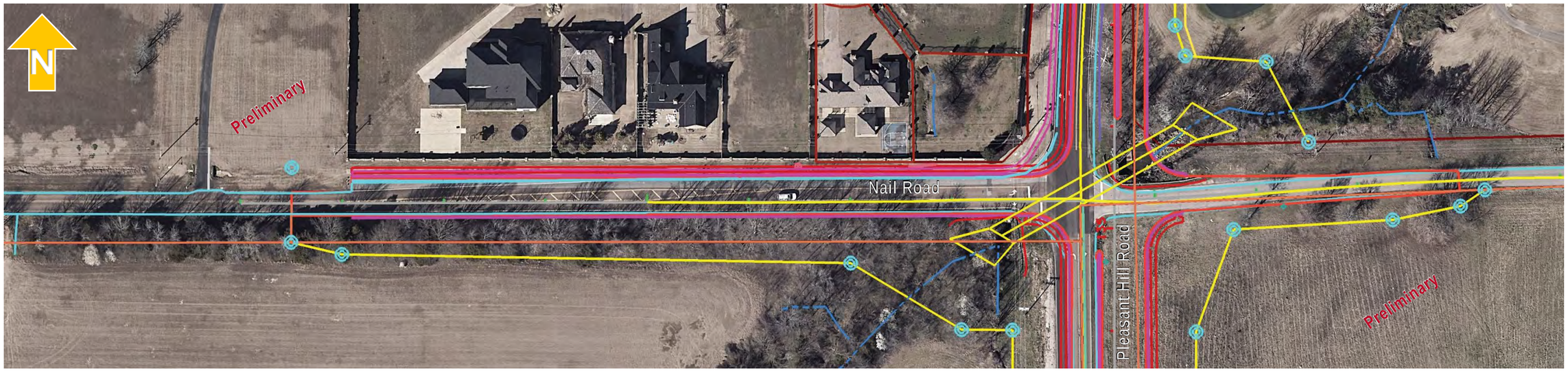
Build Alternative Plan View & Typical Sections

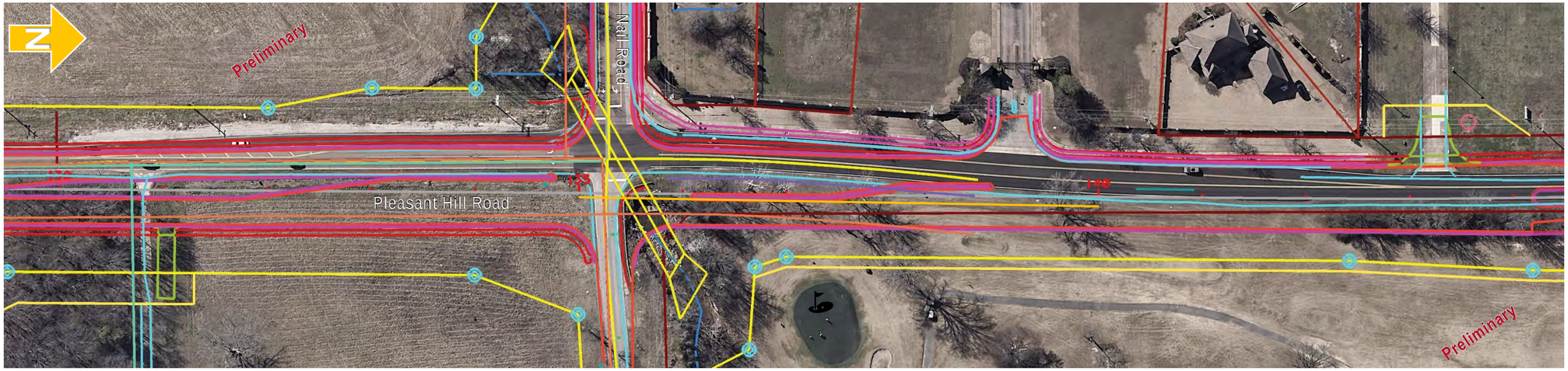

BEGINNING OF PROJECT
STA. 11+00.000
Pleasant Hill Road
30
35
Church Road
EX. R.O.W.
EX. R.O.W.
Preliminary
Preliminary
N

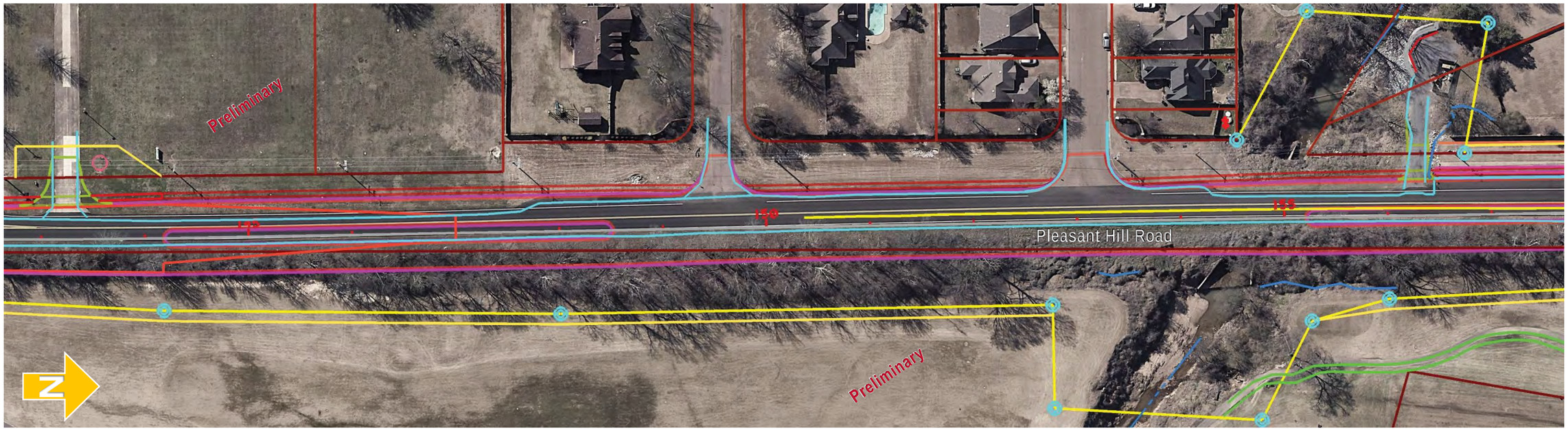
Pleasant Hill Road
90
95
100
Latham Drive
EX. R.O.W.
Preliminary
Preliminary
N

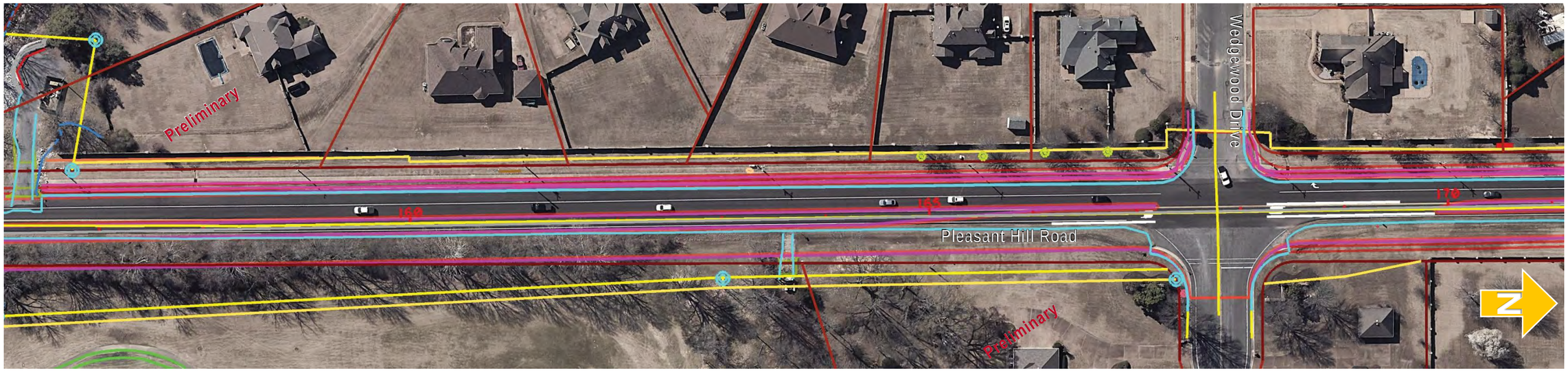

N
Preliminary
105
110
115
Pleasant Hill Road
Preliminary
Olive Branch Fire Department Station 4
Preliminary
N
Pleasant Hill Road
Preliminary
Flynn Drive

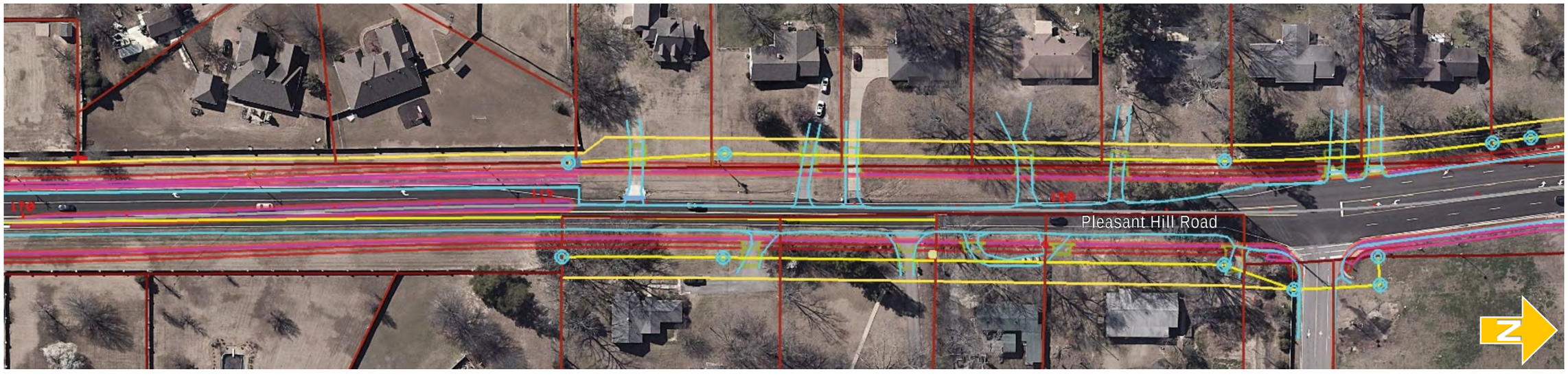

N
Preliminary
Pleasant Hill Road
Flynn Drive
Preliminary

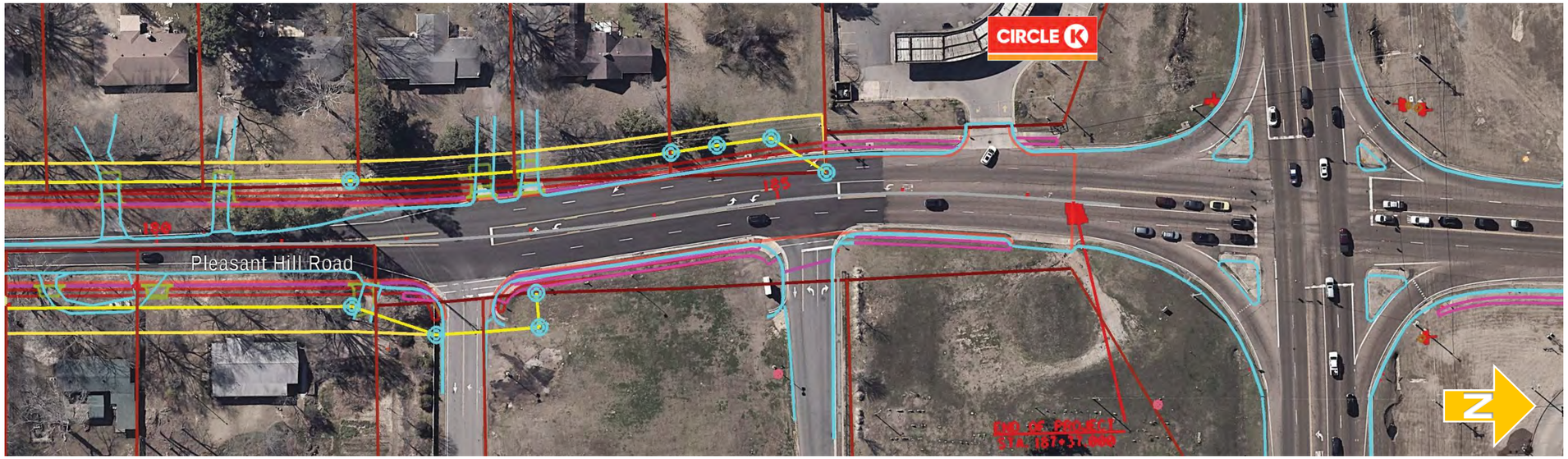

N
Preliminary
Nail Road
Pleasant Hill Road
Preliminary


N
Preliminary
Nail Road
Pleasant Hill Road
Preliminary


Preliminary
Pleasant Hill Road
Preliminary
N


Preliminary
160
165
Pleasant Hill Road
Wedgewood Drive
170
Preliminary
N


170
175
170
Pleasant Hill Road
N



Build Alternative

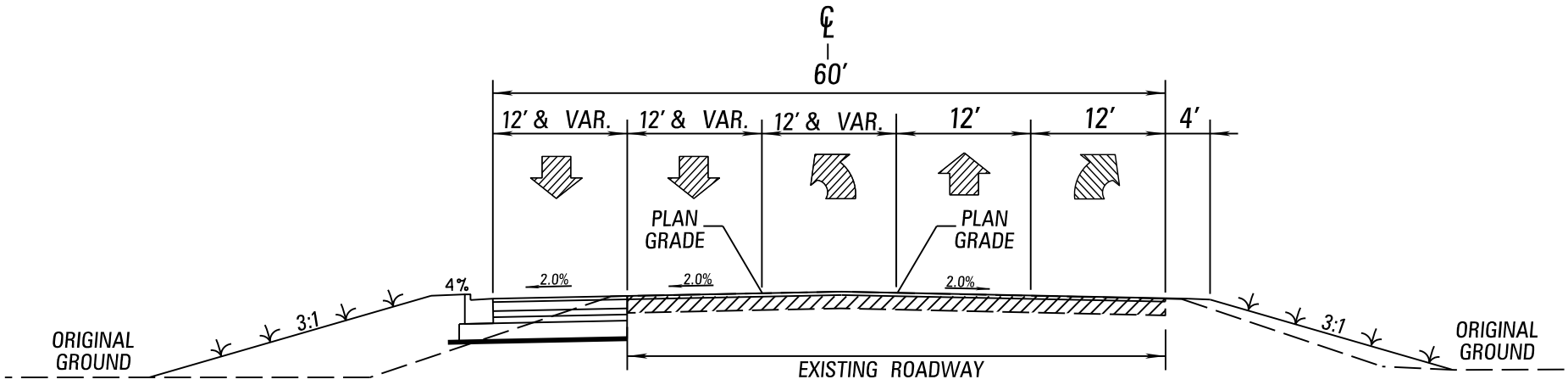
- Sidewalks
- Curb & Gutter
- Edge of Pavement

- Proposed ROW or Easement Limits
- Stationing
- Proposed Driveways / Access

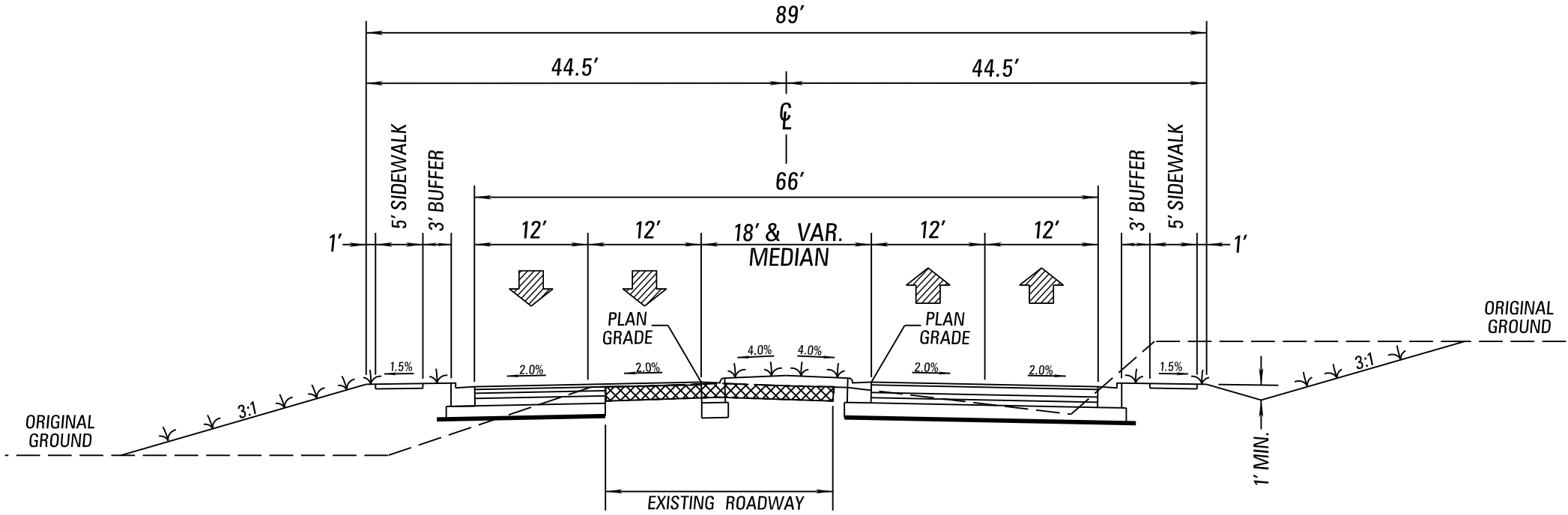
PreExisting

- Existing ROW Limits
- Existing ROW Limits
- Existing Property Lines
- Existing Property Lines

- Existing Driveways / Access
- Streams / Rivers
- Existing Building Limits
- Existing Pavement Limits / Driveways

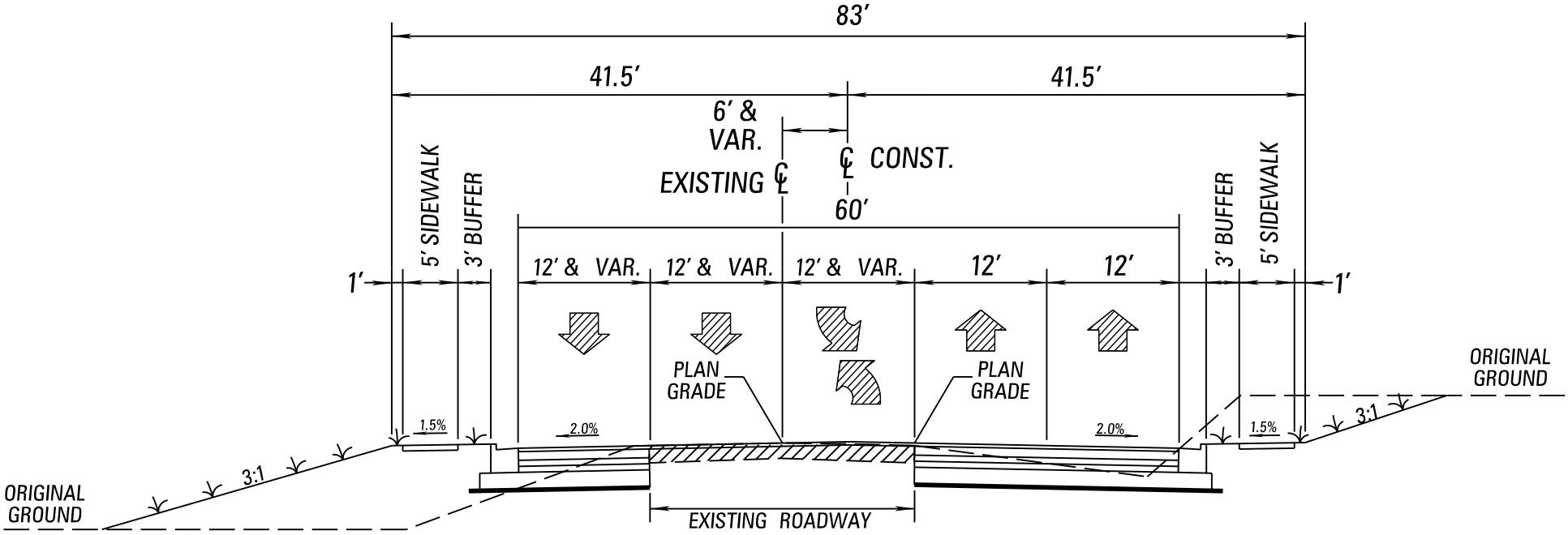


SOUTH OF CHURCH RD TO CHURCH RD
77 + 06.00 TO 81 + 70.00
DESIGN SPEED = 45 MPH



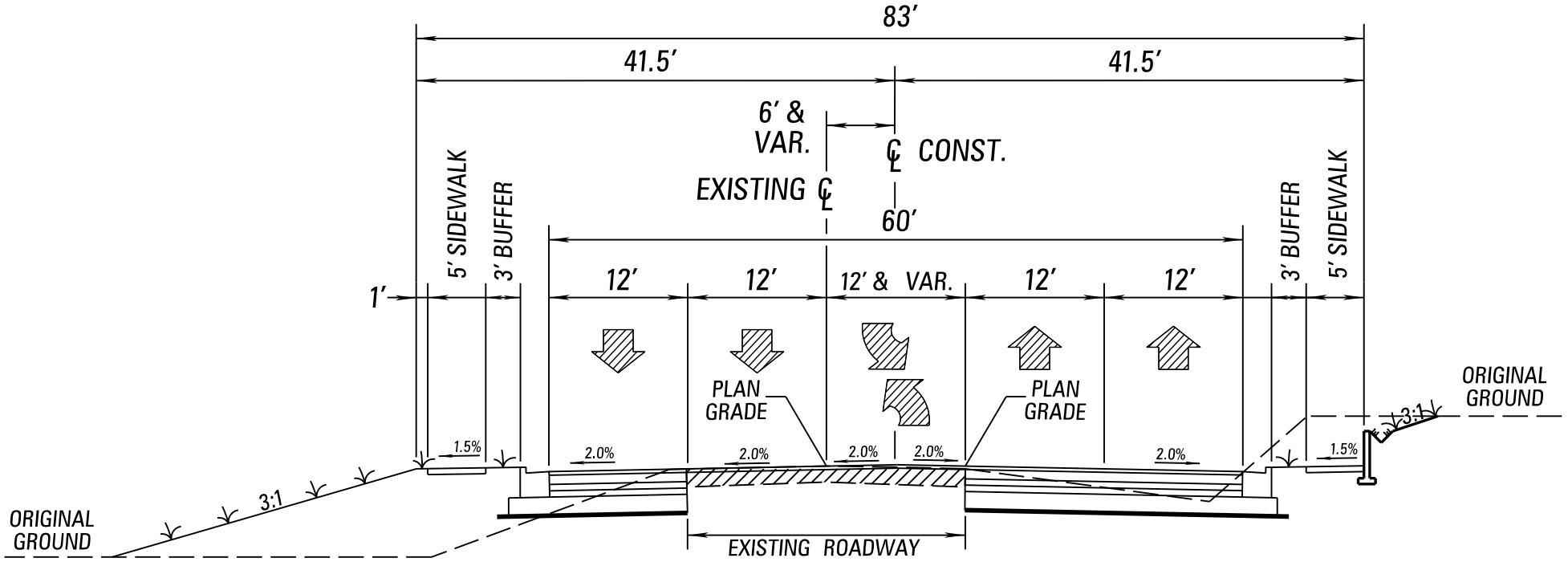
TYPICAL SECTION
4–LANE DIVIDED WITH RAISED MEDIAN
82 + 30.00 TO 115 + 50.00

DESIGN SPEED = 40 MPH



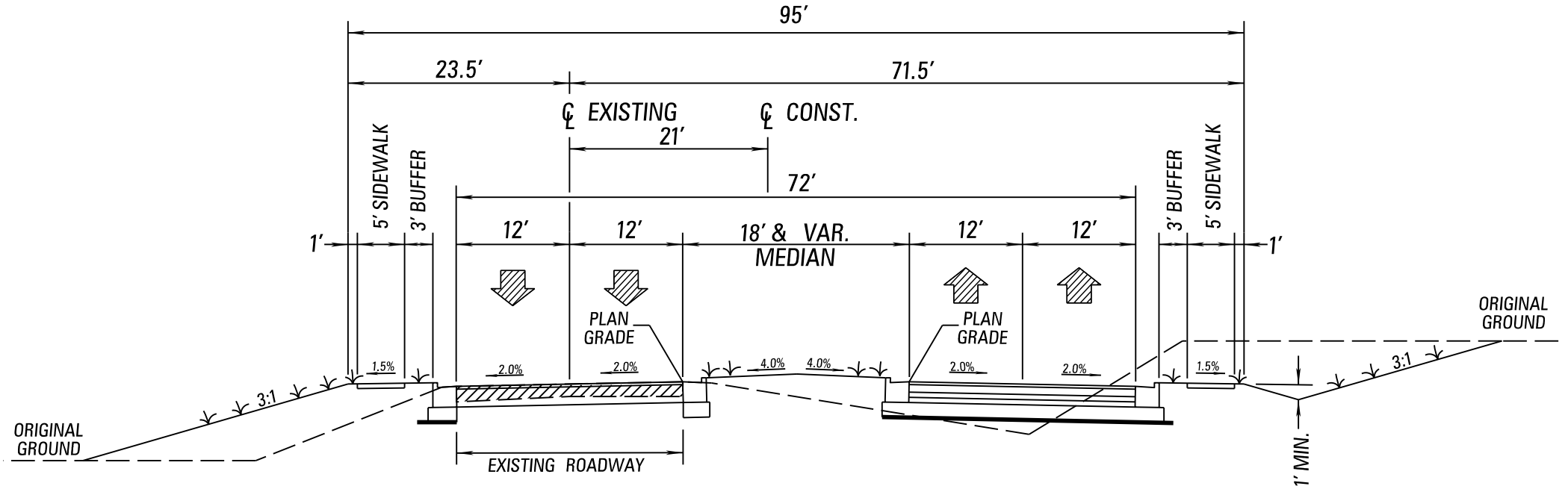
TYPICAL SECTION
5–LANE
115 + 50.00 TO 117 + 72.00
118 + 50.00 TO 123 + 50.00

DESIGN SPEED = 40 MPH



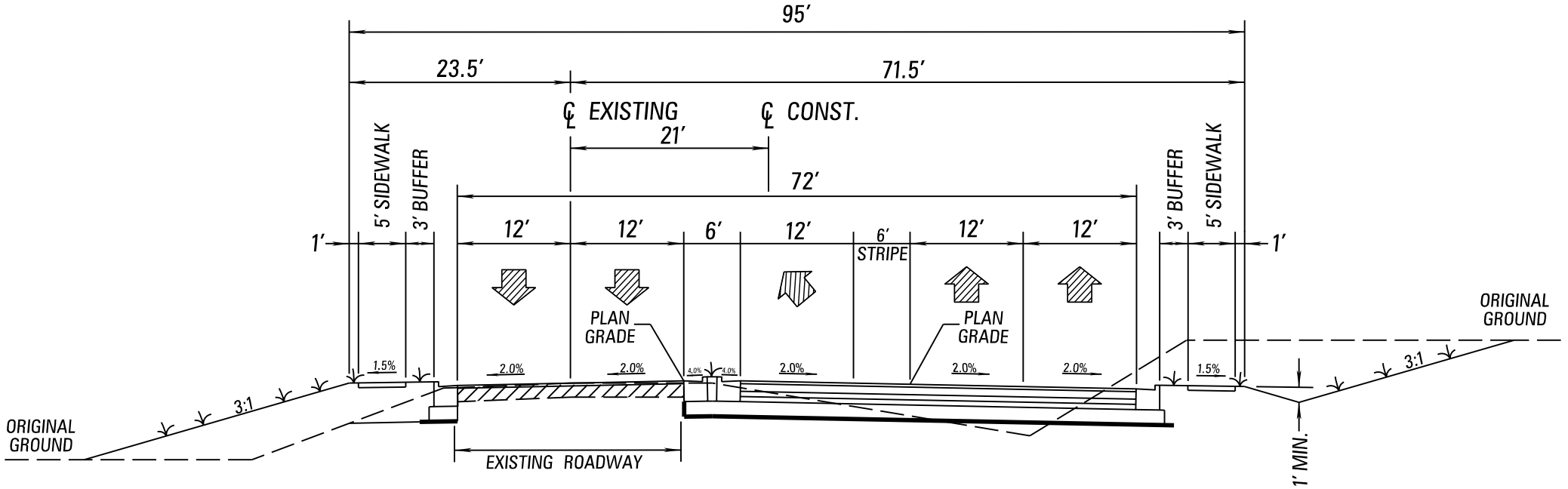
TYPICAL SECTION
5–LANE WITH RETAINING WALL
117 + 73 TO 118 + 50

DESIGN SPEED = 40 MPH



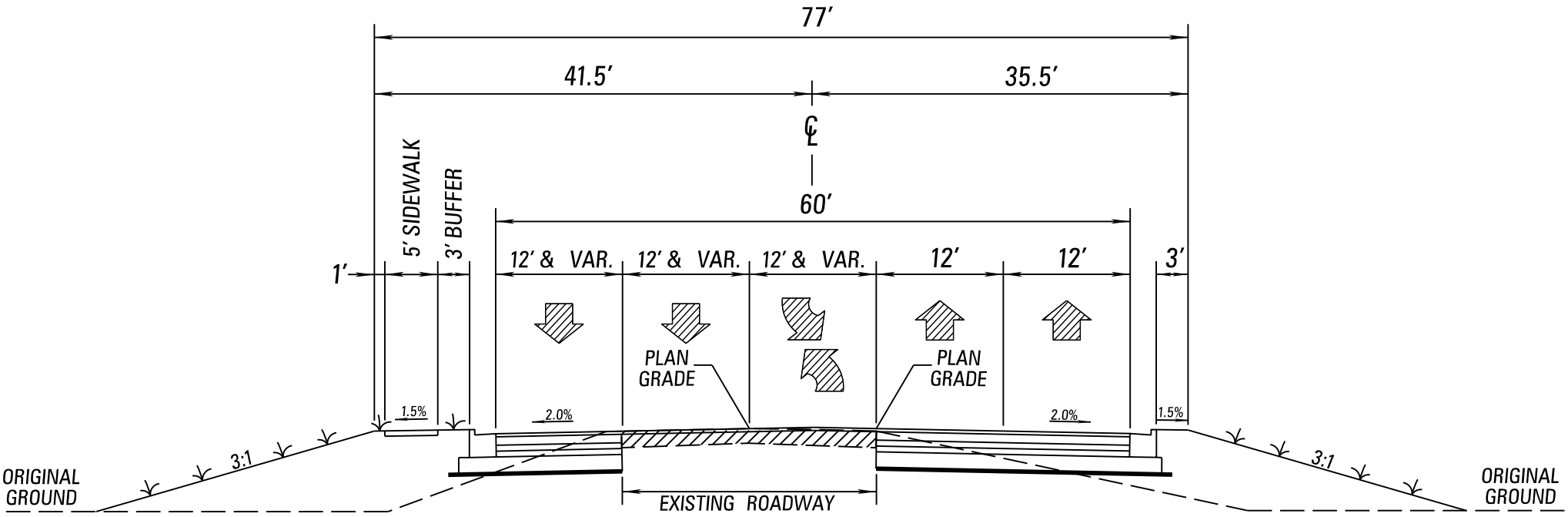
TYPICAL SECTION
4–LANE DIVIDED WITH RAISED MEDIAN
123 + 50.00 TO 135 + 00.00

DESIGN SPEED = 40 MPH



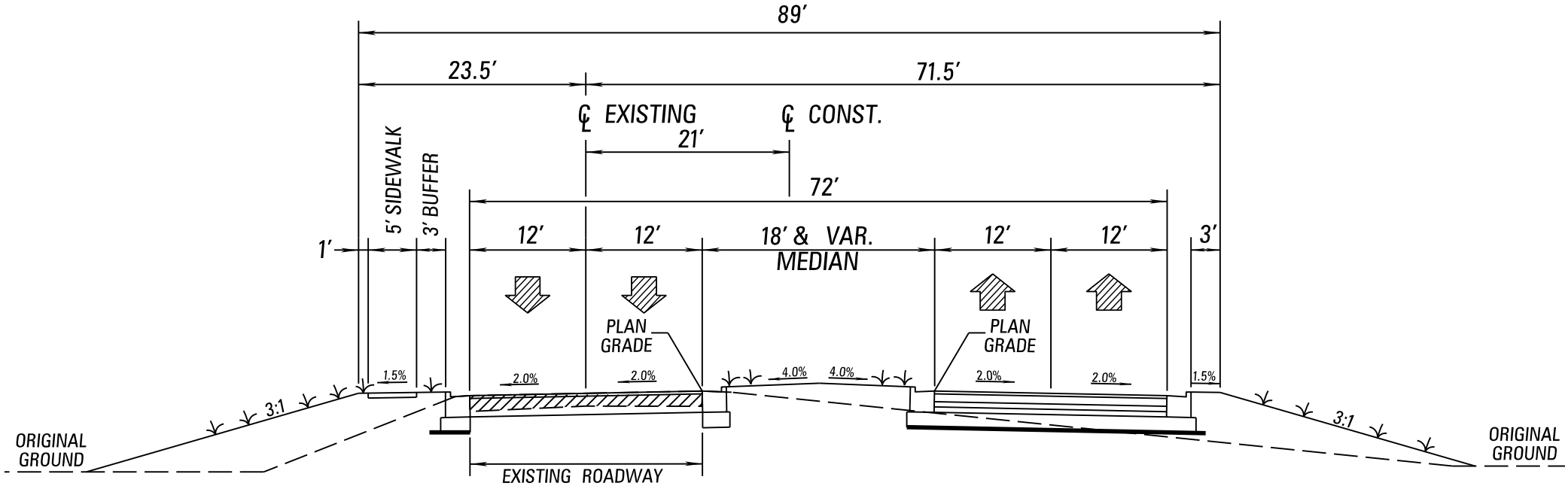
TYPICAL SECTION
4–LANE DIVIDED WITH RAISED MEDIAN
132 + 75.00 TO 135 + 00.00

DESIGN SPEED = 40 MPH



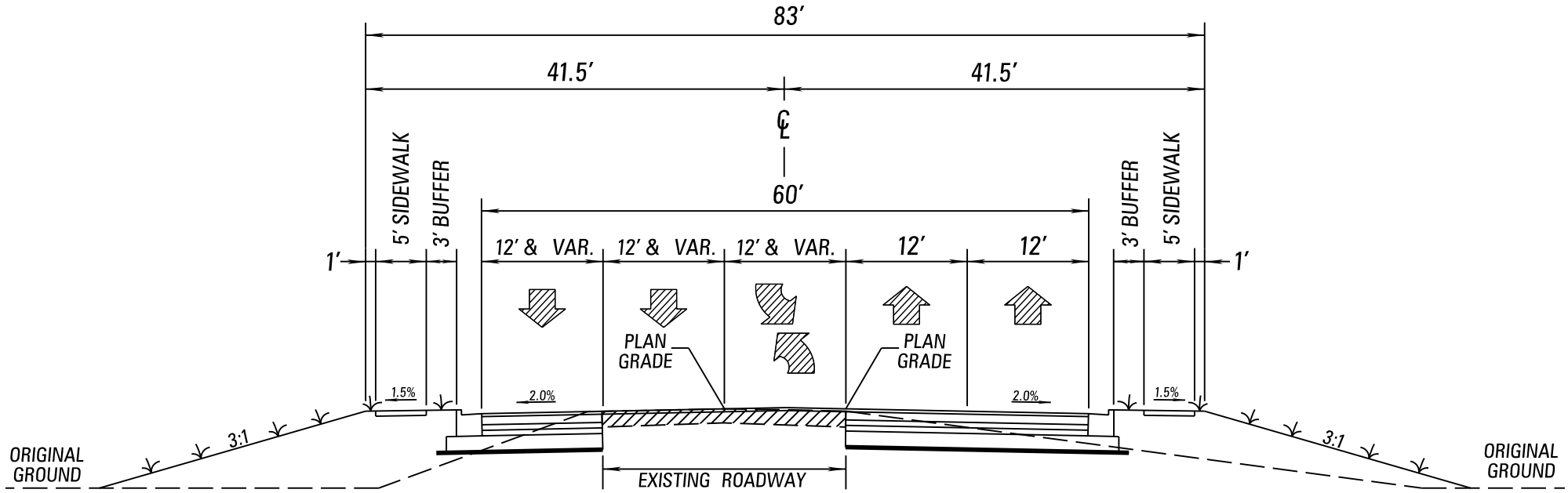
TYPICAL SECTION
5–LANE
135 + 00 TO 144 + 17

DESIGN SPEED = 40 MPH



TYPICAL SECTION
4–LANE DIVIDED WITH RAISED MEDIAN
144 + 17 TO 166 + 70

DESIGN SPEED = 40 MPH



TYPICAL SECTION
5–LANE
166 + 70 TO 187 + 37

DESIGN SPEED = 40 MPH

Appendix C

NRCS Land Evaluation and Site Assessment (LESA) Form (NRCS-CPA-106)

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **2/24/25**	4. Sheet 1 of _____
1. Name of Project **Pleasant Hill Widening**	5. Federal Agency Involved **FHWA**	
2. Type of Project **Roadway Widening**	6. County and State **DeSoto County, MS**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐		4. Acres Irrigated | Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment _____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor				
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	100			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — **Maximum Points**				
1. Area in Nonurban Use — **15**	**0**			
2. Perimeter in Nonurban Use — **10**	**0**			
3. Percent Of Corridor Being Farmed — **20**	**0**			
4. Protection Provided By State And Local Government — **20**	**0**			
5. Size of Present Farm Unit Compared To Average — **10**	**2**			
6. Creation Of Nonfarmable Farmland — **25**	**0**			
7. Availablility Of Farm Support Services — **5**	**5**			
8. On-Farm Investments — **20**	**2**			
9. Effects Of Conversion On Farm Support Services — **25**	**0**			
10. Compatibility With Existing Agricultural Use — **10**	**0**			
TOTAL CORRIDOR ASSESSMENT POINTS — **160**	9			
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — **100**	100			
Total Corridor Assessment (From Part VI above or a local site assessment) — **160**	9			
TOTAL POINTS *(Total of above 2 lines)* — **260**	109			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

Clear Form

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Appendix D

Traffic Noise Analysis Technical Report

Traffic Noise Analysis Technical Report

Pleasant Hill Road Widening
Between Goodman Road and Church Street

Olive Branch, DeSoto County, Mississippi

Project: STP-7899-00(001) LPA 108775-701000

Prepared for:

Through:

Prepared by:

Bowlby & Associates, Inc.

July 2024

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1.0 EXECUTIVE SUMMARY

The City of Olive Branch is undertaking the widening of Pleasant Hill Road from two to four travel lanes from south of Church Road to south of Goodman Road in Olive Branch, DeSoto County, a distance of approximately 2.1 miles. The project also includes intersection improvements and sidewalks. Figure 1 shows the project area.

The project is "Type I" per the Federal Highway Administration (FHWA) noise regulation, *Procedures for Abatement of Highway Traffic and Construction Noise*, *23 CFR 772,* and requires a noise study to identify noise impacts and evaluate noise abatement measures to mitigate those impacts. This study was conducted per the FHWA noise regulation and the current MDOT *Highway Noise Policy* and utilized the current conceptual project plans and traffic projections.

A review of electronic mapping and field reconnaissance identified ten areas of noise sensitive land use, called noise study areas (NSAs) adjacent to Pleasant Hill Road within the project limits. Most noise sensitive land uses in the project area are Activity Category B residences and associated common areas. Other land uses include the Activity Category C Wedgwood Golf Course and the Activity Category D New Beginnings Church which must be evaluated for interior noise impacts. There are no Activity Category E land uses in the project area.

Noise measurements were conducted in the project area, on February 10, 2022, and June 28, 2024, to provide representative existing noise levels at a subset of the affected land uses. The FHWA Traffic Noise Model Version 2.5 (TNM) computer program then predicted existing worst-hour noise levels for all receptors. The predicted existing noise levels were compared to the measured noise levels per MDOT's noise policy to determine if the model was validated. The model was determined to be validated based on the comparison.

TNM was then used to predict design year 2047 worst-hour noise levels under the Build Alternative for the land uses in each NSA. Noise impacts were identified by comparing design year noise levels to FHWA's Noise Abatement Criteria (NAC) and existing noise levels.

The project is predicted to impact eleven receptors including nine Activity Category B residences in NSAs 1, 8, 9, and 10 and two areas of the Wedgewood Golf Club in NSAs 3 and 5. All the uses are predicted to be impacted based on the NAC. Noise impacts are not predicted in NSAs 2, 4, 6, and 7.

The FHWA noise regulation requires that noise abatement be evaluated first for "feasibility" and, if feasible, for "reasonableness." Noise barriers must be both *feasible* and *reasonable* to be deemed "likely" for construction.

Pleasant Hill Road is not a limited access facility and noise barriers could not be constructed in areas with driveway access or local road intersections including NSAs 1, 9, and 10.

Noise barriers were designed and evaluated for the impacted land uses in NSAs 3 and 5 (Wedgwood Golf Course) and NSA 8 (Arbors of Wedgewood).

MDOT's noise policy does not specify a noise barrier design philosophy. Therefore, noise barriers were designed to provide 7 dB noise reduction for impacted receptors while meeting the noise reduction design goal and minimizing the barrier cost.

Noise barriers were determined to be *acoustically* feasible for all the NSAs. The barriers also meet MDOT's Noise Reduction Design Goal by providing 7 dB insertion loss for at least 10% of the benefited receptors.

However, the cost per benefited residence for NSAs 3, 5, and 8 exceeds MDOT's threshold of $42,000 per benefited residence. Therefore, noise abatement is not proposed for this project.

Construction activities may generate intermittent and temporary noise above existing noise levels. The noise levels from construction activities will depend on the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. However, the noise level increases will be temporary and will not constitute a noise impact as defined by MDOT's noise policy.

Some tracts of undeveloped land exist in the project area. MDOT encourages local governments with jurisdiction over these lands and potential developers to practice noise compatibility planning to avoid future noise impacts. The "Information for Local Officials" section of this report provides additional information on noise levels for undeveloped lands and noise compatibility planning.

2.0 INTRODUCTION

The City of Olive Branch is undertaking the widening of Pleasant Hill Road from two to four travel lanes from south of Church Road to south of Goodman Road in Olive Branch, DeSoto County, a distance of approximately 2.1 miles. The project also includes intersection improvements and sidewalks. Figure 1 shows the project area.

The project is "Type I" per the Federal Highway Administration (FHWA) noise regulation, *Procedures for Abatement of Highway Traffic and Construction Noise*, 23 CFR 772 (hereafter referred to as the FHWA noise regulation) and requires a noise study to identify noise impacts and evaluate noise abatement measures to mitigate those impacts.

The study was conducted per the FHWA noise regulation and the current MDOT *Highway Noise Policy* (hereafter referred to as the MDOT's noise policy). The study utilized the preliminary project plans dated June 2024 provided in Appendix A as well as the current traffic projections. The study included the following tasks:

1. *Identification of noise study areas:* Identification of land uses in the project area that are sensitive to highway traffic noise
2. *Determination of existing noise levels:* Measurement and prediction of existing noise levels at sensitive land uses to characterize the existing noise environment in the project area
3. *Determination of future noise levels:* Prediction of future, design year, worst-hour noise levels for the No-Build and Build Alternatives
4. *Determination of traffic noise impacts:* Determination of noise impacts based on the increase in existing noise levels and design year noise levels
5. *Noise abatement evaluation:* Evaluation of noise abatement for impacted areas
6. *Discussion of construction noise*
7. *Information for local officials*

Each of these analysis steps is discussed below, following a discussion of basic terminology and MDOT's criteria for determining noise impacts.

2.1 Traffic Noise Terminology

Traffic noise levels are expressed in terms of the hourly, A-weighted equivalent sound level in decibels (dBA). A sound level represents the level of the rapid air pressure fluctuations caused by sources (such as traffic) that are heard as noise. A decibel is a unit that relates the sound pressure of a noise to the faintest sound the young human ear can hear.

The A-weighting refers to the amplification or attenuation of the different frequencies of the sound (subjectively, the pitch) to correspond to the way the human ear perceives these frequencies. Generally, when the sound level exceeds the mid-60 dBA range, outdoor conversation in normal tones at a distance of 3 feet becomes difficult. Figure 2 shows some common indoor and outdoor sound levels.

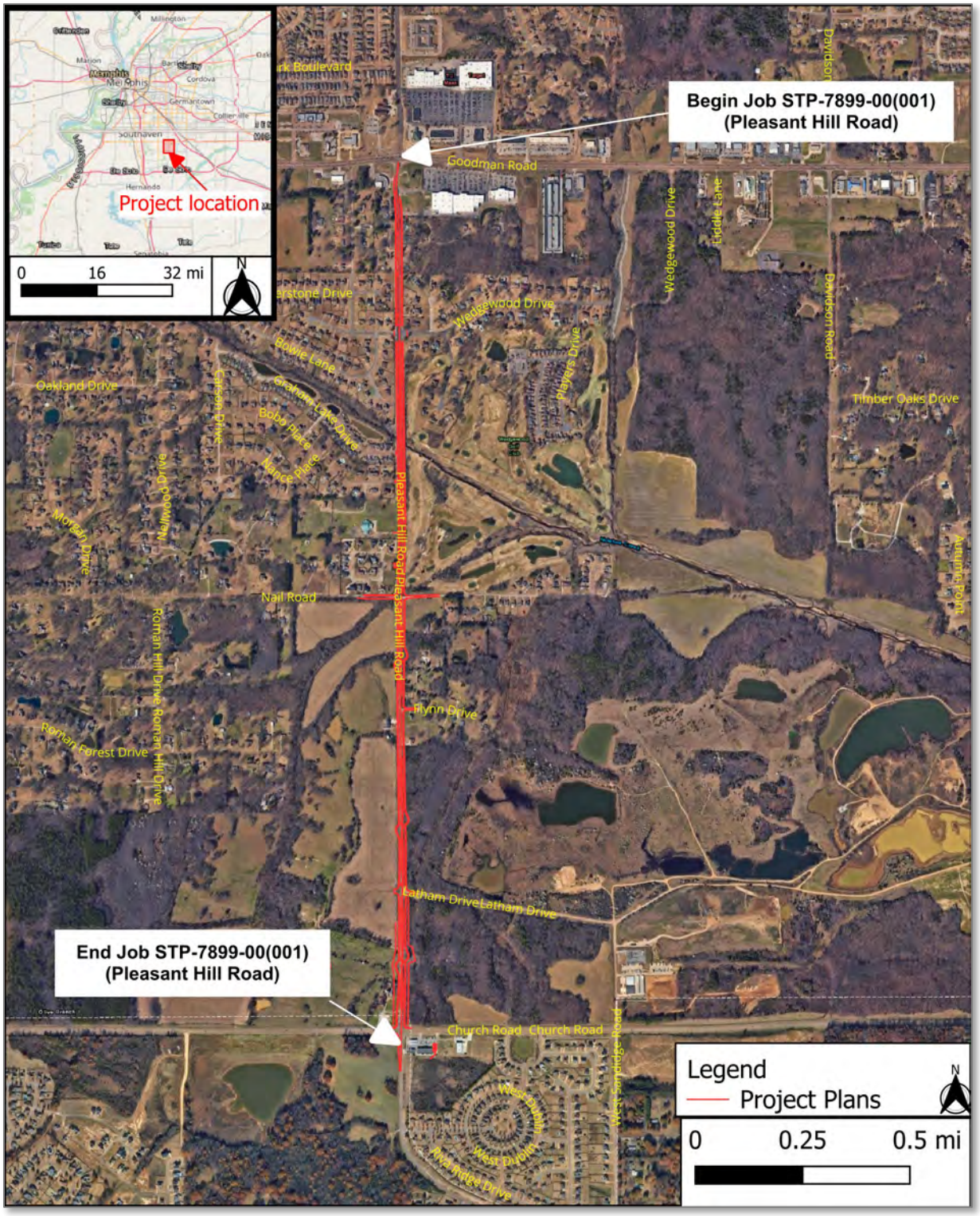


Figure 1. Project Area

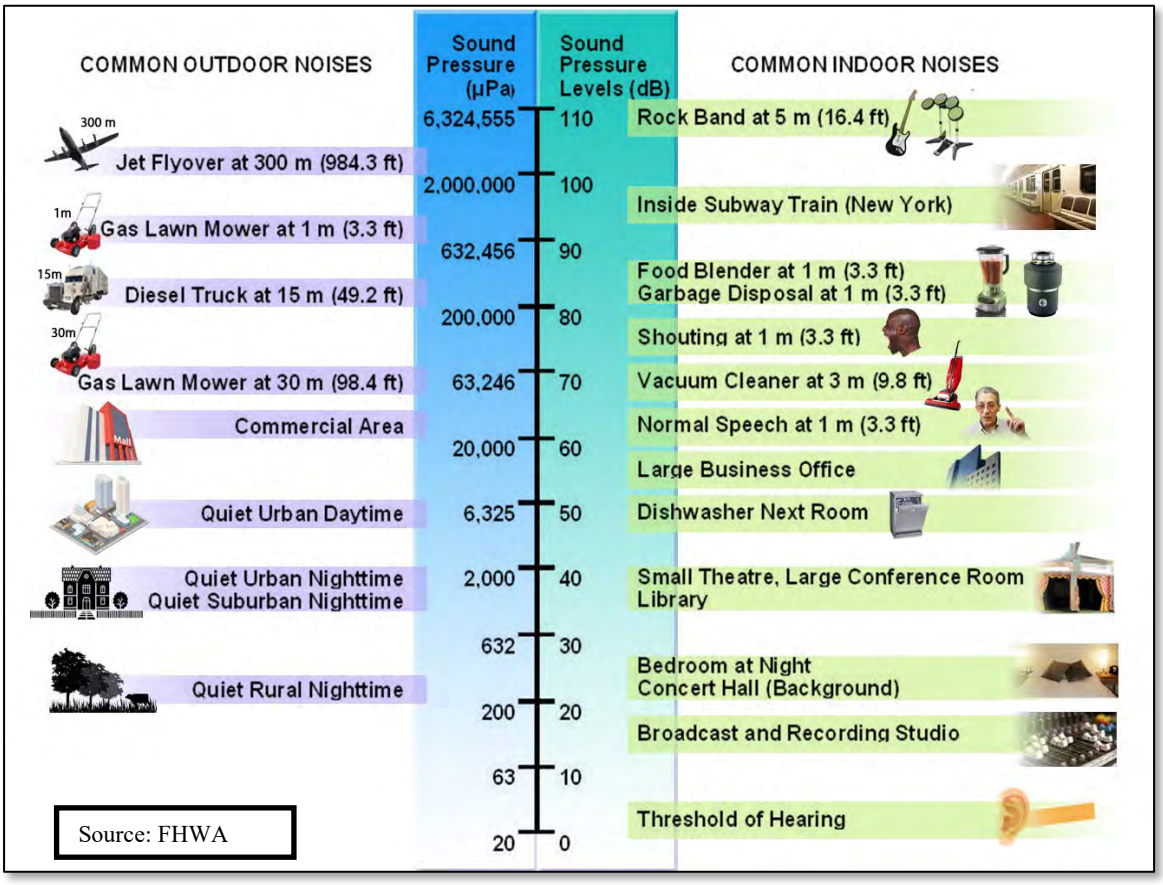


Figure 2. Common Sound Levels

A 9-10 dBA increase in sound level is typically judged by the listener to be *twice as loud* as the original sound while a 9-10 dBA reduction is judged to be *half as loud*. Doubling the number of sources (i.e., vehicles) will increase the hourly equivalent sound level by approximately 3 dBA, which is usually the smallest change in hourly equivalent A-weighted traffic noise levels that people can detect without specifically listening for the change.

Because most environmental noise fluctuates from moment to moment, it is standard practice to condense data into a single level called the equivalent sound level (L_{eq}). The L_{eq} is a steady sound level that would contain the same amount of sound energy as the actual time-varying sound evaluated over the same period. The L_{eq} averages the louder and quieter moments but gives much more weight to the louder moments in the averaging. For traffic noise assessment purposes, L_{eq} is typically evaluated over the worst 1-hour period and is often written as $L_{eq}(h)$. The hourly, A-weighted equivalent sound level in decibels can be written as $L_{Aeq}(h)$.

The term insertion loss (IL) is generally used to describe the reduction in $L_{eq}(h)$ at a location after a noise barrier is constructed. For example, if the $L_{eq}(h)$ at a residence before a barrier is constructed is 75 dBA and the $L_{eq}(h)$ after a barrier is constructed is 65 dBA, then the insertion loss would be 10 dBA.

2.2 Criteria for Determining Impacts

Noise impact is determined by comparing future noise levels with the project to (1) a set of Noise Abatement Criteria (NAC) for a land use category, and (2) existing noise levels. The FHWA noise regulation and MDOT's noise policy state that traffic noise impacts occur and require consideration of abatement when worst-hour noise levels approach or exceed the NAC listed in Table 1. MDOT's noise policy defines "approach" as 1 decibel below the NAC, or 66 dBA for Activity Category B and C land uses. The FHWA noise regulation and MDOT's noise policy also state that an impact occurs when there is a *substantial increase* in existing noise levels. MDOT defines a substantial increase as a 15 dB or greater increase in traffic noise.

Additionally, MDOT does not round noise levels, so a predicted level between 65.5 and 65.9 dBA does not round to 66 dBA, and a noise level increase between 9.5 and 9.9 dB does not round to 10 dB.

3.0 NOISE STUDY AREAS

A review of available electronic mapping as well as field reconnaissance led to the identification of ten (10) areas with noise sensitive land uses, called noise study areas (NSAs), adjacent to Pleasant Hill Road within the project limits. Table 2 lists the land uses in each NSA and the associated Activity Category and NAC. Figure 3 through Figure 5 show the NSA locations.

MDOT's noise policy does not specify a distance within which to include noise sensitive land uses. However, the distance should be adequate to ensure an accounting of all noise impacts. A screening level analysis was completed assuming worst-case hard site propagation to identify the noise impact distance for Activity Category B and C land uses. The analysis indicated a distance of approximately 200 feet from the center of the near travel lane. To provide additional assurance that all impacts would be identified, noise sensitive land uses within 400 feet were identified and evaluated.

Land uses that are permitted before the "date of public knowledge" for the project should be included in the noise study. The "date of public knowledge" is the date that FHWA approves the final environmental document which will occur when FHWA approves the D-List Categorical Exclusion. A permit search was conducted in July 2024 for the areas along Pleasant Hill Road within the project limits by using various sources including the DeSoto County Building Department and the City of Hernando Building Department. This search identified an active residential building permit at 6118 Fleur de Lis Circle in NSA 2. A review of the project plans indicated that a portion of the Wedgewood Golf Course will be taken for the project. The project will not take any residences.

All the NSAs include Activity Category B residences except NSA 3. The residences include single-family homes. Activity Category C land uses along the project include the Wedgwood Golf Course in NSAs 3 and 5.

Table 1. FHWA Noise Abatement Criteria

Activity Category	L_{Aeq}(h) dBA	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67	Exterior	Residential.
C [1]	67	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E [1]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	–––	–––	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	–––	–––	Undeveloped lands that are not permitted.

(1) Includes undeveloped lands permitted for this activity category.

Noise impacts will be identified for Activity Category B and C land uses if design year noise levels are 66 dBA or higher, or if the project causes a substantial increase in existing noise levels.

Table 2. Noise Study Areas

Noise Study Area	Location Relative to Pleasant Hill Road	Boundaries	Description	Activity Category	NAC (dBA)
1	East	South of Flynn Road to Nail Road	Residences on Pleasant Hill Road and Flynn Road	B	67
2	West	Nail Road to South of Bobo Place	Résidences on Fleur de Lis Circle	B	67
			New Beginnings Baptist Church (interior)	D	52
3	East	Nail Road to South of Nolehoe Creek	Green and Tee Boxes at Wedgewood Golf Course	C	67
4	West	South of Bobo Place to Nolehoe Creek	Residences on Bobo Place and Graham Lake Drive	B	67
5	East	Nolehoe Creek to Wedgewood Drive	Residences on St. Andrews Cove and Wedgewood Drive	B	67
			Green and Tee Boxes at Wedgewood Golf Course	C	67
6	West	Nolehoe Creek to Wedgewood Drive	Residences on Wyndham Hill Drive, Silverhorn Cove, and Wedgewood Drive	B	67
7	East	Wedgewood Drive to North of Muirfield Cove	Residences on Wedgewood Drive and Muirfield Cove	B	67
8	West	Wedgewood Drive to North of Waterstone Cove	Residences on Wedgewood Drive and Waterstone Cove	B	67
9	East	North of Muirfield Cove to South of Goodman Road	Residences on Pleasant Hill Road	B	67
10	West	North of Waterstone Cove to South of Goodman Road	Residences on Pleasant Hill Road and Meadowbrook Lane	B	67

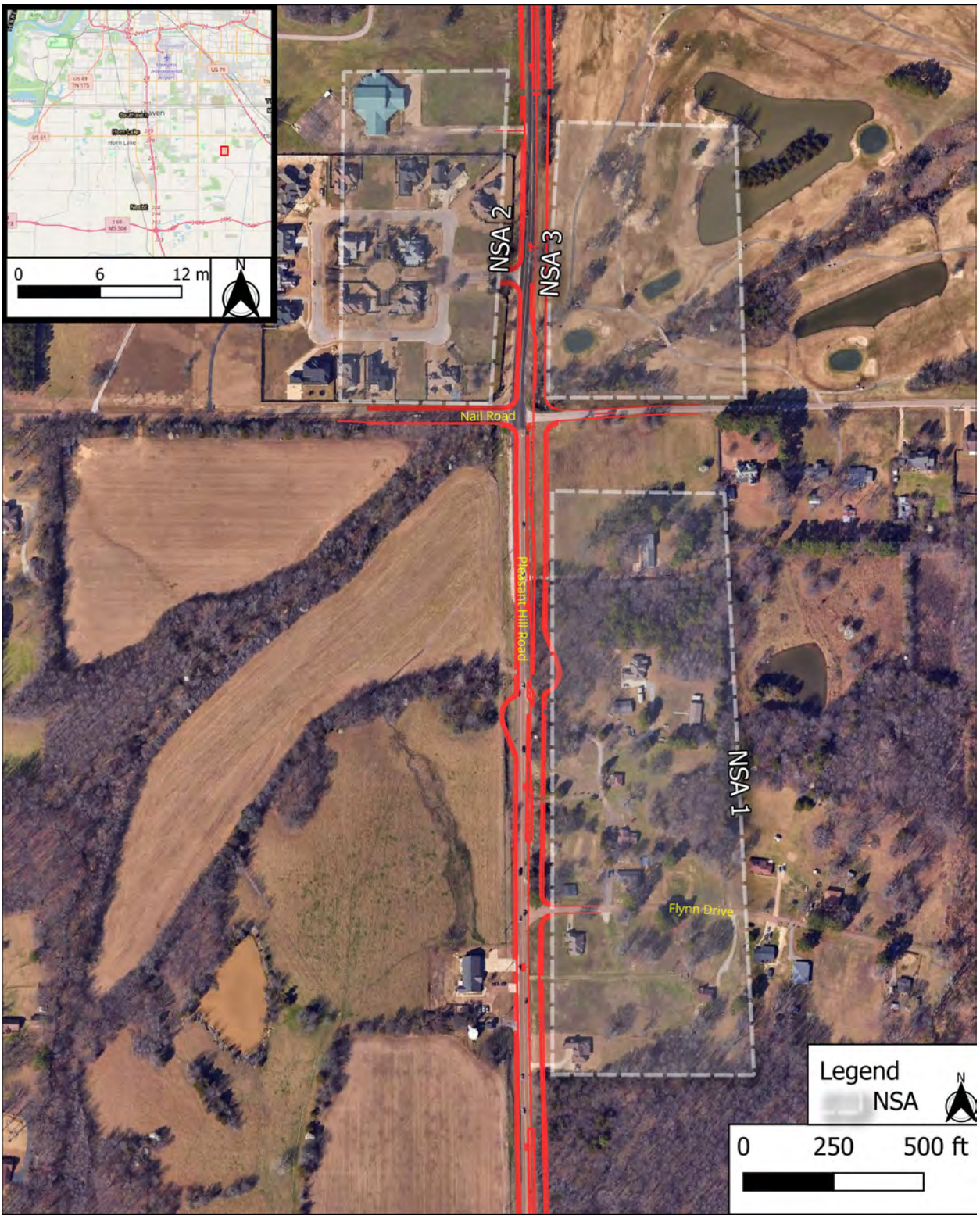


Figure 3. Noise Study Areas 1 through 3

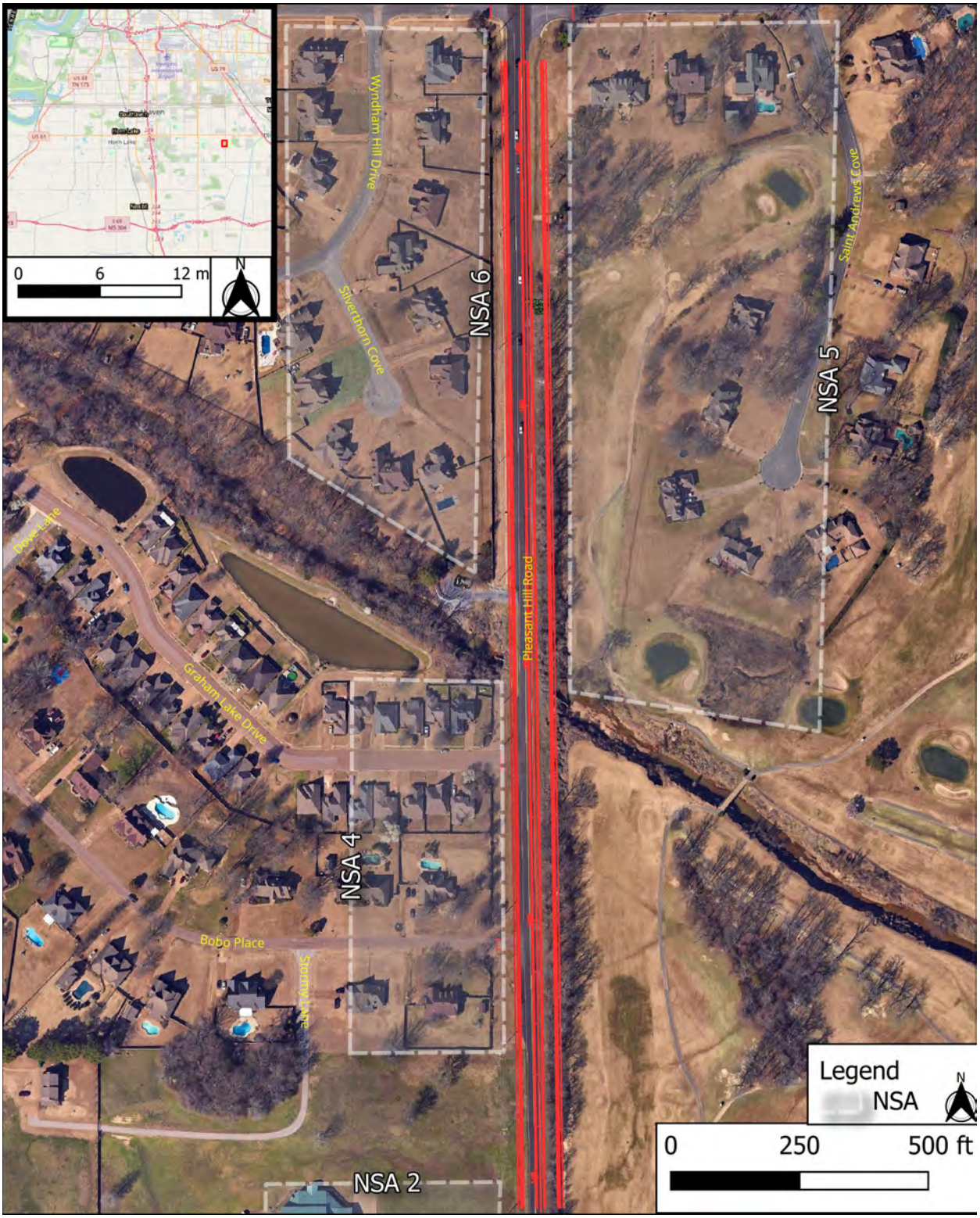


Figure 4. Noise Study Areas 4 through 6

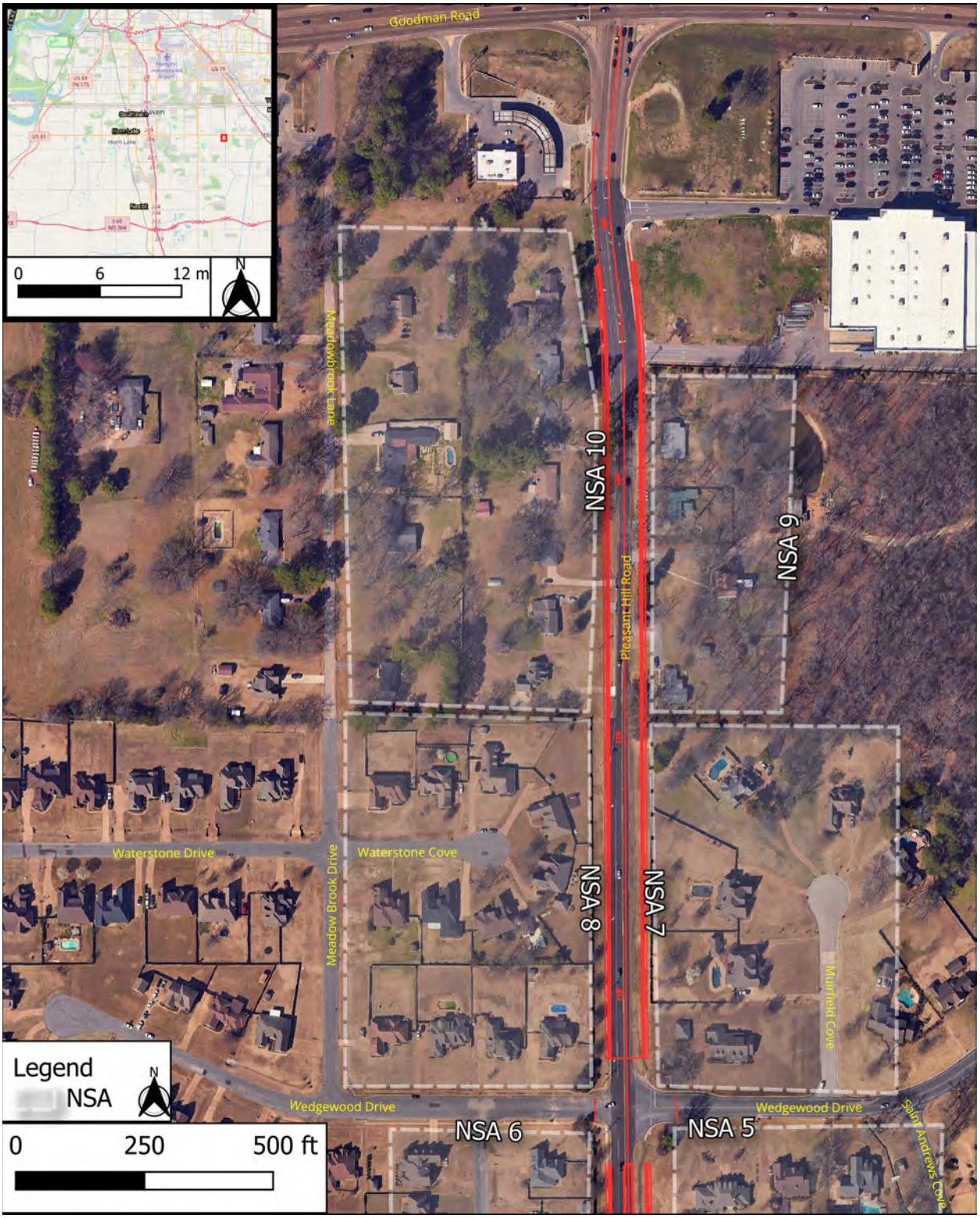


Figure 5. Noise Study Areas 7 through 10

The Activity Category D land uses along the project include the New Beginnings Baptist Church in NSA 2. This place of worship does not have exterior areas of frequent human use and must be evaluated for interior impacts. Noise impacts will be identified, and noise abatement will be considered if interior design year noise levels are 51 dBA or higher, or if the project causes a substantial increase in existing noise levels.

There are no Activity Category E land uses in the project area.

Several Activity Category F utilities, commercial, and retail uses exist on both sides of Pleasant Hill Road. These uses are not noise sensitive, do not have an NAC, and were not included in the noise study.

Although much of the corridor is developed, there are Activity Category G tracts of undeveloped lands along the project. Undeveloped lands are not noise sensitive; however, noise impacts could occur in the future if noise sensitive land uses are constructed adjacent to Pleasant Hill Road. A discussion of future noise levels and the need for noise compatible land use planning is provided later in this report.

4.0 NOISE MEASUREMENTS

Noise measurements were conducted at eight locations in six NSAs on February 10, 2022, and June 28, 2024, to meet MDOT's goal of one measurement for every 20 noise sensitive receptors. Since the noise environment is already dominated by traffic on Pleasant Hill Road, short-term noise measurements were conducted by making 20-minute measurements in 1-minute intervals. Atypical noises (e.g., local traffic, dog barking, and sirens) were noted during these measurements, and the corresponding 1-minute periods were eliminated from the calculation of the measured noise levels. A ninth noise measurement was conducted on February 10, 2022, at 5924 Pleasant Hill Road in NSA 1. However, noise levels at this location were elevated due to the onset of a temperature inversion around sunset that caused the downward refraction of sound waves at the measurement location approximately 325 feet from Pleasant Hill Road. Therefore, this measurement was abandoned as it was not representative of neutral atmospheric conditions.

To gain an understanding of the change in noise levels throughout the day, a reference microphone was used to collect noise level data throughout the June 2024 measurement period. The reference microphone was located at the New Beginnings Baptist Church on the southbound side of Pleasant Hill Road near Fleur de Lis Circle. The long-term data at this reference site was used to develop adjustments that were applied to June 2024 measurements conducted during off-peak periods to arrive at the worst-hour noise levels in the last column of Table 3. Figure 6 through Figure 8 show the noise measurement locations. Appendix B includes the noise measurement results, field data sheets, and photographs.

As indicated, the existing worst-hour noise levels at the measurement locations ranged from a low of 54.8 dBA at 4945 Bobo Place in NSA 4 to a high of 66.2 dBA at Fleur de Lis Circle in NSA 2. The differences in measured noise levels are primarily a function of the distance between the measurement locations and Pleasant Hill Road and the presence of intervening terrain and/or other objects that affect noise propagation.

Table 3. Noise Levels at Measurement Locations

NSA	Location	Date	Period	L_{eq}(1h) (dBA)	Adjustment (1)	Worst-Hour L_{eq}(1h)(dBA)
1	5700 Pleasant Hill Road	2/10/2022	4:45 – 5:05 PM	59.8	---	59.8
2	Fleur de Lis Circle	2/10/2022	4:10 – 4:30 PM	66.2	---	66.2
4	4945 Bobo Place	6/28/2024	2:32 – 2:52 PM	54.6	0.2	54.8
6	6745 Silverthorn Cove	6/28/2024	3:28 – 3:48 PM	60.1	0.4	60.5
7	5050 Wedgewood Drive	6/28/2024	5:01 – 5:21 PM	61.4	0.2	61.6
9	6830 Pleasant Hill Road	6/28/2024	4:09 – 4:29 PM	58.9	0.4	59.3

(1) Based on noise levels at the reference microphone.

5.0 EXISTING NOISE LEVELS

The noise measurements provide representative existing noise levels at a subset of the affected land uses. The FHWA Traffic Noise Model version 2.5 (TNM) was used to predict existing noise levels for all the noise sensitive land uses in each NSA.

HDR, Inc. provided year 2022 and design year 2047 traffic volumes for the project. The traffic data includes annual average daily traffic (AADT), the proportion of daily traffic occurring during the peak hour (k), the proportion of peak-hour traffic traveling in each direction of travel (D), and a daily truck percentage of 5%. These values were used to develop the TNM traffic volumes for existing conditions.

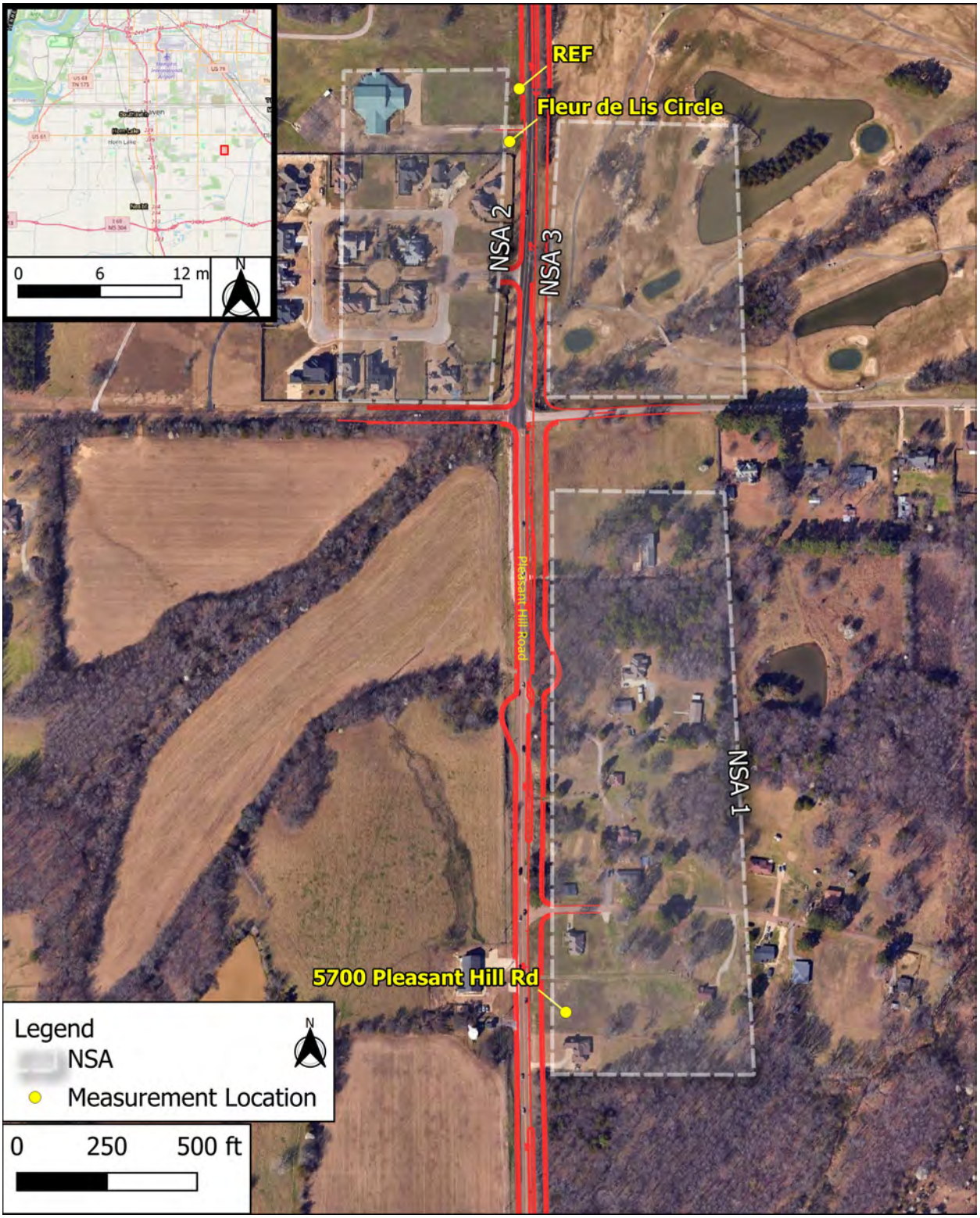


Figure 6. Noise Measurement Locations, Noise Study Areas 1 through 3

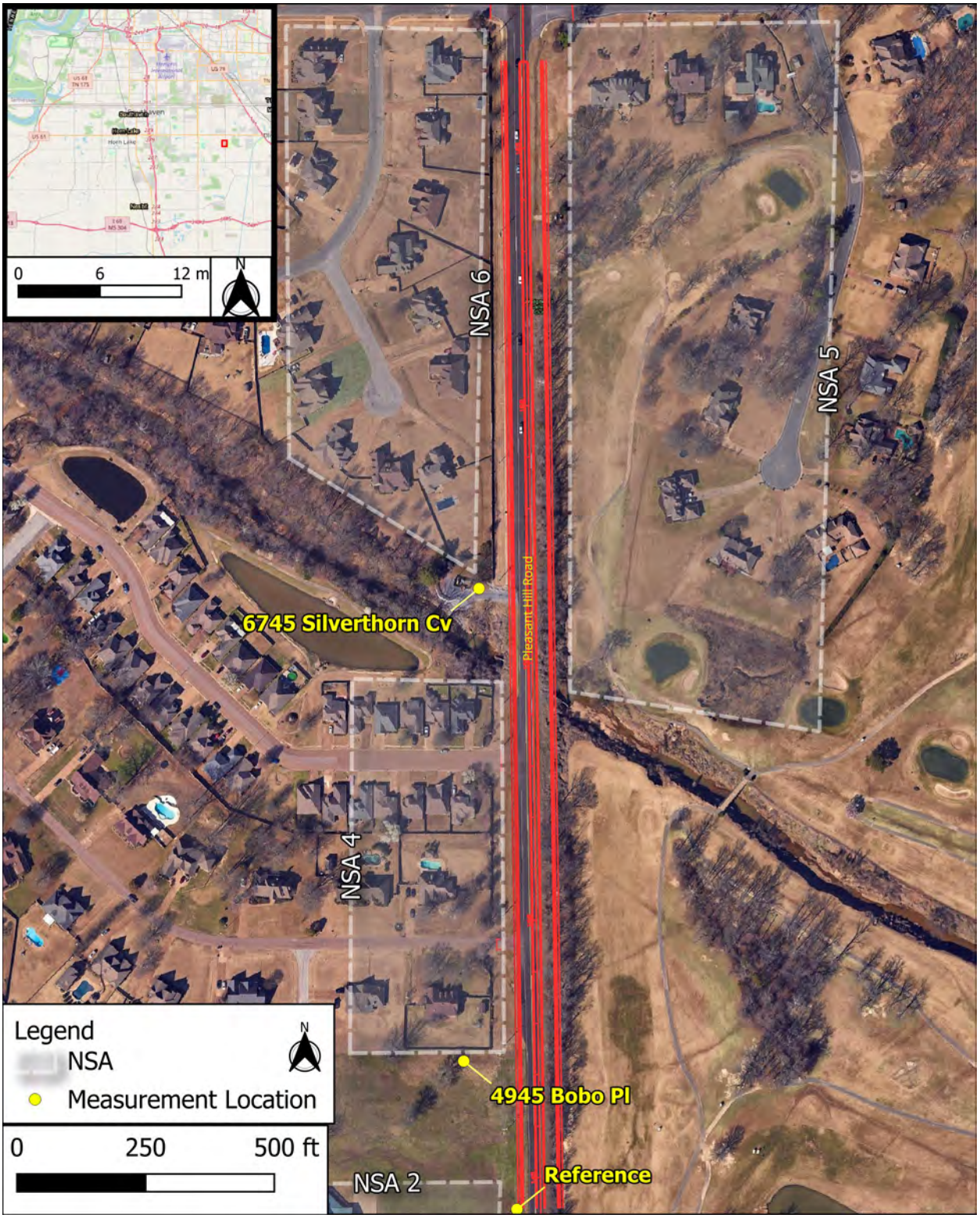


Figure 7. Noise Measurement Locations, Noise Study Areas 4 and 6

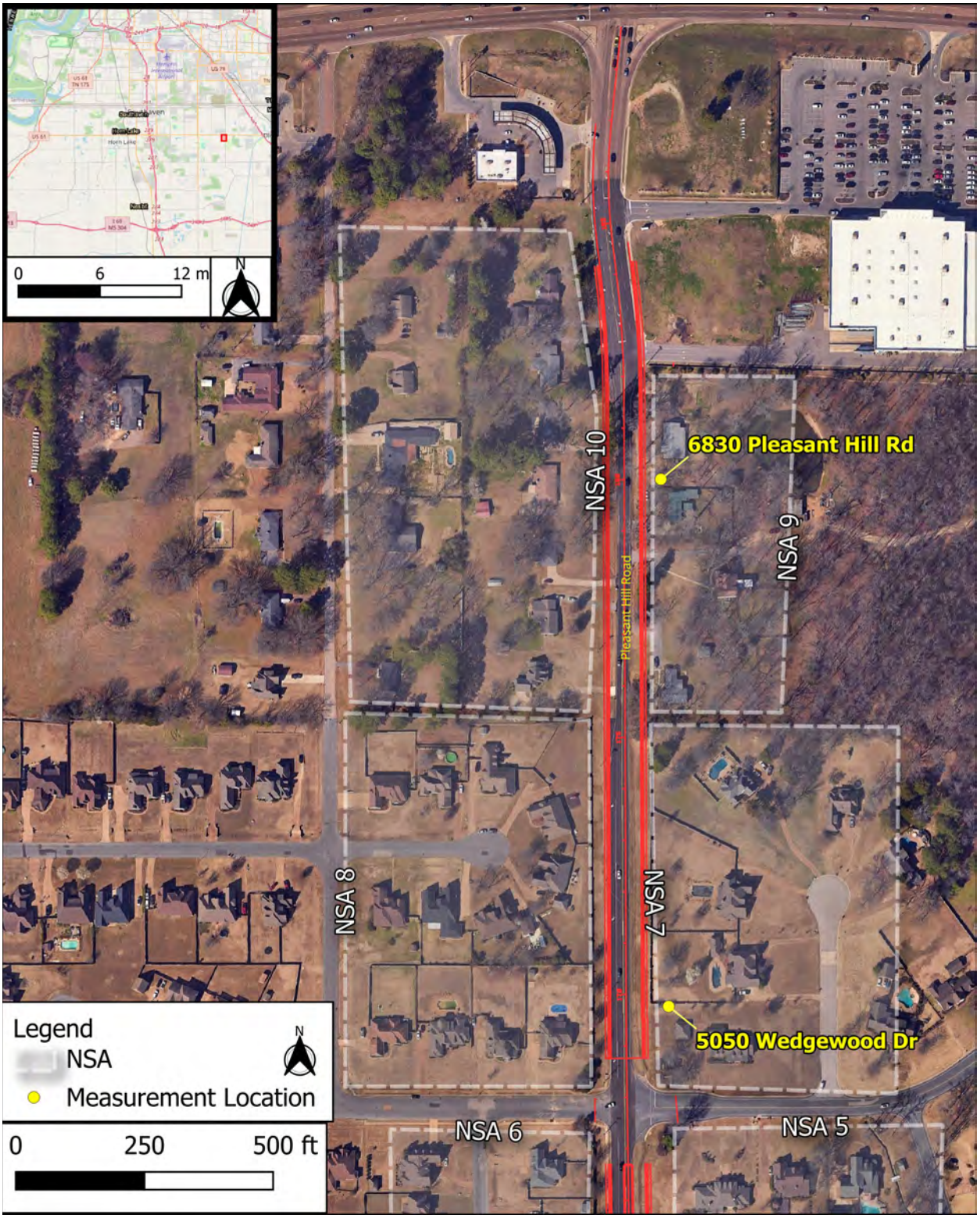


Figure 8. Noise Measurement Locations, Noise Study Areas 7 through 10

Each travel lane of Pleasant Hill Road and significant local roads was modeled as a separate TNM "roadway." For some multiple-lane roadways, such as lower-traffic overpasses or local roads, one TNM roadway was used to represent two travel lanes. The posted speed limit of 40 mph on Pleasant Hill Road was modeled. Appendix C includes the existing traffic data used for the analysis. A 40 dBA background noise level for exterior receptors and a 35 dB background level for interior receptors was added to the predicted existing worst-hour noise levels for all receivers to account for noise contributions from all other noise sources.

Noise sensitive land uses were modeled by TNM "receiver" points at the area of frequent human use at each use. For residences, that area could be the front or back yard.

Large buildings were modeled as noise barriers to properly account for the provided shielding. Where appropriate, single-family houses were modeled as rows of buildings to account for the provided shielding. Significant terrain features were also modeled. Appendix D includes tables of the predicted existing noise levels for the noise sensitive land uses in each NSA.

5.1 Predicted Existing Noise Levels

Table 4 summarizes the predicted existing worst-hour noise levels for each NSA. As shown, existing noise levels in NSAs 1 through 10 range from 45 dBA to 65 dBA. The interior noise level for the Activity Category D church in NSA 2 was estimated by applying a typical 25 dB reduction for building attenuation assuming standard construction and air conditioning per FHWA guidance (FHWA, 2011). The predicted existing noise levels for the interior areas of the Activity Category D church in NSA 2 is 40 dBA.

The highest predicted existing noise level is approximately 65 dBA at a residence on Pleasant Hill Road in NSA 9. The residence is only 55 feet from Pleasant Hill Road.

5.2 Noise Model Validation

Per MDOT's noise policy, TNM is validated if the predicted existing noise levels at the measurement locations are within 3 dB of the measured levels. Table 5 shows the measured and predicted existing noise levels at each measurement location and the calculated differences.

The pavement on Pleasant Hill Road is asphalt and likely dense graded asphalt concrete (DGAC). Therefore, DGAC pavement was modeled in TNM. As shown, the differences between the measured and predicted noise levels at all but one of the measurement locations are within 3 dB. The predicted noise level for validation at 4945 Bobo Place in NSA 4 is 3.3 dB higher than the measured level. This site has a wooden privacy fence approximately 25 feet to the north that is providing some shielding, thus reducing the measured noise level. Since the reason for the overprediction was identified, the model is considered validated.

FUTURE NOISE LEVELS

5.1 No Build Alternative

Increases in noise levels for the No Build Alternative were estimated by evaluating existing and future traffic volumes on Pleasant Hill Road. Traffic on the corridor during the afternoon peak period is projected

to be approximately 65% higher than existing traffic volumes depending on location. These traffic increases would increase worst-hour noise levels at adjacent land uses by 2 dB.

5.2 Build Alternative

Noise modeling of the Build Alternative was completed using TNM in the same manner as for existing conditions. The analysis is based on the conceptual design project plans provided in Appendix A.

The analysis used year 2047 traffic data provided by HDR including annual AADT, the proportion of daily traffic occurring during the peak hour (K), the proportion of peak-hour traffic traveling in each direction of travel (D), and a daily truck percentage of 5%.

The design speed of 45 mph was used for Pleasant Hill Road, and posted speeds were used for the other roadways.

Table 4. Noise Impact Summary, Design Year 2047, Build Alternative

Noise Study Area	Existing Noise Levels (dBA)	Design Year Noise Levels (dBA)	Increase (dB)	Impacted?	Impacted Noise Sensitive Land Uses
1	50 to 60	56 to 67	5 to 8	Yes	3
2	40(1) to 58	41(1) to 63	1 to 5	No	--
3	59 to 65	66 to 72	7 to 8	Yes	1(2)
4	47 to 61	53 to 65	4 to 7	No	--
5	45 to 61	49 to 68	4 to 8	Yes	1(2)
6	49 to 61	55 to 65	4 to 7	No	--
7	46 to 56	49 to 63	4 to 8	No	--
8	46 to 62	50 to 66	4 to 6	Yes	2
9	54 to 65	62 to 70	5 to 8	Yes	3
10	47 to 62	50 to 66	3 to 6	Yes	1
				Total	**11**

(1) Interior.
(2) Activity Category C Wedgewood Golf Club.

Table 5. Validation Results

NSA	Location	Worst- Hour L_{eq}(1h) (dBA)		Difference (dB)
		Measured (1, 2, 3)	Predicted (4)	
1	5700 Pleasant Hill Road	59.6	57.2	-2.4
2	Fleur de Lis Circle	66.2	63.9	-2.3
4	4945 Bobo Place	53.5 (5)	56.8	3.3
6	6745 Silverthorn Cove	60.5 (5)	60.8	0.3
7	5050 Wedgewood Drive	61.6 (5)	60.8	-0.8
9	6830 Pleasant Hill Road	59.3 (5)	61.5	2.2

(1) Include the worst-hour adjustments from Table 3.
(2) Atypical vehicle events were eliminated for validation.
(3) Motorcycle events were removed for validation as the traffic projections used to predict existing noise levels do not include motorcycles.
(4) Predictions are for DGAC pavement.
(5) Some shielding is provided by a wooden privacy fence.

The predicted design year noise levels for the modeled receivers in each NSA are summarized in Table 5 and discussed in the following section. Appendix D includes tables of the predicted noise levels for the modeled receivers in each NSA as well as the receiver locations.

6.0 NOISE IMPACTS

A noise sensitive receptor is *impacted* if the predicted worst-hour noise level under the Build Alternative approaches or exceeds the NAC, or if the project *substantially increases* existing noise levels. The existing noise environment is already dominated by traffic noise on Pleasant Hill Road. As shown in Table 4, the project is predicted to increase existing noise levels by 0 to 8 dB depending on location. These increases are not substantial per MDOT's noise policy. All predicted impacts are caused by predicted noise levels approaching or exceeding the NAC.

6.1 Noise Study Area 1

The predicted noise levels at the residences are between 56 and 67. The residences at 5750 Pleasant Hill Road, 5703 Flynn Road, and 5700 Pleasant Hill Road are predicted to be impacted.

6.2 Noise Study Area 2

Noise levels at the residences on Fleur de Lis Circle range from 54 to 63 dBA. Therefore, these residences are not predicted to be impacted.

The interior noise level for the Activity Category D New Beginnings Baptist Church is 41 dBA. None of the uses are predicted to be impacted.

6.3 Noise Study Area 3

Noise levels at the modeled locations on the eighth hole tee box are predicted to be impacted with noise levels of 68 to 70 dBA. The seventh hole green is also predicted to be impacted with a predicted noise level of 66 dBA. Note that all or part of the tee box for the eighth hole may be taken by the project.

6.4 Noise Study Area 4

Noise levels at the residences on Bobo Place and Graham Lake Drive range from 53 to 65 dBA. Therefore, these residences are not predicted to be impacted.

6.5 Noise Study Area 5

Noise levels at the residences on Wedgewood Drive and St. Andrews Cove range from 49 to 64 dBA. Therefore, these residences are not predicted to be impacted.

Noise levels at the modeled locations on the ninth hole tee box range from 66 to 67 dBA. Therefore, the ninth hole tee box is predicted to be impacted. The greens on the eighth and ninth holes have predicted levels of 60 and 50 dBA, respectively, and are not predicted to be impacted.

6.6 Noise Study Area 6

Noise levels at the residences on Wedgewood Drive, Wyndham Hill Drive, and Silverthorn Cove range from 55 to 65 dBA. Therefore, these residences are not predicted to be impacted.

6.7 Noise Study Area 7

Noise levels at the residences on Wedgewood Drive and Muirfield Cove range from 49 to 63 dBA. Therefore, these residences are not predicted to be impacted.

6.8 Noise Study Area 8

Noise levels at the residences on Wedgewood Drive and Waterstone Cove range from 50 to 66 dBA. The residences at 4976 Waterstone Cove and 4998 Waterstone Cove are predicted to be impacted.

6.9 Noise Study Area 9

Noise levels at the residences on Pleasant Hill Road range from 62 to 69 dBA. The residences at 6782 Pleasant Hill Road, 6830 Pleasant Hill Road, and 6876 Pleasant Hill Road are predicted to be impacted.

6.10 Noise Study Area 10

Noise levels at the residences on Pleasant Hill Road and Meadowbrook Lane range from 50 to 66 dBA. The residence at 6901 Pleasant Hill Road is predicted to be impacted.

6.11 Summary

As shown in Table 5, the project is predicted to impact 11 receptors including nine Activity Category B residences in NSAs 1, 8, 9, and 10, and parts of the Activity Category C Wedgewood Golf Club in NSAs 3 and 5. All the uses are predicted to be impacted based on the NAC. Noise impacts are not predicted in NSAs 2, 4, 6, or 7.

7.0 NOISE ABATEMENT EVALUATION

The FHWA noise regulation and MDOT's noise policy require that noise abatement be evaluated to mitigate predicted noise impacts. Noise abatement measures may include noise barriers, alteration of horizontal and vertical alignment, and traffic management measures (such as reducing speed limits or the prohibition of heavy trucks).

Reduced speeds and truck restrictions would not result in substantial noise reductions. Alignment shifts were not evaluated for this study as the alignment is well established. Noise barriers were determined to be the only available abatement measure to reduce noise levels for impacted land uses.

The FHWA noise regulation requires that noise abatement be evaluated first for "feasibility" and, if feasible, for "reasonableness." Noise barriers must be both *feasible* and *reasonable* to be deemed "likely" for construction. Noise barriers were evaluated for the impacted land uses in the impacted NSAs.

7.1 Noise Barrier Design

MDOT's noise policy does not specify a noise barrier design philosophy. Therefore, barriers were designed to provide 7 dB noise reduction for impacted receptors while meeting the noise reduction design goal and minimizing the barrier cost.

7.2 Feasibility

Feasibility includes engineering and acoustical considerations.

7.2.1 Engineering Feasibility

Engineering feasibility factors include topography, drainage, safety, barrier height, utilities, and access and maintenance needs, which may include right-of-way (ROW) considerations. A barrier that poses engineering problems may be deemed *not feasible* even if it is *acoustically* feasible.

Pleasant Hill Road is not a limited access facility and noise barriers could not be constructed in areas with driveway access or local road intersections including NSAs 1, 9, and 10.

Noise barriers might be feasible for NSAs 3, 5, and 8 where direct residential access driveways do not exist, and local road intersections are limited.

The project plans were reviewed to identify the most acoustically effective noise barrier location for NSAs 3, 5, and 8. Table 6 lists the evaluated noise barriers and locations. TNM predicted noise levels with these barriers for a range of barrier heights.

Table 6 also lists potential engineering feasibility considerations. Noise barriers for NSAs 4 and 10 could create sight distance issues and overhead utilities exist at both sites. A noise barrier for NSA 4 would also limit access to the proposed sidewalk. These issues could affect the feasibility of noise barriers.

Table 6. Evaluated Noise Barriers

Noise Study Area	Number of Impacted Receptors	Barrier Location	Engineering Feasibility Issues
3	1	Shoulder of northbound Pleasant Hill Road from STA 136+00 to 143+84.	Sight distance at Pleasant Hill Road and Nail Road intersection.
5	1	Shoulder of northbound Pleasant Hill Road from STA 152+00 to 167+33.	Sight distance at Pleasant Hill Road at Wedgewood Avenue intersection.
8	2	Shoulder of southbound Pleasant Hill Road from STA 175+50 to STA 168+16.	Sight distance at 6731 Pleasant Hill Road driveway and the Pleasant Hill Road and Wedgewood Drive intersection, overhead utilities.

7.2.2 Acoustical Feasibility

Acoustical feasibility means that a noise barrier will provide a 5 dB noise reduction for at least 70% of the impacted receptors. A barrier that does not meet this criterion is not *acoustically* feasible. Barriers that are determined to be feasible are assessed for reasonableness per the criteria in MDOT's noise policy.

As shown, noise barriers can be designed to meet MDOT's acoustical feasibility criterion. Each acoustically feasible barrier was subsequently evaluated for reasonableness.

Table 7. Acoustical Feasibility Analysis

Noise Study Area	Barrier Length (ft)	Average Height (ft)	Number of Impacted Receptors	Impacted Receptors with at least a 5.0 dB Noise Reduction	Acoustically Feasible?
3	600	6.3	1	1	**Yes**
5	400	6.0	1	1	**Yes**
8	542	8.0	2	2	**Yes**

7.3 Reasonableness

Feasible barriers are assessed for reasonableness per the criteria in MDOT's noise policy:

1. *Noise reduction design goal (NRDG):* A minimum of 7 dB reduction in design year highway traffic noise levels for at least 10% of the benefited receptors.
2. *Cost-effectiveness:* The cost of the noise abatement measure is no more than $42,000 per benefited residence. *Benefited* is defined as a minimum decrease in noise levels of 5 dBA.
3. *Viewpoints of the property owners and residents:* A majority of the benefited residents and property owners of the benefited receptors want a noise barrier.

MDOT's policy also states that the final determination of reasonableness will be made only after careful and thorough consideration of a wide range of criteria.

7.3.1 Noise Reduction Design Goal

Table 8 summarizes the results of the Noise Reduction Design Goal analysis. As shown, the designed noise barriers meet the Noise Reduction Design Goal.

Table 8. Noise Reduction Design Goal Analysis

Noise Study Area	Benefited Receptors	Benefited Receptors with at least a 7 dB Noise Reduction	Percentage	Noise Reduction Design Goal Met?
3	1	1	100%	**Yes**
5	1	1	100%	**Yes**
8	3	2	66%	**Yes**

7.3.2 Cost-Effectiveness

The cost per benefited residence for the barrier must be less than or equal to MDOT's allowable cost per benefited residence of $42,000 using a barrier unit cost of $34 per square foot. The total barrier costs were divided by the number of benefited residences for each barrier as shown in Table 9.

Table 9. Cost-Effectiveness Analysis

Noise Study Area	Barrier Area (sf)	Cost	Benefited Residences	Cost per Benefited Residence	Cost-Effective?
3	7,412	$252,008	1	$252,008	No
5	3,200	$108,800	1	$108,800	No
8	5,272	$179,248	3	$59,749	No

The Wedgewood Golf Course is an Activity Category C land use. An equivalent number of residences must be calculated for the course per the FHWA noise regulation and MDOT's noise policy. MDOT staff indicated that golf courses are equivalent to one residence for every 750 linear feet of frontage. The golf course has about 700 feet of impacted frontage in both NSA 3 and NSA 5 which is equivalent to one residence for each NSA. The cost per benefited residence for NSAs 3 and 5 exceeds MDOT's allowable cost per benefited residence. Therefore, barriers for NSAs 3 and 5 are not reasonable. As shown, the cost per benefited residence for NSA 8 also exceeds MDOT's allowable cost per benefited residence. Therefore, a noise barrier for NSA 8 is not reasonable.

7.3.3 Additional Reasonableness Factors

In addition to the required reasonableness factors discussed above, MDOT's policy also includes several additional reasonableness factors including the development date of the impacted land uses, larger noise level increases due to the project, and future noise levels. These factors were not evaluated.

7.3.4 Viewpoints of Benefited Property Owners and Residents

MDOT's noise policy requires that the viewpoints of the benefited property owners and residents be considered in making final noise abatement decisions. No solicitation is planned since barriers are not reasonable.

7.4 Statement of Likelihood of Abatement

Noise abatement is not proposed for this project.

8.0 CONSTRUCTION NOISE

Construction activities will generate intermittent and temporary noise above existing ambient noise levels. The noise levels resulting from construction activities will depend on the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. However, the noise increases will be temporary and will not constitute a noise impact as defined by the FHWA noise regulation and MDOT's noise policy.

Per MDOT, the following noise abatement measures will be incorporated in the contract plans and specifications to prevent adverse construction noise effects in the vicinity of the proposed project:

- The contractor shall comply with all state and local sound control and noise level rules, regulations, and ordinances that apply to any work performed pursuant to the contract.
- Each internal combustion engine used for any purpose on work related to the project shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without such a muffler.

9.0 FHWA Policy Regarding Land Use Development and Future Noise Abatement

FHWA generally participates in noise abatement measures if they are constructed for a Type I highway construction or reconstruction project. FHWA may also participate in "Type II" noise abatement measures on existing highways where land development or substantial construction predated the existence of the highway. However, MDOT does not develop or implement Type II projects.

10.0 Information For Local Officials

The lack of consideration of highway traffic noise in land use planning and development at the local level has added to the highway traffic noise problem. Many developments now experiencing high noise levels were constructed adjacent to major highways long after these highways were proposed and constructed. This lack of concern for predictable high noise levels by local planning and zoning agencies and by developers has impacted many residents. Since the FHWA and the MDOT do not have any authority over land use planning and development, they can only encourage local officials and developers to consider highway traffic noise in the planning, zoning, and development of property near existing and proposed highways. Local officials and developers are encouraged to visit the FHWA Highway Traffic Noise website (www.fhwa.dot.gov/environment/noise/) to learn more about Noise Compatible Planning.

The approximate distances to the 66 dBA and the 71 dBA contours at the "worst-case" location (i.e., with the loudest traffic noise levels for design year 2047) are shown in Table 10. Noise sensitive land uses should generally not be constructed within these areas unless noise mitigation measures are also provided. The values in Table 10 do not represent predicted levels at every location at a particular distance back from the roadway. Noise levels will vary with changes in terrain and will be affected by the shielding of objects, such as buildings. This information is being included to make local officials and planners aware of anticipated traffic noise levels so that future development will be compatible with these levels.

Table 10. Approximate Distance to 66 and 71 dBA Planning Contours

Location	Distance to Noise Contour (feet) (1)	
	66 dBA	71 dBA
Pleasant Hill Road	75	30

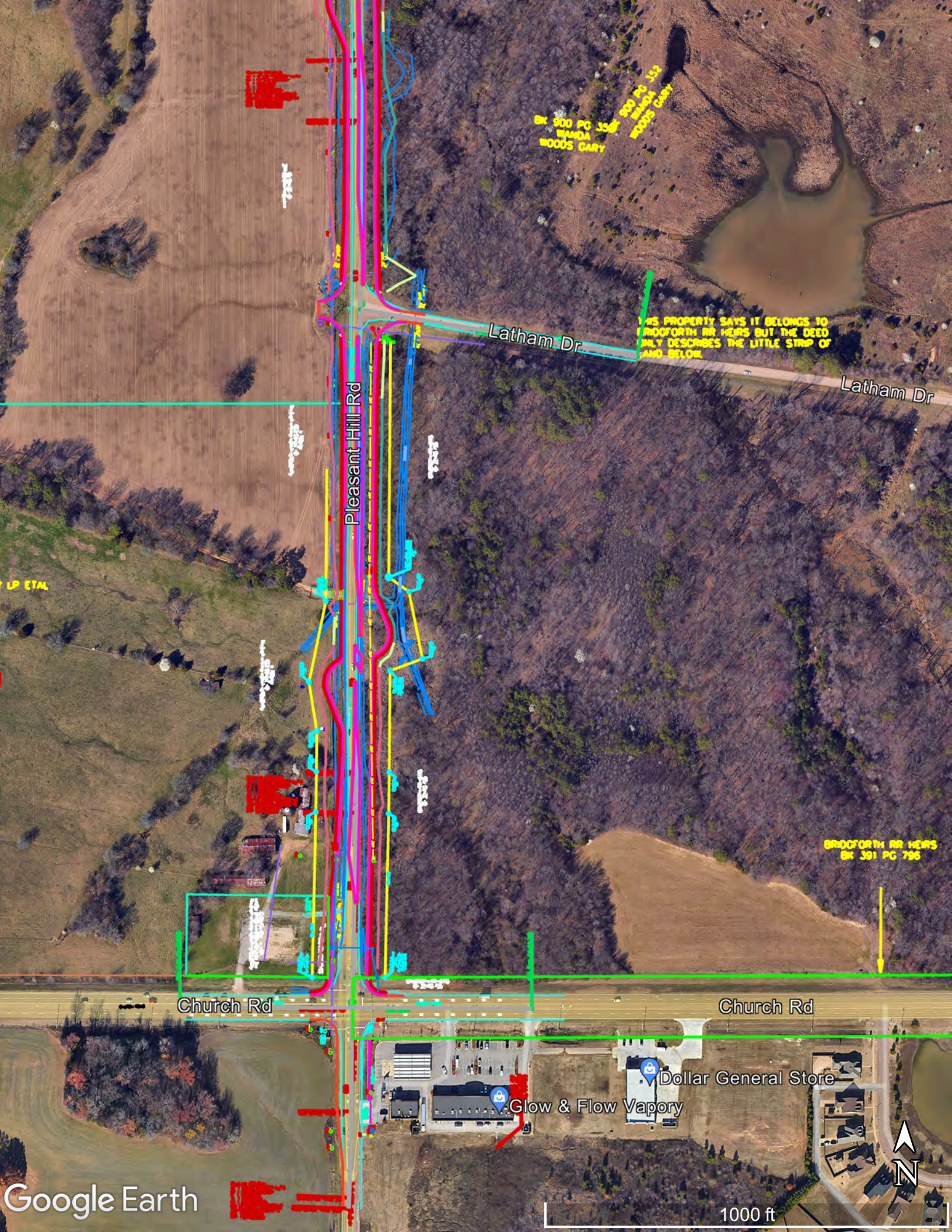
(1) Perpendicular distance to the centerline of the nearest travel lane of Pleasant Hill Road.

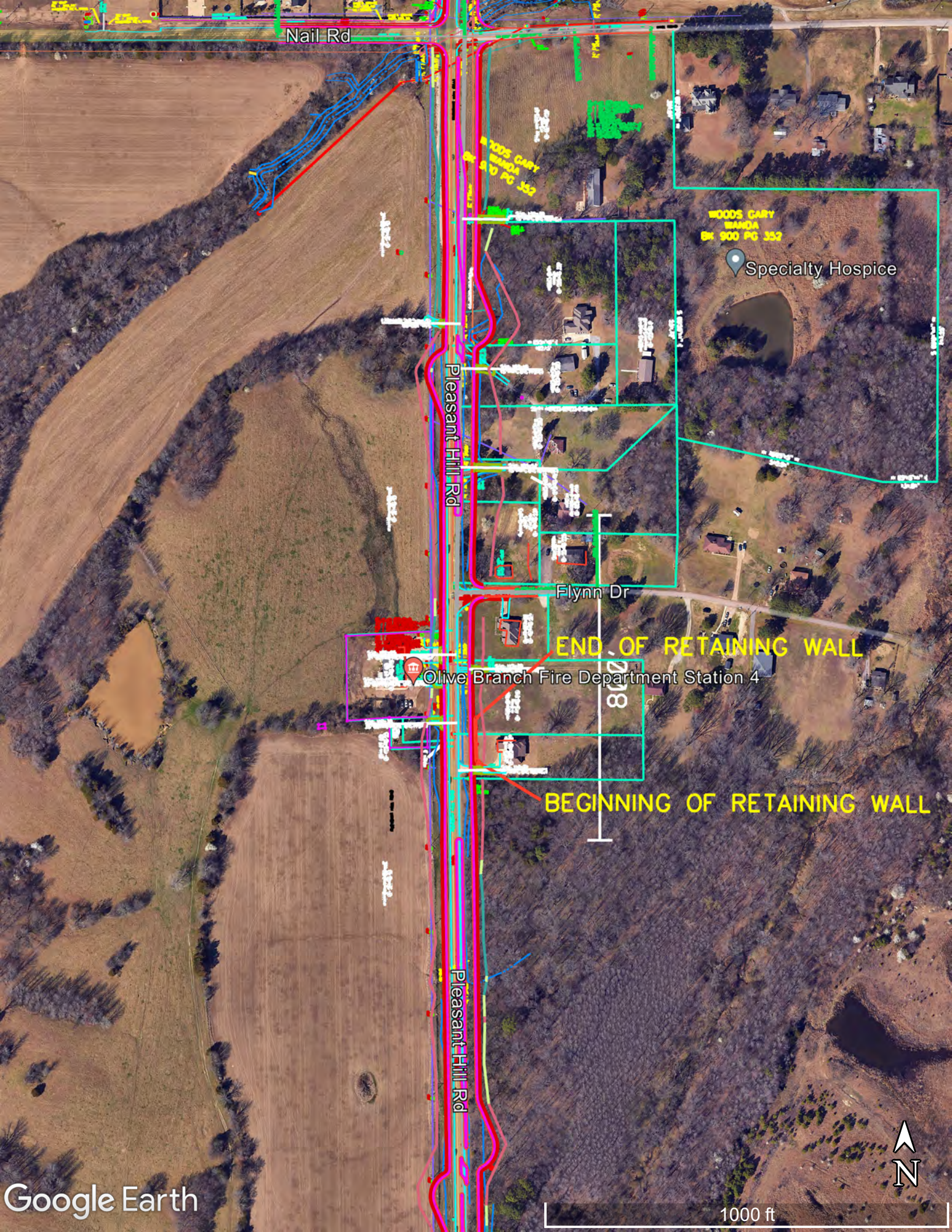
11.0 REFERENCES

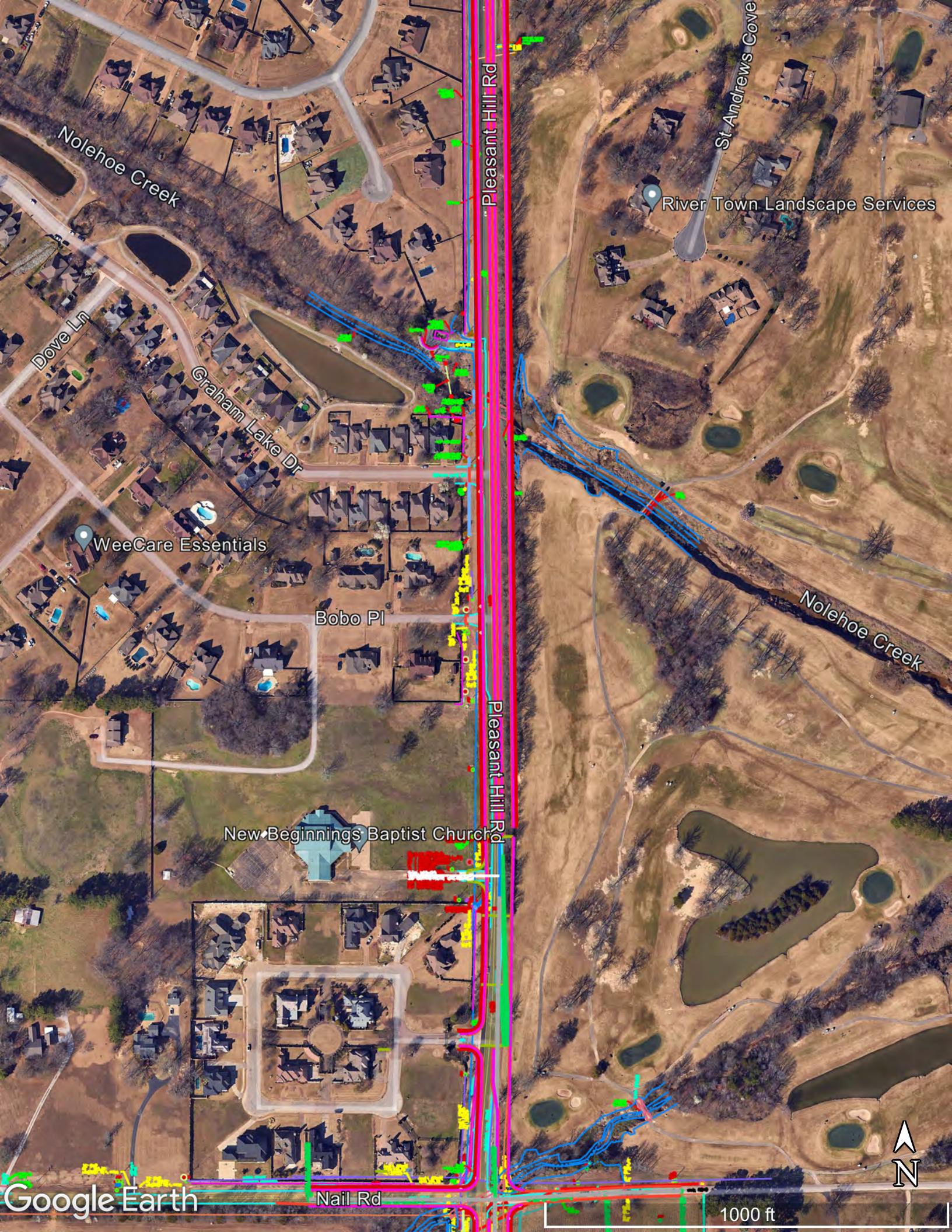
Procedures for Abatement of Highway Traffic and Construction Noise, 23 CFR 772, Federal Highway Administration, July 2010.

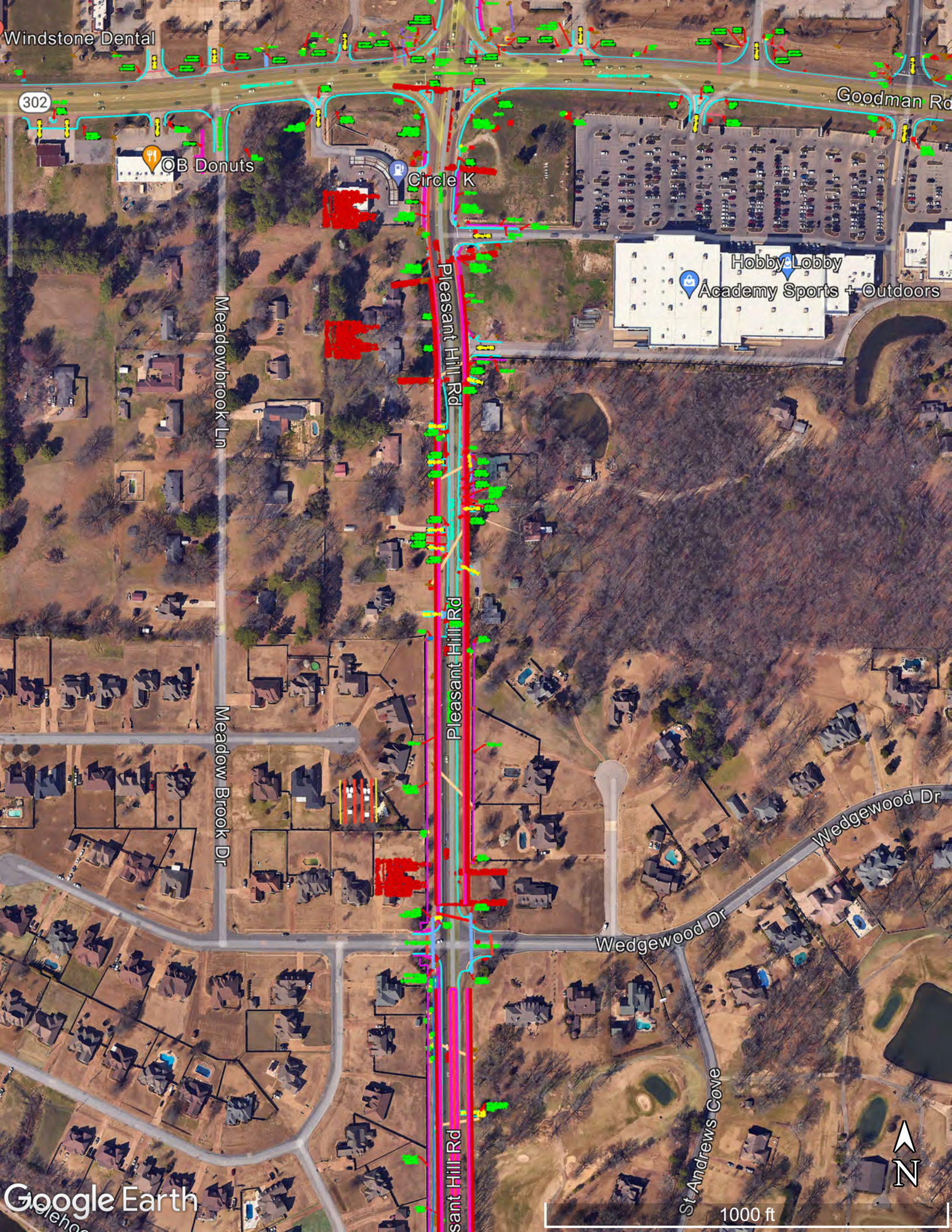
Mississippi Department of Transportation Highway Noise Policy, August 27, 2021.

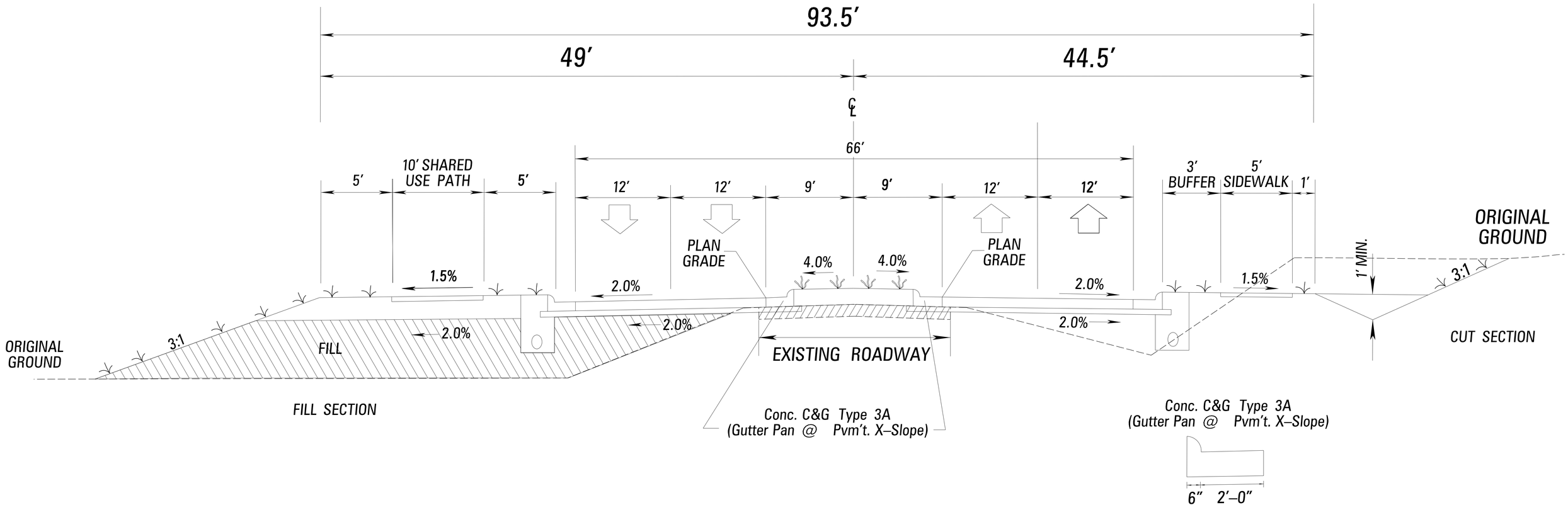
Appendix A
Project Plans and Typical Sections


Bk 900 Pg 352
WANDA
WOODS GARY
Bk 900 Pg 352
WANDA
WOODS GARY
THIS PROPERTY SAYS IT BELONGS TO
BRADFORTH AR HEIRS BUT THE DEED
ONLY DESCRIBES THE LITTLE STRIP OF
LAND BELOW
Latham Dr
Latham Dr
Pleasant Hill Rd
LP ETAL
BRADFORTH AR HEIRS
Bk 391 Pg 796
Church Rd
Church Rd
Dollar General Store
Glow & Flow Vapory
N
Google Earth
1000 ft


Nail Rd
WOODS GARY WANDA
Bk 900 PG 352
Specialty Hospice
Pleasant Hill Rd
Flynn Dr
END OF RETAINING WALL
Olive Branch Fire Department Station 4
208
BEGINNING OF RETAINING WALL
Pleasant Hill Rd
N
Google Earth
1000 ft

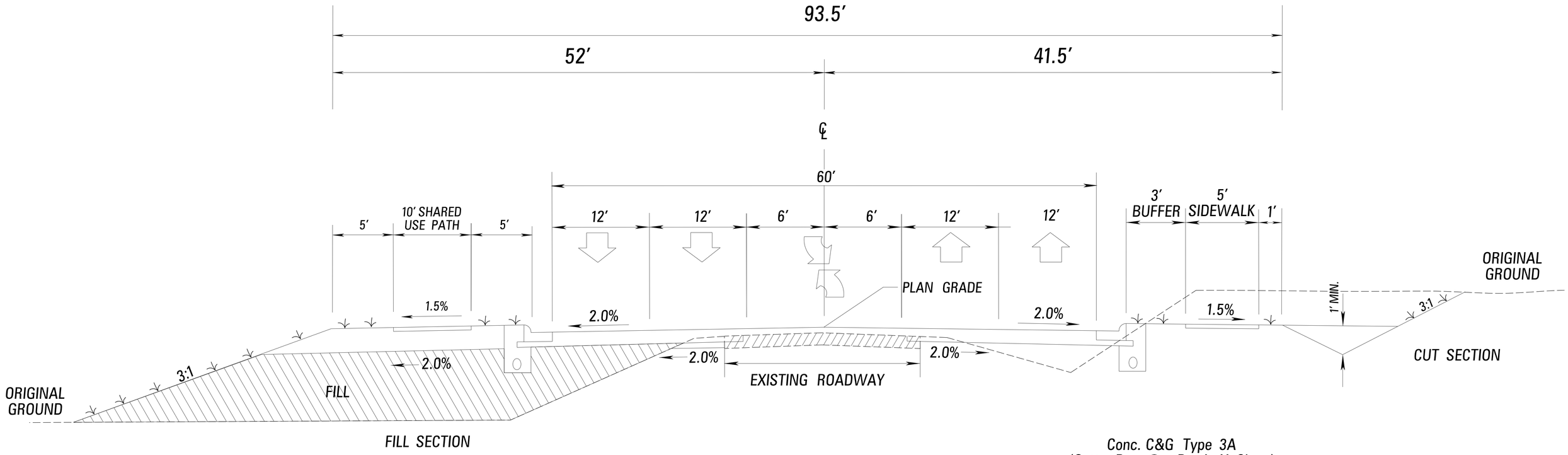

Nolehoe Creek
Pleasant Hill Rd
St Andrews Cove
River Town Landscape Services
Dove Ln
Graham Lake Dr
WeeCare Essentials
Bobo Pl
Nolehoe Creek
Pleasant Hill Rd
New Beginnings Baptist Church
Nail Rd
Google Earth
1000 ft
N


Windstone Dental
302
Goodman Rd
OB Donuts
Circle K
Hobby Lobby
Academy Sports + Outdoors
Meadowbrook Ln
Pleasant Hill Rd
Pleasant Hill Rd
Meadow Brook Dr
Wedgewood Dr
Wedgewood Dr
Wedgewood Dr
St Andrews Cove
Pleasant Hill Rd
N
Google Earth
1000 ft

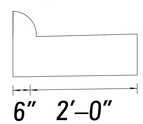


TYPICAL SECTION
4-LANE DIVIDED WITH RAISED MEDIAN
SEGMENT 1
FROM CHURCH RD TO APP. 500 FT SOUTH OF FLYNN DR

DESIGN SPEED = 45 mph

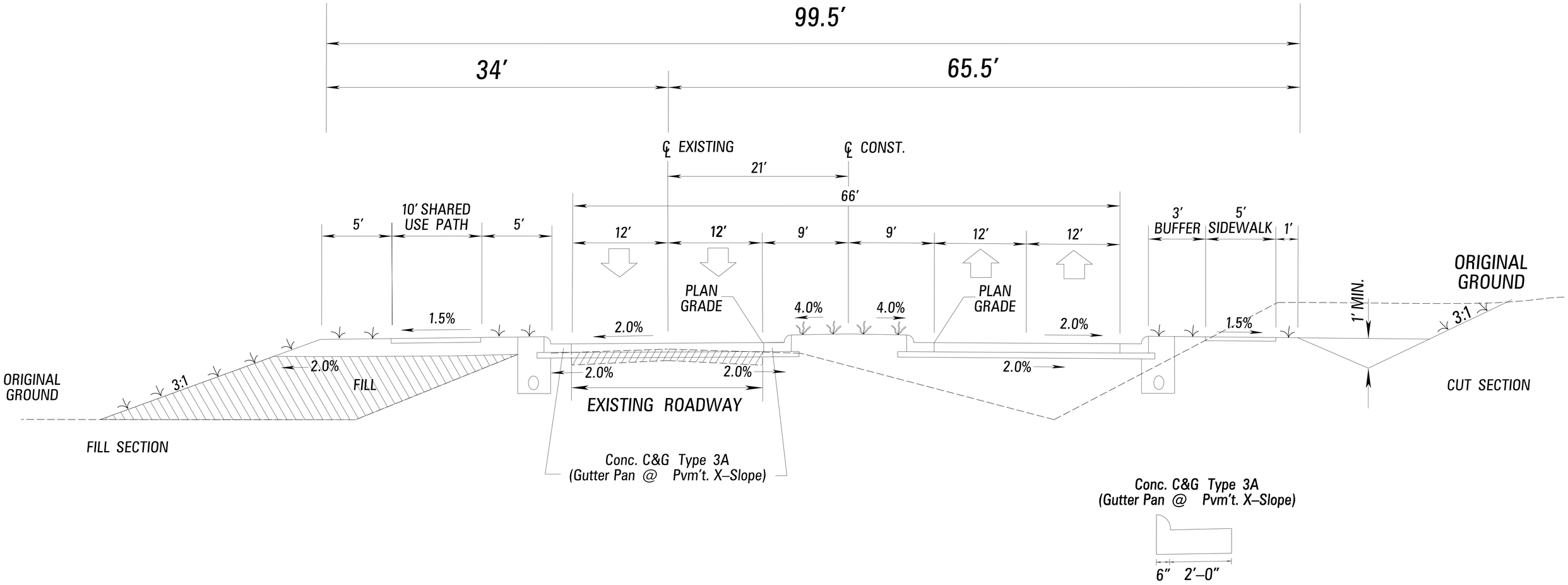


Conc. C&G Type 3A
(Gutter Pan @ Pvm't. X–Slope)



TYPICAL SECTION
5-LANE
SEGMENT 2
FROM APP. 500 FT SOUTH OF FLYNN DR
TO APP. 100 FT NORTH OF FLYNN DR

DESIGN SPEED = 45 mph



TYPICAL SECTION
4-LANE DIVIDED WITH RAISED MEDIAN
SEGMENT 3
FROM APP. 100 FT NORTH OF FLYNN DR TO NAIL RD.

DESIGN SPEED = 45 mph

Appendix B
Noise Measurement Data

Near 6112 Fleur de Lis E looking East

Near 6112 Fleur de Lis E Looking South

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 2/10/2022

Area

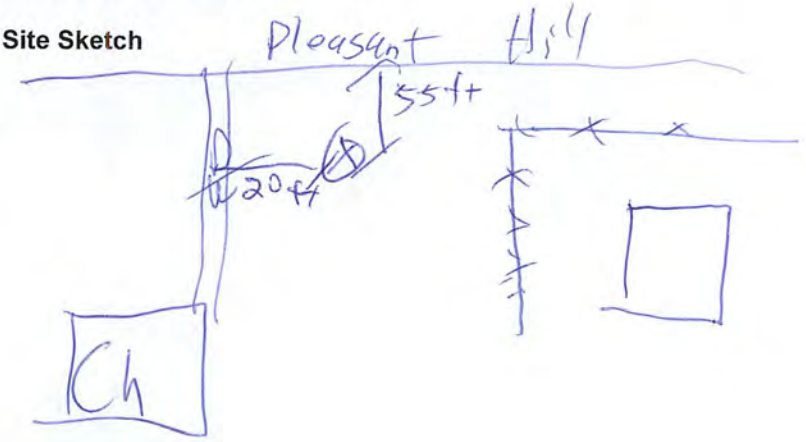
Site/Address Fleur-de-lis

Temp 65°F

Wind Notes W 3mph

Observer: GP

Site Sketch



Instrument: ~~1636~~ 4D Serial# ~~1636~~ 16378 Cal@ 114.0 Cal Check= 114.0

#	Time Start	Valid?	Leq	Description
1	14:10			
2	11			passby in 60s
3	12			dump truck 73, Jeep 71 dB
4	13			crop jet 54-63 dB 74 dB pickup
5	14			jet audible with truck
6	15			
7	16			
8	17			66 dB multiple cars
9	18			73 dB pickup/trailer/cars
10	19			74 dB SUV
11	20			
12	21			jet 55 dB single car 65 dB, jet 61
13	22			airplane 44-50 dB;
14	23			bus, hill 46 dB;
15	24			MC
16	25			
17	26			bus 67 SB
18	27			
19	28			
20	29			
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes:

1638LXT Data.012

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**Fleur de Lis**
Description:	**Residence**
SLM Filename:	**1638_LxT_Data.012.xlsx**
Date:	**2/10/2022**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:10:00 PM	65.5	70.6		
2	4:11:00 PM	63.6	69.0		
3	4:12:00 PM	67.2	73.5		dump truck
4	4:13:00 PM	66.7	73.8		
5	4:14:00 PM	65.5	69.8		
6	4:15:00 PM	65.0	70.8		
7	4:16:00 PM	67.2	72.2		
8	4:17:00 PM	65.9	70.0		
9	4:18:00 PM	67.5	74.5		Pickup/trailer
10	4:19:00 PM	68.3	76.0		SUV
11	4:20:00 PM	65.1	70.5		
12	4:21:00 PM	65.9	70.7		
13	4:22:00 PM	65.4	70.3		
14	4:23:00 PM	67.0	71.9		
15	4:24:00 PM	67.2	73.5		MC
16	4:25:00 PM	63.9	69.9		
17	4:26:00 PM	67.0	70.0		
18	4:27:00 PM	66.1	73.5		
19	4:28:00 PM	66.3	69.9		
20	4:29:00 PM	65.0	70.0		
	Leq	**66.2**			

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**Fleur de Lis (Validation)**
Description:	**Residence**
SLM Filename:	**1638_LxT_Data.012.xlsx**
Date:	**2/10/2022**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:10:00 PM	65.5	70.6		
2	4:11:00 PM	63.6	69.0		
3	4:12:00 PM	67.2	73.5		dump truck
4	4:13:00 PM	66.7	73.8		
5	4:14:00 PM	65.5	69.8		
6	4:15:00 PM	65.0	70.8		
7	4:16:00 PM	67.2	72.2		
8	4:17:00 PM	65.9	70.0		
9	4:18:00 PM	67.5	74.5		Pickup/trailer
10	4:19:00 PM	68.3	76.0		SUV
11	4:20:00 PM	65.1	70.5		
12	4:21:00 PM	65.9	70.7		
13	4:22:00 PM	65.4	70.3		
14	4:23:00 PM	67.0	71.9		
~~15~~	~~4:24:00 PM~~	~~67.2~~	73.5	x	MC
16	4:25:00 PM	63.9	69.9		
17	4:26:00 PM	67.0	70.0		
18	4:27:00 PM	66.1	73.5		
19	4:28:00 PM	66.3	69.9		
20	4:29:00 PM	65.0	70.0		
	Leq	**66.2**			

5700 Pleasant Hill Road looking West

5700 Pleasant Hill Rd Looking South

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 2/10/2022 **Site Sketch** Pleasant Hill Rd

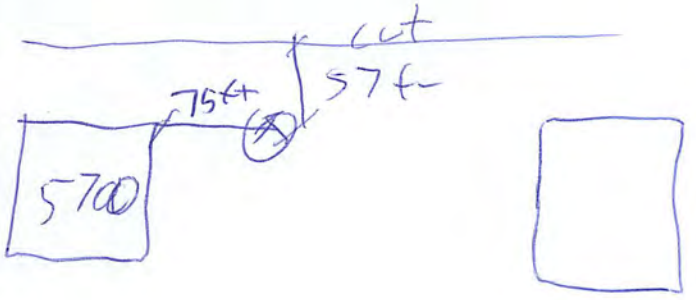
Area

Site/Address 5700 Pleasant Hill Rd

Temp

Wind Notes W 6 mph

Observer: GP



Instrument: LD Serial# 1638 Cal@ 114.0 Cal Check= 114.0

#	Time Start	Valid?	Leq	Description
1	16:45			
2	46			
3	47			
4	48	?		64 dB pickup jet 64 dB
5	49			63 dB flow
6	50			
7	51			jet
8	52			jet
9	53			
10	54			
11	55			
12	56			65 dB pickup tractor
13	57			62 dB jet 69 dB SB MC
14	58			
15	59			jet ~60 dB
16	17:00			jet 58 dB
17	01			
18	02			64 dB MC SB jet
19	03			
20	04			67 dB pickup NB 62 dB MT NB 65 dB MT
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes:

1638 LxT_Data.013

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**5700 Pleasant Hill Road**
Description:	**Residence**
SLM Filename:	**1638_LxT_Data.013.xlsx**
Date:	**2/10/2022**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:45:00 PM	56.6	62.0		
2	4:46:00 PM	56.5	60.5		
3	4:47:00 PM	60.0	64.5		
~~4~~	~~4:48:00 PM~~	~~61.8~~	67.1	x	pickup, jet
5	4:49:00 PM	60.2	64.2		
6	4:50:00 PM	59.0	63.1		
7	4:51:00 PM	60.0	63.6		
8	4:52:00 PM	60.9	64.3		
9	4:53:00 PM	59.0	61.6		
10	4:54:00 PM	60.7	67.2		
11	4:55:00 PM	58.4	61.9		
12	4:56:00 PM	61.1	65.5		pickup with trailer
13	4:57:00 PM	62.9	69.1		SB MC
14	4:58:00 PM	59.3	65.1		
15	4:59:00 PM	59.6	64.1		
16	5:00:00 PM	58.7	62.9		
17	5:01:00 PM	60.8	65.5		
18	5:02:00 PM	60.4	65.6		
19	5:03:00 PM	55.7	60.3		
20	5:04:00 PM	61.2	67.9		
	Leq	**59.8**			

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**5700 Pleasant Hill Road (Validation)**
Description:	**Residence**
SLM Filename:	**1638_LxT_Data.013.xlsx**
Date:	**2/10/2022**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:45:00 PM	56.6	62.0		
2	4:46:00 PM	56.5	60.5		
3	4:47:00 PM	60.0	64.5		
~~4~~	~~4:48:00 PM~~	~~61.8~~	67.1	x	pickup, jet
5	4:49:00 PM	60.2	64.2		
6	4:50:00 PM	59.0	63.1		
7	4:51:00 PM	60.0	63.6		
8	4:52:00 PM	60.9	64.3		
9	4:53:00 PM	59.0	61.6		
10	4:54:00 PM	60.7	67.2		
11	4:55:00 PM	58.4	61.9		
12	4:56:00 PM	61.1	65.5		pickup with trailer
~~13~~	~~4:57:00 PM~~	~~62.9~~	69.1	x	SB MC
14	4:58:00 PM	59.3	65.1		
15	4:59:00 PM	59.6	64.1		
16	5:00:00 PM	58.7	62.9		
17	5:01:00 PM	60.8	65.5		
18	5:02:00 PM	60.4	65.6		
19	5:03:00 PM	55.7	60.3		
20	5:04:00 PM	61.2	67.9		
	Leq	**59.6**			

Reference near New Beginnings Baptist Church Looking East

Reference near New Beginnings Baptist Church Looking West

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 6/24/24 DGAC

Area

Site/Address New beginnings Church

Temp 89°

Wind Notes W/S 5mph

Observer: GP

Site Sketch

Instrument: LD Serial# 1605 Cal@ 114.0 13:56 Cal Check= 114.0 17:58

#	Time Start	Valid?	Leq	Description
1	13:56			Start pickup NB 66 dB; multiple veh 72 dB 65 dB car MT NB 71 dB
2	59	NO		MC 69 dB
3	14:00			66 dB multiple cars 1141 dB, 65 dB SUV SB
4	01			66 dB multiple veh, multiple veh 69 dB
5	02	NO		pickup 67 dBA; jeep 71 dBA SB 88 dB pickup ens
6	03			71 dB pickup SB
7	04			66 dB car SB 67 dB cars;
8	05			66 dB 2 veh SB 64 dB car SB, 66dB car SB
9	06			65 dB cars NB, 80 dB pickup/trailer
10	07			1144 dB, 67 dB 2 cars NB
11	08			MC 77 dB, MT 74 dB;
12	01			70 dB pickup/trailer 71 dB MT NB, 74dB pickup SB
13	10			71 dB MT/pickup, 66 dB pickup NB;
14	11			70 dB pickup NB, 71dB MT SB;
15	12			62 dB car SB, 66 dB multiple veh
16	13			69 dB 2 veh, 71 dB pickup NB 74dB MT/pickup
17	14			63 dB cars, 66 dB van NB;
18	15			65 dB 3 veh SB, 65dB multiple veh 72 dB pickup/trailer
19	16			69 dB multiple veh
20	17			68 dB pickup SB, 69 dB pickup
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes:

LT-DGAC.032

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:58 PM	64.7	73.8		
~~2~~	~~1:59 PM~~	~~79.1~~	~~93.7~~	x	MC (Anamolous)
3	2:00 PM	61.1	67.2		
4	2:01 PM	64.4	69.8		
5	2:02 PM	64.6	75.5		
~~6~~	~~2:03 PM~~	~~76.2~~	~~89.1~~	x	Pickup truck engine
7	2:04 PM	63.3	67.2		
8	2:05 PM	60.6	66.4		
9	2:06 PM	68.2	80.8		
10	2:07 PM	60.7	67.2		
11	2:08 PM	68.7	78.2		
12	2:09 PM	66.6	74.7		
13	2:10 PM	64.0	72.0		
14	2:11 PM	64.8	71.3		
15	2:12 PM	65.3	69.8		
16	2:13 PM	65.8	73.9		
17	2:14 PM	62.9	68.8		
18	2:15 PM	63.7	72.1		
19	2:16 PM	62.2	69.5		
20	2:17 PM	64.0	69.0		
21	2:18 PM	63.8	73.0		
22	2:19 PM	60.6	67.4		
23	2:20 PM	68.4	76.5		
24	2:21 PM	64.7	69.4		
25	2:22 PM	68.0	77.3		
26	2:23 PM	65.3	72.7		
27	2:24 PM	63.8	72.3		
28	2:25 PM	65.7	74.3		
29	2:26 PM	60.4	66.9		
30	2:27 PM	62.7	68.4		
31	2:28 PM	65.5	72.4		
32	2:29 PM	65.6	72.1		
33	2:30 PM	65.0	73.2		
34	2:31 PM	65.4	74.6		
35	2:32 PM	61.2	69.5		
36	2:33 PM	62.9	69.0		
37	2:34 PM	63.3	68.7		
38	2:35 PM	65.8	75.2		
39	2:36 PM	63.0	73.5		
40	2:37 PM	65.6	73.4		
41	2:38 PM	66.1	73.0		
42	2:39 PM	67.8	76.4		

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
43	2:40 PM	64.9	75.5		
44	2:41 PM	63.0	69.6		
45	2:42 PM	60.9	68.5		
46	2:43 PM	68.3	80.2		
47	2:44 PM	67.5	76.4		
48	2:45 PM	69.0	80.9		
49	2:46 PM	62.2	69.3		
50	2:47 PM	68.1	80.7		
51	2:48 PM	68.6	79.3		
52	2:49 PM	71.1	82.9		
53	2:50 PM	67.3	75.8		
54	2:51 PM	62.0	69.5		
55	2:52 PM	63.8	69.9		
56	2:53 PM	66.0	72.7		
57	2:54 PM	63.7	71.2		
58	2:55 PM	64.9	71.1		
59	2:56 PM	64.1	73.7		
60	2:57 PM	66.4	72.0		
61	2:58 PM	66.1	76.5		
62	2:59 PM	63.7	71.0		
63	3:00 PM	66.7	74.5		
64	3:01 PM	62.4	68.9		
65	3:02 PM	68.1	77.9		
66	3:03 PM	60.5	68.9		
67	3:04 PM	67.7	76.0		
68	3:05 PM	65.8	70.9		
69	3:06 PM	63.3	71.5		
70	3:07 PM	67.2	78.2		
71	3:08 PM	64.4	69.4		
72	3:09 PM	67.4	74.1		
73	3:10 PM	65.4	74.2		
74	3:11 PM	63.7	71.0		
75	3:12 PM	62.5	68.2		
76	3:13 PM	60.3	67.5		
77	3:14 PM	67.1	73.4		
78	3:15 PM	66.0	71.6		
79	3:16 PM	66.7	75.0		
80	3:17 PM	64.9	72.5		
81	3:18 PM	64.4	72.9		
82	3:19 PM	69.3	80.4		
83	3:20 PM	65.4	74.8		
84	3:21 PM	65.1	72.3		

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
85	3:22 PM	63.6	71.3		
86	3:23 PM	66.0	74.2		
87	3:24 PM	67.5	74.5		
88	3:25 PM	65.2	71.0		
89	3:26 PM	65.1	73.9		
90	3:27 PM	68.5	80.8		
91	3:28 PM	68.7	79.5		
92	3:29 PM	64.9	70.9		
93	3:30 PM	68.4	78.2		
94	3:31 PM	65.3	73.3		
95	3:32 PM	66.9	74.5		
96	3:33 PM	63.0	67.2		
97	3:34 PM	66.8	73.5		
98	3:35 PM	65.4	71.0		
99	3:36 PM	65.7	74.0		
100	3:37 PM	70.0	78.1		
101	3:38 PM	67.0	77.3		
102	3:39 PM	67.2	75.0		
103	3:40 PM	60.2	67.0		
104	3:41 PM	64.0	70.9		
105	3:42 PM	66.9	74.0		
106	3:43 PM	64.5	71.4		
107	3:44 PM	67.0	72.1		
108	3:45 PM	62.1	70.2		
109	3:46 PM	64.0	71.4		
110	3:47 PM	63.8	69.3		
111	3:48 PM	65.3	71.1		
112	3:49 PM	66.5	74.3		
113	3:50 PM	66.3	74.7		
114	3:51 PM	67.4	75.7		
115	3:52 PM	60.5	68.5		
116	3:53 PM	64.4	70.6		
117	3:54 PM	65.8	71.6		
118	3:55 PM	65.9	73.8		
119	3:56 PM	66.8	72.4		
120	3:57 PM	64.9	71.1		
121	3:58 PM	66.8	72.2		
122	3:59 PM	65.5	72.4		
123	4:00 PM	64.5	71.9		
124	4:01 PM	65.6	71.1		
125	4:02 PM	67.8	78.4		
126	4:03 PM	67.8	77.3		

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
127	4:04 PM	62.5	70.8		
128	4:05 PM	65.2	70.9		
129	4:06 PM	65.0	74.0		
130	4:07 PM	60.8	67.4		
131	4:08 PM	67.9	75.0		
132	4:09 PM	64.6	72.5		
133	4:10 PM	66.4	73.4		
134	4:11 PM	65.4	71.3		
135	4:12 PM	67.2	75.5		
136	4:13 PM	66.4	71.0		
137	4:14 PM	67.0	73.9		
138	4:15 PM	64.9	72.5		
139	4:16 PM	65.6	71.8		
140	4:17 PM	67.3	75.0		
141	4:18 PM	61.8	71.1		
142	4:19 PM	68.0	75.7		
143	4:20 PM	64.8	73.3		
144	4:21 PM	66.2	72.1		
145	4:22 PM	63.9	69.4		
146	4:23 PM	66.3	70.8		
147	4:24 PM	69.9	82.2		
148	4:25 PM	63.3	69.8		
149	4:26 PM	67.5	73.8		
150	4:27 PM	64.7	69.5		
151	4:28 PM	66.3	71.5		
152	4:29 PM	65.8	72.9		
153	4:30 PM	65.6	75.2		
154	4:31 PM	71.1	82.9		
155	4:32 PM	67.2	77.1		
156	4:33 PM	66.9	74.5		
157	4:34 PM	68.1	79.1		
158	4:35 PM	66.3	71.9		
159	4:36 PM	66.2	75.4		
160	4:37 PM	69.1	78.7		
161	4:38 PM	66.9	77.3		
162	4:39 PM	67.7	74.5		
163	4:40 PM	65.8	72.2		
164	4:41 PM	67.1	76.9		
165	4:42 PM	67.5	74.9		
166	4:43 PM	62.9	69.3		
167	4:44 PM	66.8	72.5		
168	4:45 PM	64.6	72.4		

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
169	4:46 PM	65.4	70.5		
170	4:47 PM	61.4	68.3		
171	4:48 PM	66.1	72.5		
172	4:49 PM	65.0	73.2		
173	4:50 PM	65.1	71.4		
174	4:51 PM	65.9	72.3		
175	4:52 PM	64.1	71.8		
176	4:53 PM	65.4	72.9		
177	4:54 PM	64.7	71.8		
178	4:55 PM	68.1	79.9		
179	4:56 PM	66.8	78.6		
180	4:57 PM	65.4	70.2		
181	4:58 PM	66.3	75.0		
182	4:59 PM	67.7	77.6		
183	5:00 PM	62.7	69.3		
184	5:01 PM	65.2	70.8		
185	5:02 PM	64.9	71.4		
186	5:03 PM	66.0	73.6		
187	5:04 PM	67.6	76.7		
188	5:05 PM	65.3	72.8		
189	5:06 PM	64.2	70.0		
190	5:07 PM	65.5	72.8		
191	5:08 PM	67.5	75.5		
192	5:09 PM	65.6	76.0		
193	5:10 PM	65.7	71.8		
194	5:11 PM	65.1	72.9		
195	5:12 PM	64.6	71.4		
196	5:13 PM	65.2	72.1		
197	5:14 PM	66.1	75.5		
198	5:15 PM	67.2	75.3		
199	5:16 PM	67.3	74.5		
200	5:17 PM	69.3	79.7		
201	5:18 PM	67.1	74.1		
202	5:19 PM	68.3	78.1		
203	5:20 PM	65.4	70.2		
204	5:21 PM	63.2	70.7		
205	5:22 PM	64.8	71.4		
206	5:23 PM	65.5	74.7		
207	5:24 PM	67.3	74.8		
208	5:25 PM	66.5	76.1		
209	5:26 PM	64.6	69.4		
210	5:27 PM	70.7	82.2		

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	***Reference***
Description:	**New Beginnings Church**
SLM Filename:	**LxT_0001605-20240628 135800-LxT_Data.032.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
211	5:28 PM	66.8	76.1		
212	5:29 PM	68.5	75.7		
213	5:30 PM	65.6	72.1		
214	5:31 PM	65.4	75.1		
215	5:32 PM	66.1	74.2		
216	5:33 PM	67.6	76.5		
217	5:34 PM	66.4	71.7		
218	5:35 PM	65.6	69.9		
219	5:36 PM	66.7	73.7		
220	5:37 PM	61.4	69.3		
221	5:38 PM	68.2	78.7		
222	5:39 PM	66.1	73.7		
223	5:40 PM	66.8	73.2		
224	5:41 PM	65.3	70.6		
225	5:42 PM	65.1	71.4		
226	5:43 PM	71.6	84.0		
227	5:44 PM	64.9	71.3		
228	5:45 PM	66.7	74.1		
229	5:46 PM	65.9	75.9		
230	5:47 PM	67.7	76.0		
231	5:48 PM	66.1	71.6		
232	5:49 PM	66.8	78.5		
233	5:50 PM	67.7	74.5		
234	5:51 PM	62.1	69.8		
235	5:52 PM	66.8	76.8		
236	5:53 PM	65.6	74.1		
237	5:54 PM	67.2	75.6		
~~238~~	~~5:55 PM~~	~~83.7~~	~~97.6~~	x	
	Leq	**66.1**			

4945 Bobo Place Looking East

4945 Bobo Place Looking North

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 6/28/24 DGAC

Area

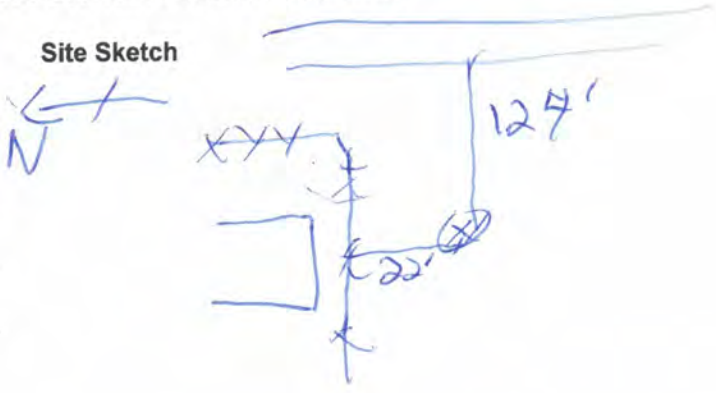
Site/Address 4945 Bdoo Pl

Temp 89°F

Wind Notes 5mph S

Observer: GP

Site Sketch



Instrument: LD 1606 Serial#

Cal@ 114.04:31 Cal Check= 114.0 14:52

#	Time Start	Valid?	Leq	Description
1	14:32			52 dB car NB 44 dB SUV SB 53 dB veh SB
2	33			55 dB car accel, MT 54 dB SB, 53 dB 2 veh
3	34			51 dB car NB hummming 44 dB,
4	35			56 dB pickup SB 54 dB pickup SB
5	36			51 dB multiple vehs, 57 dB MT SB,
6	37			58 dB car NB, 54 dB multiple veh,
7	38	No		60 dB accel in dist sneeze airplane Jet 60 dB
8	39			61 dB MT, 60 dB HT SB,
9	40	No		airplane 55 dB, 52 dB 54 dB 61 dB
10	41			56 dB pickup NB, 55 dB veh NB
11	42			jet audible, 51 dB 2 veh 54 dB pickup
12	43	?		50 dB car SB, MC 65 dB
13	44	No		Jet 62 dB vehicles jet 60 dB
14	45			61 dB pickup NB 58 dB pickup SB
15	46			53 dB whistles 53 dB pickup NB jet audible
16	47			53-54 dB multiple vehs 61 dB jeep NB
17	48			HT 65 dB, 58 dB veh, jet 58 dB
18	49	?		jet, 68 dB pickup/engine
19	50			52 dB SUV 54 dB MT, 63 dB pickup
20	51			61 39 dB, car 49 dB, pickup 56 dB
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes:

LT - Daily DSB

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**4945 Bobo Pl**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 143200-LxT_Data.058.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	2:32:00 PM	49.9	57.0		
2	2:33:00 PM	51.3	55.6		
3	2:34:00 PM	51.5	55.0		
4	2:35:00 PM	52.9	60.3		
5	2:36:00 PM	50.1	56.7		
6	2:37:00 PM	53.0	59.0		
~~7~~	~~2:38:00 PM~~	~~59.1~~	66.2	x	Jet
8	2:39:00 PM	56.2	61.7		
~~9~~	~~2:40:00 PM~~	~~57.3~~	63.6	x	Airplane
10	2:41:00 PM	52.9	57.8		
11	2:42:00 PM	49.6	54.4		
12	2:43:00 PM	58.5	67.6		MC
~~13~~	~~2:44:00 PM~~	~~59.1~~	65.2	x	Jet
14	2:45:00 PM	54.8	60.9		
15	2:46:00 PM	49.6	53.7		
16	2:47:00 PM	55.2	64.2		
17	2:48:00 PM	57.2	64.8		
18	2:49:00 PM	60.0	68.3		Pickup truck engine
19	2:50:00 PM	54.4	62.7		
20	2:51:00 PM	50.6	56.4		
	Leq	**54.6**			

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**4945 Bobo Pl (Validation)**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 143200-LxT_Data.058.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	2:32:00 PM	49.9	57.0		
2	2:33:00 PM	51.3	55.6		
3	2:34:00 PM	51.5	55.0		
4	2:35:00 PM	52.9	60.3		
5	2:36:00 PM	50.1	56.7		
6	2:37:00 PM	53.0	59.0		
~~7~~	~~2:38:00 PM~~	~~59.1~~	66.2	x	Jet
8	2:39:00 PM	56.2	61.7		
~~9~~	~~2:40:00 PM~~	~~57.3~~	63.6	x	Airplane
10	2:41:00 PM	52.9	57.8		
11	2:42:00 PM	49.6	54.4		
~~12~~	~~2:43:00 PM~~	~~58.5~~	67.6	x	MC
~~13~~	~~2:44:00 PM~~	~~59.1~~	65.2	x	Jet
14	2:45:00 PM	54.8	60.9		
15	2:46:00 PM	49.6	53.7		
16	2:47:00 PM	55.2	64.2		
17	2:48:00 PM	57.2	64.8		
~~18~~	~~2:49:00 PM~~	~~60.0~~	68.3	x	Pickup truck engine
19	2:50:00 PM	54.4	62.7		
20	2:51:00 PM	50.6	56.4		
	Leq	**53.3**			

6745 Silverton Cove Looking East

6745 Silverton Cove Looking North

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 6/24/24 DGK

Area 60 Grade

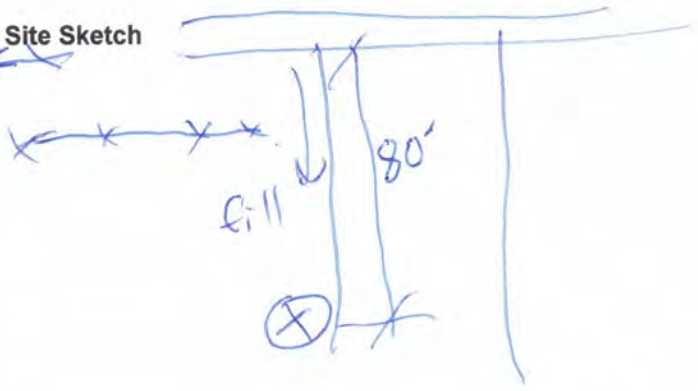
Site/Address 6745 Silverton

Temp 91°F

Wind Notes 6 mph/s

Observer: GR

Site Sketch



Instrument: LD Serial# 1606 Cal@ 15:24 114.0 Cal Check= 15:48 114.0

#	Time Start	Valid?	Leq	Description
1	15:28	?		61 dB 2 veh 73 dB pickup 68 dB pickup 68
2	29			jet audible 64dB traffic jet 55 dB 61 dB pickup jet
3	30	?		70 dB pickup engine 70 dB pickup engine; jet audible
4	31	?		63 dB cars; 65 dB pickup/trailer jet 60 dB jet 66 dB
5	32			61 dB cars; 63 dB jeep; jet 53 dB
6	33			54 dB car; 63 dB pickup; 60 dB traffic; jet audible
7	34			jet audible 64 dB traffic flow; 61 dB pickup,
8	35			60 dB cars; 63 dB pickup/trailer
9	36			69 dB pickup SB; 64 dB pickup NB;
10	37			61 dB car NB; jet audible 61 dB traffic 71 dB pickup/trailer
11	38	?		jet 53 dB; 60 dB pickup; 61 dB traffic; jet 63 dB 72 dB pick
12	39			70 dB HT NB; jet audible 60 dB cars
13	40			66 dB pickup NB; jet audible
14	44			60 dB 2 veh; jet audible; 61 dB vehs;
15	42			jet; 62 dB SW NB; 66 dB pickup SB 66 dB pickup NB;
16	43			jet audible 60 dB SW SB; 64 dB pickup NB; jet audible
17	44	?		62 dB traffic multiple vehs; 62 dB traffic jet 65 dB
18	45			54 dB SB cars; 61 dB car NB; 61 dB traffic;
19	46			insects; jet audible 54 dB car SB;
20	47			57 dB pickup SB; 64 dB pickup/trailer 61 dB traffic fro
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes: 15:31 76 dB pickup exhaust
loud fleet
lots of jets

LxT_Data.059

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**6745 Silverton Cv**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 152800-LxT_Data.059.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	3:28:00 PM	63.4	72.7		
2	3:29:00 PM	60.2	65.2		
3	3:30:00 PM	62.5	71.0		
4	3:31:00 PM	62.4	69.5		
5	3:32:00 PM	57.8	62.7		
6	3:33:00 PM	59.9	66.2		
7	3:34:00 PM	58.5	64.2		
8	3:35:00 PM	59.3	64.1		
9	3:36:00 PM	59.9	68.7		
10	3:37:00 PM	61.3	70.5		
~~11~~	~~3:38:00 PM~~	~~65.6~~	78.2	x	Atypical Pickup truck
12	3:39:00 PM	60.9	70.3		
13	3:40:00 PM	60.0	66.5		
14	3:41:00 PM	55.8	61.6		
15	3:42:00 PM	60.2	66.9		
16	3:43:00 PM	58.5	64.7		
17	3:44:00 PM	60.8	65.3		
18	3:45:00 PM	56.4	61.5		
19	3:46:00 PM	54.6	61.9		
20	3:47:00 PM	58.9	63.6		
	Leq	**60.1**			

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**6745 Silverton Cv (Validation)**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 152800-LxT_Data.059.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	3:28:00 PM	63.4	72.7		
2	3:29:00 PM	60.2	65.2		
3	3:30:00 PM	62.5	71.0		
4	3:31:00 PM	62.4	69.5		
5	3:32:00 PM	57.8	62.7		
6	3:33:00 PM	59.9	66.2		
7	3:34:00 PM	58.5	64.2		
8	3:35:00 PM	59.3	64.1		
9	3:36:00 PM	59.9	68.7		
10	3:37:00 PM	61.3	70.5		
~~11~~	~~3:38:00 PM~~	~~65.6~~	78.2	x	Atypical Pickup truck
12	3:39:00 PM	60.9	70.3		
13	3:40:00 PM	60.0	66.5		
14	3:41:00 PM	55.8	61.6		
15	3:42:00 PM	60.2	66.9		
16	3:43:00 PM	58.5	64.7		
17	3:44:00 PM	60.8	65.3		
18	3:45:00 PM	56.4	61.5		
19	3:46:00 PM	54.6	61.9		
20	3:47:00 PM	58.9	63.6		
	Leq	**60.1**			

6830 Pleasant Hill Road Looking West

6830 Pleasant Hill Road Looking South

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 6/28/24 DGAC

Area

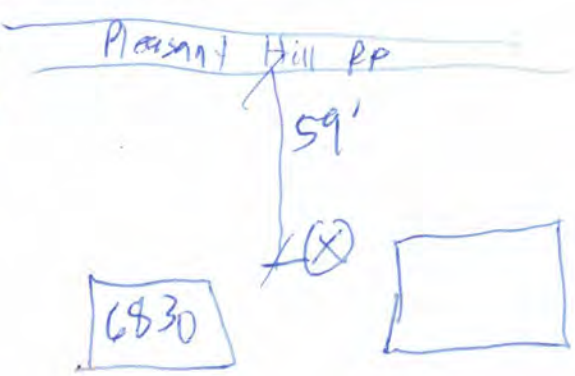
Site/Address 6830 Pleasant Hill Rd

Temp 90°F

Wind Notes 5 mph/S

Observer: GP

Site Sketch



Instrument: LD Serial# 1606 Cal@ 114.0 16:06 Cal Check= 114.0 16:29

#	Time Start	Valid?	Leq	Description
1	16:09			65 dB pickup NB
2	10			64 dB pickup SB, 56 dB van NB, 61 dB SUV car SB
3	11			pickup 66 dB SB,
4	12			60 dB pickup trailer, 65 dB pickup NB 60 dB car NB,
5	13			61 dB vehs SB, jet audible 67 dB pickup NB,
6	14			jet audible, 59 dB pickup SB, 60 dB traffic; 66 dB traffic
7	15			64 dB SUV NB, jet audible 64 dB pickup NB
8	16			jet 54 dB 65 dB traffic, 65 dB pickup SB,
9	17			63 dB traffic NB, 58 dB car NB 41 dB
10	18			60 dB pickup SB 62 dB pickup SB, 64 dB van NB
11	19			63 dB jeep SB, 41 dB, 60 dB traffic,
12	20			61 dB car NB, 62 dB traffic 67 dB MT/trailer
13	21			55 dB car NB, 56 dB SUV NB, 48 dB dog bark
14	22			60 dB cars SB, 59 dB veh SB, 64 dB pickups 65 dB car
15	23			HVAC 44-50 dB, 57 dB traffic, 65 dB traffic jet audible 61 dB
16	24			jet, traffic 59 dB, jet/cars 61 dB,
17	25			60 dB 2 vehs 60 dB pickups 64 dB pickup 67 dB MT
18	26			HVAC 49 dB, 1 car SB 60 dB, 57 dB cars NB
19	27			58 dB cars SB, 63 dB traffic,
20	28			60 dB veh NB, 63 dB car SB, 64 dB pickup SB cars
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes: SB traffic may be going faster

L+T. Data. 060

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**6830 Pleasant Hill Rd**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 160900-LxT_Data.060.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:09:00 PM	60.3	66.3		
2	4:10:00 PM	59.5	65.3		
3	4:11:00 PM	60.7	66.4		
4	4:12:00 PM	57.8	65.2		
5	4:13:00 PM	60.0	67.0		
6	4:14:00 PM	59.2	66.9		
7	4:15:00 PM	58.8	65.3		
8	4:16:00 PM	59.5	65.3		
9	4:17:00 PM	57.1	62.7		
10	4:18:00 PM	59.6	64.1		
11	4:19:00 PM	56.4	63.1		
12	4:20:00 PM	59.4	67.5		
13	4:21:00 PM	55.8	62.1		
14	4:22:00 PM	59.0	65.3		
15	4:23:00 PM	58.1	64.9		
16	4:24:00 PM	56.8	62.3		
17	4:25:00 PM	61.4	68.6		
18	4:26:00 PM	55.4	62.1		
19	4:27:00 PM	59.2	66.9		
20	4:28:00 PM	58.5	64.1		
	Leq	**58.9**			

5050 Wedgwood Drive Looking West

5050 Wedgwood Drive Looking South

Noise Measurement Data Sheet

City of Olive Branch: Pleasant Hill Road

Date 6/28/24

Area 5050 Wedgewood

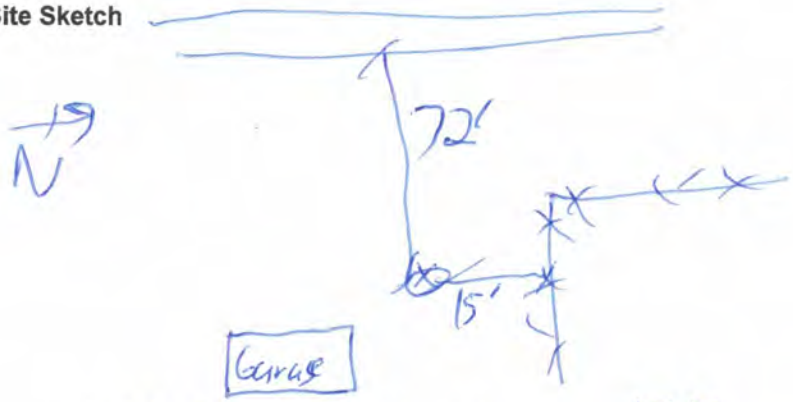
Site/Address

Temp 90

Wind Notes 5mph /S

Observer: GF

Site Sketch



Instrument: LD Serial# 160 Cal@ 114 17:00 Cal Check= 114.0 17:21

#	Time Start	Valid?	Leq	Description
1	17:01			pickup 64 dB NB 63 dB pickup SB
2	02			62 dB traffic NB; Car dB pickup NB car 67 dB SB MT
3	03	?		60 dB car SB; 63 dB cars SB; 67 dB pickup (engine)
4	04			63 dB car NB 66 dB pickup SB; 61 dB SUV SB
5	05	?		59-60 dB traffic 71 dB pickup NB 5ft audible 63 dB
6	06			60-61 dB traffic, 5ft audible,
7	07			63 dB SUV NB 64 dB pickup SB; 65 dB pickup SB
8	08			64 dB Jeep SB 54 dB 2 cars NB; 63 dB traffic
9	09			67 dB pickup NB; 63 dB pickup SB
10	10	?		65 dB Car duel NB; 77 dB pickup engine
11	11			63 dB traffic flow 66-67 dB traffic;
12	12			61 dB cars NB 66 dB pickup NB 65 dB pickups
13	13			64 dB NB pickup/trailer 64 dB MC
14	14			62 dB NB truck 66 dB pickup SB;
15	15			62 dB pickup NB; 65 dB pickup SB 61 dB car 71 dB pickup/trailer
16	16			61 dB cars 63 dB veh Wedgewood 68 dB pickup SB;
17	17			65 dB traffic NB; 67 dB pickup NB
18	18			65 dB traffic flow; 63dB pickup SB
19	19			61 dB 2 cars 68 dB pickup; 67 dB car NB 64 dB pickup NB
20	20			64 dB pickup NB; 67 dB pickup SB;
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Notes: Wood in SB lane causing problems

LxT_Data.061

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**5050 Wedgewood**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 170100-LxT_Data.061.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	5:01:00 PM	60.6	65.5		
2	5:02:00 PM	62.1	67.5		
3	5:03:00 PM	60.6	66.6		
4	5:04:00 PM	61.1	66.9		
5	5:05:00 PM	62.6	71.3		Pickup truck
6	5:06:00 PM	59.0	63.5		
7	5:07:00 PM	59.0	65.7		
8	5:08:00 PM	61.7	68.9		
9	5:09:00 PM	61.6	66.8		
~~10~~	~~5:10:00 PM~~	~~65.2~~	78.1	x	Atypical Pickup truck engine
11	5:11:00 PM	60.6	67.1		
12	5:12:00 PM	60.4	66.5		
13	5:13:00 PM	61.7	69.7		
14	5:14:00 PM	60.7	66.4		
15	5:15:00 PM	62.4	70.6		
16	5:16:00 PM	61.8	69.4		
17	5:17:00 PM	61.0	69.4		
18	5:18:00 PM	61.9	68.9		
19	5:19:00 PM	62.9	69.2		
20	5:20:00 PM	62.0	67.4		
	Leq	**61.4**			

Noise Measurement Data Sheet

Project Name:	**Pleasant Hill Road**
Site:	**5050 Wedgewood (Validation)**
Description:	**Residence**
SLM Filename:	**LxT_0001606-20240628 170100-LxT_Data.061.xlsx**
Date:	**6/28/2024**

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	5:01:00 PM	60.6	65.5		
2	5:02:00 PM	62.1	67.5		
3	5:03:00 PM	60.6	66.6		
4	5:04:00 PM	61.1	66.9		
5	5:05:00 PM	62.6	71.3		Pickup truck
6	5:06:00 PM	59.0	63.5		
7	5:07:00 PM	59.0	65.7		
8	5:08:00 PM	61.7	68.9		
9	5:09:00 PM	61.6	66.8		
~~10~~	~~5:10:00 PM~~	~~65.2~~	78.1	x	Atypical Pickup truck engine
11	5:11:00 PM	60.6	67.1		
12	5:12:00 PM	60.4	66.5		
13	5:13:00 PM	61.7	69.7		
14	5:14:00 PM	60.7	66.4		
15	5:15:00 PM	62.4	70.6		
16	5:16:00 PM	61.8	69.4		
17	5:17:00 PM	61.0	69.4		
18	5:18:00 PM	61.9	68.9		
19	5:19:00 PM	62.9	69.2		
20	5:20:00 PM	62.0	67.4		
	Leq	**61.4**			

Appendix C
Existing and Design Year Traffic Data

Project:	**Pleasant Hill Road**
Design Year:	**2047**
Alternative:	**Build**

Road	*From*	*To*	*Average Annual Daily Traffic (AADT)*	*Design Hour Volume (DHV)*	*AADT Trucks*	*DHV Trucks*	*59% High Travel Direction*				*41% Low Travel Direction*			
							Total	*Autos*	*MTs*	*HTs*	*Total*	*Autos*	*MTs*	*HTs*
Pleasant Hill Road	Church St	Nail Ave	19,500	2,000	5%	3%	1,200	1,164	22	14	800	776	14	10
	Nail Ave	Goodman Rd	18,700	1,900	5%	3%	1,140	1,106	21	14	760	737	14	9
Nail Road	Malone Rd	Pleasant Hill Rd	6,700	750	5%	3%	450	437	8	5	300	291	5	4
	Pleasant Hill Rd	Dead End	800	90	5%	3%	54	52	1	1	36	35	1	0

Geoff

From: Pittman, Richard <Richard.Pittman@hdrinc.com>
Sent: Monday, May 23, 2022 9:52 AM
To: Geoff; Wallace, Chad
Cc: 10329437_City of Olive Branch MS_Pleasan
Subject: RE: Pleasant Hill Road Traffic Volumes

Good morning Geoff,
Thanks for checking and my apologies! See the traffic data below. I received this last week.

Corridor	Description	Year	Projected AADT	DHV	DDHV	T-Factor
Church Road	West of Pleasant Hill Road	2022	19100*	1900	1100	5
		2047	31300*	3100	1800	5
Church Road	East of Pleasant Hill Road	2022	16800	1700	950	5
		2047	27600	2800	1600	5
Pleasant Hill Road	South of Church Road	2022	7600	750	450	5
		2047	12500	1300	750	5
Pleasant Hill Road	North of Church Road	2022	11900	1200	700	5
		2047	19500	2000	1100	5
Nail Road	West of Pleasant Hill Road	2022	4100	450	250	5
		2047	6700	750	450	5
Nail Road	East of Pleasant Hill Road	2022	500	60	30	5
		2047	800	90	50	5
Pleasant Hill Road	South of Nail Road	2022	11900	1200	700	5
		2047	19500	2000	1100	5
Pleasant Hill Road	North of Nail Road	2022	11400	1100	650	5
		2047	18700	1900	1100	5

Richard Pittman, P.E.
Senior Project Manager

HDR
190 East Capitol Street Suite 425
Jackson, MS 39201-2160
D [769-209-6007] **M** [601-214-7414]
richard.pittman@hdrinc.com

hdrinc.com/follow-us

From: Geoff <gpratt@bowlbyassociates.com>
Sent: Monday, May 23, 2022 9:23 AM
To: Pittman, Richard <Richard.Pittman@hdrinc.com>; Wallace, Chad <Chad.Wallace@hdrinc.com>
Subject: RE: Pleasant Hill Road Traffic Volumes

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

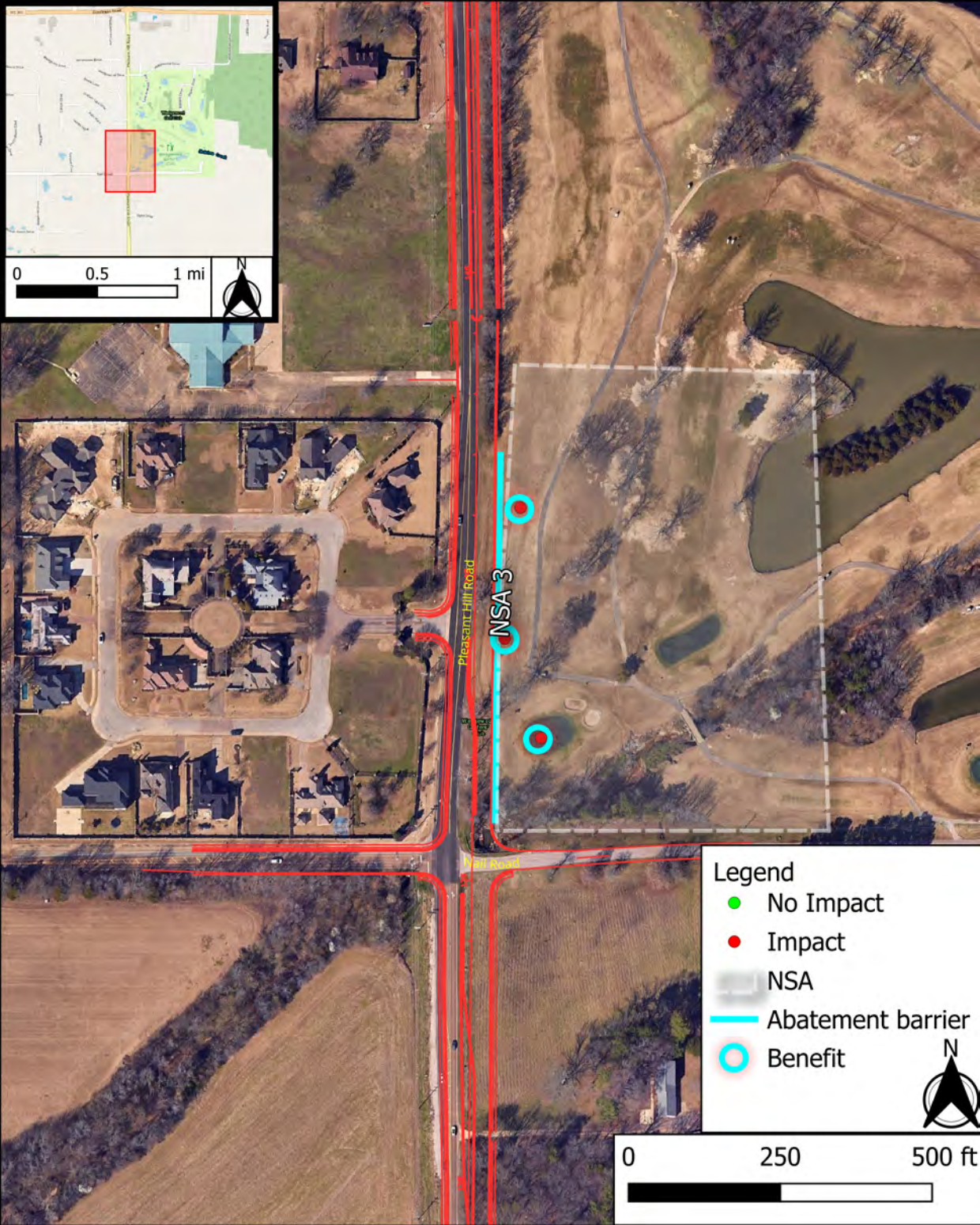
Richard,

Appendix D
Predicted Noise Levels and Impacts

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# DU	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (no background)	Predicted Existing, dBA (with background)	Predicted Build, dBA (no background)	Predicted Build, dBA (with background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Residences
01	01-01	5700 Pleasant Hill Rd	B	1	yes	40.0	59.0	59.1	66.6	66.6	Yes	7.5	No	Yes	1
01	01-02	5703 Flynn Rd	B	1	yes	40.0	60.1	60.1	67.3	67.3	Yes	7.2	No	Yes	1
01	01-03	5750 Pleasant Hill Rd	B	1	yes	40.0	59.6	59.6	67.4	67.4	Yes	7.8	No	Yes	1
01	01-04	5048 Flynn Rd	B	1	yes	40.0	50.0	50.4	55.8	55.9	No	5.5	No	No	0
01	01-05	5872 Pleasant Hill Rd	B	1	yes	40.0	50.0	50.4	55.4	55.5	No	5.1	No	No	0
01	01-06	5870 Pleasant Hill Rd	B	1	yes	40.0	51.7	52.0	58.3	58.4	No	6.4	No	No	0
01	01-07	5884 Pleasant Hill Rd	B	1	yes	40.0	51.7	52.0	58.1	58.2	No	6.2	No	No	0
01	01-08	5924 Pleasant Hill Rd	B	1	yes	40.0	51.2	51.5	58.3	58.4	No	6.9	No	No	0
02	02-01	6112 Fleur de Lis E	B	1	yes	40.0	58.3	58.4	62.6	62.6	No	4.2	No	No	0
02	02-02	6028 Fleur de Lis	B	1	yes	40.0	57.9	58.0	61.4	61.4	No	3.4	No	No	0
02	02-03	6188 Fleur de Lis	B	1	no	40.0	53.3	53.5	57.9	58.0	No	4.5	No	No	0
02	02-04	4958 Fluer de Lis N	B	1	no	40.0	49.2	49.7	53.6	53.8	No	4.1	No	No	0
02	02-05	6095 Fluer de Lis E	B	1	no	40.0	51.5	51.8	56.2	56.3	No	4.5	No	No	0
02	02-06	6053 Fleur de Lis E	B	1	no	40.0	51.3	51.6	55.8	55.9	No	4.3	No	No	0
02	02-07	4941 Fluer de Lis S	B	1	no	40.0	57.7	57.8	60.2	60.2	No	2.4	No	No	0
02	02-08	New Beginnings Church (D)	D	0	no	40.0	25.0	40.1	31.7	40.6	No	0.5	No	No	0
03	03-01	Wedgewood Tee (C)	C	0	yes	40.0	62.3	62.3	68.9	68.9	Yes	6.6	No	Yes	0
03	03-02	Wedgewood Tee (take) (C)	C	0	yes	40.0	64.7	64.7	71.5	71.5	Yes	6.8	No	Yes	0
03	03-03	Wedgewood Green	C	0	yes	40.0	58.4	58.5	66.1	66.1	Yes	7.6	No	Yes	0
04	04-01	4990 Graham Lake Dr	B	1	yes	40.0	60.9	60.9	65.7	65.7	No	4.8	No	No	0
04	04-02	4993 Graham Lake Dr	B	1	yes	40.0	59.6	59.6	65.1	65.1	No	5.5	No	No	0
04	04-03	4980 Bobo Pl	B	1	yes	40.0	56.3	56.4	62.7	62.7	No	6.3	No	No	0
04	04-04	4985 Bobo Pl	B	1	yes	40.0	56.3	56.4	62.7	62.7	No	6.3	No	No	0
04	04-05	4978 Graham Lake Dr	B	1	no	40.0	56.9	57.0	61.9	61.9	No	4.9	No	No	0
04	04-06	4966 Graham Lake Dr	B	1	no	40.0	54.3	54.5	59.8	59.8	No	5.3	No	No	0
04	04-07	4954 Graham Lake Dr	B	1	no	40.0	52.6	52.8	58.2	58.3	No	5.5	No	No	0
04	04-08	4942 Graham Lake Dr	B	1	no	40.0	51.4	51.7	57.2	57.3	No	5.6	No	No	0
04	04-09	4981 Graham Lake Dr	B	1	no	40.0	54.8	54.9	61.2	61.2	No	6.3	No	No	0
04	04-10	4969 Graham Lake Dr	B	1	no	40.0	51.4	51.7	58.7	58.8	No	7.1	No	No	0
04	04-11	4957 Graham Lake Dr	B	1	no	40.0	48.6	49.2	56.0	56.1	No	6.9	No	No	0
04	04-12	4945 Graham Lake Dr	B	1	no	40.0	46.4	47.3	53.8	54.0	No	6.7	No	No	0
04	04-13	4944 Bobo Pl	B	1	no	40.0	48.2	48.8	55.5	55.6	No	6.8	No	No	0
04	04-14	4949 Bobo Pl	B	1	no	40.0	49.7	50.1	57.2	57.3	No	7.2	No	No	0
05	05-01	5025 Wedgewood Dr	B	1	yes	40.0	57.7	57.8	64.3	64.3	No	6.5	No	No	0
05	05-02	5045 St Andrews Cv	B	1	yes	40.0	47.4	48.1	54.8	54.9	No	6.8	No	No	0
05	05-03	5035 St. Andrews Cv	B	1	yes	40.0	48.8	49.3	57.1	57.2	No	7.9	No	No	0
05	05-04	5025 St Andrews Cv	B	1	yes	40.0	52.1	52.4	60.1	60.1	No	7.7	No	No	0
05	05-05	5096 St Andrews Cv	B	1	yes	40.0	49.9	50.3	57.6	57.7	No	7.4	No	No	0
05	05-06	5065 Wedgewood Dr	B	1	no	40.0	48.8	49.3	56.9	57.0	No	7.7	No	No	0
05	05-07	5095 Wedgewood Dr	B	1	no	40.0	43.4	45.0	48.7	49.2	No	4.2	No	No	0
05	05-08	Wedgewood Green (C)	C	0	no	40.0	44.2	45.6	50.5	50.9	No	5.3	No	No	0
05	05-09	Wedgewood Tee (C)	C	0	yes	40.0	61.1	61.1	67.9	67.9	Yes	6.8	No	Yes	0
05	05-10	Wedgewood Tee (C)	C	0	yes	40.0	60.4	60.4	66.8	66.8	Yes	6.4	No	Yes	0
05	05-11	Wedgewood Green (C)	C	0	no	40.0	54.0	54.2	60.9	60.9	No	6.7	No	No	0
06	06-01	4995 Wedgewood Dr	B	1	yes	40.0	61.2	61.2	65.2	65.2	No	4.0	No	No	0
06	06-02	6650 Wyndham Hill Dr	B	1	yes	40.0	59.9	59.9	63.7	63.7	No	3.8	No	No	0
06	06-03	6536 Wyndham Hill Dr	B	1	yes	40.0	59.3	59.4	63.2	63.2	No	3.8	No	No	0
06	06-04	6526 Wyndham Hill Dr	B	1	yes	40.0	56.9	57.0	61.8	61.8	No	4.8	No	No	0
06	06-05	6498 Silverthorn Cv	B	1	yes	40.0	58.7	58.8	62.9	62.9	No	4.1	No	No	0
06	06-06	6484 Silverthorn Cv	B	1	yes	40.0	61.3	61.3	65.6	65.6	No	4.3	No	No	0
06	06-07	6478 Silverthorn Cv	B	1	yes	40.0	59.1	59.2	64.2	64.2	No	5.0	No	No	0
06	06-08	6569 Wyndham Hl	B	1	no	40.0	49.9	50.3	56.5	56.6	No	6.3	No	No	0
06	06-09	6555 Wyndham Hl	B	1	no	40.0	49.7	50.1	56.0	56.1	No	6.0	No	No	0
06	06-10	6531 Wyndham Hl	B	1	no	40.0	49.5	50.0	55.6	55.7	No	5.7	No	No	0
06	06-11	6515 Silverthorn Cv	B	1	no	40.0	48.9	49.4	55.6	55.7	No	6.3	No	No	0
06	06-12	6487 Silverthorn Cv	B	1	no	40.0	49.6	50.1	56.2	56.3	No	6.2	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# DU	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (no background)	Predicted Existing, dBA (with background)	Predicted Build, dBA (no background)	Predicted Build, dBA (with background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Residences
06	06-13	6481 Silverthorn Cv	B	1	no	40.0	49.8	50.2	56.6	56.7	No	6.5	No	No	0
06	06-14	6475 Silverthorn Cv	B	1	no	40.0	53.2	53.4	59.2	59.3	No	5.9	No	No	0
07	07-01	5050 Wedgewood Dr	B	1	yes	40.0	56.3	56.4	63.1	63.1	No	6.7	No	No	0
07	07-02	5067 Muirfield Cv	B	1	yes	40.0	54.0	54.2	61.2	61.2	No	7.0	No	No	0
07	07-03	5069 Muirfield Cv	B	1	yes	40.0	55.0	55.1	62.3	62.3	No	7.2	No	No	0
07	07-04	5073 Muirfield Cv	B	1	yes	40.0	53.1	53.3	61.6	61.6	No	8.3	No	No	0
07	07-05	5100 Wedgewood Dr	B	1	no	40.0	45.7	46.7	50.3	50.7	No	4.0	No	No	0
07	07-06	5078 Muirfield Cv	B	1	no	40.0	43.5	45.1	48.1	48.7	No	3.6	No	No	0
07	07-07	5082 Muirfield Cv	B	1	no	40.0	44.5	45.8	49.2	49.7	No	3.9	No	No	0
08	08-01	4970 Waterstone Cv	B	1	yes	40.0	54.4	54.6	59.9	59.9	No	5.3	No	No	0
08	08-02	4976 Waterstone Cv	B	1	yes	40.0	62.4	62.4	66.4	66.4	Yes	4.0	No	Yes	1
08	08-03	4981 Waterstone Cv	B	1	yes	40.0	61.8	61.8	65.6	65.6	No	3.8	No	No	0
08	08-04	4975 Waterstone Cv	B	1	yes	40.0	55.7	55.8	60.7	60.7	No	4.9	No	No	0
08	08-05	4998 Wedgewood Dr	B	1	yes	40.0	62.0	62.0	66.4	66.4	Yes	4.4	No	Yes	1
08	08-06	4694 Waterstone Cv	B	1	no	40.0	46.6	47.5	51.9	52.2	No	4.7	No	No	0
08	08-07	4950 Waterstone Cv	B	1	no	40.0	44.4	45.7	49.6	50.1	No	4.4	No	No	0
08	08-08	4969 Waterstone Cv	B	1	no	40.0	50.5	50.9	56.6	56.7	No	5.8	No	No	0
08	08-09	4955 Waterstone Cv	B	1	no	40.0	46.8	47.6	53.0	53.2	No	5.6	No	No	0
08	08-10	4984 Wedgewood Dr	B	1	no	40.0	52.9	53.1	59.5	59.5	No	6.4	No	No	0
08	08-11	4970 Wedgewood Dr	B	1	no	40.0	49.2	49.7	56.0	56.1	No	6.4	No	No	0
08	08-12	4956 Wedgewood Dr	B	1	no	40.0	46.3	47.2	52.4	52.6	No	5.4	No	No	0
09	09-01	6782 Pleasant Hill Rd	B	1	yes	40.0	64.5	64.5	69.9	69.9	Yes	5.4	No	Yes	1
09	09-02	6818 Plelasant Hil Rd	B	1	yes	40.0	53.8	54.0	61.5	61.5	No	7.5	No	No	0
09	09-03	6830 Pleasant Hill Rd	B	1	yes	40.0	62.8	62.8	68.3	68.3	Yes	5.5	No	Yes	1
09	09-04	6876 Pleasant Hill Rd	B	1	yes	40.0	64.9	64.9	69.6	69.6	Yes	4.7	No	Yes	1
10	10-01	6901 Pleasant Hill Rd	B	1	yes	40.0	62.4	62.4	66.4	66.4	Yes	4.0	No	Yes	1
10	10-02	6863 Pleasan Hill Rd	B	1	yes	40.0	60.4	60.4	65.2	65.2	No	4.8	No	No	0
10	10-03	6845 Pleasant Hill Rd	B	1	yes	40.0	59.5	59.5	64.7	64.7	No	5.2	No	No	0
10	10-04	6815 Pleasant Hill Rd	B	1	yes	40.0	59.2	59.3	64.4	64.4	No	5.1	No	No	0
10	10-05	6787 Pleasant Hill Rd	B	1	yes	40.0	59.0	59.1	64.6	64.6	No	5.5	No	No	0
10	10-06	6763 Pleasant Hill Rd	B	1	yes	40.0	59.0	59.1	64.7	64.7	No	5.6	No	No	0
10	10-07	6731 Pleasant Hill Rd	B	1	yes	40.0	58.1	58.2	63.4	63.4	No	5.2	No	No	0
10	10-08	6900 Meadowbrook Ln	B	1	no	40.0	46.3	47.2	50.2	50.6	No	3.4	No	No	0
10	10-09	6872 Meadowbrook Ln	B	1	no	40.0	45.5	46.6	49.3	49.8	No	3.2	No	No	0
10	10-10	6844 Meadowbrook Ln	B	1	no	40.0	47.9	48.6	51.6	51.9	No	3.3	No	No	0
10	10-11	6814 Meadowbrook Ln	B	1	no	40.0	47.5	48.2	51.5	51.8	No	3.6	No	No	0
10	10-12	6762 Meadowbrook Ln	B	1	no	40.0	46.7	47.5	51.8	52.1	No	4.6	No	No	0
02	02-09	Fleur de Lis (M)	F	0	---	40.0	64.7	64.7	68.7	68.7	No	4.0	No	Measurement	0
01	01-09	5700 Pleasant Hill Rd (M)	F	0	---	40.0	57.9	58.0	64.3	64.3	No	6.3	No	Measurement	0
01	01-10	5924 Pleasant Hill Rd (M)	F	0	---	40.0	50.4	50.8	58.0	58.1	No	7.3	No	Measurement	0
04	04-15	4945 Bobo Pl (M)	F	0	---	40.0	57.5	57.6	63.6	63.6	No	6.0	No	Measurement	0
04	04-16	REF (M)	F	0	---	40.0	68.1	68.1	72.1	72.1	No	4.0	No	Measurement	0
06	06-15	6745 Silverthorn Cv (M)	F	0	---	40.0	61.6	61.6	66.6	66.6	No	5.0	No	Measurement	0
09	09-05	6830 Pleasant Hill (M)	F	0	---	40.0	64.2	64.2	69.1	69.1	No	4.9	No	Measurement	0
07	07-08	5050 Wedgewood (M)	F	0	---	40.0	62.0	62.0	68.0	68.0	No	6.0	No	Measurement	0

Appendix E
Noise Barrier Designs and Evaluation Results


0
0.5
1 mi
N
NSA 3
Pleasant Hill Road
Legend
No Impact
Impact
NSA
Abatement barrier
Benefit
N
0
250
500 ft

Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Noise Analysis Area:	**3**
Description:	**Wedgewood Golf Course**
Design Year:	**2047**
Alternative:	**Build**

# of impacts	1
# of 1st row impacts	1
# impacts with IL ≥ 5 dB	**1**
# of 1st row impacts with IL ≥ 5 dB	1
% impacts with IL ≥ 5 dB	100.0%
% 1st row impacts with IL ≥ 5 dB	100.0%
Feasible? ---> (Is the # of all impacts with IL ≥ 5 dB at least 1)	**YES**

# of benefits (i.e., IL >= 5 dB)	1
# of 1st row benefits (i.e., IL >= 5 dB)	1
# benefits with IL ≥ 7 dB	1
# 1st row benefits with IL ≥ 7 dB	1
% benefits with IL ≥ 7 dB	**100.0%**
% 1st row benefits with IL ≥ 7 dB	100.0%
Meets NRDG? ---> (Is the % of all benefits with IL ≥7 dB at least 10.0%)	**Yes**

Receiver/Receptor information					Existing	Build (No Abatement)			Build (with Abatement)								
												Noise Reduction Design Goal					
Receiver #	Receiver Name	# of Receptors	FHWA Category	First Row? (Yes/No)	Existing Leq (dBA)	No Barrier Leq, w/background (dBA)	Increase over Existing (dB)	Impacted? (Yes or No)	With Barrier L_{eq}, w/ background (dBA)	Insertion Loss, IL (dBA)	Benefited? [IL ≥ 5 dB?] (Yes or No)	# of Benefited Receptors	# of 1st row Benefited Receptors	IL ≥ 7 dB? (Yes or No)	# of Receptors with IL ≥ 7 dB	# of 1st row Receptors with IL ≥ 7 dB
03-01	Wedgewood Tee (C)	0	C	yes	62.3	69.0	6.7	Yes	62.0	7.0	Yes	0	0	Yes	0	0
03-02	Wedgewood Tee (take) (C)	0	C	yes	64.7	71.6	6.9	Yes	57.3	14.3	Yes	0	0	Yes	0	0
03-03	Wedgewood Green	0	C	yes	58.5	66.1	7.6	Yes	59.2	6.9	Yes	0	0	No	0	0

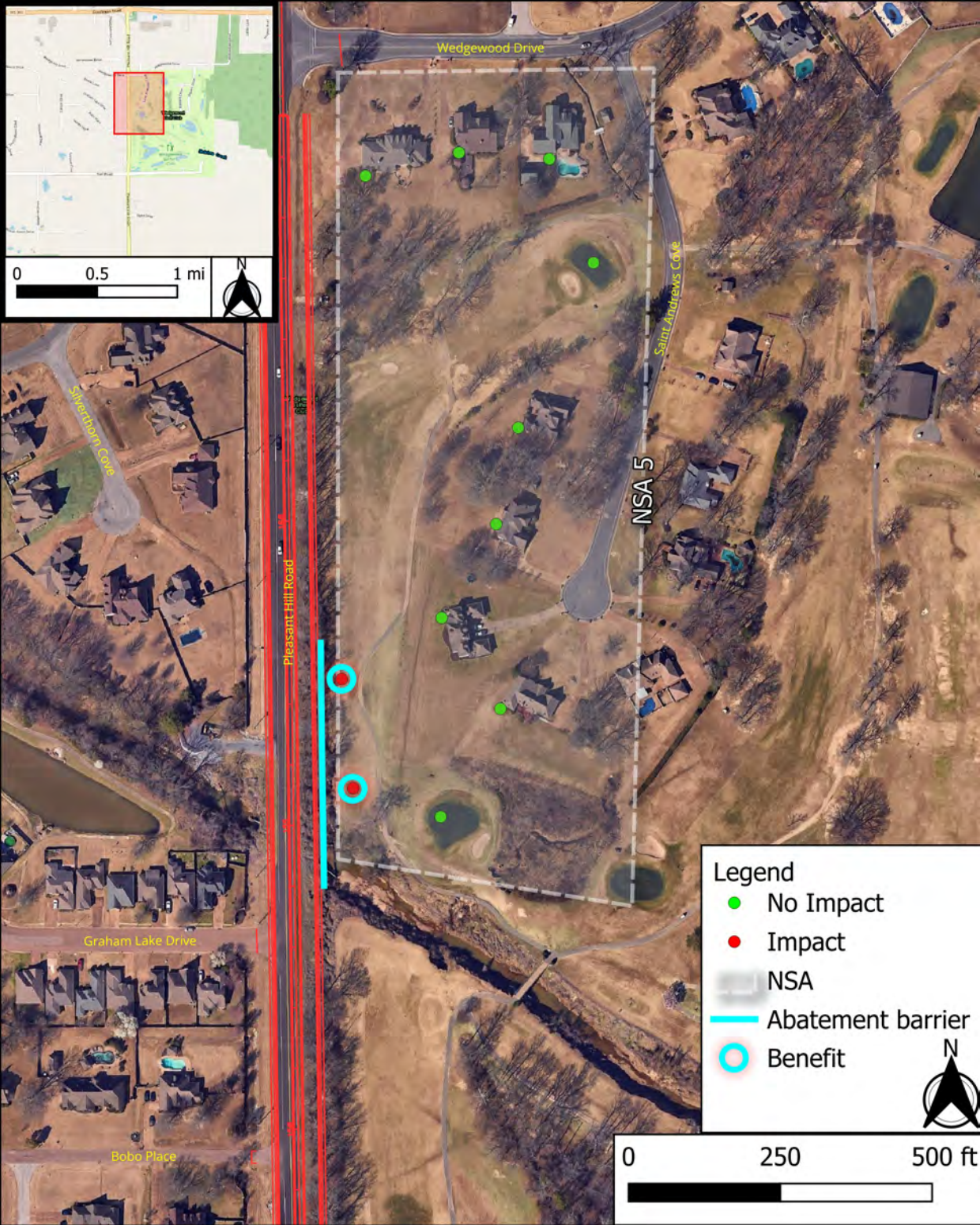
Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Area:	**3**
Description:	**Wedgewood Golf Course**
Design Year:	**2047**
Alternative:	**Build**

Total Length (ft)	601
Average Height (ft)	12.3
Total Area (ft^2)	7,412
Total Cost ($)	$252,008.00
Number of Benefited Residences	1
Cost Per Benefited Residence	$252,008.00
Allowable Cost Per Benefited Residence	$42,000.00
Reasonable?	**No**

From	To	Wall Type [1]	Include additional linear cost of $0 per ft?	Segment Length (ft.)	Barrier Height (ft)[2]	Barrier Area (sq ft)	Barrier Cost ($)
136+00	137+00	FR	No	99	14	1,386	$47,124.00
137+00	138+00	FR	No	99	16	1,584	$53,856.00
138+00	139+00	FR	No	100	14	1,400	$47,600.00
139+00	140+00	FR	No	102	12	1,224	$41,616.00
140+00	141+00	FR	No	102	12	1,224	$41,616.00
141+00	end	FR	No	99	6	594	$20,196.00
---	---	FR	No		---	---	---

(1) FR = free standing barrier, FA = free-standing absorptive, S = Structure

(2) At beginning station.


Wedgewood Drive
Saint Andrews Cove
NSA 5
Pleasant Hill Road
Silvermorn Cove
Graham Lake Drive
Bobo Place
0
0.5
1 mi
N
Legend
No Impact
Impact
NSA
Abatement barrier
Benefit
N
0
250
500 ft

Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Noise Analysis Area:	**5**
Description:	**Wedgewood Golf Course**
Design Year:	**2047**
Alternative:	**Build**

# of impacts	1
# of 1st row impacts	1
# impacts with IL ≥ 5 dB	**1**
# of 1st row impacts with IL ≥ 5 dB	1
% impacts with IL ≥ 5 dB	100.0%
% 1st row impacts with IL ≥ 5 dB	100.0%
Feasible? ---> (Is the # of all impacts with IL ≥ 5 dB at least 1)	**Yes**

# of benefits (i.e., IL >= 5 dB)	1
# of 1st row benefits (i.e., IL >= 5 dB)	1
# benefits with IL ≥ 7 dB	1
# 1st row benefits with IL ≥ 7 dB	1
% benefits with IL ≥ 7 dB	**100.0%**
% 1st row benefits with IL ≥ 7 dB	100.0%
Meets NRDG? ---> (Is the % of all benefits with IL ≥7 dB at least 10.0%)	**Yes**

Receiver/Receptor information					Existing	Build (No Abatement)			Build (with Abatement)								
												Noise Reduction Design Goal					
Receiver #	Receiver Name	# of Receptors	FHWA Category	First Row? (Yes/No)	Existing Leq (dBA)	No Barrier Leq, w/background (dBA)	Increase over Existing (dB)	Impacted? (Yes or No)	With Barrier L_{eq}, w/ background (dBA)	Insertion Loss, IL (dBA)	Benefited? [IL ≥ 5 dB?] (Yes or No)	# of Benefited Receptors	# of 1st row Benefited Receptors	IL ≥ 7 dB? (Yes or No)	# of Receptors with IL ≥ 7 dB	# of 1st row Receptors with IL ≥ 7 dB
05-01	5025 Wedgewood Dr	0	B	yes	57.8	64.2	6.4	No	64.2	0.0	No	0	0	No	0	0
05-02	5045 St Andrews Cv	0	B	yes	48.1	54.2	6.1	No	53.7	0.5	No	0	0	No	0	0
05-03	5035 St. Andrews Cv	0	B	yes	49.3	56.3	7.0	No	55.5	0.8	No	0	0	No	0	0
05-04	5025 St Andrews Cv	1	B	yes	52.4	59.4	7.0	No	58.1	1.3	No	0	0	No	0	0
05-05	5096 St Andrews Cv	1	B	yes	50.3	57.0	6.7	No	55.2	1.8	No	0	0	No	0	0
05-06	5065 Wedgewood Dr	1	B	no	49.3	56.2	6.9	No	56.2	0.0	No	0	0	No	0	0
05-07	5095 Wedgewood Dr	1	B	no	45.0	49.0	4.0	No	48.9	0.1	No	0	0	No	0	0
05-08	Wedgewood Green (C)	0	C	no	45.6	50.4	4.8	No	50.1	0.3	No	0	0	No	0	0
05-09	Wedgewood Tee (C)	0	C	yes	61.1	68.0	6.9	Yes	60.9	7.1	Yes	0	0	Yes	0	0
05-10	Wedgewood Tee (C)	0	C	yes	60.4	66.9	6.5	Yes	59.6	7.3	Yes	0	0	Yes	0	0
05-11	Wedgewood Green (C)	0	C	no	54.2	60.5	6.3	No	58.4	2.1	No	0	0	No	0	0
						---	---	---	---	---	---	---	---	---	---	---

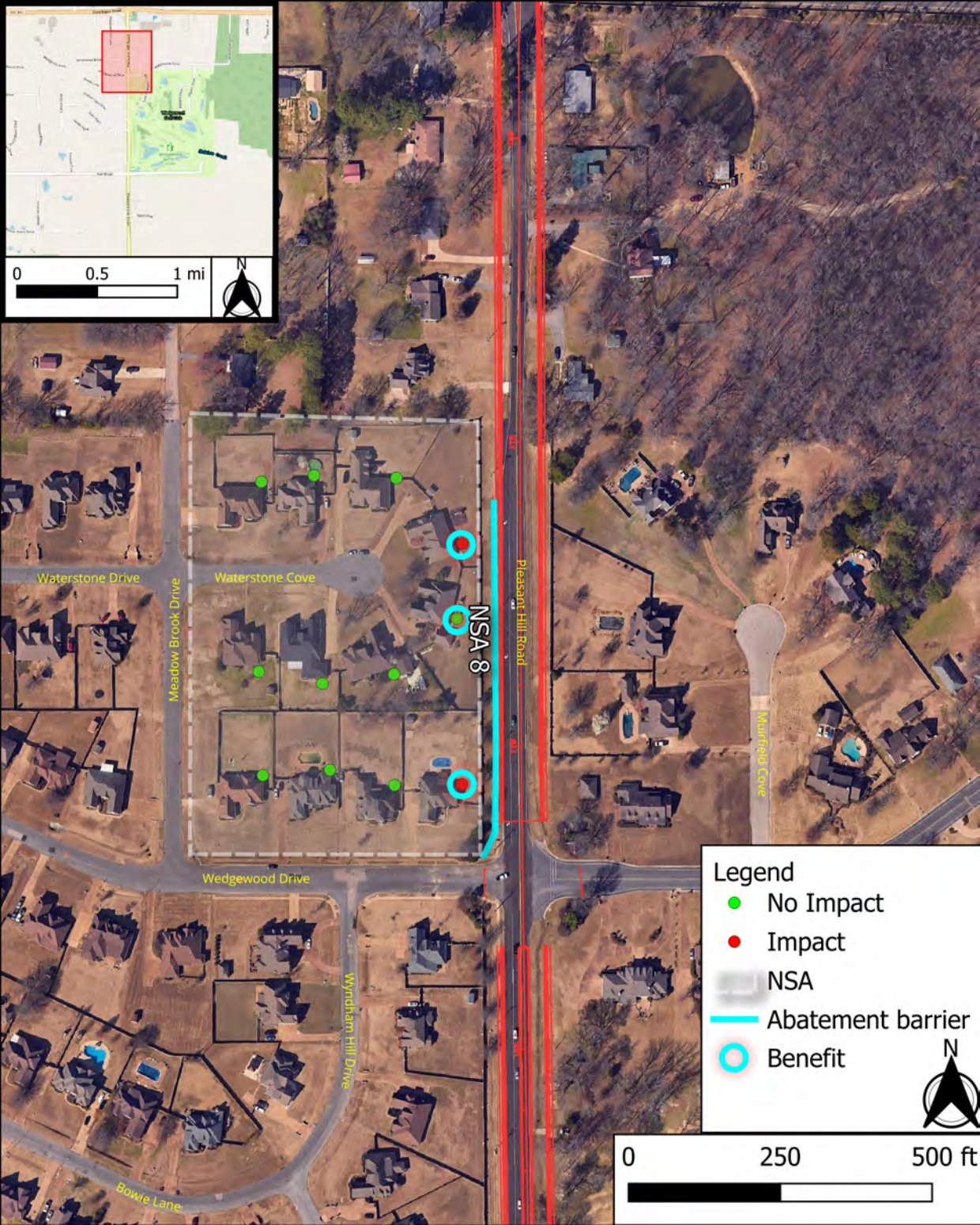
Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Area:	**5**
Description:	**Wedgewood Golf Course**
Design Year:	**2047**
Alternative:	**Build**

Total Length (ft)	400
Average Height (ft)	8.0
Total Area (ft^2)	3,200
Total Cost ($)	$108,800.00
Number of Benefited Residences	1
Cost Per Benefited Residence	$108,800.00
Allowable Cost Per Benefited Residence	$42,000.00
Reasonable?	**No**

From	To	Wall Type (1)	Include additional linear cost of $0 per ft?	Segment Length (ft.)	Barrier Height (ft)(2)	Barrier Area (sq ft)	Barrier Cost ($)
154+00	155+00	FR	No	100	8	800	$27,200.00
155+00	156+00	FR	No	100	8	800	$27,200.00
156+00	157+00	FR	No	100	8	800	$27,200.00
157+00	end	FR	No	100	8	800	$27,200.00

(1) FR = free standing barrier, FA = free-standing absorptive, S = Structure

(2) At beginning station.


0
0.5
1 mi
N
Waterstone Drive
Waterstone Cove
Meadow Brook Drive
NSA 8
Pleasant Hill Road
Muirfield Cove
Wedgewood Drive
Wyndham Hill Drive
Bowie Lane
Legend
No Impact
Impact
NSA
Abatement barrier
Benefit
N
0
250
500 ft

Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Noise Analysis Area:	**8**
Description:	**Arbors of Wedgewood**
Design Year:	**2047**
Alternative:	**Build**

# of impacts	2
# of 1st row impacts	2
# impacts with IL ≥ 5 dB	**2**
# of 1st row impacts with IL ≥ 5 dB	2
% impacts with IL ≥ 5 dB	100.0%
% 1st row impacts with IL ≥ 5 dB	100.0%
Feasible? ---> (Is the # of all impacts with IL ≥ 5 dB at least 1)	**Yes**

# of benefits (i.e., IL >= 5 dB)	3
# of 1st row benefits (i.e., IL >= 5 dB)	3
# benefits with IL ≥ 7 dB	3
# 1st row benefits with IL ≥ 7 dB	3
% benefits with IL ≥ 7 dB	**100.0%**
% 1st row benefits with IL ≥ 7 dB	100.0%
Meets NRDG? ---> (Is the % of all benefits with IL ≥7 dB at least 10.0%)	**Yes**

Receiver/Receptor information					Existing	Build (No Abatement)			Build (with Abatement)								
												Noise Reduction Design Goal					
Receiver #	Receiver Name	# of Receptors	FHWA Category	First Row? (Yes/No)	Existing Leq (dBA)	No Barrier Leq, w/background (dBA)	Increase over Existing (dB)	Impacted? (Yes or No)	With Barrier L_{eq}, w/ background (dBA)	Insertion Loss, IL (dBA)	Benefited? [IL ≥ 5 dB?] (Yes or No)	# of Benefited Receptors	# of 1st row Benefited Receptors	IL ≥ 7 dB? (Yes or No)	# of Receptors with IL ≥ 7 dB	# of 1st row Receptors with IL ≥ 7 dB
08-01	4970 Waterstone Cv	1	B	yes	54.6	59.4	4.8	No	58.1	1.3	No	0	0	No	0	0
08-02	4976 Waterstone Cv	1	B	yes	62.4	66.5	4.1	Yes	59.5	7.0	Yes	1	1	Yes	1	1
08-03	4981 Waterstone Cv	1	B	yes	61.8	65.7	3.9	No	57.7	8.0	Yes	1	1	Yes	1	1
08-04	4975 Waterstone Cv	1	B	yes	55.8	60.0	4.2	No	55.3	4.7	No	0	0	No	0	0
08-05	4998 Wedgewood Dr	1	B	yes	62.0	66.5	4.5	Yes	59.3	7.2	Yes	1	1	Yes	1	1
08-06	4694 Waterstone Cv	1	B	no	47.5	51.9	4.4	No	51.3	0.6	No	0	0	No	0	0
08-07	4950 Waterstone Cv	1	B	no	45.7	49.7	4.0	No	49.1	0.6	No	0	0	No	0	0
08-08	4969 Waterstone Cv	1	B	no	50.9	55.8	4.9	No	52.8	3.0	No	0	0	No	0	0
08-09	4955 Waterstone Cv	1	B	no	47.6	52.5	4.9	No	50.9	1.6	No	0	0	No	0	0
08-10	4984 Wedgewood Dr	1	B	no	53.1	58.9	5.8	No	54.6	4.3	No	0	0	No	0	0
08-11	4970 Wedgewood Dr	1	B	no	49.7	55.3	5.6	No	52.0	3.3	No	0	0	No	0	0
08-12	4956 Wedgewood Dr	1	B	no	47.2	52.0	4.8	No	49.7	2.3	No	0	0	No	0	0

Project:	**Pleasant Hill Road Widening**
Project Number:	**STP-7899-00(001)**
Area:	**8**
Description:	**Arbors of Wedgewood**
Design Year:	**2047**
Alternative:	**Build**

Total Length (ft)	584
Average Height (ft)	9.0
Total Area (ft^2)	5,272
Total Cost ($)	$179,248.00
Number of Benefited Residences	3
Cost Per Benefited Residence	$59,749.33
Allowable Cost Per Benefited Residence	$42,000.00
Reasonable?	**No**

From	To	Wall Type [1]	Include additional linear cost of $0 per ft?	Segment Length (ft.)	Barrier Height (ft)[2]	Barrier Area (sq ft)	Barrier Cost ($)
174+00	173+00	FR	No	100	10	1,000	$34,000.00
173+00	172+00	FR	No	100	10	1,000	$34,000.00
172+00	171+00	FR	No	100	10	1,000	$34,000.00
171+00	170+00	FR	No	100	8	800	$27,200.00
170+00	169+00	FR	No	100	8	800	$27,200.00
169+00	168+58	FR	No	42	8	336	$11,424.00
168+58	end	FR	No	42	8	336	$11,424.00

(1) FR = free standing barrier, FA = free-standing absorptive, S = Structure
(2) At beginning station.

Appendix E

Wetland & Other Waters Assessment Report

USACE Nationwide Permit No. 14, WQC No. WQC2021041

WETLAND AND OTHER WATERS ASSESSMENT REPORT

Preliminary Design

Pleasant Hill Road Widening

DeSoto County, MS

Project Number: STP-7899-00(001)LPA

FMS Number: 108775-701000

Prepared by
Tioga Environmental Consultants, Inc.
357 North Main Street
Memphis, TN 38103

June 2024

MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Executive Summary

The project is located along Pleasant Hill Road between Church Road and Goodman Road, in Olive Branch, DeSoto County, Mississippi (Section 01/02- Township 02- Range 07). The City of Olive Branch, MS is proposing to widen approximately 2.0 miles of the existing 2-lane section of Pleasant Hill Road to a multi-lane roadway, and to reconstruct the intersections at Church Road and Nail Road.

An initial delineation of the southern half of the project corridor between Church Road and Nail Road was conducted in February 2022. The northern half of the project corridor between Nail Road and Goodman Road, as well as the southernmost intersection at Church Road and Pleasant Hill Road, was delineated in May 2024. The delineations were conducted to identify and describe potentially jurisdictional areas such as wetlands and other waters of the US within the project corridor. A total of two palustrine emergent wetlands (0.70 acres), six perennial and intermittent waters (2,659 linear feet), and thirty-two drainage ditches (11,705 feet, primarily roadside ditches) were found in or immediately adjacent to the study corridor. These areas should be considered potentially jurisdictional until concurrence is given by a representative of the US Army Corps of Engineers.

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Appendices

Appendix A — Methods and Tools

Appendix B — Detailed Site Information

Appendix C — Background Information

Appendix D — Rainfall Data

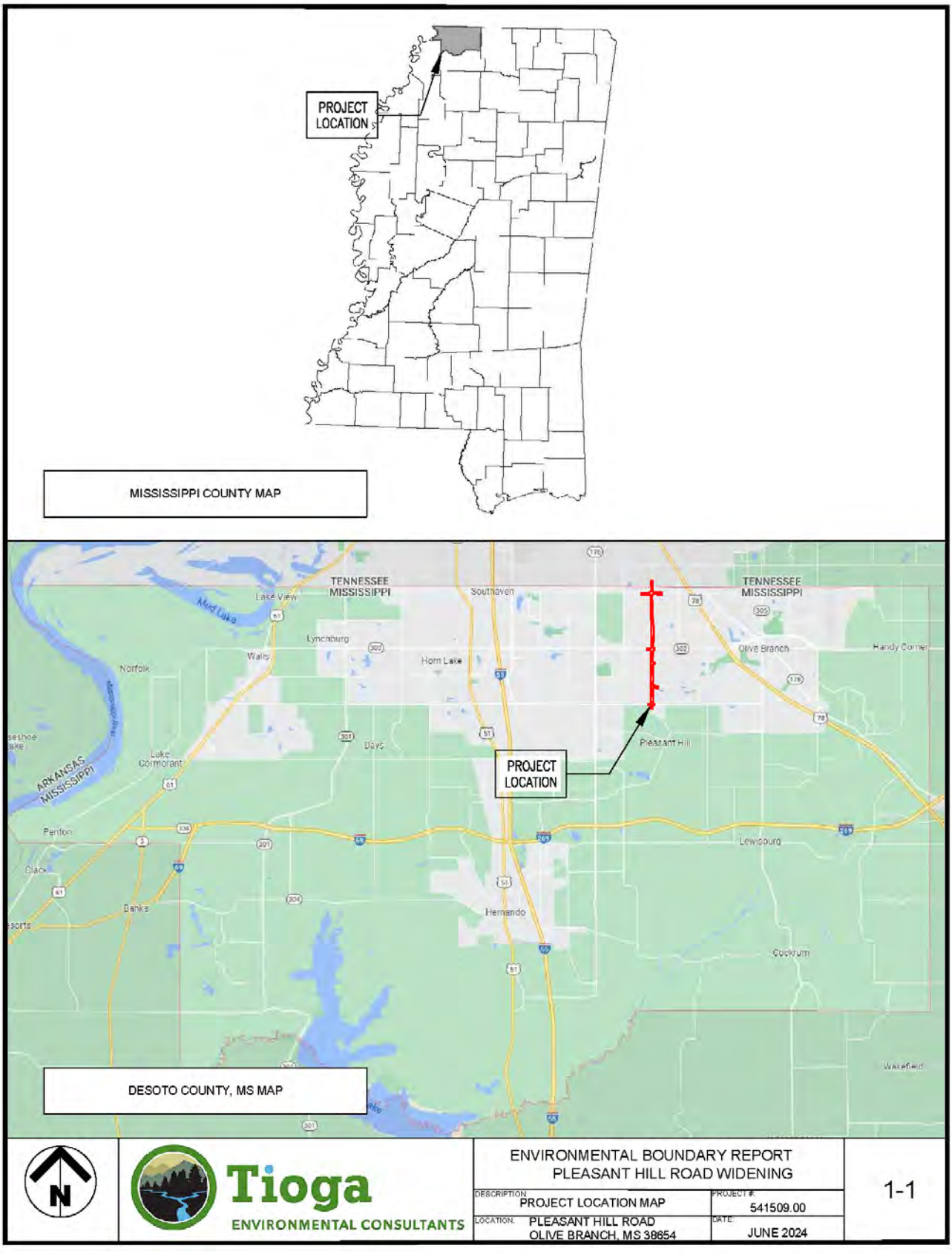
Acronyms and Abbreviations

CA	Channel Assessment, data point location
CWA	Clean Water Act, Section 404
BMP	Best Management Practice
DP	Data Point
HUC	Hydrologic Unit Code
JD	Jurisdictional Determination
MDEQ	Mississippi Department of Environmental Quality
MDOT	Mississippi Department of Transportation
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Mater mark
OW	Other Waters of the US
PEM	Palustrine Emergent
PF	Palustrine Forested
PSS	Palustrine Scrub-shrub
RHA	River and Harbors Act, Section 10
ROW	Right-Of-Way
Sta.	Station Number
SR	State Route
UPL	Upland
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
WTL	Wetland

Chapter 1. Introduction

The purpose of this report is to identify and describe potentially jurisdictional areas such as wetlands, other waters, and other waters of the US within the project corridor. The delineation was conducted by Tioga Environmental Consultants, Inc. (Tioga). Field work was performed during site visits on February 1, 2022 and May 2, 2024. This report facilitates MDOT's efforts to document wetland and other waters boundary determinations for review by regulatory authorities and to avoid or minimize impacts to wetlands and other waters during the design process.

The project is located along Pleasant Hill Road in Desoto County, in Olive Branch, Mississippi (Section 01/02- Township 02- Range 07). See Figure 1 below for more detailed location information. Work will take place along Pleasant Hill Road, between the south terminus at Church Road to just beyond Goodman Road to the north. The purpose of this project is to widen the existing 2-lane roadway to a multi-lane roadway and reconstruct the intersections at Church Road and Nail Road.


PROJECT LOCATION
MISSISSIPPI COUNTY MAP
TENNESSEE
MISSISSIPPI
Lake View
Mud Lake
Southaven
Lynchburg
Walls
Horn Lake
Norfolk
Olive Branch
Hardy Corner
Pleasant Hill
Dove
Lake Cormorant
ARKANSAS
MISSISSIPPI
PROJECT LOCATION
Penton
Lewisburg
Clack
Banks
Hernando
Cockrum
Wakefield
DESOTO COUNTY, MS MAP
N
Tioga
ENVIRONMENTAL CONSULTANTS
ENVIRONMENTAL BOUNDARY REPORT
PLEASANT HILL ROAD WIDENING
DESCRIPTION: PROJECT LOCATION MAP
PROJECT #: 541509.00
LOCATION: PLEASANT HILL ROAD
OLIVE BRANCH, MS 38654
DATE: JUNE 2024
1-1

Chapter 2. Methods

This chapter summarizes the methods used to comply with MDOT, federal, state, and local guidance. Please see Appendix A for further details of methods used in this report.

Prior to initiation of field work, information was gathered from U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Maps, the U.S. Department of Agriculture-Natural Resource Conservation Service (USDA NRCS) Web Soil Survey Maps, U.S. Geological Survey (USGS) topographic mapping, and aerial photography. See Appendix C for maps showing soils, topography, and the wetland inventory. Site visits were conducted on February 1, 2022 and March 2, 2024 to record relevant data on potentially jurisdictional areas for the purposes of CWA and/or RHA permitting purposes.

The hydrologic survey commenced at the south terminus of the project at the intersection of Pleasant Hill Road and Church Road, proceeded northward for approximately 2.02 miles, and terminated north of the Pleasant Hill Road / Goodman Road interchange in Olive Branch, DeSoto County, MS. An approximate 300 feet to the east and west (as applicable) of Nail Road, Flynn Drive, and Latham Drive were also surveyed where they intersected Pleasant Hill Road. Potentially jurisdictional areas within approximately 100 feet either side of the proposed centerline were assessed during the site visit and are described in this document. Wetland determinations were made using observable vegetation, hydrology, and soils in accordance with the routine approach described in the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (2010). Details of wetland and upland areas are described in detail on attached regional supplement datasheets found in Attachment B. Other waters are described on Other Waters Field Datasheet forms found in Attachment B. Wetland boundaries, stream locations, and data points were delineated and collected using a 'WAAS' enabled Global Positioning System (GPS) handheld unit.

Regional supplement datasheets were completed at each data point (DP) location. Areas which met all three hydric criteria are labeled as "WTL". Data points were also collected for reference uplands, labeled as "UPL". At each data point location, soils, vegetation, and hydrology were described and representative photographs were taken. Other Water Field Data sheets were

completed for each tributary reach within and immediately adjacent to the project area, and may not represent the total channel reach length. Each location for these resources is marked with an "OW" (other water). Photographs were taken up and down gradient at each other water assessment site.

After field work was completed, data was entered into CAD software (AutoCAD LT 2020), potentially jurisdictional areas were mapped, and areas and lengths were calculated.

Chapter 3. Existing Conditions

Based upon the site inspection, a total of two wetland (0.70 acres), six perennial and intermittent waters (2,659 linear feet), and thirty-two drainage ditches (11,750 feet, primarily roadside ditches) were found in or immediately adjacent to the study corridor. Furthermore, potential work area boundaries have yet to be defined and therefore not all of the potential wetland and tributaries may be impacted by the project. All potential jurisdictional areas should be considered preliminary prior to confirmation by the US Army Corps of Engineers Regulatory Branch. Findings are discussed in Tables 1 and 2 below, and identified features are shown on Figures 1-6, a topographic and five aerial maps respectively, located in Appendix B.

Landscape Setting

Terrain in the project area is characterized with rolling topography. The project is located in the Southern Mississippi Valley Silty Uplands (134) Major Land Resource Area portion of the Inner Coastal Plain (LRR P) as described by the Natural Resource Conservation Service. Dominant land use in the area is agriculture and undeveloped forest area on the southern half of the project corridor between Church Road and Nail Road, and residential, with a golf course, on the on the northern half of the project corridor between Nail Road and Goodman Road.

On the southern half of the project corridor, surface waters generally drain west away from the existing roadway before entering into an unnamed tributary that runs north off the eastern project boundary towards Nolehoe Creek. On the northern half of the project corridor, the surface waters generally drain south towards either Nolehoe Creek, except for within the northern extent of the corridor near Goodman road where there is a topographic divide and the waters drain towards and into roadside channels along Goodman Road.

Hydrology

<u>February 2022 Delineation Event</u>

Rainfall for the preceding month (January 2022) was normal, with a recorded rainfall of 3.46 inches at the Hernando, MS NOAA station (USC00223975). The 1981 to 2020 average monthly rainfall at the Memphis International Airport, the nearest continuously monitoring station, was 4.36 inches (standard deviation 1.51" – 7.21"). 0.00 inches were recorded for the seven days prior to the site visit; as a result, it is assumed that water in tributaries was observed below the

Ordinary High Water Mark (OHWM).

May 2024 Delineation Event

Rainfall for the preceding month (April 2024) was normal, with a recorded rainfall of 3.51 inches at the Hernando, MS NOAA station (USC00223975). The 1981 to 2020 average monthly rainfall at the Memphis International Airport, the nearest continuously monitoring station, was 5.57 inches (standard deviation 2.61" – 8.53"). 0.78 inches were recorded for the seven days prior to the site visit; as a result, it is assumed that water in tributaries was observed below the OHWM.

For the one observed wetland, noted hydrology included saturation visible in aerial imagery, saturated soils starting near the surface, a water table within 10 inches of the surface, and oxidized rhizospheres along the root channels.

For those channels designated as intermittent or perennial streams, noted hydrology generally included flowing water and the presence of an ordinary high water mark. No waters in the project area are Section 10 waters or are State listed 303d (impaired) waters.

Vegetation

The majority of the project area has been previously developed as part of the existing roadway and stormwater infrastructure systems and is primarily grassed immediately adjacent to the roadway. Plant communities in the adjacent wooded portions of the project area were primarily comprised of mixed hardwoods dominated by White Oak (*Quercus alba*), American Elm (*Ulmus americana*) and Sweet Gum (*Liquidambar styraciflua*), with an understory of Chinese Privet (*Ligustrum sinense*) and Kudzu (*Pueraria montana).* The adjoining agricultural fields are a mix of pasture lands and row crops (fallow corn). The residential northern project corridor was almost exclusively maintained grass lawns. The one wetland was noted to have more hydrophytic vegetation, including interspersed emergent species rush (*Juncus spp*.), pennywort (*Hydrocotyle sibthorpioides*), and marsh bristlegrass (*Setaria parviflora*).

Soils

Soils found in the project area are mapped as Collins, Collins and Falaya, Grenada, and Loring silt loams. The Collins and Falaya silt loam mix has a hydric rating of 3%, indicating that approximately 3% of the mapped series is likely to profile as hydric. The mapping indicates that

this series is primarily located along the noted topographic blue-line streams within and adjacent to the south-central portion of the project area. The other listed soils are not classified as having hydric inclusions. For more information, see the Datasheets in Appendix B and Custom Soil Report in Appendix C.

Table 1. Wetland / Upland Data Point Summary Table

Data Point	Wetland ID#	Latitude*	Longitude*	Approximate Station Number	Section-Township-Range	Area from ROW to ROW (Acres)	Cowardin Classification	Impact**
DP-1		34.935642	-89.901064	TBD	1-2S-7W		Upland	
DP-2		34.937936	-89.900944	TBD	1-2S-7W	0.67 total, 0.39 within project boundary	Upland	
DP-3		34.941821	-89.901143	TBD	1-2S-7W		Upland	
DP-4	WTL-1	34.947580	-89.901128	TBD	1-2S-7W		PEM	To be determined
DP-5		34.947178	-89.901766	TBD	2-2S-7W		Upland	
Linear feature, inundated, no DP	WTL-2	34.96229	-89.90244	TBD	35-1S-7W	0.026	PEM	To be determined

DP- Data point- collection point for sampling data for wetland assessment
WTL- Wetland- areas described as wetlands
PEM- Palustrine Emergent
Station Numbers are to be determined once plans are provided
**Latitude and Longitude in Decimal Degrees, NAD 83*
***Wetland Impacts are one of the following- Permanent Fill, Temporary Fill, Shading, Clearing with no grubbing, TBD once design is completed*

Wetland Summary:	**2 Total Present (acres)**	**Impacts**
Forested:	0.00	
Shrub-Scrub:	0.00	
Emergent:	0.70	
Total	**0.70**	**TBD**

Table 2. Channel Assessment Table

OW #	Latitude*	Longitude*	Section-Township-Range	Sta.**	Type	Length in Project Area (feet)	Channel Width (feet)	Name
Presumed Jurisdictional Features (Perennial and Intermittent Waters, Ephemeral with an OHWM)								
2	34.935522	-89.901811	2-2S-7W	TBD	I	295	5	Unnamed
4	34.935469	-89.900900	1-2S-7W	TBD	P	1,136	12	Unnamed
6B	34.938065	-89.901225	1-2S-7W	TBD	I	203	4	Unnamed
10B	34.941333	-89.901258	1-2S-7W	TBD	I	121	5	Unnamed
21	34.947388	-89.902134	2-2S-7W	TBD	P	594	20	Unnamed
34	34.953195	-89.901563	36-1S-7W	TBD	P	310	35	Nolehoe Creek
Presumed Non-Jurisdictional Features (Upland Erosional Features and Drainage Ditches)								
1	34.933665	-89.901472	2-2S-7W	TBD	DD	779	4	N/A
3	34.934260	-89.901255	1-2S-7W	TBD	DD	585	4	N/A
5	34.936618	-89.901440	2-2S-7W	TBD	DD	520	6	N/A
6A	34.938032	-89.901481	2-2S-7W	TBD	DD	72	8	N/A
7	34.936684	-89.901166	1-2S-7W	TBD	DD	56	4	N/A
8	34.938122	-89.901434	2-2S-7W	TBD	DD	421	4	N/A
9	34.939500	-89.901417	2-2S-7W	TBD	DD	662	4	N/A
10A	34.941323	-89.901488	2-2S-7W	TBD	DD	73	3	N/A
11	34.940660	-89.901299	1-2S-7W	TBD	DD	165	1.5	N/A
12	34.941395	-89.901452	2-2S-7W	TBD	DD	568	4	N/A
13	34.943320	-89.901493	2-2S-7W	TBD	DD	974	4	N/A
14	34.946670	-89.901600	2-2S-7W	TBD	DD	336	3	N/A
15	34.947318	-89.901511	2-2S-7W	TBD	DD	110	5	N/A
16	34.943498	-89.901485	2-2S-7W	TBD	DD	58	3	N/A
17	34.943272	-89.901351	1-2S-7W	TBD	DD	86	5	N/A
18	34.944520	-89.901354	1-2S-7W	TBD	DD	753	5	N/A
19	34.946624	-89.901354	1-2S-7W	TBD	DD	245	5	N/A
20	34.947317	-89.901354	1-2S-7W	TBD	DD	131	6	N/A
22	34.950557	-89.901352	35-1S-7W	TBD	DD	305	4	N/A
23	34.951377	-89.901411	35-1S-7W	TBD	DD	321	4	N/A
24	34.952475	-89.901119	36-1S-7W	TBD	DD	170	6	N/A
25	34.953966	-89.901442	35-1S-7W	TBD	DD	174	8	N/A
26	34.953484	-89.901098	36-1S-7W	TBD	DD	127	3	N/A
27	34.954979	-89.901222	36-1S-7W	TBD	DD	775	4	N/A
28	34.960338	-89.901403	35-1S-7W	TBD	DD	582	4	N/A
29	34.960554	-89.901203	36-1S-7W	TBD	DD	470	4	N/A
30	34.962423	-89.900067	36-1S-7W	TBD	DD	262	12	N/A
31	34.962655	-89.898119	26-1S-7W	TBD	DD	1,130	8	N/A
32	34.962262	-89.898355	26-1S-7W	TBD	DD	224	8	N/A

OW #	Latitude*	Longitude*	Section-Township-Range	Sta.**	Type	Length in Project Area (feet)	Channel Width (feet)	Name
33	34.962704	-89.902410	25-1S-7W	TBD	DD	150	4	N/A
35	34.932991	-89.901152	36-1S-7W	TBD	DD	146	10	N/A
36	34.933222	-89.901752	36-1S-7W	TBD	DD	275	6	N/A

OW- Other Water
Type:
P-Perennial
I-Intermittent
E-Ephemeral
DD- Drainage Ditch
* Latitude and Longitude in Decimal Degrees, NAD 83, State Plane
**Station numbers (Sta.) are To Be Determined (TBD) after design plans are provided

CA Summary	Total Present (ft)	Impacts
Perennial:	2,040	
Intermittent:	619	
Ephemeral:	0.0	
Total (P.I.E.)	**2,659**	To be determined

Chapter 4. References

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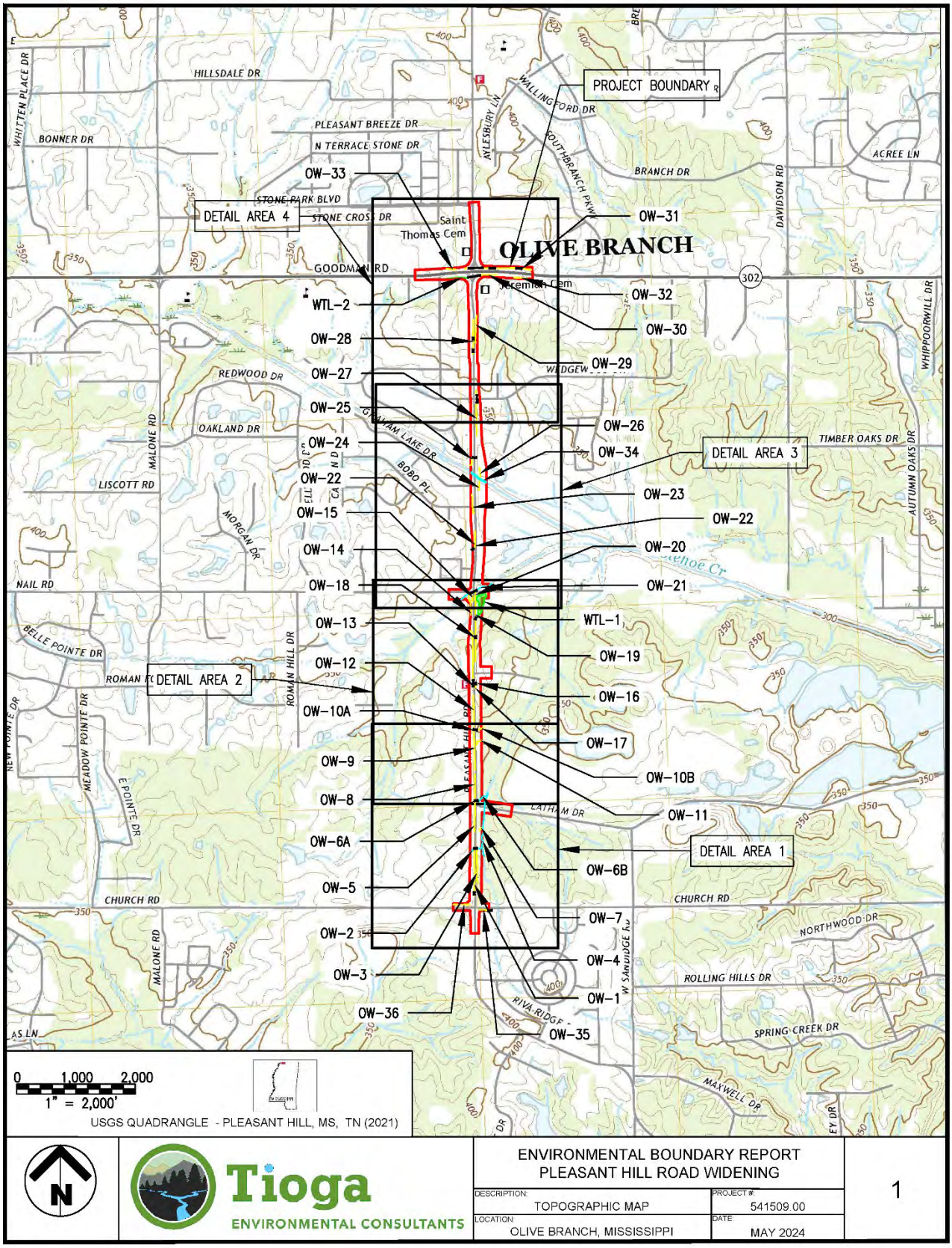
Appendix A — Methods and Tools

Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference
Wetland Delineation	1987 Manual	http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf	Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
	Regional Supplement	http://el.erdc.usace.army.mil/elpubs/pdf/trel10-20.pdf	U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/ EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/nwi/Pubs_Reports/Class_Manual/class_titlepg.htm	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. Government Printing Office, Washington, D.C.
Other Waters Delineation	OHWM	http://www.usace.army.mil/inet/functions/cw/cecwo/reg/33cfr328.htm	Congressional Federal Register 33 Part 328 Definition of Waters of the United States.
Hydrology	Technical Standard	http://el.erdc.usace.army.mil/wrap/pdf/tnwrap05-2.pdf	U.S. Army Corps of Engineers. 2005. *Technical Standard for Water-Table Monitoring of Potential Wetland Sites, WRAP Technical Notes Collection* (ERDC TN-WRAP-05-02). U.S. Army Engineer Research and Development Center, Vicksburg, MS.
Plant Indicator Status	Southeast (Region 2) (Reed, 1988)	http://plants.usda.gov/wetinfo.html	Reed, P.B. Jr. 1988. *National list of plant species that occur in wetlands: Southeast* (Region 2) Washington. Biological Report NERC-88/26.2 for National Wetlands Inventory, Washington, D.C.
	National Wetland Plant List	https://rsgis.crrel.usace.army.mil/apex/f?p=703:1:3582582867881596	North American Digital Flora: National Wetland Plant List
	USDA Plant Database	http://plants.usda.gov/	Website (see Appendix A)
Soils Data	Soil Survey	Web Soil Survey: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx Soil Data Mart: http://soildatamart.nrcs.usda.gov/	Website
	Hydric Soil Indicators	http://soils.usda.gov/use/hydric/	USDA Natural Resources Conservation Service. 2006b. *Field indicators of hydric soils in the United States, Version 6.0*. ed. G. W. Hurt and L. M. Vasilas. Fort Worth, TX: USDA NRCS in cooperation with the National Technical Committee for Hydric Soils.

Appendix B — Detailed Site Information

Site maps, Wetland Datasheets, Other Water Field Datasheets, Site Photographs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DETAIL AREA 2
DETAIL AREA 3
DETAIL AREA 4
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Jerusalem Cem
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OW-2
OW-3
OW-4
OW-5
OW-6A
OW-6B
OW-7
OW-8
OW-9
OW-10A
OW-10B
OW-11
OW-12
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OW-30
OW-31
OW-32
OW-33
OW-34
OW-35
OW-36
WTL-1
WTL-2
HILLSDALE DR
PLEASANT BREEZE DR
N TERRACE STONE DR
STONE PARK BLVD
STONE CROSS DR
GOODMAN RD
REDWOOD DR
OAKLAND DR
LISCOTT RD
NAIL RD
MALONE RD
MORGAN DR
BELLE POINTE DR
ROMAN HILL DR
MEADOW POINTE DR
E POINTE DR
CHURCH RD
LATHAM DR
RIVA RIDGE
ROLLING HILLS DR
SPRING CREEK DR
NORTHWOOD DR
MAXWELL DR
TIMBER OAKS DR
AUTUMN OAKS DR
WHIPPOORWILL DR
ACREE LN
DAVIDSON RD
BRANCH DR
SOUTHBRANCH PKWY
WALLINGFORD DR
AYLESBURY LN
WEDGEWOOD
GRAHAM LAKE DR
BOBO PL
0 1,000 2,000
1" = 2,000'
USGS QUADRANGLE - PLEASANT HILL, MS, TN (2021)
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Tioga
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ENVIRONMENTAL BOUNDARY REPORT
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LOCATION: OLIVE BRANCH, MISSISSIPPI
DATE: MAY 2024
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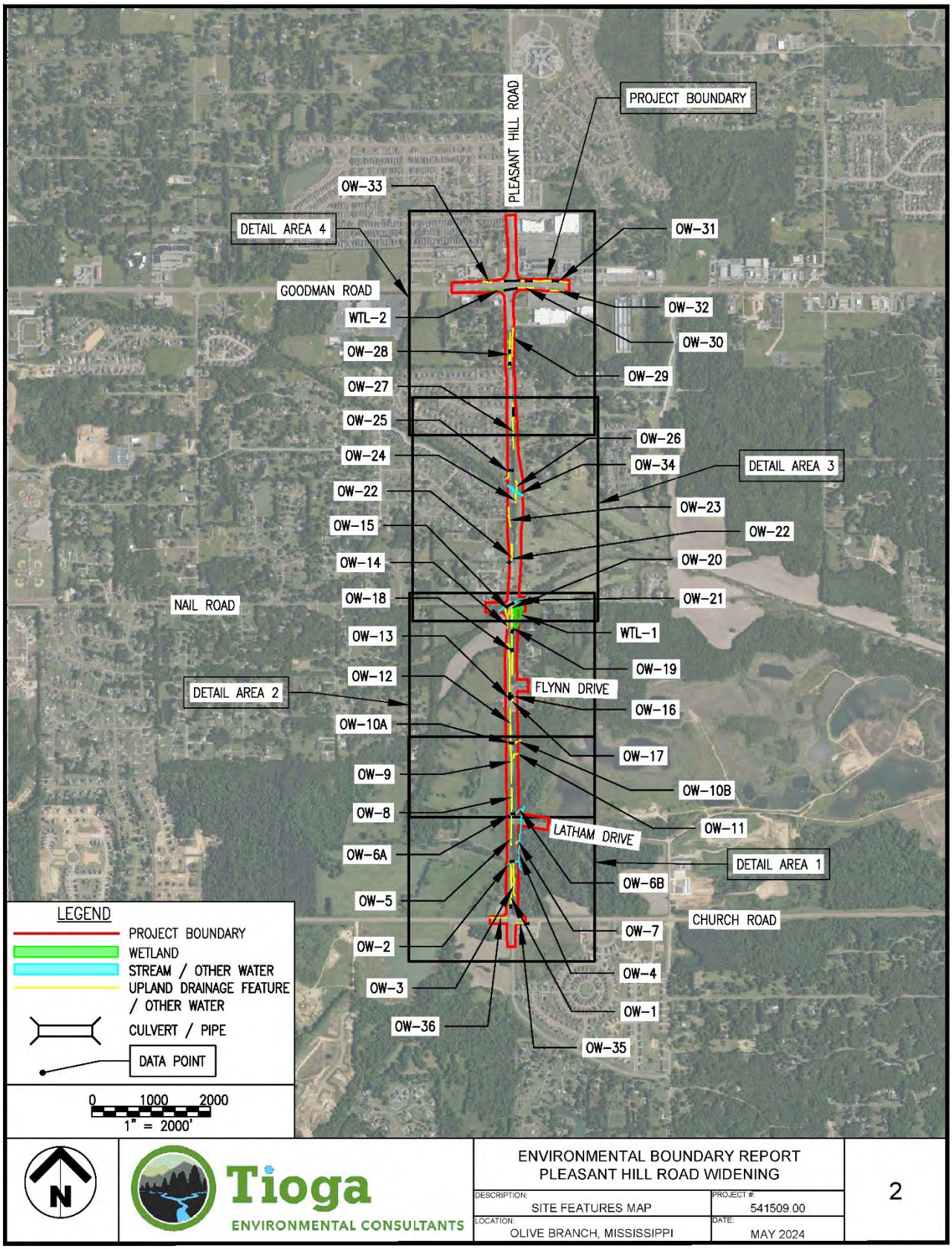
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GOODMAN ROAD
WTL-2
OW-32
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OW-29
OW-27
OW-25
OW-26
OW-24
OW-34
DETAIL AREA 3
OW-22
OW-23
OW-15
OW-22
OW-14
OW-20
NAIL ROAD
OW-18
OW-21
WTL-1
OW-13
OW-19
OW-12
FLYNN DRIVE
DETAIL AREA 2
OW-16
OW-10A
OW-17
OW-9
OW-10B
OW-8
OW-11
LATHAM DRIVE
OW-6A
DETAIL AREA 1
OW-6B
OW-5
CHURCH ROAD
OW-7
OW-2
OW-4
OW-3
OW-1
OW-36
OW-35
LEGEND
PROJECT BOUNDARY
WETLAND
STREAM / OTHER WATER
UPLAND DRAINAGE FEATURE / OTHER WATER
CULVERT / PIPE
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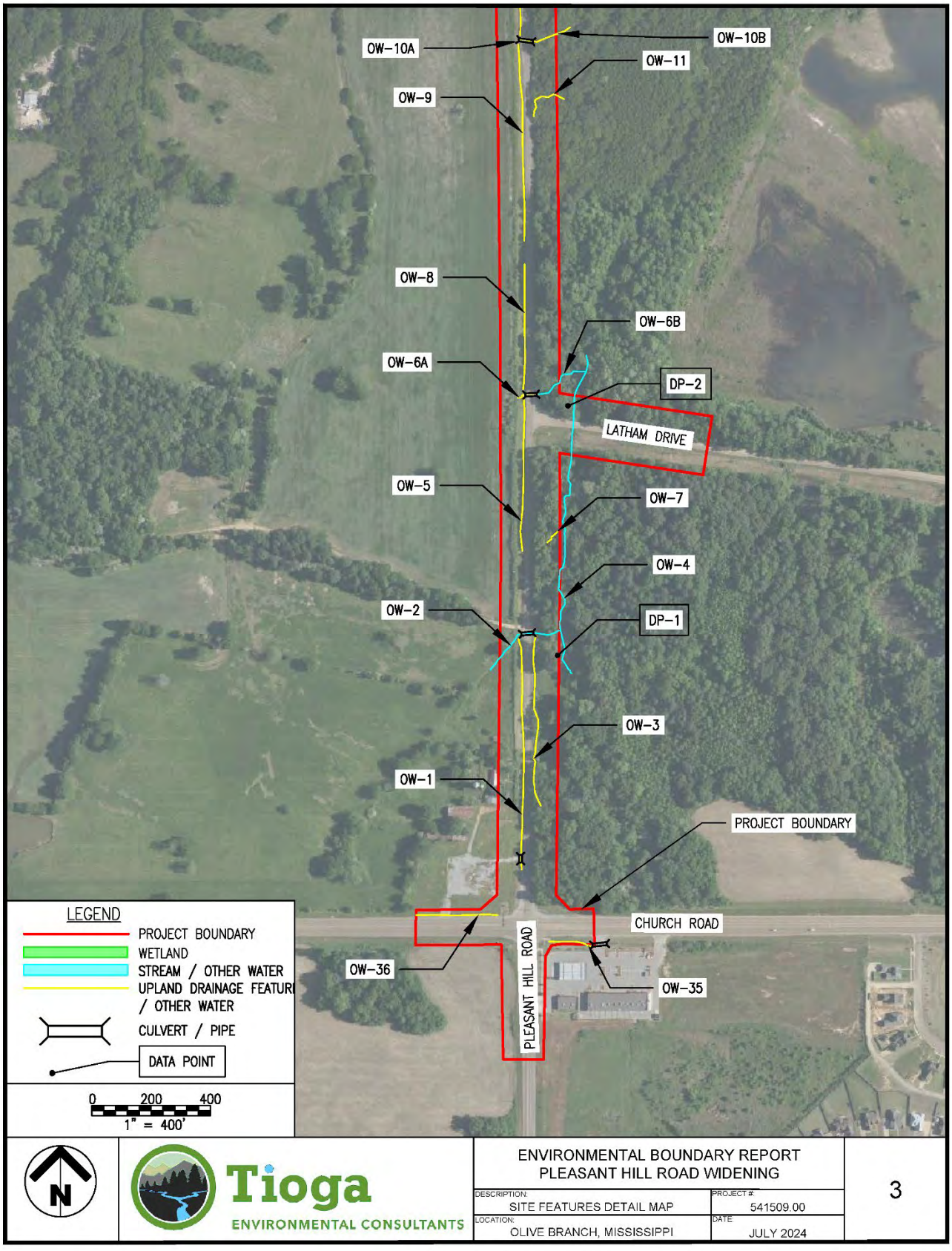
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OW-6A
DP-2
LATHAM DRIVE
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OW-4
OW-2
DP-1
OW-3
OW-1
PROJECT BOUNDARY
CHURCH ROAD
PLEASANT HILL ROAD
OW-36
OW-35
LEGEND
PROJECT BOUNDARY
WETLAND
STREAM / OTHER WATER
UPLAND DRAINAGE FEATURE / OTHER WATER
CULVERT / PIPE
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ENVIRONMENTAL BOUNDARY REPORT
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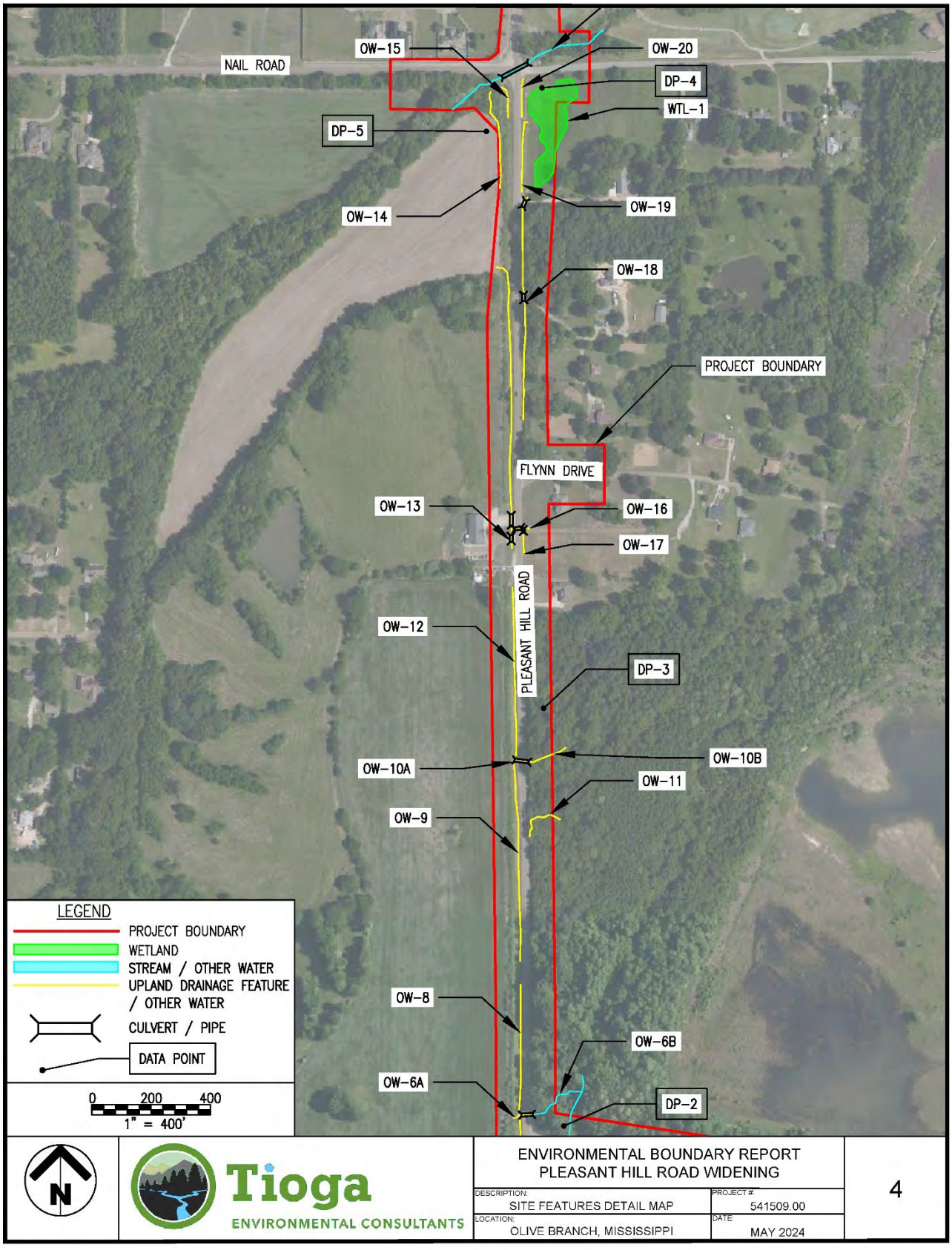
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DP-5
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OW-19
OW-18
PROJECT BOUNDARY
FLYNN DRIVE
OW-13
OW-16
OW-17
PLEASANT HILL ROAD
OW-12
DP-3
OW-10A
OW-10B
OW-11
OW-9
OW-8
OW-6B
OW-6A
DP-2
LEGEND
PROJECT BOUNDARY
WETLAND
STREAM / OTHER WATER
UPLAND DRAINAGE FEATURE / OTHER WATER
CULVERT / PIPE
DATA POINT
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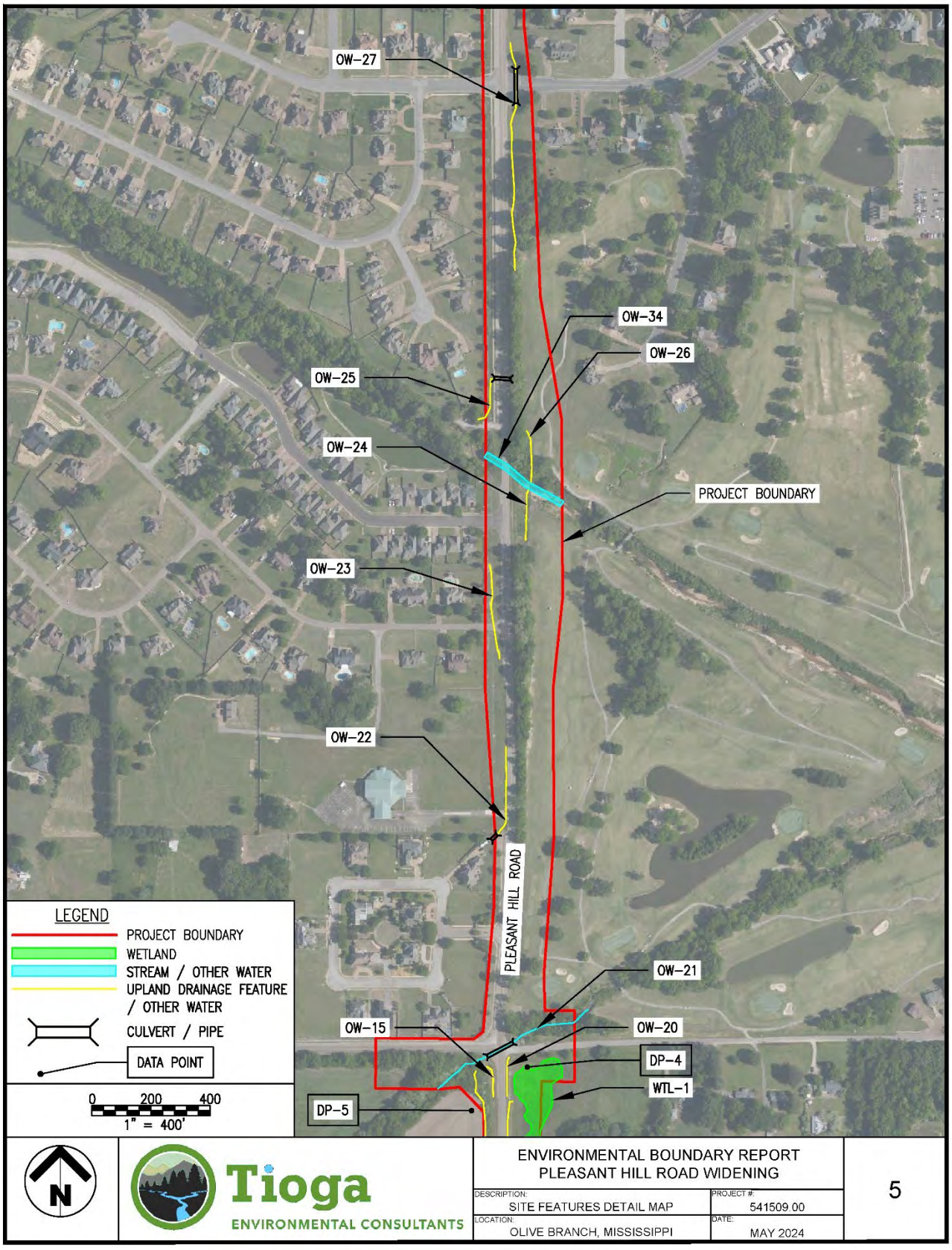
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OW-23
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PLEASANT HILL ROAD
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OW-20
DP-4
WTL-1
DP-5
LEGEND
PROJECT BOUNDARY
WETLAND
STREAM / OTHER WATER
UPLAND DRAINAGE FEATURE / OTHER WATER
CULVERT / PIPE
DATA POINT
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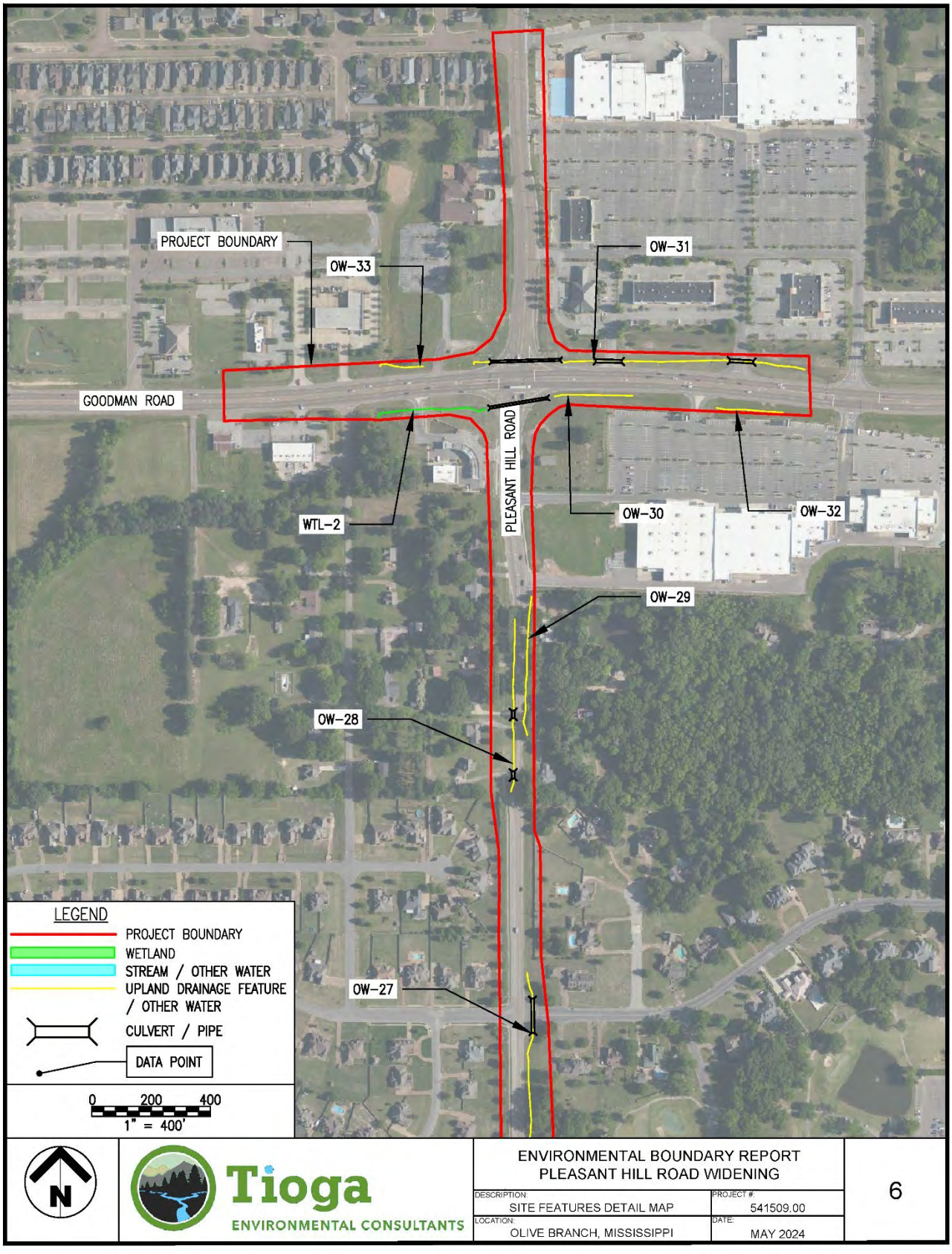
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OW-31
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PLEASANT HILL ROAD
WTL-2
OW-30
OW-32
OW-29
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LEGEND
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WETLAND
STREAM / OTHER WATER
UPLAND DRAINAGE FEATURE / OTHER WATER
CULVERT / PIPE
DATA POINT
0 200 400
1" = 400'
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DESCRIPTION: SITE FEATURES DETAIL MAP
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LOCATION: OLIVE BRANCH, MISSISSIPPI
DATE: MAY 2024
6

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	*OMB Control #: 0710-xxxx, Exp: Pending* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Pleasant Hill Road Widening City/County: Olive Branch / DeSoto Sampling Date: 2-1-2022

Applicant/Owner: HDR / City of Olive Branch State: MS Sampling Point: DP-1

Investigator(s): William Gray & Allie Barnett / Tioga Environmental Section, Township, Range: S01, T02, R07

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Level Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 34.9356 Long: -89.90106 Datum: NAD83

Soil Map Unit Name: Collins silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ENG FORM 6116-2-SG, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	25	Yes	FACU
2. *Ulmus americana*	40	Yes	FAC
3. *Liquidambar styraciflua*	10	No	FAC
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38		20% of total cover: 15	
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Pueraria montana*	98	Yes	FACU
2. *Lonicera japonica*	14	No	FACU
3. *Stellaria media*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	122	=Total Cover	
50% of total cover: 61		20% of total cover: 25	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	147	x 4 =	588
UPL species	0	x 5 =	0
Column Totals:	197 (A)		738 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)

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SOIL Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					Loamy/Clayey	
2-18	10YR 5/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

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DP-1	
Photo 1	
Description	UPL-1, overview

DP-1	
Photo 2	
Description	UPL-1, soils (non-hydric)

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	*OMB Control #: 0710-xxxx, Exp: Pending* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Pleasant Hill Road Widening City/County: Olive Branch / DeSoto Sampling Date: 2-1-2022

Applicant/Owner: HDR / City of Olive Branch State: MS Sampling Point: DP-2

Investigator(s): William Gray & Allie Barnett / Tioga Environmental Section, Township, Range: S01, T02, R07

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Level Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 34.93795 Long: -89.90094 Datum: NAD83

Soil Map Unit Name: Collins-Falaya silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____ No X		
Wetland Hydrology Present?	Yes ____ No X		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes ____ No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10	=Total Cover	
50% of total cover: 5	20% of total cover: 2		
Sapling Stratum (Plot size: 30)			
1. *Ligustrum sinense*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5	=Total Cover	
50% of total cover: 3	20% of total cover: 1		
Shrub Stratum (Plot size: 30)			
1. *Ligustrum sinense*	90	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	90	=Total Cover	
50% of total cover: 45	20% of total cover: 18		
Herb Stratum (Plot size: 30)			
1. *Ligustrum sinense*	5	Yes	FAC
2. *Lonicera japonica*	5	Yes	FACU
3. *Stellaria media*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	=Total Cover	
50% of total cover: 8	20% of total cover: 3		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	120 (A)		370 (B)
Prevalence Index = B/A =			3.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

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SOIL Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Loamy/Clayey	
2-18	10YR 5/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

ENG FORM 6116-2-SG, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

DP-2	
Photo 1	
Description	UPL-2, overview

DP-2	
Photo 2	
Description	UPL-2, soils (non-hydric)

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	*OMB Control #: 0710-xxxx, Exp: Pending* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Pleasant Hill Road Widening City/County: Olive Branch / DeSoto Sampling Date: 2-1-2022

Applicant/Owner: HDR / City of Olive Branch State: MS Sampling Point: DP-3

Investigator(s): William Gray & Allie Barnett / Tioga Environmental Section, Township, Range: S01, T02, R07

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 34.94182 Long: -89.90114 Datum: NAD83

Soil Map Unit Name: Loring silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ENG FORM 6116-2-SG, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	65	Yes	FACU
2. *Fagus grandifolia*	5	No	FACU
3. *Liquidambar styraciflua*	5	No	FAC
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38	20% of total cover: 15		
Sapling Stratum (Plot size: 30)			
1. *Ligustrum sinense*	25	Yes	FAC
2. *Ulmus alata*	20	Yes	FACU
3.			
4.			
5.			
6.			
	45	=Total Cover	
50% of total cover: 23	20% of total cover: 9		
Shrub Stratum (Plot size: 30)			
1. *Ligustrum sinense*	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	30	=Total Cover	
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 30)			
1. *Ligustrum sinense*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	=Total Cover	
50% of total cover: 8	20% of total cover: 3		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	165 (A)		585 (B)
Prevalence Index = B/A =			3.55

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

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SOIL Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/2	100					Loamy/Clayey	
3-18	7.5YR 5/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

ENG FORM 6116-2-SG, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

DP-3	
Photo 1	
Description	UPL-3, overview

DP-3	
Photo 2	
Description	UPL-3, soils (non-hydric)

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	*OMB Control #: 0710-xxxx, Exp: Pending* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Pleasant Hill Road Widening City/County: Olive Branch / DeSoto Sampling Date: 2-1-2022

Applicant/Owner: HDR / City of Olive Branch State: MS Sampling Point: DP-4

Investigator(s): William Gray & Allie Barnett / Tioga Environmental Section, Township, Range: S01, T02, R07

Landform (hillside, terrace, etc.): field / floodplain Local relief (concave, convex, none): slight concave Slope (%): 1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 34.94758 Long: -89.90112 Datum: NAD83

Soil Map Unit Name: Collins silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?**	**Yes X No ____**
Hydric Soil Present?	Yes X No ____		
Wetland Hydrology Present?	Yes X No ____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6

Wetland Hydrology Present? **Yes X No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Juncus effusus*	25	Yes	OBL
2. *Hydrocotyle sibthorpioides*	25	Yes	FACW
3. *Setaria parviflora*	15	No	FACW
4. *Plantago lanceolata*	5	No	FACU
5. *Solidago canadensis*	5	No	FACU
6. *Poa annua*	15	No	FACU
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	90 (A)		205 (B)
Prevalence Index = B/A =			2.28

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

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SOIL Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Loamy/Clayey	
2-10	10YR 5/2	92	7.5YR 5/8	8	C	PL	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 5/2	75	10YR 5/6	25	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
_X_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
_X_ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _X_ **No** ___

Remarks:

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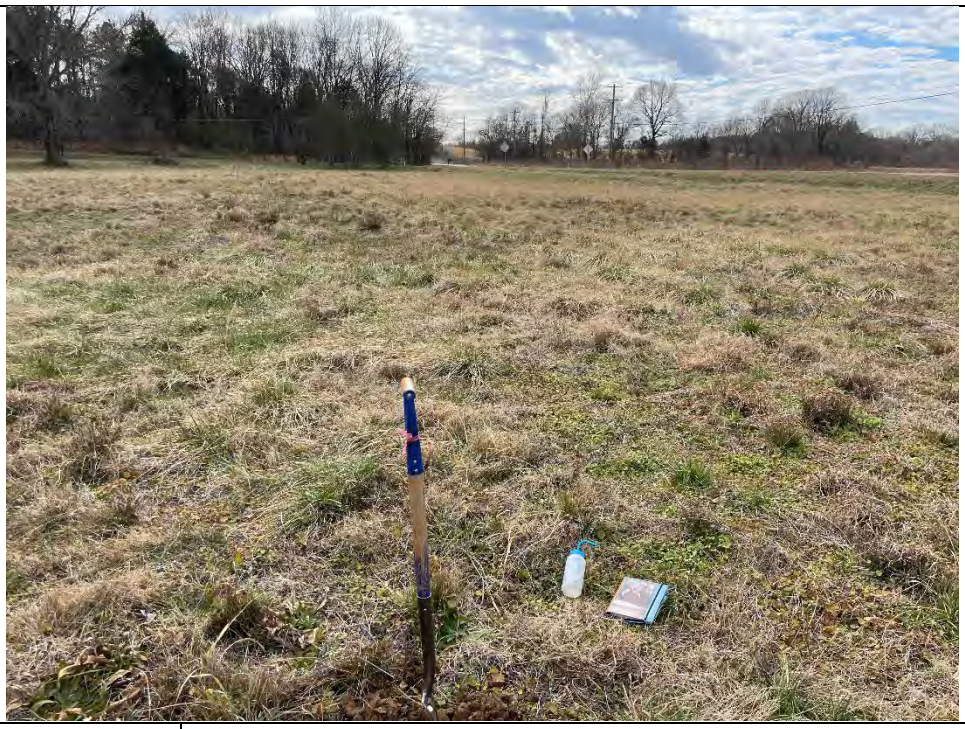
DP-4

Photo 1



Description	WTL-1, overview

DP-4
Photo 2

Description	WTL-1, saturated and depleted soils (hydric)

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	*OMB Control #: 0710-xxxx, Exp: Pending* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Pleasant Hill Road Widening City/County: Olive Branch / DeSoto Sampling Date: 2-1-2022

Applicant/Owner: HDR / City of Olive Branch State: MS Sampling Point: DP-5

Investigator(s): William Gray & Allie Barnett / Tioga Environmental Section, Township, Range: S02, T02, R07

Landform (hillside, terrace, etc.): field / floodplain Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 34.94718 Long: -89.90176 Datum: NAD83

Soil Map Unit Name: Collins silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Actively farmed field, harvested, winter fallow with limited vegetation

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Drains cut in field to remove hydrology

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VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Poa annua*	5	No	FACU
2. *Lamium amplexicaule*	40	Yes	UPL
3. *Erigeron annuus*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	47 =Total Cover		
50% of total cover: 24	20% of total cover: 10		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	7	x 4 =	28
UPL species	40	x 5 =	200
Column Totals:	47 (A)		228 (B)
Prevalence Index = B/A =			4.85

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)
fallow corn (Zea mays) dominant

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SOIL Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					Loamy/Clayey	
2-3	10YR 5/3	90	10YR 5/6	10	C	PL	Loamy/Clayey	Distinct redox concentrations
3-9	10YR 5/4	60	10YR 5/6	40	C	M	Loamy/Clayey	Distinct redox concentrations
9-18	10YR 5/4	90	10YR 5/2	10	D	M	Loamy/Clayey	PL of 10YR 5/6

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

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DP-5	
Photo 1	
Description	UPL-4, overview

DP-5	
Photo 2	
Description	UPL-4, soils (non-hydric)

WTL-2 (Linear Feature, No Date Point)	
Photo 1	
Description	WTL-2, Roadside channel that drains poorly forming wetland conditions, looking upgradient

WTL-2 (Linear Feature, No Date Point)	
Photo 2	
Description	WTL-2, Roadside channel that drains poorly forming wetland conditions, noting hydrophytic vegetation and inundation

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.933663° **Long:** -89.901470°	**Sample Location ID:** OW-1
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 77 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td><td rowspan="2">Substrate:
Choose an item.</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="8">Comment:</td></tr>
</table>

OW-1	
Upgradient	
Description	Looking south at head of drainage ditch

OW-1	
Downgradient	
Description	Looking north along drainage ditch

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.935644° **Long:** -89.901693°	**Sample Location ID:** OW-2
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☐ Ephemeral ☒ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Choose an item.					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 295 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 12 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 7 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): eroding</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: pools with short runs</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: intermittent flow</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
kudzu</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-2	
Upgradient	
Description	Looking southwest on west side of roadway

OW-2	
Downgradient	
Description	Looking east on east side of roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.934254 **Long:** -89.901256	**Sample Location ID:** OW-3
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 585 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 2 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Grasses, Kudzu</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-3	
Upgradient	
Description	Looking south from the east side of the roadway

OW-3	
Downgradient	
Description	Looking north from the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.935479 **Long:** -89.900906	**Sample Location ID:** OW-4
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☐ Ephemeral ☒ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Natural					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 1,136 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 12 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☒</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: Mostly defined by pools and runs</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Intermittent flow</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 50 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Mixed hardwoods, Chinese Privett, Kudzu</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-4	
Upgradient	
Description	Looking south from the east side of the roadway

OW-4	
Downgradient	
Description	Looking north from the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.936622 **Long:** -89.901455	**Sample Location ID:** OW-5
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 520 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 6 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-5	
Upgradient	
Description	Looking south from the west side of the roadway

OW-5	
Downgradient	
Description	Looking north from the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.938034 **Long:** -89.901489	**Sample Location ID:** OW-6A
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 72 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 8 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Sand</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Scrubs, Grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-6A	
Upgradient	
Description	Looking south from the west side of the roadway

OW-6A	
Downgradient	
Description	Looking east to the culvert on the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.938067 **Long:** -89.901274	**Sample Location ID:** OW-6B
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☐ Ephemeral ☒ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Manipulated					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 585 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 2 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Cobble</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Meandering</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Intermittent</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0-50 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Mixed hardwoods, Chinese Privett</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment: Drainage off field (OW-6A) that headcuts at fence line and becomes intermittent on east after culvert.</td></tr>
</table>

OW-6B	
Upgradient	
Description	Looking west towards the culvert on the east side of the roadway

OW-6B	
Downgradient	
Description	Looking east downgradient of the stream

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.936689 **Long:** -89.901170	**Sample Location ID:** OW-7
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Natural					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 56 (ft.)</td><td rowspan="2">Channelized: No
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 2 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Choose an item.</td></tr>
<tr><td>Vertical
☐</td><td>2:1
☐</td><td>3:1
☒</td><td>4:1
☐</td><td>Greater
☐</td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Meandering</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Intermittent</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0-50 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Mixed hardwoods, Chinese Privett</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment: Drainage off field (OW-6A) that headcuts at fence line and becomes intermittent on east after culvert.</td></tr>
</table>

OW-7	
Upgradient	
Description	Looking southwest at head of channel

OW-7	
Downgradient	
Description	Looking northeast along channel

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.938117 **Long:** -89.901434	**Sample Location ID:** OW-8
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 421 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A(ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-8	
Upgradient	
Description	Looking south along the west side of the roadway

OW-8	
Downgradient	
Description	Looking north along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.939496 **Long:** -89.901415	**Sample Location ID:** OW-9
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 662 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-9	
Upgradient	
Description	Looking south along the east side of the roadway

OW-9	
Downgradient	
Description	Looking north along the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.941333 **Long:** -89.901489	**Sample Location ID:** OW-10A
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☒ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 73.4 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 3 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Bed and Banks</td></tr>
<tr><td colspan="7">Explain:
Dug drainage ditch</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Grasses,</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="8">Comment:</td></tr>
</table>

OW-10A	
Upgradient	
Description	Looking west along the west side of the roadway

OW-10A	
Downgradient	
Description	Looking east along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.941333 **Long:** -89.901251	**Sample Location ID:** OW-10B
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☐ Ephemeral ☒ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 121 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: Characterized mostly by runs and pools</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Intermittent flow</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 10-50 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Mixed hardwoods</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-10B	
Upgradient	
Description	Looking east towards the roadway

OW-10B	
Downgradient	
Description	Looking west along the stream channel

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.940643 **Long:** -89.901303	**Sample Location ID:** OW-11
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 165 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: .5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical
☐</td><td>2:1
☐</td><td>3:1
☐</td><td>4:1
☒</td><td>Greater
☐</td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Defined drainage patterns are present, but defined bed and bank are not.</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): None</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Mixed hardwoods</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="8">Comment:</td></tr>
</table>

OW-11	
Upgradient	
Description	Looking south along the east side of the roadway

OW-10B	
Downgradient	
Description	Looking east downgradient

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.941398 **Long:** -89.901451	**Sample Location ID:** OW-12
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding land use:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 568 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: .5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grass species</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-12	
Upgradient	
Description	Looking north along the west side of the roadway

OW-12	
Downgradient	
Description	Looking south along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.943322 **Long:** -89.901488	**Sample Location ID:** OW-13
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding land use:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 974 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: .5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various species of grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-13	
Upgradient	
Description	Looking south along the west side of the roadway

OW-13	
Downgradient	
Description	Looking north along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.946666 **Long:** -89.901603	**Sample Location ID:** OW-14
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 336 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 3 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: .5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Shrubs and Grasses</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No Flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Shrubs and Grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-14	
Upgradient	
Description	Looking south along the west side of the roadway

OW-14	
Downgradient	
Description	Looking north along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.947320 **Long:** -89.901509	**Sample Location ID:** OW-15
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 110 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-15	
Upgradient	
Description	Looking south along the west side of the roadway

OW-15	
Downgradient	
Description	Looking north along the west side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.943494 **Long:** -89.901481	**Sample Location ID:** OW-16
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 57.8 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-16	
Upgradient	
Description	Looking northeast along the east side of the roadway

OW-16	
Downgradient	
Description	Looking west along the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.943277 **Long:** -89.901351	**Sample Location ID:** OW-17
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 86 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-17	
Upgradient	
Description	Looking south along the west side of the roadway

OW-17	
Downgradient	
Description	Channel merges with OW-16 to discharge west under the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.944518 **Long:** -89.901351	**Sample Location ID:** OW-18
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 753 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-18	
Upgradient	
Description	Looking south along the east side of the roadway

OW-18	
Downgradient	
Description	Looking north along the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.946617 **Long:** -89.901358	**Sample Location ID:** OW-19
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 245 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 5 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>Comment:</td></tr>
</table>

OW-19	
Upgradient	
Description	Looking south along the east side of the roadway

OW-19	
Downgradient	
Description	Looking north along the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.947316 **Long:** -89.901351	**Sample Location ID:** OW-20
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 131 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 6 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td></td><td>Grassy Swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain:
Grassy Swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
Various grasses</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-20	
Upgradient	
Description	Looking south along the east side of the roadway

OW-20	
Downgradient	
Description	Looking north along the east side of the roadway

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day, William Gray, Allie Barnett / Tioga Environmental	**Lat:** 34.947390 **Long:** -89.902132	**Sample Location ID:** OW-21
Applicant/Owner: City of Olive Branch	**Date:** February 1, 2022	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☐ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☒ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain:					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.00")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 1.51" – 7.21" for January @ MIA			
	☒	Clear/sunny				
	Air temperature: 55 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 594 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 20 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 10 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Silt</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☒</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain:</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): Eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: Comprised mostly of runs and pools</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): Confined</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: Perennial</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0-20 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer):
hardwoods</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td>TRIBUTARY CONDITION</td><td colspan="7">Comment:</td></tr>
</table>

OW-21	
Upgradient	
Description	Looking west along the northern portion of the subject boundary

OW-21	
Downgradient	
Description	Looking east along the northern portion of the subject boundary

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** **34.950557**° **Long:** **-89.901352**°	**Sample Location ID:** OW-22
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: unnamed tributary system flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 305 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-22	
Upgradient	
Description	Looking north at head of drainage ditch

OW-22	
Downgradient	
Description	Looking south along drainage ditch as it leaves project area

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.951377° **Long:** -89.901411°	**Sample Location ID:** OW-23
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 321 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-23	
Upgradient	
Description	Looking south at head of drainage ditch

OW-23	
Downgradient	
Description	Looking north along drainage ditch as it enters a culvert

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.952475° **Long:** -89.901119°	**Sample Location ID:** OW-24
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☒	Other (explain):
	☐	Field/Pasture	☐	Industrial	Golf course	
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 170 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 6 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 3-6 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td>Erosional ditch</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Erosional ditch</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): eroded</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed, blackberry, greenbriar</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

OW-24	
Upgradient	
Description	Lookingsouth at head of drainage ditch

OW-24	
Downgradient	
Description	Looking north at area just above discharge to Nolehoe Creek

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.953966° **Long:** -89.901442°	**Sample Location ID:** OW-25
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 174 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 8 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-25	
Upgradient	
Description	Looking east at roadside drain at head of channel

OW-25	
Downgradient	
Description	Looking south along drainage ditch

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.953484° **Long:** -89.901098°	**Sample Location ID:** OW-26
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☒	Other (explain):
	☐	Field/Pasture	☐	Industrial	Golf course	
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 127 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 2-3 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td rowspan="2">Substrate:
Sand</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: overland runoff from golf course and roadway, channelizes just above Nolehoe and then drops steeply into Nolehoe</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable, then eroded at Nolehoe banks</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-26	
Downgradient	
Description	Erosional drop down into Nolehoe Creek

OW-26	
Upgradient	
Description	Drainage at head of channel

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.954979° **Long:** -89.901222°	**Sample Location ID:** OW-27
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 775 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 2-4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-27	
Upgradient	
Description	Looking north, upgradient

OW-27	
Downgradient	
Description	Looking south, downgradient

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.960338° **Long:** -89.901403°	**Sample Location ID:** OW-28
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 582 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-28	
Upgradient	
Description	Looking north, upgradient

OW-28	
Downgradient	
Description	Looking south, downgradient as channel discharges to road surface

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.960554° **Long:** -89.901203°	**Sample Location ID:** OW-29
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☐	Field/Pasture	☐	Industrial		
	☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 470 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
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<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
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<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-29	
Upgradient	
Description	Looking north, upgradient

OW-29	
Downgradient	
Description	Looking south, downgradient

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.962423° **Long:** -89.900067°	**Sample Location ID:** OW-30
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION

Tributary subsystem:
☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial

Tributary flows directly into a TNW? No

Explain:

Distance to nearest TNW:

River Miles: 12.5+/- **Aerial Miles:** 10.2

Describe flow route to TNW: flows east along Goodman, into headwater linear wetland, then south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek

Tributary is (natural / artificial / manipulated): Artifical

Explain: roadside ditch

WEATHER CONDITIONS

Current:

☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")
☐	Showers (intermittent)	
☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA
☒	Clear/sunny	

Air temperature: 75 (˚F)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☐	Forest	☒	Commercial	☐	Other (explain):
☐	Field/Pasture	☐	Industrial		
☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 262 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4-15 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5-4 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
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<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-30	
Upgradient	
Description	Looking west, upgradient along Goodman Rd

OW-22	
Downgradient	
Description	Looking east, discharge into culvert under Pleasant Hill Rd

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.962655° **Long:** -89.898119°	**Sample Location ID:** OW-31
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION

Tributary subsystem:
☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial

Tributary flows directly into a TNW? No

Explain:

Distance to nearest TNW:

River Miles: 12.5+/- **Aerial Miles:** 10.2

Describe flow route to TNW: flows east along Goodman, then south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek

Tributary is (natural / artificial / manipulated): Artifical

Explain: roadside ditch

WEATHER CONDITIONS

Current:

☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")
☐	Showers (intermittent)	
☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA
☒	Clear/sunny	

Air temperature: 75 (˚F)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☐	Forest	☒	Commercial	☐	Other (explain):
☐	Field/Pasture	☐	Industrial		
☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 1,130 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 -10 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 4-6 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
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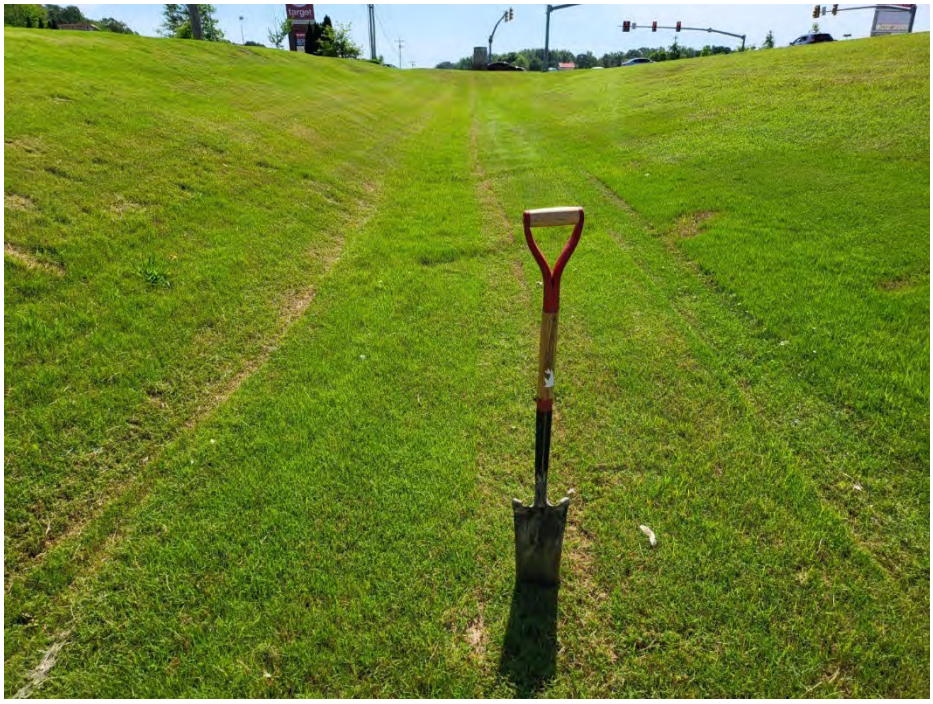
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-31	
Upgradient	
	
Description	Looking east, upgradient

OW-31	
Downgradient	
Description	Looking west, downgradient at culverts

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.962262° **Long:** -89.898355°	**Sample Location ID:** OW-32
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION

Tributary subsystem:
☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial

Tributary flows directly into a TNW? No

Explain:

Distance to nearest TNW:

River Miles: 12.5+/- **Aerial Miles:** 10.2

Describe flow route to TNW: flows east along Goodman, then south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek

Tributary is (natural / artificial / manipulated): Artifical

Explain: roadside ditch

WEATHER CONDITIONS

Current:

☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")
☐	Showers (intermittent)	
☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA
☒	Clear/sunny	

Air temperature: 75 (˚F)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☐	Forest	☒	Commercial	☐	Other (explain):
☐	Field/Pasture	☐	Industrial		
☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 224 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 -10 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 4-10 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
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<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
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<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-32	
Upgradient	
Description	Looking east, upgradient

OW-32	
Downgradient	
Description	Looking west, downgradient

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.962704° **Long:** -89.902410°	**Sample Location ID:** OW-33
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION

Tributary subsystem:
☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial

Tributary flows directly into a TNW? No

Explain:

Distance to nearest TNW:

River Miles: 12.5+/- **Aerial Miles:** 10.2

Describe flow route to TNW: flows east along Goodman, then south to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek

Tributary is (natural / artificial / manipulated): Artifical

Explain: roadside ditch

WEATHER CONDITIONS

Current:

☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")
☐	Showers (intermittent)	
☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA
☒	Clear/sunny	

Air temperature: 75 (˚F)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☐	Forest	☒	Commercial	☐	Other (explain):
☐	Field/Pasture	☐	Industrial		
☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 150 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 4 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
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<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="8">Comment:</td></tr>
</table>

OW-33	
Upgradient	
Description	Looking west, upgradient

OW-33	
Downgradient	
Description	Looking east, downgradient before turn south and under Goodman Rd

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.953195° **Long:** -89.901563°	**Sample Location ID:** OW-34
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION

Tributary subsystem:
☐ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☒ Perennial

Tributary flows directly into a TNW? No

Explain: First drains to Camp Creek, then into Coldwater Creek

Distance to nearest TNW:

River Miles: 12.5+/- **Aerial Miles:** 10.2

Describe flow route to TNW: flows approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek

Tributary is (natural / artificial / manipulated): Manipulated

Explain: Box culverted stream under Pleasant Hill Road, with some downstream riprap

WEATHER CONDITIONS

Current:

☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")
☐	Showers (intermittent)	
☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA
☒	Clear/sunny	

Air temperature: 75 (˚F)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☐	Forest	☐	Commercial	☒	Other (explain):
☐	Field/Pasture	☐	Industrial	Golf course	
☐	Agricultural	☒	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 310 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 25-40 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 10-15 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Sand</td></tr>
<tr><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td></td><td></td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): Both</td></tr>
<tr><td colspan="7">Explain: Higher order tributary stream (Nolehole Creek)</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): sloughing banks below box culvert, then stabilizes some as it moves into golf course and re-naturalizes</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: minimal within project area due to box culvert</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): flow visible but minimal within project area, partially dammed by box culvert</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: perennial</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: 0 (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed, some hardwood saplings</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-34	
Upgradient	
Description	Upstream, west side of Pleasant Hill Rd above culvert

OW-34	
Downgradient	
Description	Downstream, east side of Pleasant Hill Rd below culvert

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.932991° **Long:** -89.901152°	**Sample Location ID:** OW-35
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 12.5+/- **Aerial Miles:** 10.2					
	Describe flow route to TNW: flows north to Nolehoe Creek, then approx. 1.87 miles east to Camp Creek, then south 10.63 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☒	Forest	☒	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 146 (ft.)</td><td rowspan="2">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 10 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:</td><td>Substrate:</td></tr>
<tr><td>Vertical</td><td>2:1</td><td>3:1</td><td>4:1</td><td>Greater</td><td></td><td>Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="3">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td></td><td colspan="7">Comment:</td></tr>
</table>

OW-35	
Upgradient	
Description	Looking west at intersection

OW-35	
Downgradient	
Description	Looking east along Church Road

FIELD DATA SHEET
CHANNEL ASSESSMENT

Project: Pleasant Hill Road Widening	**City/County/State:** Olive Branch / DeSoto / MS	
Investigator(s): Ben Day / Tioga Environmental Consultants, Inc.	**Lat:** 34.933222° **Long:** -89.901752°	**Sample Location ID:** OW-36
Applicant/Owner: City of Olive Branch	**Date:** May 2, 2024	
Reason for Survey: Road widening project through MDOT		
Comments:		

River Basin/HUC Number: 080302040302	**Tributary Name (if known):** Unnamed to Nolehoe Creek
Size of Watershed: 55.98 sqmi	**Nearest TNW:** Coldwater Creek
Size of Drainage Area: 0.72, 1.22 sqmi	

TRIBUTARY CHARACTER-IZATION	**Tributary subsystem:** ☒ Drainage Ditch ☐ Ephemeral ☐ Intermittent ☐ Perennial					
	Tributary flows directly into a TNW? No					
	Explain:					
	Distance to nearest TNW:					
	River Miles: 10.5+/- **Aerial Miles:** 9.86					
	Describe flow route to TNW: flows west then south to Bean Patch Creek, then 5.4 miles south-southeast to Camp Creek, then south 5.1 miles to Coldwater Creek					
	Tributary is (natural / artificial / manipulated): Artifical					
	Explain: roadside ditch					
WEATHER CONDITIONS	**Current:**					
	☐	Rain (steady rain)	**Heavy rain in the last 7 days?** No (0.78")			
	☐	Showers (intermittent)				
	☐	Cloud cover	**Average Rainfall:** 2.61" – 8.53" for May @ MIA			
	☒	Clear/sunny				
	Air temperature: 75 (˚F)					
	Comment:					
WATERSHED FEATURES	**Predominant surrounding landuse:**					
	☐	Forest	☐	Commercial	☐	Other (explain):
	☒	Field/Pasture	☐	Industrial		
	☐	Agricultural	☐	Residential		

FIELD DATA SHEET
CHANNEL ASSESSMENT

<table>
<tr><td rowspan="5">TRIBUTARY FEATURES</td><td colspan="6">Estimated reach length: 275 (ft.)</td><td rowspan="3">Channelized: Yes
Dam present: No</td></tr>
<tr><td colspan="6">Estimated channel width: 6 (ft.)</td></tr>
<tr><td colspan="6">Estimated channel depth: 1.5 (ft.)</td></tr>
<tr><td colspan="6">Estimated slope of banks:
Vertical 2:1 3:1 4:1 Greater</td><td>Substrate:
Choose an item.</td></tr>
<tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td></td><td>Grassy swale</td></tr>
<tr><td rowspan="4">TRIBUTARY CONDITION</td><td colspan="7">Tributary has (defined bed and banks / OHWM): None</td></tr>
<tr><td colspan="7">Explain: Grassy swale</td></tr>
<tr><td colspan="7">Bank stability (highly eroded, sloughing banks, etc): stable</td></tr>
<tr><td colspan="7">Riffle/Run/Pool complex: None</td></tr>
<tr><td rowspan="3">FLOW CONDITIONS</td><td colspan="7">Tributary geometry (Meandering, Relatively Straight): Relatively Straight</td></tr>
<tr><td colspan="7">Current flow is (discrete, confined, overland sheet flow, etc.): No flow</td></tr>
<tr><td colspan="7">Average flow events per year: rain events only</td></tr>
<tr><td rowspan="4">VEGETATION</td><td colspan="7">Approximate width of riparian buffer: N/A (ft.)</td></tr>
<tr><td colspan="7">Dominant species present (top bank / buffer): grassed</td></tr>
<tr><td colspan="7">Aquatic vegetation present: No</td></tr>
<tr><td colspan="7">Comment:</td></tr>
</table>

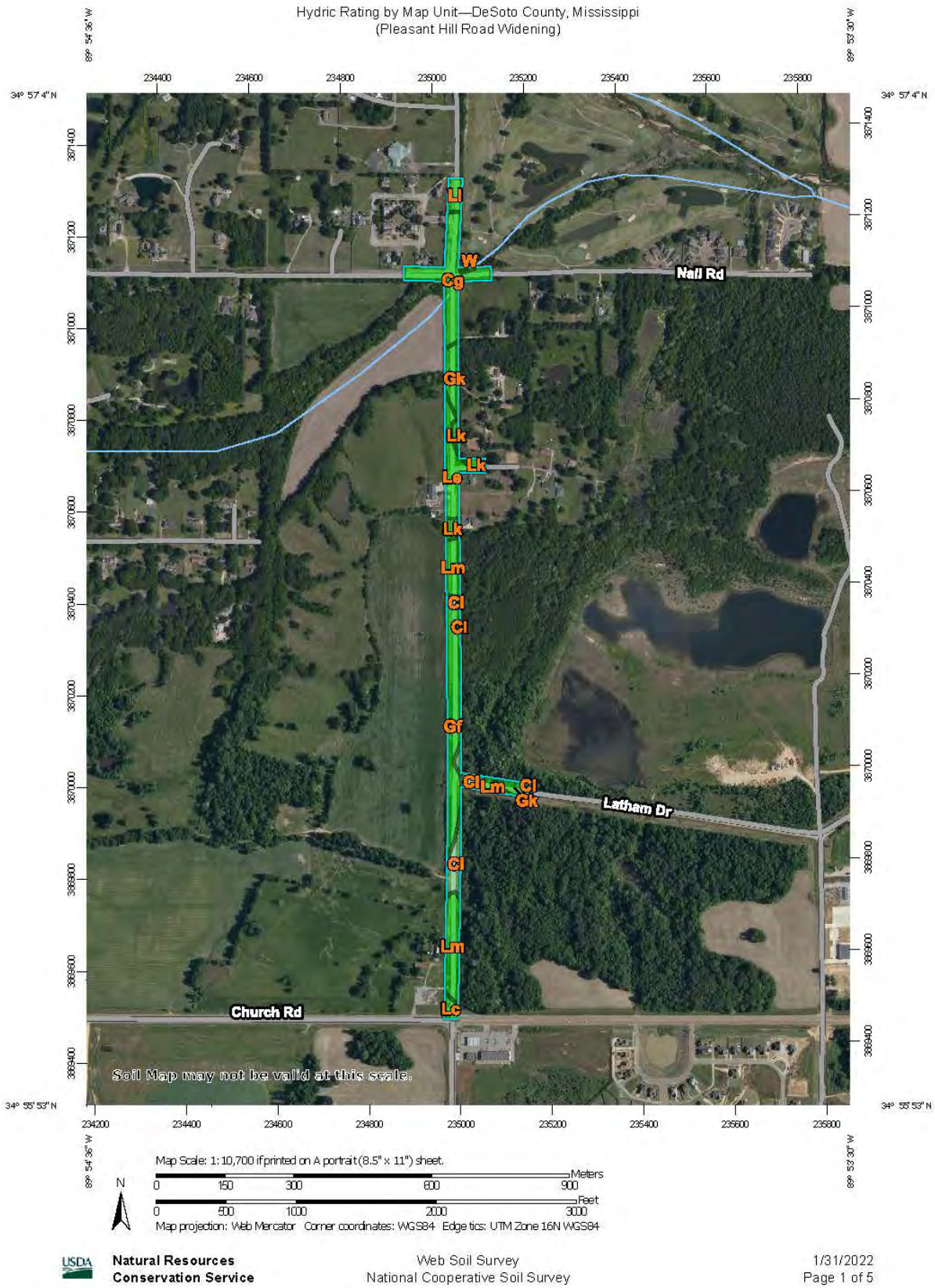
OW-36	
Upgradient	
Description	Looking east at intersection

OW-36	
Downgradient	
Description	Looking west along Church Road

Appendix C — Background Information

USDA NRCS Web Soil Survey

USFWS Nation Wetland Inventory Map


Hydric Rating by Map Unit—DeSoto County, Mississippi
(Pleasant Hill Road Widening)
89° 54' 36" W
89° 53' 30" W
34° 57' 4" N
34° 55' 53" N
234400
234600
234800
235000
235200
235400
235600
235800
234200
3871400
3871200
3871000
3870800
3870600
3870400
3870200
3870000
3869800
3869600
3869400
Ll
W
Cg
Nail Rd
Gk
Lk
Lk
Lc
Lk
Lm
Cl
Cl
Gf
Cl
Lm
Cl
Gk
Latham Dr
Cl
Lm
Lc
Church Rd
Soil Map may not be valid at this scale.
Map Scale: 1:10,700 if printed on A portrait (8.5" x 11") sheet.
Meters
0
150
300
600
900
Feet
0
500
1000
2000
3000
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84
USDA
Natural Resources
Conservation Service
Web Soil Survey
National Cooperative Soil Survey
1/31/2022
Page 1 of 5

Hydric Rating by Map Unit—DeSoto County, Mississippi
(Pleasant Hill Rd Widening)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DeSoto County, Mississippi
Survey Area Data: Version 22, Sep 9, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 2, 2019—May 14, 2020

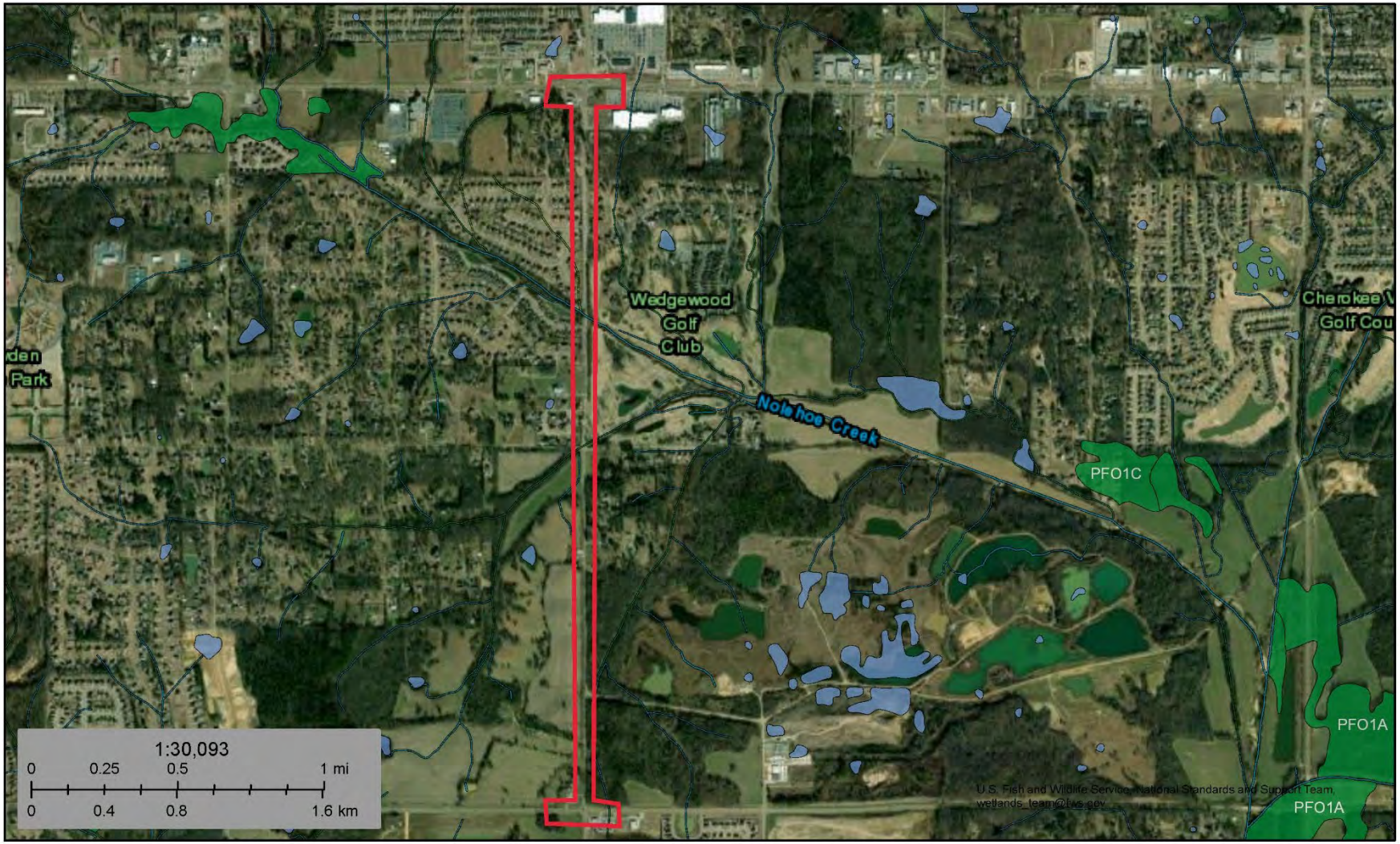
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cg	Collins silt loam (adler)	0	46.8	19.4%
Cl	Collins and Falaya silt loams, local alluvium phases	3	37.8	15.7%
Gb	Grenada silt loam, severely eroded very gently sloping phase	0	0.1	0.0%
Gf	Grenada silt loam, severely eroded sloping phase (loring)	0	22.9	9.5%
Gk	Gullied land, Loring soil material	0	12.1	5.0%
Lc	Loring silt loam, 2 to 5 percent slopes, moderately eroded, central	0	17.2	7.1%
Le	Loring silt loam, sloping phase	0	15.7	6.5%
Lk	Loring silty clay loam, severely eroded very gently sloping phase	0	15.0	6.2%
Ll	Loring silty clay loam, severely eroded gently sloping phase	0	36.6	15.2%
Lm	Loring silty clay loam, severely eroded sloping phase	0	35.4	14.6%
Rb	Richland silt loam, severely eroded gently sloping phase (loring)	0	0.0	0.0%
W	Water	0	1.8	0.8%
Totals for Area of Interest			241.5	100.0%

U.S. Fish and Wildlife Service
National Wetlands Inventory

Pleasant Hill Rd



June 6, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Appendix D — Rainfall Data

Wets Tables

Local Recorded Weather

Wets tables provide historical information on "average" climate data. If any other climate data is available please provide.

Available from:

http://www.wcc.nrcs.usda.gov/climate/wetlands.html

Local weather from Weather Underground:

http://www.wunderground.com/

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Current Location: Elev: 380 ft. Lat: 34.8040° N Lon: -90.0102° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 03/07/2022

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	11	01	68	43	44	0.00		0.0		0.0								
2021	11	02	63	44	46	0.00		0.0		0.0								
2021	11	03	53	40	40	0.13		0.0		0.0								
2021	11	04	46	33	33	0.05		0.0		0.0								
2021	11	05	54	33	35	0.00		0.0		0.0								
2021	11	06	54	35		0.00		0.0		0.0								
2021	11	07	60	35	38	0.00		0.0		0.0								
2021	11	08	64	38	38	0.00		0.0		0.0								
2021	11	09	70	38	43	0.00		0.0		0.0								
2021	11	10	68	43	43	0.00		0.0		0.0								
2021	11	11	69	43	55	0.86		0.0		0.0								
2021	11	12	69	34	42	0.05		0.0		0.0								
2021	11	13	61	30	32	0.03		0.0		0.0								
2021	11	14	49	32	35	0.00		0.0		0.0								
2021	11	15	61	35	41	0.00		0.0		0.0								
2021	11	16	66	41	59	0.00		0.0		0.0								
2021	11	17	73	57	57	0.00		0.0		0.0								
2021	11	18	75	43	44	0.39		0.0		0.0								
2021	11	19	55	30	36	0.00		0.0		0.0								
2021	11	20	56	33	36	0.00		0.0		0.0								
2021	11	21	62	36	55	0.00		0.0		0.0								
2021	11	22	61	41	41	0.33		0.0		0.0								
2021	11	23	52	29	30	0.00		0.0		0.0								
2021	11	24	56	30	42	0.00		0.0		0.0								
2021	11	25	64	42	53	0.32		0.0		0.0								
2021	11	26	56	28	28	0.42		0.0		0.0								
2021	11	27	47	28	36	0.00		0.0		0.0								
2021	11	28	54	36	37	0.00		0.0		0.0								
2021	11	29	58	30	30	0.00		0.0		0.0								
2021	11	30	57	30	44	0.00		0.0		0.0								
		Summary	60	36		2.38		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Current Location. Elev: 380 ft. Lat: 34.8040° N Lon: -90.0102° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 03/07/2022

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	12	01	67	44	52	0.00												
2021	12	02	67	44	45	0.00												
2021	12	03	71	45	51	0.00												
2021	12	04	74	51		0.00												
2021	12	05	64	56	60	0.02												
2021	12	06	71	56	57	0.74												
2021	12	07	57	31	32	0.00												
2021	12	08	46	31	35	0.00												
2021	12	09	55	34	45	0.00												
2021	12	10	68	45	68	0.02												
2021	12	11	78	54	54	0.57												
2021	12	12	54	27	28	0.00												
2021	12	13	53	28	35	0.00												
2021	12	14	65	35		0.00												
2021	12	15	70	52	57	0.02												
2021	12	16	65	57	65	0.00												
2021	12	17	67	52	54	0.60												
2021	12	18	70	54	61	0.02												
2021	12	19	63	39	39	0.08												
2021	12	20	45	27	27	0.00												
2021	12	21	47	27	41	0.00												
2021	12	22	53	31	31	0.00												
2021	12	23	51	31	36	0.00												
2021	12	24	61	36	57	0.00												
2021	12	25	80	57	65	0.00												
2021	12	26	73	56	60	0.00												
2021	12	27	69	60	65	0.00												
2021	12	28	71	65	66	0.00												
2021	12	29	75	56	57	0.00												
2021	12	30	71	52	52	1.83												
2021	12	31	66	51	54	0.02												
		Summary	64	45		3.92		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Current Location: Elev: 380 ft. Lat: 34.8040° N Lon: -90.0102° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 03/07/2022

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	01	01	72	54	63	0.00												
2022	01	02	75	35	35	1.06												
2022	01	03	36	27	27	0.27												
2022	01	04	38	24	25	0.00												
2022	01	05	72	25	39	0.00												
2022	01	06	55	32	32	0.06												
2022	01	07	32	19	19	0.03												
2022	01	08	34	19	34	0.00												
2022	01	09	60	34	60	0.04												
2022	01	10	63	25	25													
2022	01	11	46	24	25	0.00												
2022	01	12	52	24	31	0.00												
2022	01	13	56	31	36	0.00												
2022	01	14	62	34	34	0.00												
2022	01	15	55	34	46	0.00												
2022	01	16	48	32	32	1.24												
2022	01	17	39	29	29	0.01												
2022	01	18	46	29	32	0.00												
2022	01	19	58	32	51	0.00												
2022	01	20	60	20	20	0.75												
2022	01	21	29	17	17	0.00												
2022	01	22	32	14		0.00												
2022	01	23	37	22	25	0.00												
2022	01	24	51	25	28	0.00												
2022	01	25	62	28	36	0.00												
2022	01	26	43	21	21	0.00												
2022	01	27	39	21	27	0.00												
2022	01	28	47	27	27	0.00												
2022	01	29	46	15		0.00												
2022	01	30	43	30	35	0.00												
2022	01	31	58	28	29	0.00												
		Summary	50	27		3.46		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Current Location: Elev: 380 ft. Lat: 34.8040° N Lon: -90.0102° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 03/07/2022

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	02	01	66	29	45	0.00												
2022	02	02																
2022	02	03																
2022	02	04																
2022	02	05																
2022	02	06																
2022	02	07																
2022	02	08																
2022	02	09																
2022	02	10																
2022	02	11																
2022	02	12																
2022	02	13																
2022	02	14																
2022	02	15																
2022	02	16																
2022	02	17																
2022	02	18																
2022	02	19																
2022	02	20																
2022	02	21																
2022	02	22																
2022	02	23																
2022	02	24																
2022	02	25																
2022	02	26																
2022	02	27																
2022	02	28																
		Summary	66	29		0.00		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 322 ft. Lat: 34.8041° N Lon: 90.0103° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 06/05/2024

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2024	01	01	59	26	26	0.00		0.0		0.0								
2024	01	02	39	21	22	0.00		0.0		0.0								
2024	01	03	44	22	31	0.00		0.0		0.0								
2024	01	04	45	25	30	0.00		0.0		0.0								
2024	01	05	43	28	30	0.00		0.0		0.0								
2024	01	06	42	30	38	0.66		0.0		0.0								
2024	01	07	40	30	31	0.01		0.0		0.0								
2024	01	08	52	31	36	0.00		0.0		0.0								
2024	01	09	50	36	45	1.65		0.0		0.0								
2024	01	10	45	27	27	0.00		0.0		0.0								
2024	01	11	48	26	35	0.00		0.0		0.0								
2024	01	12	63	33	55	0.18		0.0		0.0								
2024	01	13	58	24	25	0.43		0.0		0.0								
2024	01	14	44	20	21	0.00		0.0		0.0								
2024	01	15	23	10	11	0.47		1.5		2.0								
2024	01	16	12	8	8	0.15		1.4		3.0								
2024	01	17	13	-4	-2	0.00		0.0		3.0								
2024	01	18	31	-3	29	0.00		0.0										
2024	01	19	34	28	29	0.14		0.0										
2024	01	20	34	12	12	0.00		0.0										
2024	01	21	21	10	12	0.00		0.0										
2024	01	22	35	12	34	0.00		0.0										
2024	01	23	48	34	48	0.29		0.0										
2024	01	24	59	42	59	1.30		0.0		0.0								
2024	01	25	61	55	56	0.21		0.0		0.0								
2024	01	26	62	46	50	0.43		0.0		0.0								
2024	01	27	60	41				0.0		0.0								
2024	01	28	50	41	41	1.64		0.0		0.0								
2024	01	29		26	29	0.00		0.0		0.0								
2024	01	30	51	29	35	0.00		0.0		0.0								
2024	01	31	56	30		0.00		0.0		0.0								
		Summary	43	26		7.56		2.9										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 322 ft. Lat: 34.8041° N Lon: 90.0103° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 06/05/2024

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2024	02	01	54	29		0.00		0.0		0.0								
2024	02	02	63		54	0.00		0.0		0.0								
2024	02	03	71	44	45	0.00		0.0		0.0								
2024	02	04	70	44		0.70		0.0		0.0								
2024	02	05	54	40	42	0.58		0.0		0.0								
2024	02	06	58	29	43	0.00		0.0		0.0								
2024	02	07	62		39	0.00		0.0		0.0								
2024	02	08	67	39	50	0.00		0.0		0.0								
2024	02	09	68	50	59	0.24		0.0		0.0								
2024	02	10	65	59	60	0.80		0.0		0.0								
2024	02	11	60	44	44	1.27		0.0		0.0								
2024	02	12	51	44	45	0.06				0.0								
2024	02	13	49	30	30	0.33		0.0		0.0								
2024	02	14	55	30	36	0.00		0.0		0.0								
2024	02	15	65	36	48	0.00		0.0		0.0								
2024	02	16	66	47	54	0.00		0.0		0.0								
2024	02	17	68	29	30	0.08		0.0		0.0								
2024	02	18	39	20	21	0.00		0.0		0.0								
2024	02	19	49	20	29	0.00		0.0		0.0								
2024	02	20	58	27	46	0.00		0.0		0.0								
2024	02	21	67	45	48	0.00		0.0		0.0								
2024	02	22	73	48	59	0.00		0.0		0.0								
2024	02	23	67	44	44	0.40		0.0		0.0								
2024	02	24	65	44	49	0.00		0.0		0.0								
2024	02	25	58	39	42	0.00		0.0		0.0								
2024	02	26	75	42	57	0.00		0.0		0.0								
2024	02	27	69	57	66	0.00		0.0		0.0								
2024	02	28	80	49	49	0.03		0.0		0.0								
2024	02	29	51	32	36	0.00		0.0		0.0								
		Summary	62	37		4.49		0.0										

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"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 322 ft. Lat: 34.8041° N Lon: 90.0103° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 06/05/2024

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2024	03	01	52	36	42	0.06		0.0		0.0								
2024	03	02	50	41	47	0.01		0.0		0.0								
2024	03	03	69	47	49	0.00		0.0		0.0								
2024	03	04	76	49	63	0.00		0.0		0.0								
2024	03	05	81	60	65	0.00		0.0		0.0								
2024	03	06	69	52	55	2.31		0.0		0.0								
2024	03	07	65	52	56	0.00		0.0		0.0								
2024	03	08	69	56	58	0.06		0.0		0.0								
2024	03	09	66	50	51	0.05		0.0		0.0								
2024	03	10	51	30	31	0.00		0.0		0.0								
2024	03	11	60	30	35	0.00		0.0		0.0								
2024	03	12	68	35		0.00		0.0		0.0								
2024	03	13	73		57	0.00		0.0		0.0								
2024	03	14	79	56	63	0.00		0.0		0.0								
2024	03	15	79	59	59	1.79		0.0		0.0								
2024	03	16	63	41	42	0.37		0.0		0.0								
2024	03	17	67	42	55	0.04		0.0		0.0								
2024	03	18	61	38	38	0.00		0.0		0.0								
2024	03	19	48	26	26	0.00		0.0		0.0								
2024	03	20	59	26	45	0.00		0.0		0.0								
2024	03	21	74	44	46	0.00		0.0		0.0								
2024	03	22	72	44	54	0.00		0.0		0.0								
2024	03	23	65	41	42	0.21		0.0		0.0								
2024	03	24	56	41	42	0.00		0.0		0.0								
2024	03	25	67	42	60	0.00		0.0		0.0								
2024	03	26	66	53	54	1.36		0.0		0.0								
2024	03	27	60	35	36	0.00		0.0		0.0								
2024	03	28	61	35	36	0.00		0.0		0.0								
2024	03	29	67	36	43	0.00		0.0		0.0								
2024	03	30	74	43	58	0.00		0.0		0.0								
2024	03	31	79	58	62	0.00		0.0		0.0								
		Summary	66	42		6.26		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
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"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 322 ft. Lat: 34.8041° N Lon: 90.0103° W
Station: **HERNANDO, MS US USC00223975**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.
Generated on 06/05/2024

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2024	04	01	79	61	67	0.00		0.0		0.0								
2024	04	02	77	67	72	0.00		0.0		0.0								
2024	04	03	79	43	45	0.10		0.0		0.0								
2024	04	04	58	41	41	0.00		0.0		0.0								
2024	04	05	65	36	36	0.00		0.0		0.0								
2024	04	06	64	36	44	0.00		0.0		0.0								
2024	04	07	69	44	59	0.00		0.0		0.0								
2024	04	08	81	59	63	0.27		0.0		0.0								
2024	04	09	78	60	60	0.80		0.0		0.0								
2024	04	10	65	57	65	0.48		0.0		0.0								
2024	04	11	70	56	56	0.56		0.0		0.0								
2024	04	12	71	45	45	0.25		0.0		0.0								
2024	04	13	71	45	46	0.00		0.0		0.0								
2024	04	14	83	46	61	0.00		0.0		0.0								
2024	04	15	81	61	62	0.00		0.0		0.0								
2024	04	16	78	62	67	0.00		0.0		0.0								
2024	04	17	82	67	69	0.06		0.0		0.0								
2024	04	18	83	61	61	0.08		0.0		0.0								
2024	04	19	83	61	61	0.08		0.0		0.0								
2024	04	20	61	51	51	0.00		0.0		0.0								
2024	04	21	60	49	49	0.05		0.0		0.0								
2024	04	22	61	36	36	0.00		0.0		0.0								
2024	04	23	69	36	49	0.00		0.0		0.0								
2024	04	24	75	49	62	0.00		0.0		0.0								
2024	04	25	79	55	56	0.00		0.0		0.0								
2024	04	26	65	56	62	0.09		0.0		0.0								
2024	04	27	86	62	67	0.51		0.0		0.0								
2024	04	28	84	64	64	0.00		0.0		0.0								
2024	04	29	82	64	66	0.12		0.0		0.0								
2024	04	30	74	58	60	0.06		0.0		0.0								
		Summary	74	53		3.51		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

State of Mississippi

TATE REEVES
Governor

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

CHRIS WELLS, EXECUTIVE DIRECTOR
October 12, 2021

Jennifer Mallard
U.S Army Corps of Engineers,
Vicksburg District
4155 Clay Street
Vicksburg, Mississippi 39183-3435

Re: US Army Corps of Engineers
Nationwide Permit No. 14
WQC No. WQC2021041

Pursuant to Section 401 of the Federal Water Pollution Control Act (33 U. S. C. 1251, 1341), the Office of Pollution Control (OPC) issues this Certification, after public notice and opportunity for public hearing, to the U.S. Army Corps of Engineers, an applicant for a Federal License or permit to conduct the following activity:

US Army COE, Nationwide Permits:

Nationwide Permits (NWPs) are general permits issued on a nationwide basis to streamline the authorization of activities that have no more than minimal and cumulative adverse effects on the aquatic environment. The U.S. Army Corps of Engineers issues NWPs to authorize certain activities that require Department of the Army permits under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

14. *Linear Transportation Projects*. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum

necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.
Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, “District Engineer’s Decision.” The district engineer may require mitigation to ensure that the authorized activity results in no more than

minimal individual and cumulative adverse environmental effects (see general condition 23). [NWP No. 14, WQC2021041].

The Office of Pollution Control certifies that the above-described activity will be in compliance with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act and Section 49-17-29 of the Mississippi Code of 1972, if the applicant complies with the following conditions:

1. In cases where a pre-construction notification (PCN) is required, a PCN shall be provided to the Department of Environmental Quality (Department) for projects that include channel work within waterways found on the latest version of the State of Mississippi's Section 303(d) List of Impaired Water Bodies for sediment or biological impairment or waterways with a completed Total Maximum Daily Load (TMDL) for sediment or biological impairment. This notification shall include the following:

    a. Justification of why the impacts cannot be avoided;

    b. Proposed best management practices that would minimize the impacts to receiving sensitive waters; and

    c. Compensatory mitigation primarily along the same reach of stream or on another impaired stream within the same drainage basin. (11 Miss. Admin. Code Pt. 6, R. 1.3.4.A(3)) (Statements A, B, & C)

2. In cases where a PCN is required to the U.S. Army Corps of Engineers, a PCN shall be provided to the Department for projects associated with hydrofacking activities for oil and gas exploration. Unless verification is provided that the proposed activities have been previously reviewed and approved through a master planning process, the Department shall be allowed 10 days to provide comments for the proposed activities. For activities not previously included in an approved master planning process, the PCN notification to the Department shall include the following:

    a. Impacts resulting from authorizations for oil and gas exploration shall be minimized to the maximum extent practicable;

    b. A mitigation plan for unavoidable impacts shall be provided and should be within the same watershed as practicable;

    c. All fill shall be removed in the event that projection is not achieved; and

d. A plan for restoring the sites in the event production is not achieved. (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B., 11 Miss. Admin. Code Pt. 6, R. 1.3.4.A) (Statements A, B, C, & D)

3. Discharges of cuttings, drilling mud, hydrostatic testing water, or any other waste material are prohibited unless approved in writing or permitted by the Department. (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B.,) (Statement A)

4. This NWP shall not apply to natural tidal waters for personal transportation. (11 Miss. Admin. Code Pt. 6, R. 1.3.4.A.(4)) (Statement A & E)

5. The permittee shall obtain appropriate wastewater permits and/or approvals for the proposed activity prior to the commencement of construction activities. (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B.) (Statement D)

6. For projects greater than five acres of total ground disturbances including clearing, grading, excavating, or other construction activities, the applicant shall obtain the necessary coverage under the State of Mississippi's Large Construction Storm Water General NPDES Permit. For projects greater than one, to less the five acres of total ground disturbances including clearing, grading, excavating, or other construction activities, the applicant shall follow the conditions and limitations of the State of Mississippi's Small Construction Storm Water General NPDES Permit. No construction activities shall begin until the necessary approvals and/or permits have been obtained. (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B.) (Statement D & F)

7. Turbidity outside the limits of a 750-foot mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units. (11 Miss. Admin. Code Pt. 6, R. 2.2.A.) (Statement A)

8. No sewage, oil, refuse, or other pollutants shall be discharged into the watercourse. (11 Miss. Admin. Code Pt. 6, R. 2.2.A.(3)) (Statement A)

9. The Department shall be furnished copies of authorizations of coverages under this NWP. (11 Miss. Admin. Code Pt. 6, R. 1.3.4.A.) (Statement B)

As part of the Scope of Review for Application Decisions, 11 Mississippi Administrative Code Part 6, Rule 1.3.4(B), the above conditions are necessary for the Department to ensure that appropriate measures will be taken to eliminate unreasonable degradation and irreparable harm to waters of the State, such that the activity will not meet the criteria for denial:

(A) The proposed activity permanently alters the aquatic ecosystem such that water quality criteria are violated and/or it no longer supports its existing or classified uses. An example is the channelization of streams

(B) The proposed activity in conjunction with other activities may result in adverse cumulative impacts.

(C) The proposed activity results in significant environmental impacts which may adversely impact water quality.

(D) Denial of wastewater permits and/or approvals by the State with regard to the proposed activities.

(E) The proposed activity adversely impacts a special or unique aquatic habitat, such as National or State Wild and Scenic Rivers and/or State Outstanding Resource Waters.

(F) Nonpoint source/storm water management practices necessary to protect water quality have not been proposed.

The Office of Pollution Control also certifies that there are no limitations under Section 302 nor standards under Sections 306 and 307 of the Federal Water Pollution Control Act which are applicable to the applicant's above-described activity.

This certification is valid for the project as proposed. Any deviations without proper modifications and/or approvals may result in a violation of the 401 Water Quality Certification. If you have any questions, please contact the Department.

Sincerely,

Krystal Rudolph

Krystal Rudolph, P.E., BCEE
Chief, Environmental Permits Division

KR: ld

cc: U.S. Army Corps of Engineers, Mobile District
U.S. Army Corps of Engineers, Memphis District
U.S. Army Corps of Engineers, Nashville District
U.S. Army Corps of Engineers, New Orleans District
Mississippi Department of Marine Resources
U.S. Fish and Wildlife Service
U.S Environmental Protection Agency, Region 4

Appendix F

Threatened & Endangered Species Review

Tioga
ENVIRONMENTAL
CONSULTANTS

June 7, 2024

City of Olive Branch, MS
c/o Mr. Chad Wallace
HDR, Inc.
190 E. Capitol St., Suite 425
Jackson, MS 39201

RE: Threatened & Endangered Species Review
STP-7899-00(001)LPA / 108775-701000
Widening of Pleasant Hill Road from Church Road to Nail Road
Tioga Project 541509.00

Dear Mr. Wallace,

Tioga Environmental Consultants, Inc. (Tioga) has completed a review of threatened and endangered species and / or critical habitat within the project limits of the referenced project along Pleasant Hill Road in Olive Branch, DeSoto County, MS. Consultation with the U.S. Fish and Wildlife Service (USFWS) and Mississippi Department of Wildlife, Fisheries, and Parks' Natural Heritage Program was initiated, with the USFWS review conducted through their online Information for Planning and Consultation (IPaC) system. Both were provided with a narrative description of the proposed project and the project boundary in digital format.

Listed Species
The IPaC review identified four species that should be considered in an effects anlaysis: the Northern Long-eared Bat (*Myotis septentrionalis*) (Status: Endangered), the Tricolored Bat (*Perimyotis subflavus*) (Status: Proposed Endangered), the Alligator Snapping Turtle (*Macrochelys temminckii*) (Status: Proposed Threatened), and the Monarch Butterfly (*Danaus plexippus*) (Status: Candidate). The IPaC report did not identify Critical Habitat in the area. These species are detailed below:

Northern Long-eared Bat (*Myotis septentrionalis*)
The northern long-eared bat is a wide-ranging bat species found in 37 states and eight provinces in North America. The species typically overwinters in caves or mines. During the summer and portions of the fall and spring, northern long-eared bats may be found roosting singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags, or dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. The species has also been found, although less commonly, roosting in structures, such as barns and sheds. Northern long-eared bats use forested areas not only for roosting, but also for foraging and commuting between summer and winter habitat.

357 North Main Street, Memphis, TN 38103 | Phone: 901.791.2432 | Fax: 901.791.2442 | tiogaenv.com

Tricolored Bat (*Perimyotis subflavus)*
The tricolored bat is a small insectivorous bat that is distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide ranging across the eastern and central United States. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. Maternity colonies also may utilize human-made structures or tree cavities; sometimes these are in open sites that would not be tolerated by most other bats.

Alligator Snapping Turtle (*Macrochelys temminckii*)
Range is principally in the southeastern United States centered around the Mississippi and Mobile drainage basins. Alligator snapping turtles are highly aquatic, emerging from water only for nesting or, uncommonly, basking. The turtle is secretive, a trait making it difficult to observe, and particularly difficult to find where it is also rare. The principal predators of adults have historically been humans with racoons, river otters, and adult alligator snapping turtules predating on juveniles.

Habitat consists of slow-moving, deep water of rivers, sloughs, oxbows, and canals or lakes associated with rivers; also swamps, bayous, and ponds near rivers, and shallow creeks that are tributary to occupied rivers, sometimes including swift upland streams. Usually it occurs in water with a mud bottom and some aquatic vegetation but uses sand-bottomed river and creeks. Within streams, alligator snapping turtles may occur under or in logjams, beneath undercut banks, under rock shelters, or in deep holes.

Monarch Butterfly *(Danaus plexippus)*
Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias spp*.), and larvae emerge after two to five days. Larvae develop over a period of 9 to 18 days, feeding on milkweed. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly.

In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months. In early spring (February-March), surviving monarchs break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds and their offspring start the cycle of generational migration over again.

Utilizing the most current design available and provided project narrative, Tioga checked the project for consistency under the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared

Bat. The review **determined that the Proposed Action will have no effect** on the threatened Northern Long-eared Bat.

The MS Natural Heritage Program responded that they had **no records of occurences** of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. They did however, recommend the following:

"Precautions should be taken to ensure that the proposed actions do not result in increased stream flow or further stream channel, bed, or bank degradation upstream or downstream, as well as potential head-cutting, downstream of the proposed project site. We recommend that best management practices be properly implemented, maintained, and monitored regularly for compliance, both upstream and downstream of any crossings. Specific emphasis should be placed on measures that help look for signs of increased erosion, and minimize the occurrence of excess sedimentation, suspended particulate matter, and contaminants at all project sites and surrounding areas from leaving in stormwater run-off or from direct entry into nearby streams and waterbodies. If such signs are discovered, then appropriate actions to address the issue should be taken. Please check MS Department of Environmental Quality for BMP."

Field Investigation
The project area is linear, along both sides of the existing Pleasant Hill roadway. On the southern half of the project area, the west side is primarily open agricultural fields and residential, while the east side is forested on the south opening up to residential. On the northern half of the project area, the west side is fully residentially developed, and the east side is a golf course and residential.

Nolehoe Creek and one of it's tributaries flow generally eastward across the project area under bridges. Within the project area, these streams are generally highly distrubed, shallow, lacking instream vegetation. Except for the forested acreage on the the southeast side of the project area, vegetation across the project area is geneally mowed / maintained. The forested acreage, adjacent to the roadway, is generally dominated by relative immature trees and a heavy shrub layer, limiting the available flight corridor and potential roosts for the bat species.

No suitable habitat for the bat species or alligator snapping turtle was identified during the site visit. In addition, no milkweed species or non-maintaiend fields that would be suitable for use by the migratory Monarch butterfly were observed.

Conclusions
Based on the provided agency species data and analsysis, no historical identification of the listed species occuring in the area, and no evidence of suitable habitat within the project area, it is Tioga's **opinion is that the proposed action will have No Effect (No Jeapordy)** on the listed species.

Sincerely,
TIOGA ENVIRONMENTAL CONSULTANTS, INC.

Ben S. Day
Senior Environmental Scientist

Encl: USFWS T/E Species List and Consistency Letter, MS NHP Review

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213-7856
Phone: (601) 965-4900

In Reply Refer To: 06/06/2024 17:49:17 UTC
Project Code: 2024-0100629
Project Name: Pleasant Hill Road Widening 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. Please email consultation requests to MSFOSection7Consultation@fws.gov.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213-7856
(601) 965-4900

PROJECT SUMMARY

Project Code: 2024-0100629
Project Name: Pleasant Hill Road Widening 2024
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The City of Olive Branch, MS is proposing to widen approximately 2.0 miles of the existing 2-lane section of Pleasant Hill Road to a multi-lane roadway between Church Road (south) and Goodman Road (north), and to reconstruct the intersections at Church Road and Nail Road.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.94834710000001,-89.90137473845519,14z

Counties: DeSoto County, Mississippi

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis*	Endangered
Tricolored Bat *Perimyotis subflavus*	Proposed Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- This species only needs to be considered if the project includes wind turbine operations.

Species profile: https://ecos.fws.gov/ecp/species/9045
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/4FYNXZHA2ZEURIESTBZR3YF3KA/documents/generated/7127.pdf

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10515
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/4FYNXZHA2ZEURIESTBZR3YF3KA/documents/generated/7127.pdf

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii*	Proposed Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4658
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/4FYNXZHA2ZEURIESTBZR3YF3KA/documents/generated/7127.pdf

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/4FYNXZHA2ZEURIESTBZR3YF3KA/documents/generated/7127.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

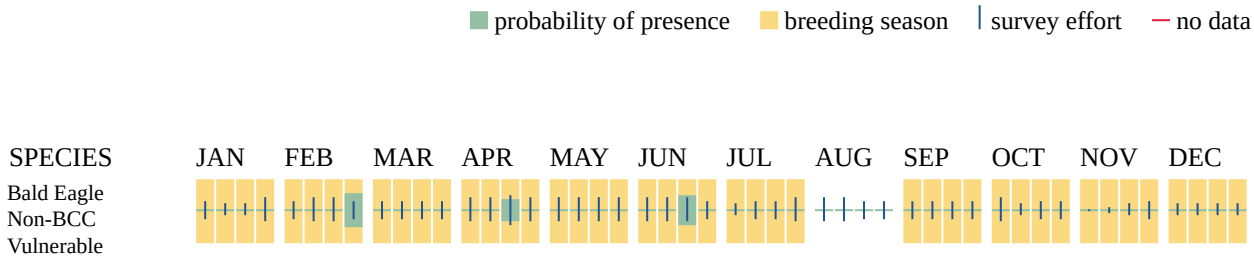
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel *Falco sparverius paulus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Chuck-will's-widow *Antrostomus carolinensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

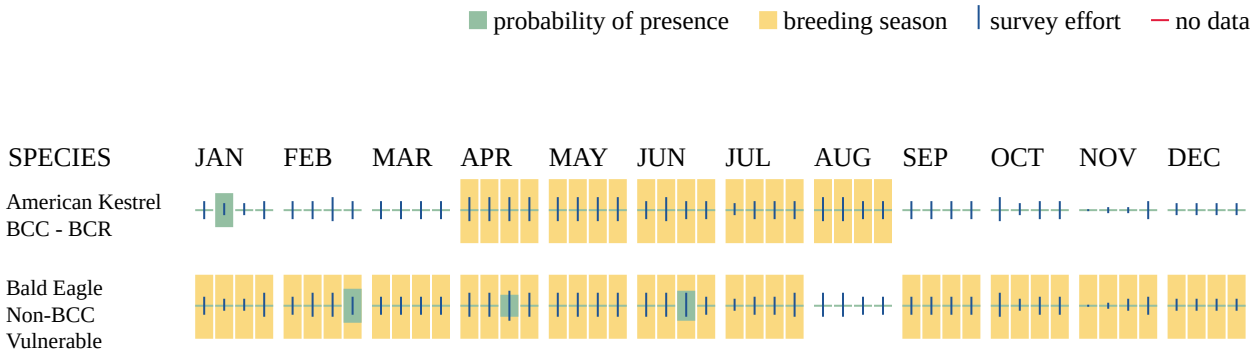
Probability of Presence (■)

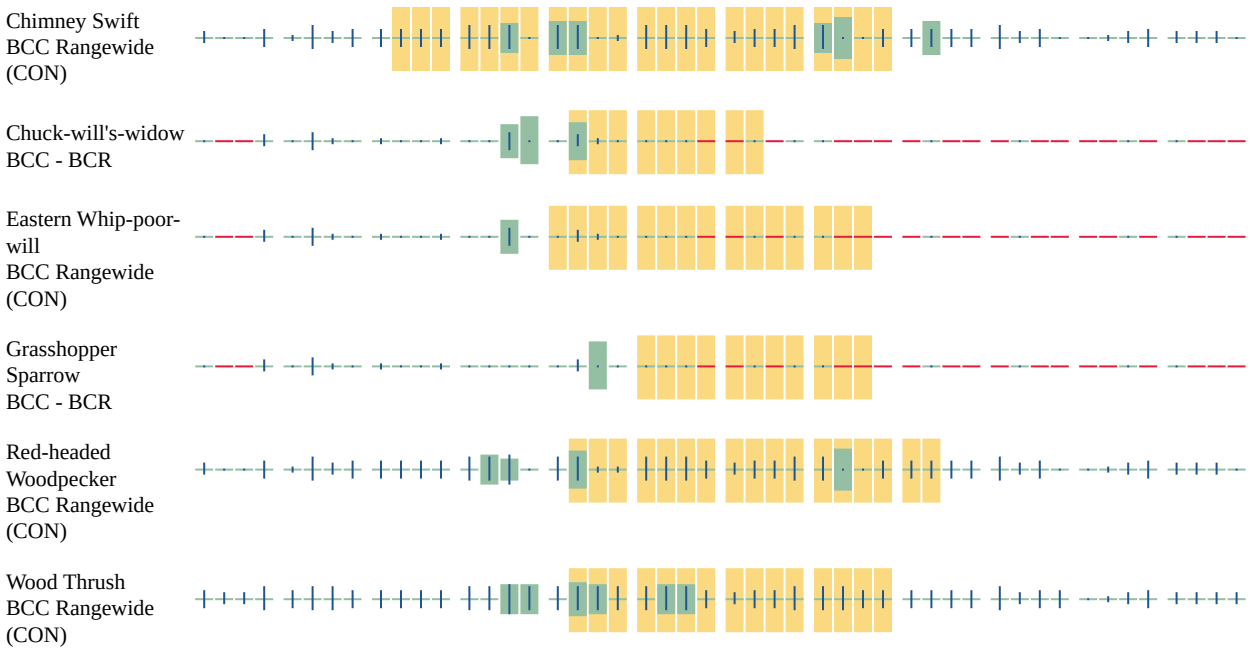
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

IPAC USER CONTACT INFORMATION

Agency: Olive Branch city
Name: Ben Day
Address: 357 N Main St
City: Memphis
State: TN
Zip: 38103
Email bday@tiogaenv.com
Phone: 9017912432

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213-7856
Phone: (601) 965-4900

In Reply Refer To: 06/06/2024 17:53:08 UTC
Project code: 2024-0100629
Project Name: Pleasant Hill Road Widening 2024

Subject: Consistency letter for the 'Pleasant Hill Road Widening 2024' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated June 06, 2024 to verify that the **Pleasant Hill Road Widening 2024** (Proposed Action) may rely on the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action will have no effect on the endangered Indiana bat (*Myotis sodalis*) or the endangered northern long-eared bat (*Myotis septentrionalis*). If the Proposed Action is not modified, **no consultation is required for these two species.** If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:
If your initial bridge/culvert or structure assessment failed to detect Indiana bats and/or NLEBs use or occupancy, yet later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

Pleasant Hill Road Widening 2024

DESCRIPTION

The City of Olive Branch, MS is proposing to widen approximately 2.0 miles of the existing 2-lane section of Pleasant Hill Road to a multi-lane roadway between Church Road (south) and Goodman Road (north), and to reconstruct the intersections at Church Road and Nail Road.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.94834710000001,-89.90137473845519,14z

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the endangered Indiana bat and/or the endangered northern long-eared bat. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for these two species.

QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

2. Is the project within the range of the northern long-eared bat[1]?

   [1] See northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   No

9. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

   No

10. Does the project include slash pile burning?

    No

11. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

12. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    No

13. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

14. Will the project involve the use of **temporary** lighting *during* the active season?

    No

15. Will the project install new or replace existing **permanent** lighting?

    No

16. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

17. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

18. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

19. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    No

20. Will the project raise the road profile **above the tree canopy**?

    No

21. Is the location of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the project action area is not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

22. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge is more than 1,000 feet from the nearest suitable habitat and is therefore considered unsuitable for use by bats

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: Olive Branch city
Name: Ben Day
Address: 357 N Main St
City: Memphis
State: TN
Zip: 38103
Email bday@tiogaenv.com
Phone: 9017912432

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

March 28, 2022

Tioga Environmental
357 N Main St
Memphis, TN 38103

Re: Pleasant Hill Road
Widening
Desoto County, MS

Project #
Internal Id 3021

To Ben Day:

In response to your request for information dated **March 11, 2022**, we have searched our database for occurences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
No records found				

State Rank
S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurences or vey few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.
S2 - Imperiled in Mississippi because of rarity (6 to 20 occurences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.
S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurences).

State and Federal Status
LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.
LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

We do not currently have any records of rare, threatened, or endangered species or communities in the vicinity of your proposed road widening project on Pleasant Hill Road between Church Road and Nail Road in in DeSoto County, MS (34.941667, -89.901392). The quantity and quality of data collected by the Mississippi Natural Heritage Program are dependent on the research and observations of many individuals and organizations and, in many cases, this information is not the result of comprehensive or site-specific field surveys. Many of the state's listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Concerns for this project are the potential for sediment and pollutants to escape the projects boundaries into nearby bodies of water such as Nolehoe Creek. Activities that modify the landscape can be detrimental because they can adversely affect water quality by increasing herbicide and pesticide load, silt load, exhaust runoff from roads, and other unintentional pollutants. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival these species. Projects that cross streams also frequently include stream realignment and stabilization. Stream stabilization projects such as realigning banks, armoring, and/or using riprap/concrete, while providing needed erosion control on-site, can sometimes lead to increased erosion in other areas of the same waterbody due to increased stream velocities and a lack of vegetation to reduce flow energy. Such changes can also change the hydrology of an area, disturbing the habitat. Precautions should be taken to ensure that the proposed actions do not result in increased stream flow or further stream channel, bed, or bank degradation upstream or downstream, as well as potential head-cutting, downstream of the proposed project site. We recommend that best management practices be properly implemented, maintained, and monitored regularly for compliance, both upstream and downstream of any crossings. Specific emphasis should be placed on measures that help look for signs of increased erosion, and minimize the occurrence of excess sedimentation, suspended particulate matter, and contaminants at all project sites and surrounding areas from leaving in stormwater run-off or from direct entry into nearby streams and waterbodies. If such signs are discovered, then appropriate actions to address the issue should be taken. Please check MS Department of Environmental Quality for BMP.

Please feel free to contact us if we can provide any additional infromation, resources, or assitance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Quentin Fairchild

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.

Appendix G

FEMA Floodplain Maps

89°54'22.95"W 34°56'21.61"N

89°52'29.59"W 34°54'15.93"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **2/27/2025 8:21 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88

For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

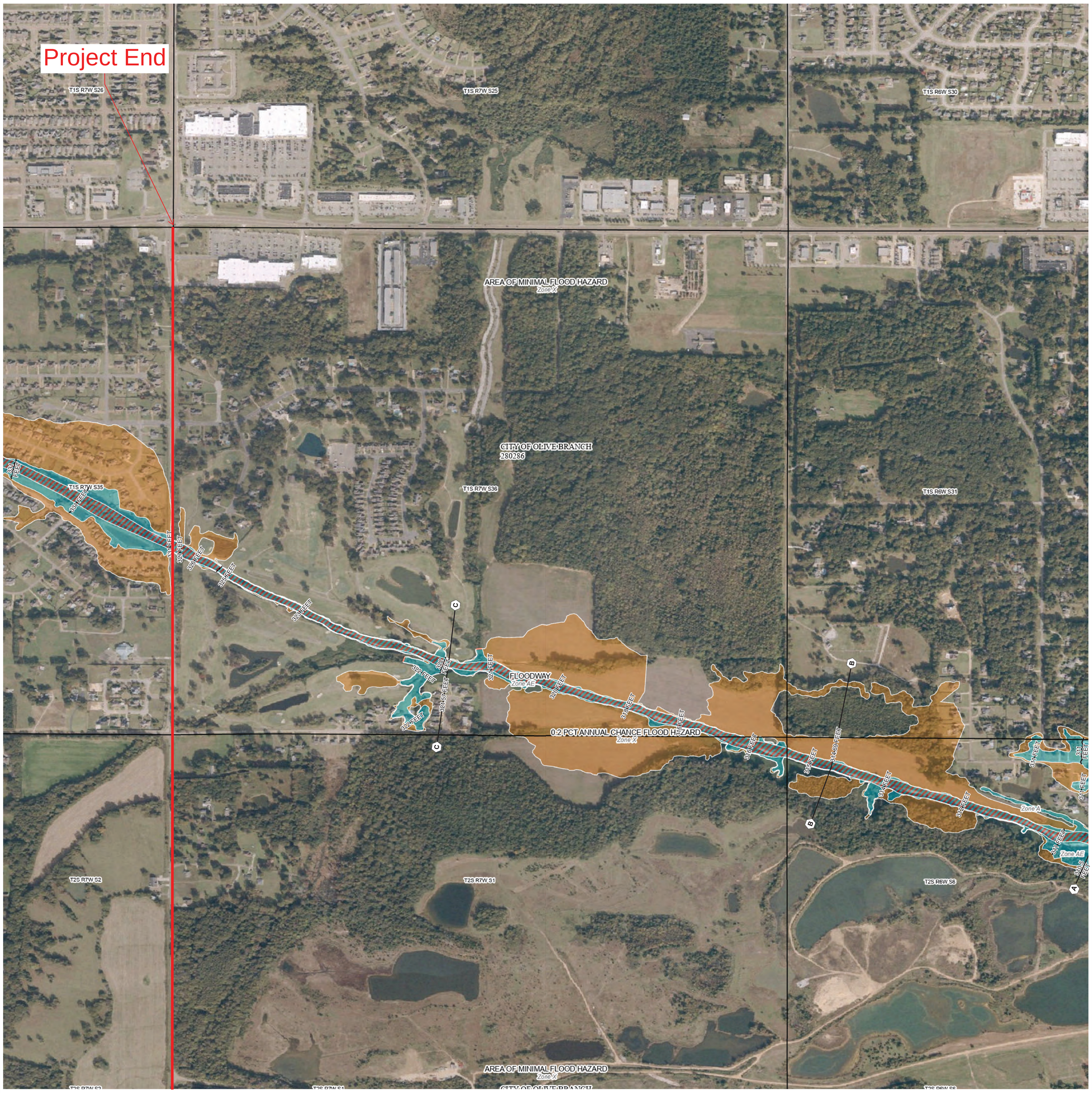
PANEL 92 OF 375

Panel Contains:

COMMUNITY	NUMBER	PANEL
DESOTO COUNTY UNINCORPORATED AREAS	280050	0092
CITY OF OLIVE BRANCH	280286	0092

MAP NUMBER
28033C0092H
EFFECTIVE DATE
May 05, 2014

89°54'22.95"W 34°58'14.11"N



89°52'29.59"W 34°56'8.43"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

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- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
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- Channel, Culvert, or Storm Sewer
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- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
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- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
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- Jurisdiction Boundary

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For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **2/27/2025 8:16 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88

For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL **84** OF **375**

Panel Contains:

COMMUNITY	NUMBER	PANEL
CITY OF OLIVE BRANCH	280286	0084

MAP NUMBER
28033C0084G
EFFECTIVE DATE
June 04, 2007

Appendix H

Cultural Resources Coordination

MDAH
MISSISSIPPI DEPARTMENT OF
ARCHIVES & HISTORY

P.O. Box 571
Jackson, MS 39205-0571
601-576-6850
mdah.ms.gov

November 7, 2024

Mr. James Turner
MDOT, Environmental Division
Post Office Box 1850
Jackson, Mississippi 39125

RE: Phase I Cultural Resources Survey for the Pleasant Hill Road Improvements, (MDOT)
MDAH Project Log #10-083-24, Report #24-0322, DeSoto County

Dear Mr. Turner:

We have reviewed the October 2024, cultural resources survey by C. Andrew Buchner, Principal Investigator, with Commonwealth Heritage Group, LLC, received on October 15, 2024, for the above referenced undertaking pursuant to our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

After reviewing the information provided, MDAH concurs that archaeological site 22Ds872 is considered ineligible for the NRHP, and no resources eligible for listing in the NRHP were identified within the project area or are likely to be affected by the project. As such, we have no objections to the project.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations.

Please provide a copy of this letter to Mr. Buchner. If you have any questions, please do not hesitate to contact us at (601) 576-6940.

Sincerely,

Amy D. Morgan
Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

Board of Trustees: Spence Flatgard, *president* | Nancy Carpenter, *vice president* | Reginald Buckley | Carter Burns | Betsey Hamilton | Mark E. Keenum | Lucius M. Lampton | TJ Taylor

From: Turner, Jim
To: Wallace, Chad; West, DeFoe R.
Subject: FW: CRSR Pleasant Hill Rd , DeSoto County -108775
Date: Tuesday, March 18, 2025 11:43:04 AM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

James H. Turner, II, MA, RPA No. 16451
Chief Archaeologist
Mississippi Department of Transportation
Environmental Division
PO Box 1850; Mail Code 8701-AR
Jackson, MS 39215
Email: jturner@mdot.ms.gov
Office: 601-359-1428
Fax: 601-359-1910

From: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Sent: Friday, October 25, 2024 11:59 AM
To: Turner, Jim <jturner@MDOT.MS.GOV>
Subject: FW: CRSR Pleasant Hill Rd , DeSoto County -108775

Jim,

Please see the below response from MBCI.

Brad

From: Tribal Historic Preservation <THPO@choctaw.org>
Sent: Friday, October 25, 2024 11:57 AM
To: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Subject: RE: CRSR Pleasant Hill Rd , DeSoto County -108775

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

MBCI will defer to other tribes with interest in this project as it is outside our area of interest.

Yakóki! (Thank you)

Melanie Carson, MSM
Planner/Grant Writer/THPO

MBCI Planning Office
101 Industrial Rd
Choctaw, MS 39350
office: (601)663-7606
cell: (601)416-3276
mcarson@choctaw.org
THPO@choctaw.org

From: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Sent: Tuesday, October 15, 2024 4:22 PM
To: Celestine.Bryant@actribe.org; earlii@tunica.org; hpo@chickasaw.net; ithompson <ithompson@choctawnation.com>; jflynn@jenachoctaw.org; lbilyeu@choctawnation.com; section106@mcn-nsn.gov; section106@quapawnation.com; Tribal Historic Preservation <THPO@choctaw.org>
Cc: Turner, Jim <jturner@MDOT.MS.GOV>; Thurman, Kim (FHWA) <kim.thurman@dot.gov>
Subject: CRSR Pleasant Hill Rd , DeSoto County -108775

Hi Everyone,

Please review and make comments on the proposed LPA project that will widen Pleasant Hill Road. Below is the Executive Summary and a link to the CRS Report. The project is in Desoto County and coordinates are included in the Executive Summary. Thank you for continuing to coordinate and partner with us on these proposed projects. If you have any questions or need additional information, please do not hesitate to give me a call.

Thanks,

Brad Hodges

Executive Summary

The Mississippi Department of Transportation has proposed project for proposed improvements of a 2.3-mi segment of Pleasant Hill Road from north of the intersection of SR302 (Goodman Road) southward to a point south of Church Road in DeSoto County, Mississippi. The APE covers 65.31- ac. and can be identified on the Pleasant Hill, MS-TN 7.5-min. quad (Sections 25, 26, 35, and 36 of T1S R7W and Sections 1, 2, 11, and 12 of T2S R7W), Latitude 34.947642° / - Longitude -89.901418° (NAD 83).

At the request of the HDR, Inc., Commonwealth Heritage Group, LLC performed a Phase I cultural resources survey of the proposed project area in March 2022 and April 2024. One of the shovel tests (ST 1-26) contained brick fragments and other surface indications of an

early-middle twentieth-century historic archaeological site, which was recorded as 22DS872. The site is not considered eligible for the NRHP. An abandoned dairy farm complex, consisting of silos, barns, and sheds, was documented on the western side of Pleasant Hill Road at the intersection of Church Street and is also considered not eligible for the NRHP.
The FHWA has determined that the proposed project will have no adverse effect any properties listed or eligible for inclusion in the National Register of Historic Places.

The cultural resources survey report was sent for review to the Mississippi Department of Archives and History on October 15, 2024.

For additional information please contact:
Brad Hodges
Environmental Protection Specialist
United States Department of Transportation
Federal Highway Administration | Mississippi Division
100 West Capitol Street | Suite 1062 | Jackson MS 39269
Phone: (601)965-7342 | E-mail: Brad.Hodges@dot.gov

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From: Turner, Jim
To: Wallace, Chad; West, DeFoe R.
Subject: FW: CRSR Pleasant Hill Rd , DeSoto County -108775
Date: Tuesday, March 18, 2025 11:42:03 AM

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James H. Turner, II, MA, RPA No. 16451
Chief Archaeologist
Mississippi Department of Transportation
Environmental Division
PO Box 1850; Mail Code 8701-AR
Jackson, MS 39215
Email: jturner@mdot.ms.gov
Office: 601-359-1428
Fax: 601-359-1910

From: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Sent: Monday, December 2, 2024 7:48 AM
To: Turner, Jim <jturner@MDOT.MS.GOV>
Subject: CRSR Pleasant Hill Rd , DeSoto County -108775

Jim,

This project lies outside the Choctaw Nation of Oklahoma's area of historic interest.

Brad

From: Lindsey Bilyeu <lbilyeu@choctawnation.com>
Sent: Saturday, November 30, 2024 10:12 AM
To: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Subject: RE: CRSR Pleasant Hill Rd , DeSoto County -108775

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Brad,

The Choctaw Nation of Oklahoma thanks the FHWA, Mississippi Division, for the correspondence regarding the above referenced project. This portion of DeSoto Co., MS lies

outside of our area of historic interest. The Choctaw Nation respectfully defers to the other Tribes that have been contacted.

If you have any questions, please contact me.

Yakoke (Thank you),

Lindsey D. Bilyeu, MS
Program Coordinator
NHPA Compliance Review
Historic Preservation
Choctaw Nation of Oklahoma
lbilyeu@choctawnation.com
Office: 580-642-8377
Cell: 580-740-9624

From: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Sent: Tuesday, October 15, 2024 4:22 PM
To: Celestine.Bryant@actribe.org; earlii@tunica.org; hpo@chickasaw.net; Ian Thompson <ithompson@choctawnation.com>; jflynn@jenachoctaw.org; Lindsey Bilyeu <lbilyeu@choctawnation.com>; section106@mcn-nsn.gov; section106@quapawnation.com; THPO@choctaw.org
Cc: Turner, Jim <jturner@MDOT.MS.GOV>; Thurman, Kim (FHWA) <kim.thurman@dot.gov>
Subject: CRSR Pleasant Hill Rd , DeSoto County -108775

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Hi Everyone,

Please review and make comments on the proposed LPA project that will widen Pleasant Hill Road. Below is the Executive Summary and a link to the CRS Report. The project is in Desoto County and coordinates are included in the Executive Summary. Thank you for continuing to coordinate and partner with us on these proposed projects. If you have any questions or need additional information, please do not hesitate to give me a call.

Thanks,

Brad Hodges

Exe

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The FHWA has determined that the proposed project will have no adverse effect any properties listed or eligible for inclusion in the National Register of Historic Places.

The cultural resources survey report was sent for review to the Mississippi Department of Archives and History on October 15, 2024.

For additional information please contact:
Brad Hodges
Environmental Protection Specialist
United States Department of Transportation
Federal Highway Administration | Mississippi Division
100 West Capitol Street | Suite 1062 | Jackson MS 39269
Phone: (601)965-7342 | E-mail: Brad.Hodges@dot.gov

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the Chickasaw Nation
Department of Culture and Humanities
Office of the Secretary | Post Office Box 1548 | Ada, OK 74821-1548 | (580) 436-7258

Bill Anoatubby
Governor
Chris Anoatubby
Lt. Governor

November 4, 2024

Mr. Brad Hodges Environmental Protection Specialist
United States Department of Transportation
Federal Highway Administration
Mississippi Division
100 West Capital Street, Suite 1062
Jackson, MS 39269

Dear Mr. Hodges:

Thank you for the letter of notification and cultural resource survey regarding the proposed widening of Pleasant Hill Road from State Route 302 to Church Road in DeSoto County, Mississippi. We accept the invitation to consult under Section 106 of the National Historic Preservation Act.

The Chickasaw Nation concurs that 22DS872 is not eligible for listing on the National Register of Historic Places. In addition, we make the agency aware of the following land patents that are located within the area of potential effect:

- Article 5 Land Patent #918 was issued to Chickasaw PAH SHOOK CHAH UMBY and is Section 1, Township 2 South, Range 7 West.
- Article 5 Land Patent #919 was issued to Chickasaw CUT CHUBBY and is Section 2, Township 2 South, Range 7 West.
- Article 5 Land Patent #920 was issued to Chickasaw SHO WI KA and is Section 11, Township 2 South, Range 7 West.
- Article 5 Land Patent #779 was issued to Chickasaw STIM MO TA SHA and is Section 12, Township 2 South, Range 7 West.

In the event the agency becomes aware of the need to enforce other statutes, we request to be notified under ARPA, AIRFA, NEPA, NAGPRA, NHPA, and Professional Standards. We appreciate your efforts to preserve and protect significant historic properties. If you have any questions, please contact Ms. Karen Brunso, tribal historic preservation officer, at (580) 272-1106 or by email at hpo@chickasaw.net.

Sincerely,

Lisa John, Secretary
Department of Culture and Humanities

cc: Brad.Hodges@dot.gov

From: Turner, Jim
To: Wallace, Chad; West, DeFoe R.
Subject: FW: FHWA-MDOT Pleasant Hill Road Widening DeSoto CO MS kb (LJ).pdf
Date: Tuesday, March 18, 2025 11:42:50 AM
Attachments: FHWA-MDOT Pleasant Hill Road Widening DeSoto CO MS kb (LJ).pdf

---

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James H. Turner, II, MA, RPA No. 16451
Chief Archaeologist
Mississippi Department of Transportation
Environmental Division
PO Box 1850; Mail Code 8701-AR
Jackson, MS 39215
Email: jturner@mdot.ms.gov
Office: 601-359-1428
Fax: 601-359-1910

-----Original Message-----
From: Vanessa Bryant <Vanessa.Bryant@chickasaw.net>
Sent: Monday, November 4, 2024 9:38 AM
To: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Cc: HPO <HPO@chickasaw.net>
Subject: FHWA-MDOT Pleasant Hill Road Widening DeSoto CO MS kb (LJ).pdf

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Please see the attached response letter.

Sincerely,

Vanessa Bryant
Chickasaw Nation Division of Historic Preservation Administrative Assistant P.O. Box 1548 Ada, OK 74821-1548
Phone: 580-436-2603 ext. 62206
Please direct any replies to HPO@chickasaw.net

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From: Turner, Jim
To: Wallace, Chad; West, DeFoe R.
Subject: FW: Response to Pleasant Hill Road De Soto County, Mississippi
Date: Tuesday, March 18, 2025 11:41:39 AM

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James H. Turner, II, MA, RPA No. 16451
Chief Archaeologist
Mississippi Department of Transportation
Environmental Division
PO Box 1850; Mail Code 8701-AR
Jackson, MS 39215
Email: jturner@mdot.ms.gov
Office: 601-359-1428
Fax: 601-359-1910

From: Julia Pebeahsy <Julia.Pebeahsy@quapawnation.com>
Sent: Thursday, October 31, 2024 11:42 AM
To: Hodges, Brad (FHWA) <brad.hodges@dot.gov>
Cc: section 106 <section.106@quapawnation.com>
Subject: Response to Pleasant Hill Road De Soto County, Mississippi

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Thursday, October 31, 2024

Attn: Brad Hodges, Environmental Protection Specialist
Federal Highway Administration
Mississippi Division
100 West Capitol Street, Suite 1062
Jackson, Mississippi 39269

Re: Pleasant Hill Road De Soto County, Mississippi

Dear Mr. Brad Hodges,

The Quapaw Nation Historic Preservation Program (QNHPP) has received and reviewed the information you have provided. Based upon the information you provided we believe that Pleasant Hill Road De Soto County, Mississippi, will have no effect on known properties of cultural or sacred significance to the Quapaw Nation.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 ~~and 40 CFR 1501.7(a)~~ of 1969).

The Quapaw Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources, or human remains protected under the NHPA, NEPA, or the Native American Graves Protection and Repatriation Act. If, however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and that you contact the Quapaw Nation Historic Preservation Office.

Should you have any questions or need any additional information, please feel free to contact Julia Pebeahsy at Julia.pebeahsy@quapawnation.com, please copy section106@quapawnation.com to ensure additional information requests are reviewed in a timely manner. Thank you for consulting with the Quapaw Nation on this matter.

Sincerely,

Julia Pebeahsy

On behalf of
-Ms. Billie Burtrum
Preservation Officer/ QNHPP Director
Quapaw Nation
P.O. Box 765
Quapaw, OK 74363
(w) 918-238-3100
(f) 918-674-2456

Appendix I

Phase I Environmental Site Assessment

Phase I Environmental Site Assessment

Pleasant Hill Road Property

Pleasant Hill Road between Church Road and Goodman Road

Olive Branch, DeSoto County, Mississippi

May 20, 2024 | Terracon Project No. EB237012

Prepared for:
HDR, Inc.
1905 Community Bank Way, Suite 110
Flowood, MS 39232

Prepared by:
Terracon Consultants, Inc.
Ridgeland, Mississippi

Terracon
Nationwide
Terracon.com
Facilities
Environmental
Geotechnical
Materials

859 S Pear Orchard Rd
Ridgeland, MS 39157-5105
P 601-956-4467
F 601-956-9533
Terracon.com

May 20, 2024

HDR, Inc.
1905 Community Bank Way, Suite 110
Flowood, MS 39232

Attn: Mr. Chad Wallace
P: (769) 209-6006
E: Chad.Wallace@HDRInc.com

Re: Phase I Environmental Site Assessment
Pleasant Hill Road Property
Pleasant Hill Road Between Church Road and Goodman Road
Olive Branch, DeSoto County, Mississippi
Terracon Project No. EB237012

Dear Mr. Wallace:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced subject property (hereinafter known as the 'site'). This assessment was performed in accordance with Terracon Proposal No. PEB237012 dated December 21, 2023.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide other environmental, geotechnical, construction materials, and facilities services on a wide variety of projects locally, regionally, and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Conner A. McCluer
Environmental Department Manager

Steve E. Whitting, RPG
Senior Geologist

Attachments

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APPENDIX B	Site Photographs
APPENDIX C	Historical Documentation and User Questionnaire
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APPENDIX F	Description of Terms and Acronyms

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with Terracon Proposal No. PEB237012 dated December 21, 2023, and was conducted consistent with the procedures included in ASTM E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. The ESA was conducted under the supervision or responsible charge of Steve E. Whitting, RPG, Environmental Professional. Banks Harland performed the site reconnaissance on April 9, 2024.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is an approximate 60-acre tract of land located along Pleasant Hill Road, Olive Branch, DeSoto County, Mississippi. The site is developed with Pleasant Hill Road and portions of intersecting roads including Church Road, Nail Road, and Goodman Road.

Historical Information

Historical records indicate the site consisted Pleasant Hill Road and agriculture land from as early as 1937. Goodman Road appears to have been fully constructed by 1975. Nail Road appears to have been fully constructed by 1997. Church Road appears to have been fully constructed by 2004.

Surrounding properties appear to have been agriculture land from as early as 1937. Some residential development of surrounding properties occurred in the 1970s and 1980s. Heavy commercial development near the intersection of Goodman Road and Pleasant Hill Road began during mid-2000s.

Records Review

Selected federal and state environmental regulatory databases as well as state and local regulatory agencies were reviewed. The site was not listed in the ERIS database report. Several facilities were listed within search radii in the database report. However, none of the adjacent and nearby listed facilities are RECs in connection with the site based on regulatory status, separation distance, and/or topographic location. Findings from review of records are further discussed in Section 4.1.

The remaining facilities listed in the database report do not appear to represent RECs in connection to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Site Reconnaissance

During site reconnaissance, the property was observed to consist of an approximate 60-acre tract of land developed with Pleasant Hill Road and portions of intersecting roads including Church Road, Nail Road, and Goodman Road. The site is surrounded by residential property along the central portion and commercial property at the northern terminus along goodman Road.

Adjoining Properties

The site is located in a commercial and residential area of Olive Branch, Mississippi. The site is adjoined to the north by a mixture of residential and commercial properties. Along the central portion and northern terminus, the site is adjoined to the east by multiple residential and commercial properties. Along the southern portion, the site is adjoined to the east by DeSoto County Landfill. The site is adjoined to the south by Pop's Express gas station and Vineyard Wines & Spirits. The site is adjoined to the west by undeveloped land, Olive Branch Fire Station, New Beginnings Baptist Church, multiple residential developments, and Circle K gas station.

Significant Data Gaps

Significant data gaps that may affect the findings, conclusions, or recommendations of this Phase I ESA were not identified.

Additional Services

Per the agreed scope of services specified in the proposal, additional services (e.g., asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, etc.) were not conducted as part of this ESA.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-21 at the tract of land located along Pleasant Hill Road between Church Road and Goodman Road, Olive Branch, DeSoto County, Mississippi, the site. Recognized Environmental Conditions (RECs), Controlled RECs (CRECs), and/or Signification Data Gaps (SDGs) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this assessment, Terracon did not identify RECs, CRECs, or SDGs in connection with the site. As such, no additional investigation is warranted at this time.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Pleasant Hill Road Property
Site Location/Address	Pleasant Hill Road between Church Road and Goodman Road, DeSoto County, Mississippi
Land Area	Approximately 60 acres
Site Improvements	Developed with an approximate 60-acre tract of land developed with Pleasant Hill Road and portions of intersecting roads including Church Road, Nail Road, and Goodman Road.
Anticipated Future Site Use	Continued use as current use.
Reason for the ESA	Acquiring portions of the site for road expansion.

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with Terracon Proposal No. PEB237012 dated December 21, 2023, and was conducted consistent with the procedures included in ASTM E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. Recognized environmental conditions are defined by ASTM E1527-21 as "(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment." A *de minimis* condition is not a recognized environmental condition.

This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews (including local government inquiries, as applicable), and a visual noninvasive reconnaissance of the site and adjoining

properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, expressed or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations, and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e., evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- Reasonable attempts were made to contact local government officials; however, at the issuance of this report, interviews with the site owner and local government officials were not performed.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances, petroleum products or PFAS compounds may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of HDR, Inc. Use or reliance by any other party is prohibited without the written authorization of HDR, Inc. and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-21 Section 4.6. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-21.

1.6 Client Provided Information

Prior to the site visit, Chad Wallace, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-21 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Releases at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 354 feet above sea level	USGS Topographic Map, Pleasant Hill Quadrangle 1996 (Appendix A)
Topographic Gradient	Gently sloping towards the east-northeast	
Closest Surface Water	A small tributary of Nolchoe Creek adjoining the property along the east side.	
Soil Characteristics		
Soil Type	Gf- Grenada silt loam Gk- Gullied land, Loring soil material Le- Loring silt loam	Environmental Risk Information Services (ERIS), Physical Setting

Physical Setting Information		Source
	Lk- Loring silty clay loam Lm- Loring silty clay loam	Report, Issued March 26, 2024
Description	Gf- severely eroded, moderately well drained. Moderately high runoff potential when thoroughly wet. Water transmission is somewhat restricted. Gk- minor mapping unit, no description available. Le- sloping phase, moderately well drained. Moderate high runoff potential when thoroughly wet. Water transmission is somewhat restricted. Lk- severely eroded, gently sloping. Moderately well drained. Moderately high runoff potential when thoroughly wet, water transmission is somewhat restricted. Lm- Severely eroded, sloping phase. Moderately well drained. Moderately high runoff potential when thoroughly wet, water transmission is somewhat restricted.	
Geology/Hydrogeology		
Formation	Ek – Kosciusko Formation	Geologic Map of Mississippi 1969
Description	Primarily sand with secondary layers of clay or mud. Irregularly bedded sand, clay and some quartzite.	
Estimated Depth to First Occurrence of Groundwater	Within the upper 25 feet of the ground surface, if encountered, otherwise at depths of up to 200 feet.	Terracon's experience in the site vicinity

Physical Setting Information	Source
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the east-northeast).

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, and Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10-to-15-year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs, and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from EDR to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic map: Hernando, Mississippi, published in **1944** (1:62,500)
- Topographic map: Pleasant Hill, Mississippi, published in **1982**, **1996**, **2015**, and **2021** (1:62,500)
- Aerial photograph: ASCS, **1937**, **1949**, **1957**, and **1962**, (1”=1500’)
- Aerial photograph: USGS, **1975**, **1981**, **1991**, **1997** (1”=1500’)
- Aerial photograph: USDA, **2004**, **2005**, **2006**, **2007**, **2009**, **2010**, **2012**, **2014**, **2016**, **2018**, **2020**, and **2021** (1”=1500’)
- Aerial photograph: MAXAR, **2023**, (1”=1500’)

Historical Maps and Aerial Photographs

Direction	Description
Site	Depicted as developed with Pleasant Hill Road and surrounding agriculture land (1937-1949); depicted as with a barn on the southern terminus on the west side of Pleasant Hill Road (1957); depicted with multiple residential and agriculture structure along Pleasant Hill Road (1962); residential development along Pleasant Hill Road near the intersection of Nail Road; development depicted along the intersection of Pleasant Hill Road and Goodman Road (1975); depicted with continued development to the east and west sides of Pleasant Hill Road (1981-2023).
North	Depicted as agriculture land (1937); depicted as agriculture land with multiple structures along Pleasant Hill Road (1949-1997); depicted with residential development northwest of the intersection of Pleasant Hill Road and Goodman Road (2004); multiple commercial properties developed in the vicinity of the intersection of the intersection of Pleasant Hill Road and Goodman Road (2005-2014); heavy commercial development near the intersection of Pleasant Hill Road and Goodman Road similar to observed during site reconnaissance (2016-2023).
East	Depicted as agriculture land (1937-1962); depicted with residential development to the southeast of the intersection of Pleasant Hill Road and Nail Road; DeSoto County Landfill is depicted to the east of Pleasant Hill Road; some residential and commercial development is depicted near the intersection of Pleasant Hill Road and Goodman Road (1975-1981);
South	Depicted as Pleasant Hill Road and agriculture land (1937-1997); depicted as developed with the intersection of Pleasant Hill Road and Church Road near the southern terminus (2004-2014); commercial development depicted southeast of the intersection of Pleasant Hill Road and Church Road (2016-2023)
West	Depicted as agriculture land and farm structures near the northwestern corner of the intersection of Pleasant Hill Road and Church Road(1937-1962); depicted with an access road to multiple residential developments and an access road to Nail Road (1975); depicted with continued development of residential developments north and south of Nail Road and west of Pleasant Hill Road (1981-1991); depicted with heavy residential development similar in size and layout as observed during site reconnaissance (1997-2023)

3.2 Historical City Directories

The Digital Business Directory and Cole city directories used in this study were made available through ERIS (selected years reviewed: 1985 through 2022) and were reviewed at approximate five-year intervals, if readily available. The current street address for the site was identified as Pleasant Hill Road between Church Road and Goodman Road.

Historical City Directories

Direction	Description
Site	No listings
North	**4892 Goodman Road** Gateway Tire & Service (2012,2016, 2020, 2022) **5150 Goodman Road** Target (2012, 2016, 2022) **5075 Goodman Road** Academy Sports + Outdoors (2020)
East	**5085 Goodman Road** Loveladys Body Shop (1990, 1995, 2003)
South	**5025 Church Road** **Lapels Dry Cleaning (2020, 2022)**
West	No listings

Lapels Dry Cleaning

Lapels Dry Cleaning was listed at 5025 Church Road for the years of 2020 and 2022. This location is approximately 275 feet to the east of the site's southern terminus. This location is no longer open and the suite that this business operated out of is now vacant. According to surrounding tenants, the former Lapels Dry Cleaning location operated as a drop off location only and did not conduct dry cleaning operations at this location. Additionally, Lapels Dry Cleaning advertises its dry-cleaning operations as "eco-friendly" and claims to use a silicon based solution in lieu of traditional solvent based products. The city directory listing of Lapels Dry Cleaning is not considered a REC in connection to the site.

3.3 Site Ownership

The City of Olive Branch, DeSoto County, Mississippi is the current owner of Pleasant Hill Road from the intersections of Church Road to Goodman Road. No road identification number or Parent Tax Parcel ID was available for this section of roadway through the DeSoto county online GIS database. This information was gathered from the City of Olive Branch Attorney Mr. Bryan Dye.

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individuals were interviewed regarding the current and historical use of the site.

Interviews

Interviewer	Name / Phone #	Title	Date/Time
Conner McCluer	Mr. Bryan Dye / (662)892-9228	City Attorney	May 8, 2024 / 5:00 PM

Terracon interviewed Mr. Bryan Dye, City of Olive Branch Attorney, on May 8, 2024. Mr. Dye stated that the City of Olive Branch has owned the site since 1996. Mr. Dye stated that to the best of his knowledge, he was not aware of any of the following:

- Pending environmental litigation
- Threatened environmental litigation
- Possible violations of environmental laws
- Any potential environmental concerns
- Past environmental litigation
- Possible environmental liability

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports, permits, registrations, and geotechnical reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company in a report dated March 28, 2024. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient, and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERCLIS	Comprehensive Environmental Response, Compensation, & Liability Information System	0.5	0
CERCLIS / NFRAP	Comprehensive Environmental Response, Compensation, & Liability Information System/No Further Remedial Action Planned	0.5	0
ERNS	Emergency Response Notification System	Site	0
IC / EC	Institutional Control/Engineering Control	Site	0
NPL	National Priorities List	1	0

Database	Description	Distance (miles)	Listings
NPL (Delisted)	National Priorities Delisted List	0.5	0
RCRA CORRACTS/ TSD	RCRA Corrective Action Activity	1	0
RCRA Generators	Resource Conservation and Recovery Act	Site and adjoining properties	1

State/Tribal Databases

Database	Description	Distance (miles)	Listings
Brownfields	Brownfields	0.5	0
IC/EC	Institutional Controls / Engineering Controls	Site	0
LUST	Leaking Underground Storage Tanks	0.5	1
SHWS	State Hazardous Waste Site	0.5	0
SWF/LF	Solid Waste Facilities/Landfills	0.5	1
UST	Underground Storage Tank	Site and adjoining properties	4
VCP	Voluntary Cleanup Program	0.5	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report in Appendix D.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities. Facilities are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name and Location	Estimated Distance / Direction/Gradient	Database Listings	Findings Summary
Pop's Express 5005 Church Road	Adjoining property east of the site's southern terminus / downgradient	LUST, UST	Not a REC. Discussed below.
Kaddy Shack 7031 Pleasant Hill Road	Site. Formerly located on northwestern corner of intersection of Pleasant Hill Road and Goodman Road (northern terminus)	UST	Not a REC. Discussed below.
Circle K No. 2709318 4955 Goodman Road	Site. Located at the southwestern corner of the intersection of Pleasant Hill Road and Goodman Road (northern terminus)	UST	Not a REC. Discussed below.
Coopers Mini Mart 4811 Goodman Road	Site. Located along Goodman Road on the northwestern terminus	UST	Not a REC. Discussed below.
DeSoto County Rubbish Site Sandidge Road	Approximately 600 feet east / up-gradient	SWF/LF	Not a REC Discussed below.

Pop's Express

The facility located at 5005 Church Road identified as Pop's Express Gas Station was identified through the ERIS database search and Mississippi Department of Environmental Quality (MDEQ) online GARD system as a Leaking Underground Storage Tank (LUST) and Underground Storage Tank (UST) facility. According to MDEQ records the facility operates one 20,000-gallon gasoline UST and one 12,000-gallon diesel and gasoline multi-compartment UST. According to documents acquired through an MDEQ Freedom of Information Act (FOIA) file review, during an inspection on April 11, 2017, a minor leak was found on a diesel dispenser, and 3.5 inches of fuel was found in the diesel sump area. The sumps were pumped of all water and fuel and disposed of properly. The facility was brought into compliance from April 11, 2017, to September 24, 2017. A No Further Action letter (NFA) was issued for the site on October 3, 2019. Due to this facility maintaining a substantial compliance record and the previous LUST event receiving an NFA this facility is not considered a REC in connection to the site.

Kaddy Shack

This facility was formerly located at the northwestern corner intersection of Pleasant Hill Road and Goodman Road. According to documents acquired through an MDEQ FOIA file review, this facility formerly operated two 8,000-gallon gasoline USTs and one 6,000-gallon gasoline UST that were installed in 1990. These USTs were removed from the ground in 1993. Soil samples collected during UST closure activities were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and were reported below MDEQ regulatory levels. MDEQ issued a No Further Action (NFA) letter on May 13, 1993. Due to the relatively short time period of operation and the facility receiving a NFA letter in response to a clean UST closure, this former facility is not considered a REC in connection the site.

Coopers Mini Mart

This former facility was located at 4811 Goodman Road and was identified through the ERIS database report as a UST facility. According to the ERIS database report, this facility formerly operated two 8,000-gallon gasoline USTs that were installed in 1975 and removed from the ground in 2005. No compliance violations or releases or spills were reported for this facility. The former USTs were removed from the ground during current UST regulations that require soil sampling during UST closure activities. If contamination was discovered during UST closure activities, the facility would have either been listed as a Leaking Underground Storage Tank (LUST) facility or would have required additional excavation of the tank beds. Though no NFA letter was reported for this facility, UST closure at this facility was conducted during a period of substantial UST regulatory oversite and any contamination encountered during UST closure activities would have been required to be reported to the MDEQ. Due to no reported compliance violations and no reported spills or releases at this facility, this facility is not considered a REC in connection to the site.

Circle K 2709318

This facility located at 4955 Goodman Road and was identified through the ERIS database report as a UST facility. According to the ERIS database report, this facility currently operated two 20,000-gallon multicompartment USTs and one 20,000-gallon gasoline UST installed in 2015. This facility has no record of compliance violations and no reported releases or spills. Due to this facility maintaining a record of substantial compliance and no reported releases or spills, this facility is not considered a REC in connection to the site.

DeSoto County Rubbish Site

The facility located on Sandidge road was identified in the ERIS database search and Mississippi Department of Environmental Quality (MDEQ) and Solid Waste Facility (SWF) database as a Commercial Class I Rubbish Disposal Facility. This facility only allows for the collection of construction and demolition debris such as wood, metal, brick/motor etc. Restricted materials are food/chemicals, household garbage, and other items not related to construction materials/debris. Rubbish Facilities are heavily regulated and monitored by the MDEQ. According to records from ERIS and MDEQ the DeSoto County Rubbish Site has no record of violations of environmental laws or regulations. Based on the distance from the site,

and the regulatory status along with a history of compliance, Terracon is not considering the DeSoto County Rubbish Facility a REC in connection to the site.

The remaining facilities listed in the database report do not appear to represent RECs in connection to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The database report listed 22 facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment, however, none of the facilities were identified as the site. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
Olive Branch Fire Department Via telephone / (662-893-9614)	Terracon attempted to contact the Olive Branch Fire Department on May 8, 2024, May 9, 2024, and May 15, 2024. As of the issuance of this report, Terracon has not received a response.
Mississippi Department of Environmental Quality Online GARD and UST Database https://www.mdeq.ms.gov/water/groundwater-assessment-and-remediation/cercla-ucss-file-list-search/	The website was accessed on April 26, 2024, to retrieve information regarding the facilities listed in the ERIS database report. Information reviewed in this database was consistent with the database report.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Banks Harland
Reconnaissance Date	April 9, 2024
Weather Conditions	Rainy, 66°F
Site Contact/Title	Bryan Dye / City Attorney

5.2 Overview of Current Site Occupants

The site is currently a two-lane roadway surrounded by residential and commercial developments.

5.3 Overview of Current Site Operations

The site is currently a two-lane roadway surrounded by residential and commercial developments.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	

Category	Item or Feature	Observed or Identified
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas, or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels, and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins, and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris, and/or other waste materials	
	Dumping or disposal areas	

Category	Item or Feature	Observed or Identified
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free-floating product	
	Strong, pungent, or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

No RECs were observed during the April 9, 2024, site reconnaissance.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	Mixture of residential and commercial properties
East	Adjoined by multiple residential and commercial properties along the central and northern terminus. Adjoined by DeSoto County Landfill along the southern portion of the site.
South	Pop's Express gas station and Vineyard Wines & Spirits
West	Undeveloped land, Olive Branch Fire Station, New Beginnings Baptist Church, multiple residential developments, and Circle K gas station.

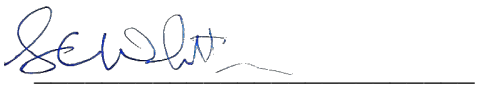
RECs were not identified with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

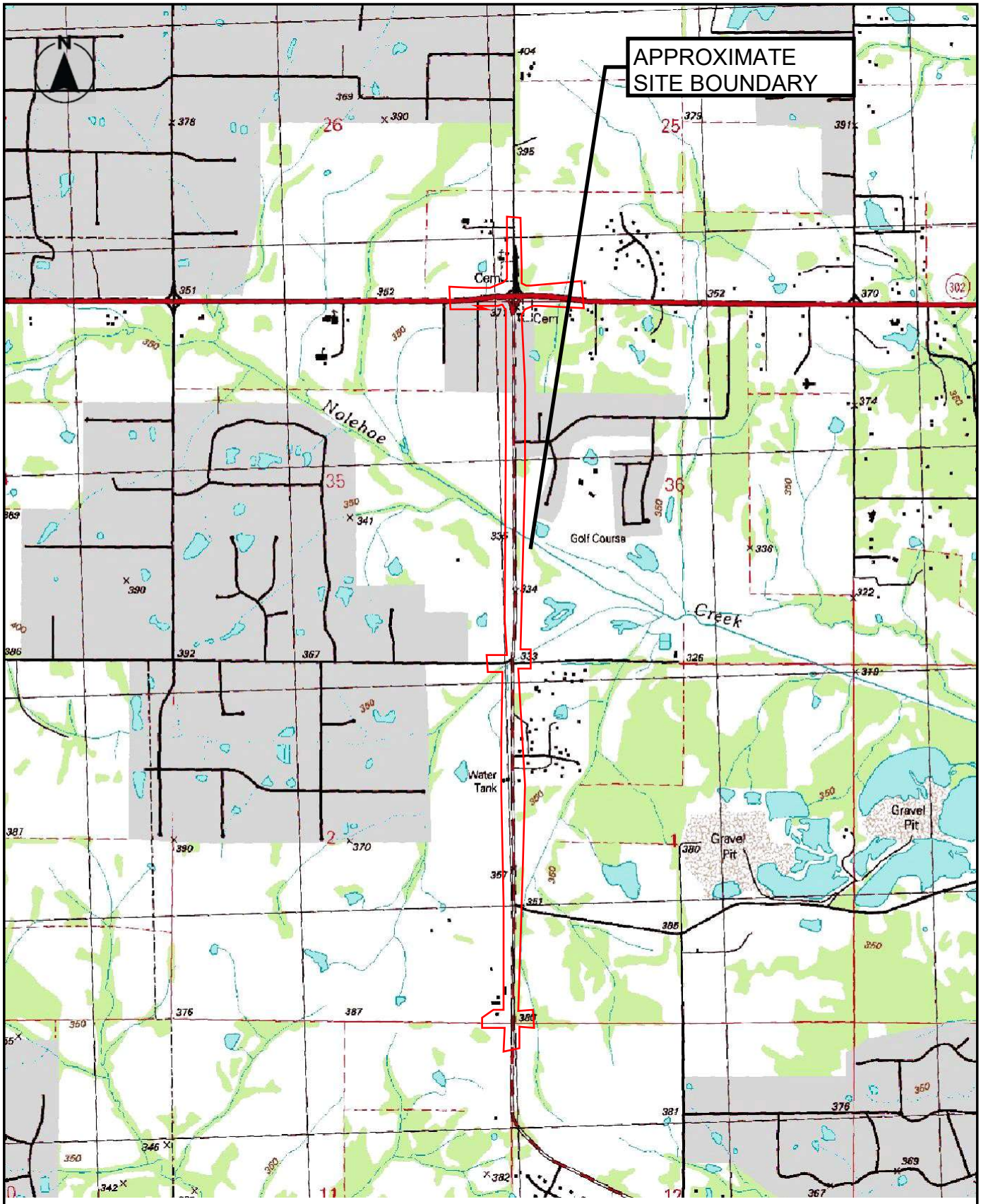
8.0 DECLARATION

I, Steve E. Whitting, RPG, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Steve E. Whitting, RPG
Senior Geologist

APPENDIX A
EXHIBIT 1: TOPOGRAPHIC MAP
EXHIBIT 2: SITE DIAGRAM



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: PLEASANT HILL, MS (1/1/1996).

Project Manager: CAM	Project No. EB237012	Terracon 859 S Pear Orchard Rd Ridgeland, MS 39157-5105	TOPOGRAPHIC MAP	Exhibit
Drawn by: JBH	Scale: 1"=2,000'		Pleasant Hill Road **Pleasant Hill Road between Church St and Goodman Road** **Olive Branch, MS**	1
Checked by: SEW	File Name: EB237012			
Approved by: SEW	Date: 04/10/2024			

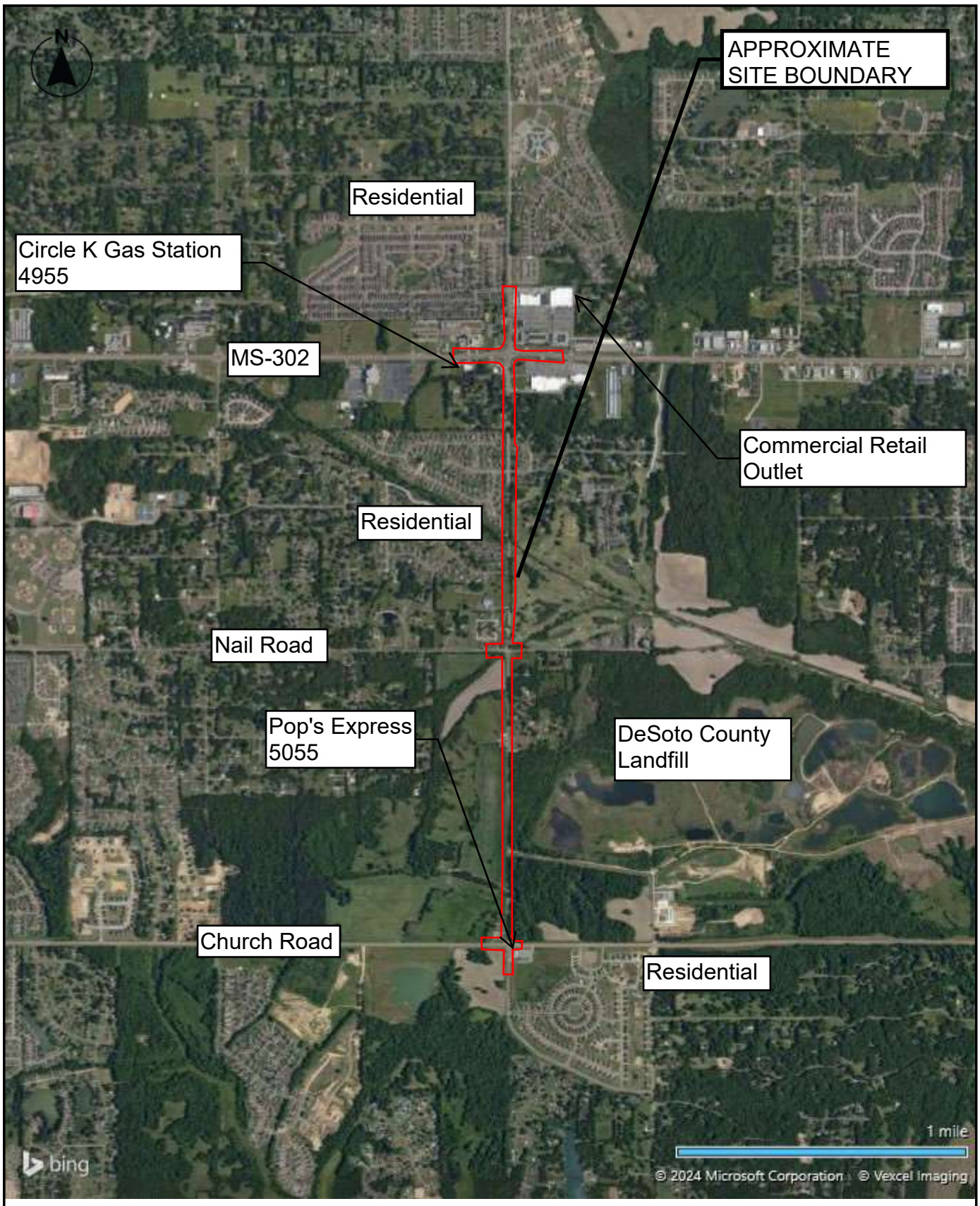


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: CAM	Project No. EB237012	Terracon	SITE DIAGRAM
Drawn by: JBH	Scale: AS SHOWN	859 S Pear Orchard Rd Ridgeland, MS 39157-5105	Pleasant Hill Road **Pleasant Hill Road between Church St and Goodman Road** **Olive Branch, MS**
Checked by: SEW	File Name: EB237012		Exhibit 2
Approved by: SEW	Date: 04/10/2024		

APPENDIX B
SITE PHOTOGRAPHS

Photo 1: View of southern Pleasant Hill Road site and Church Road intersection, facing north.

Photo 2: View of northern portion Pleasant Hill Road site and MS-301 intersection, facing north.

Photo 3: View of Pleasant Hill Road and Nail Road intersection, facing south.

Photo 4: View of Pleasant Hill Road, facing southeast.

Photo 5: View of adjacent southeastern Shell gas station, facing southeast from Pleasant Hill Road.

Photo 6: View of Shell gas station's USTs in the northwest parking lot, facing west.

Photo 7: View of adjacent northwestern Circle K gas station, facing southeast.

Photo 8: View of Circle K gas station's USTs in the north parking lot, facing northwest.

Photo 9: View of pole mounted electrical transformer adjacent west of Pleasant Hill Road and along the southwest portion of the Circle K gas station, facing south.

Photo 10: View of Gas pipeline adjacent west of Pleasant Hill Road and along the north portion of the Circle K gas station, facing southwest.

Photo 11: View of vacant buildings adjacent west of Pleasant Hill Road, facing north.

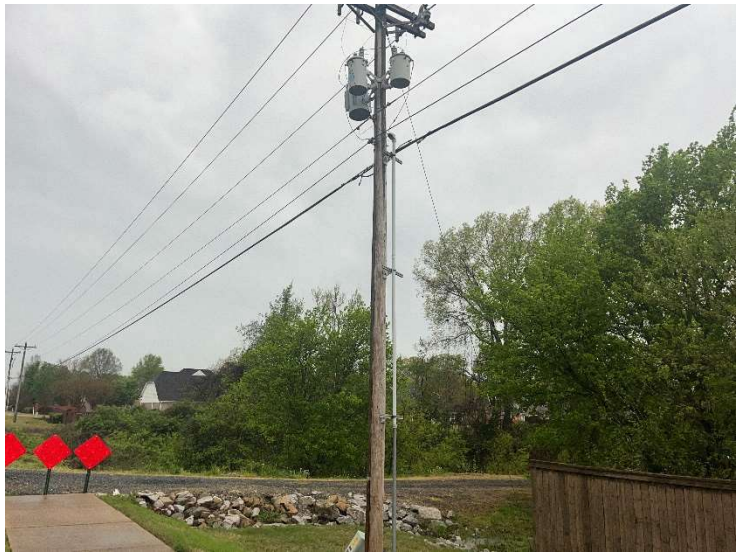


Photo 12: View of pole mounted electrical transformer adjacent west of Pleasant Hill Road, facing southwest.

Photo 13: View of Pleasant Hill Road and adjacent Olive Branch Fire Station, facing southeast.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

ASTM E1527-21 User Questionnaire

Date Completed	May 14, 2024	
Person Completing Questionnaire	Name: Chad Wallace Company: HDR	Phone: 601-673-7238 Email: chad.wallace@hdrinc.com
Site Name	Pleasant Hill Road	
Site Address	Olive Branch, MS	
Point of Contact for Access	Name: Bryan Dye Company: City of Olive Branch	Phone: 662-892-9228 Email:
Access Restrictions or Special Site Requirements?	X No ___Yes (If yes, please explain) unknown	
Confidentiality Requirements?	X No ___Yes (If yes, please explain) unknown	
Current Site Owner	Name: Company: City of Olive Branch	Phone: Email:
Current Site Operator	Name: Company: Andy Swims, City Engineer	Phone: (662) 892-9353 Email: andy.swims@obms.us
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Widening of existing route	
Anticipated Future Site Use	roadway	
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.	

ASTM User Questionnaire

To qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the user must respond to the following inquiries required by 40 C.F.R. §§ 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate* inquiries" is not complete.

1) Did a search of land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the site under federal, tribal, state, or local law (40 CFR 312.25)? unknown

X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded against the site under federal, tribal, state, or local law (40 CFR 312.26)? unknown

X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?

X No ___Yes (If yes, explain below)

4) Does the purchase price being paid for this site reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the site?

___No ___Yes X Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)? For example, (a.) Do you know the past uses of the site? (b.) Do you know of specific chemicals that are present or once were present at the site? (c.) Do you know of spills or other chemical releases that have taken place at the site? (d.) Do you know of any environmental cleanups that have taken place at the site?

X No ___Yes (If yes, explain below) unknown

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of releases at the site (40 CFR 312.31)?

X No ___Yes (If yes, explain below) unknown

Comments or explanations:

Please return this form with the signed authorization to proceed. **Proposal No. PEB237012**

HISTORICAL AERIALS

Project Property: Pleasant Hill Road
n/a
Olive Branch Mississippi

Project No.: EB237012

Requested By: Terracon

Order No: 24032500139

Date Completed: March 29,2024

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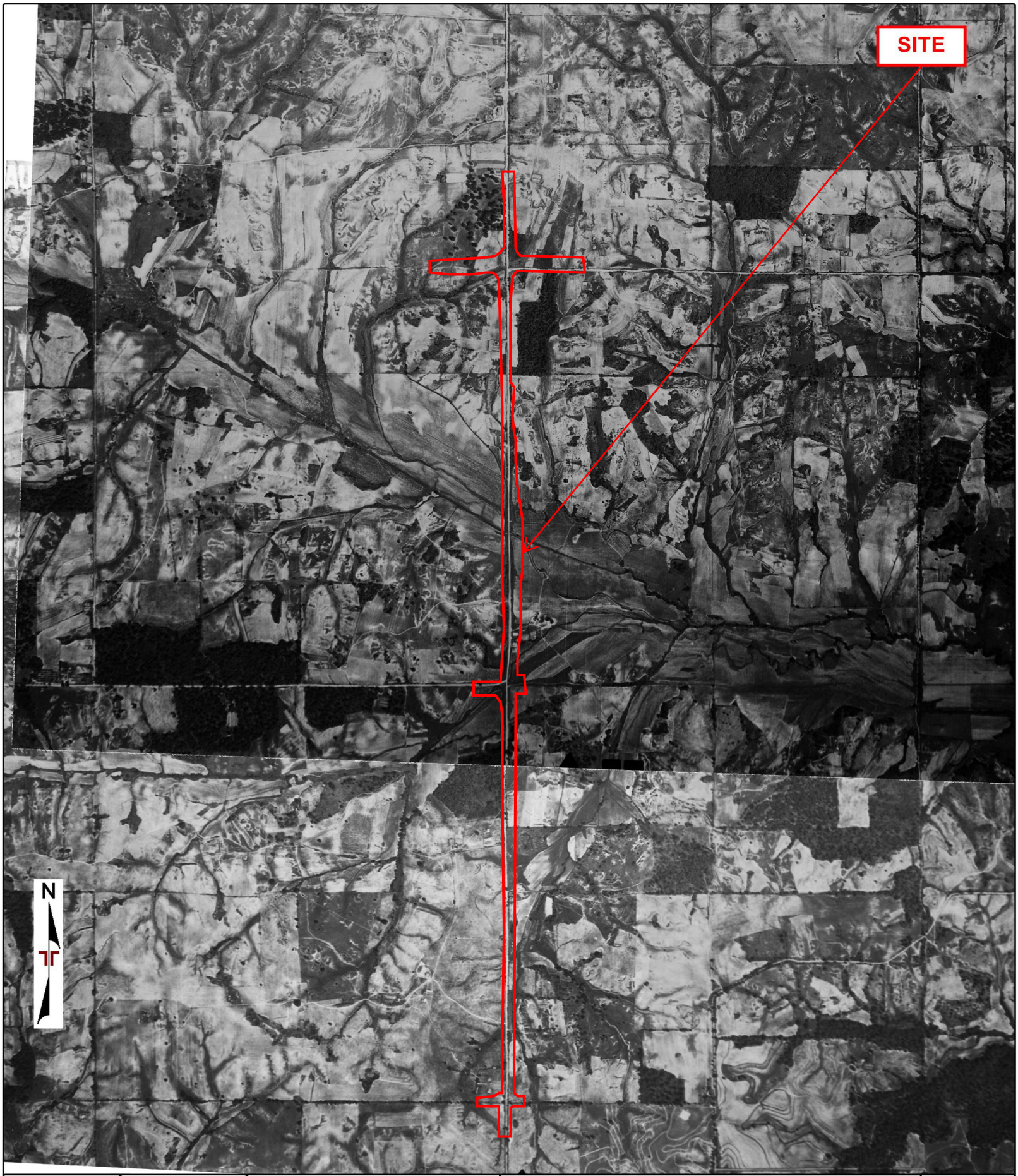
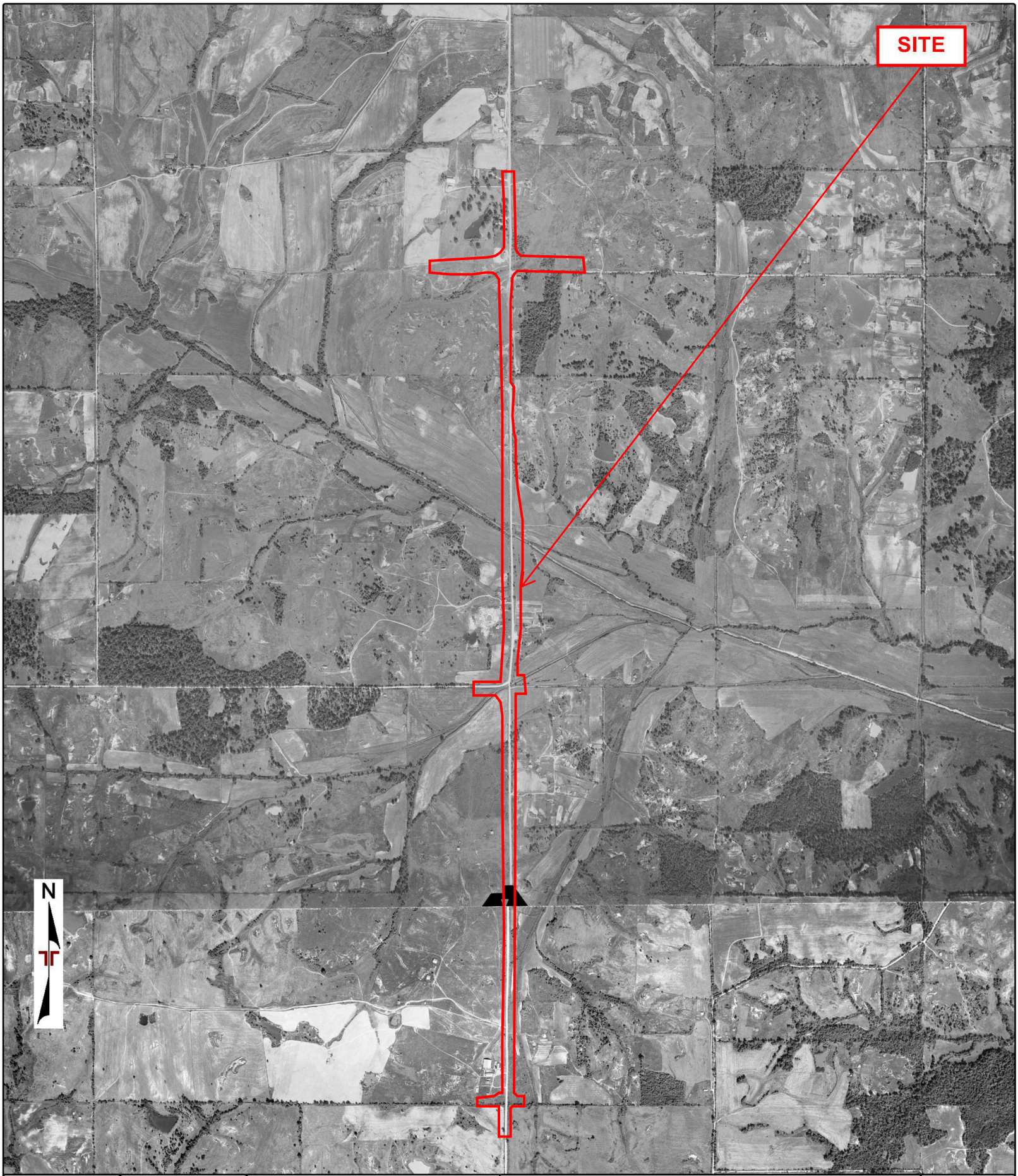
Date	Source	Scale	Comments
1937	Agricultural Stabilization & Conserv. Service	1" = 1500'	
1949	Agricultural Stabilization & Conserv. Service	1" = 1500'	
1957	Agricultural Stabilization & Conserv. Service	1" = 1500'	
1962	Agricultural Stabilization & Conserv. Service	1" = 1500'	
1975	United States Geological Survey	1" = 1500'	
1981	United States Geological Survey	1" = 1500'	
1991	United States Geological Survey	1" = 1500'	
1997	United States Geological Survey	1" = 1500'	
2004	United States Department of Agriculture	1" = 1500'	
2005	United States Department of Agriculture	1" = 1500'	
2006	United States Department of Agriculture	1" = 1500'	
2007	United States Department of Agriculture	1" = 1500'	
2009	United States Department of Agriculture	1" = 1500'	
2010	United States Department of Agriculture	1" = 1500'	
2012	United States Department of Agriculture	1" = 1500'	
2014	United States Department of Agriculture	1" = 1500'	
2016	United States Department of Agriculture	1" = 1500'	
2018	United States Department of Agriculture	1" = 1500'	
2020	United States Department of Agriculture	1" = 1500'	
2021	United States Department of Agriculture	1" = 1500'	
2023	Maxar Technologies	1" = 1500'	

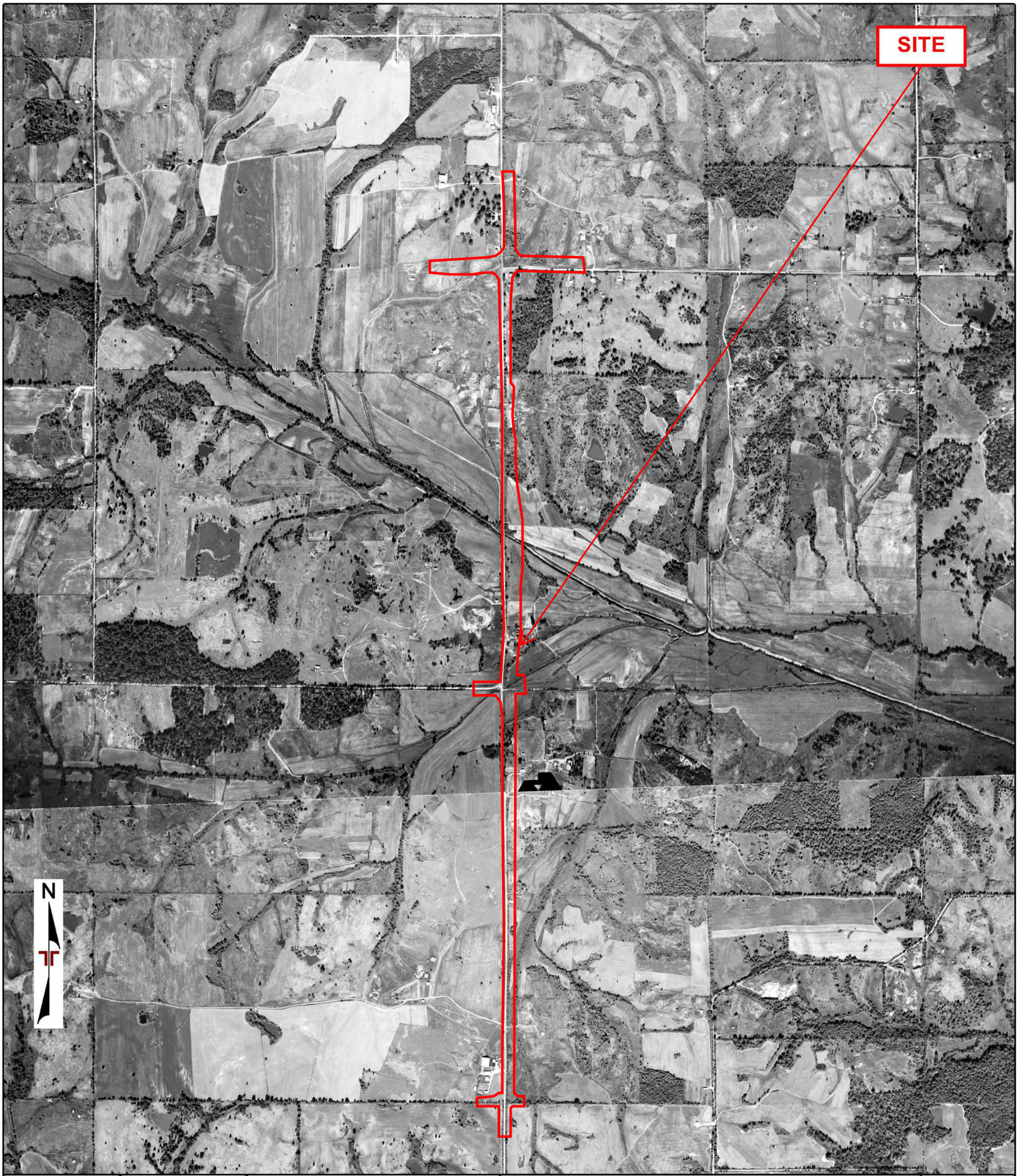


Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1937 - ASCS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

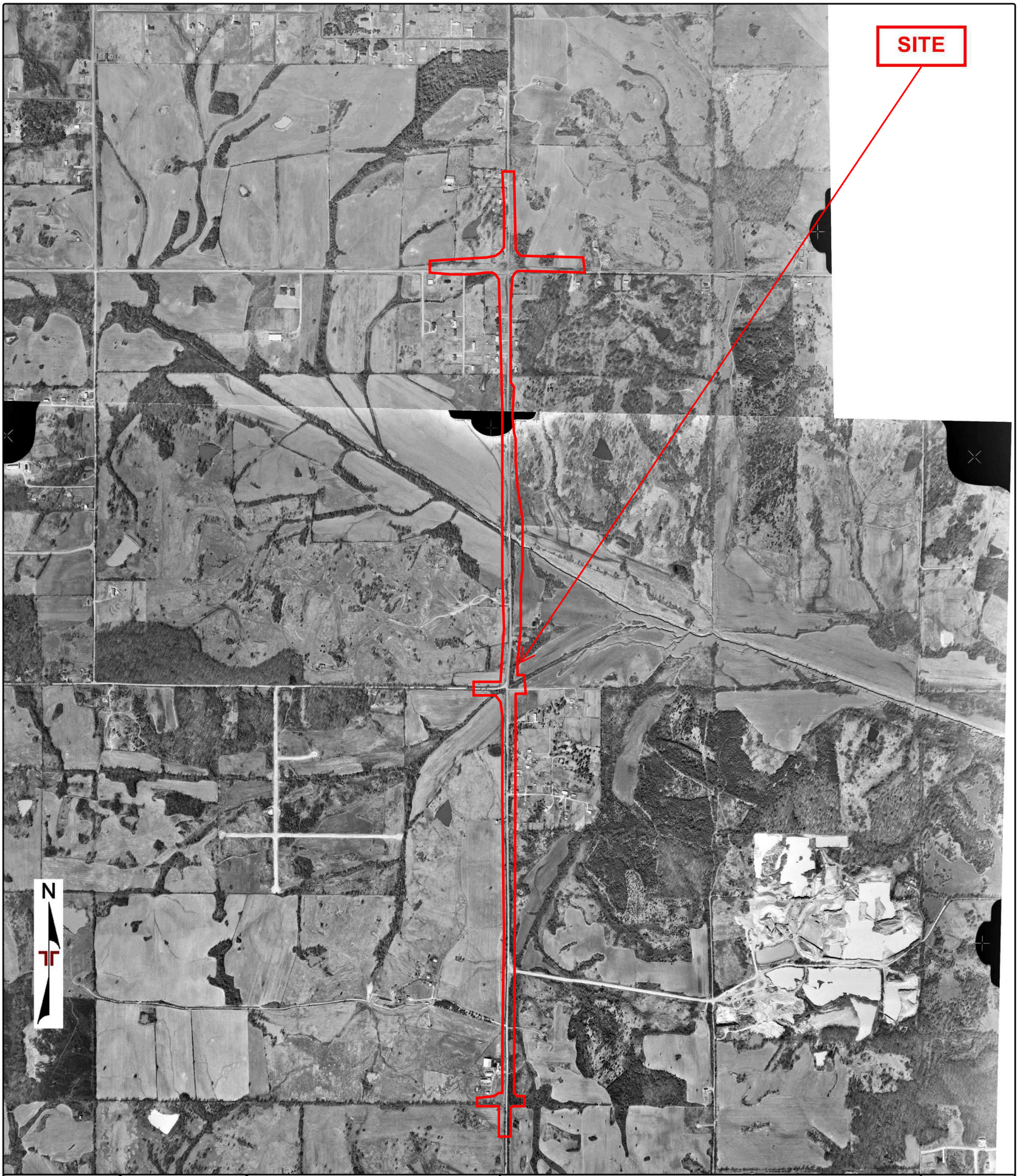
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1949 - ASCS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



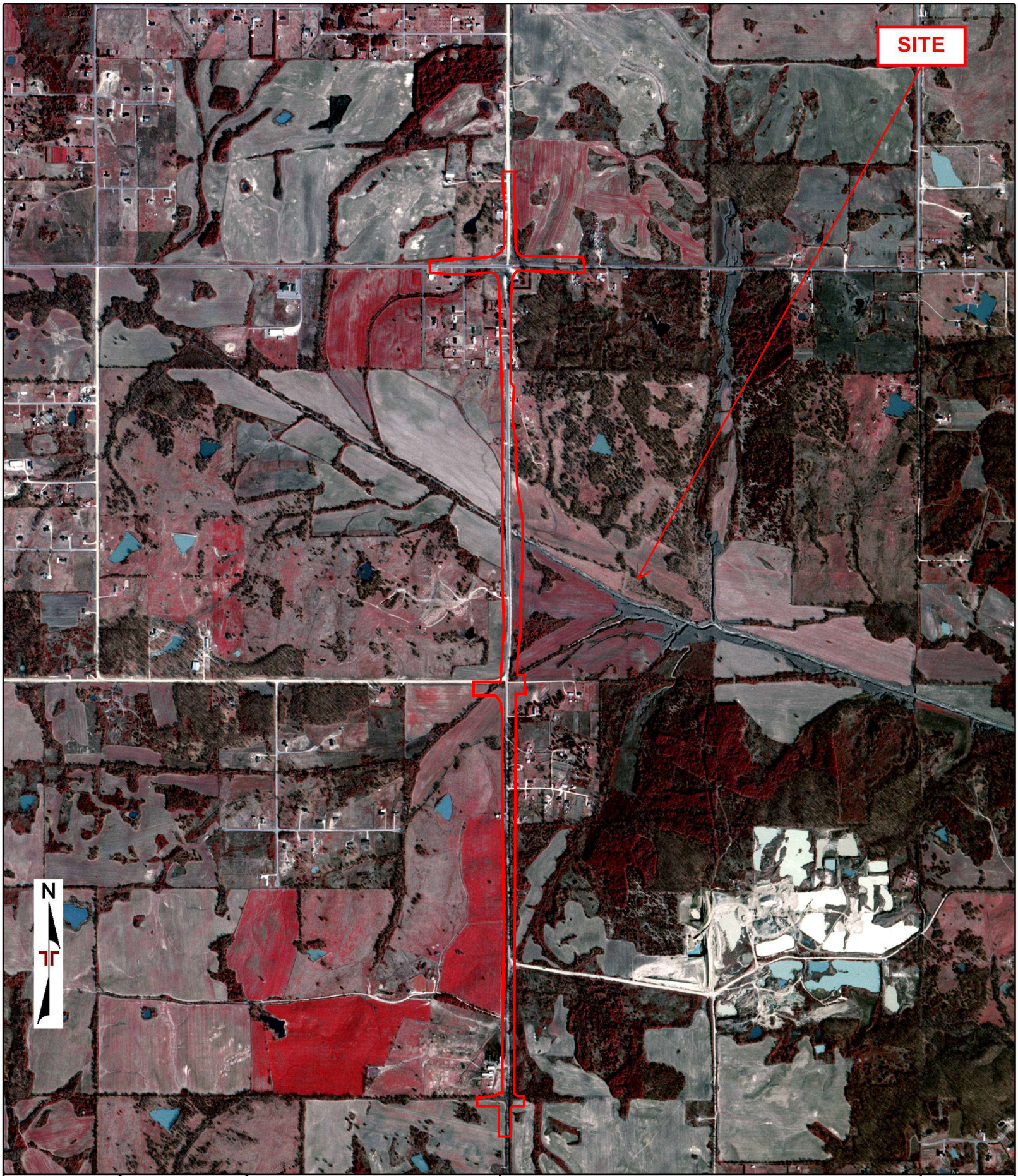
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1957 - ASCS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



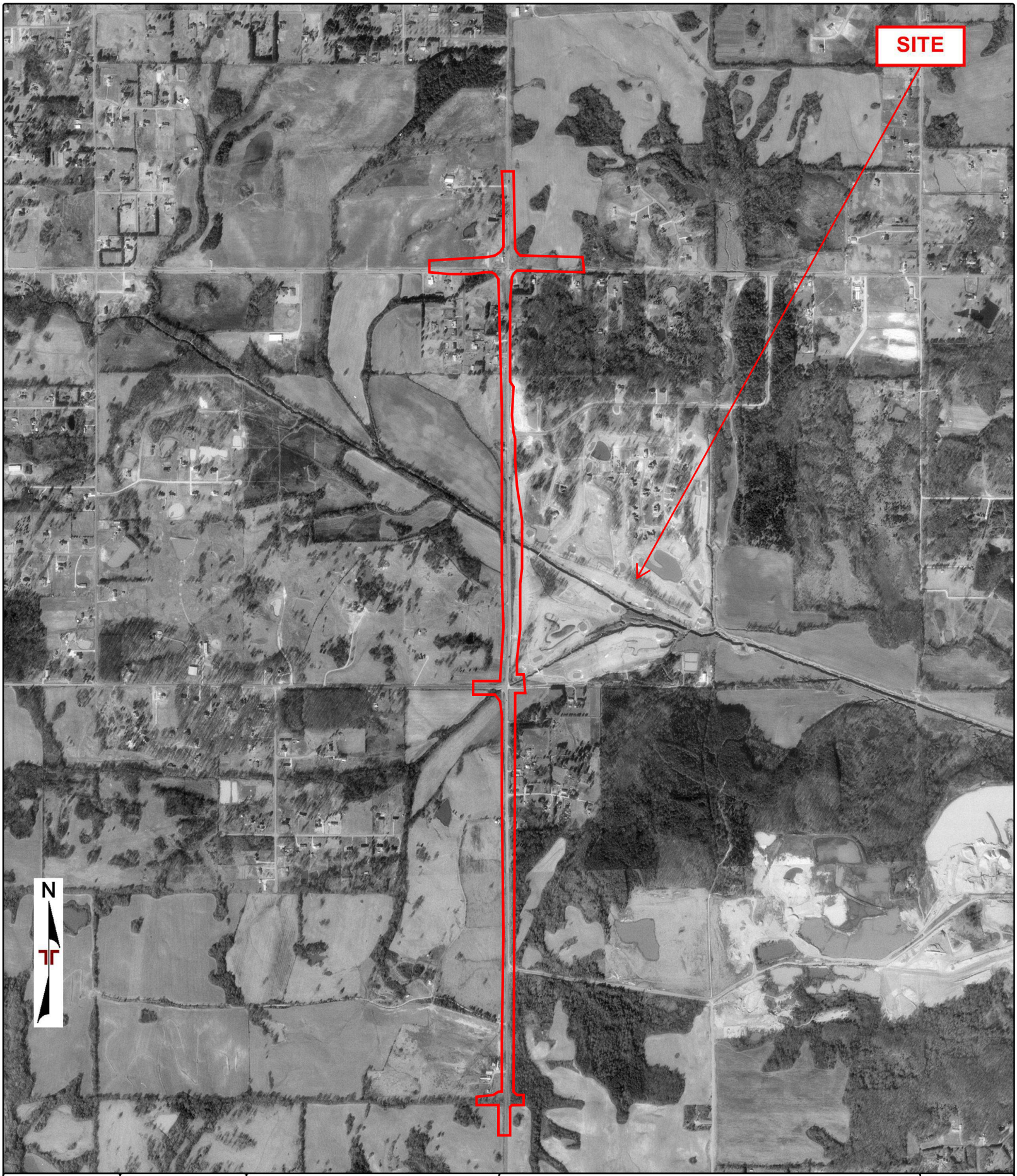
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1962 - ASCS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



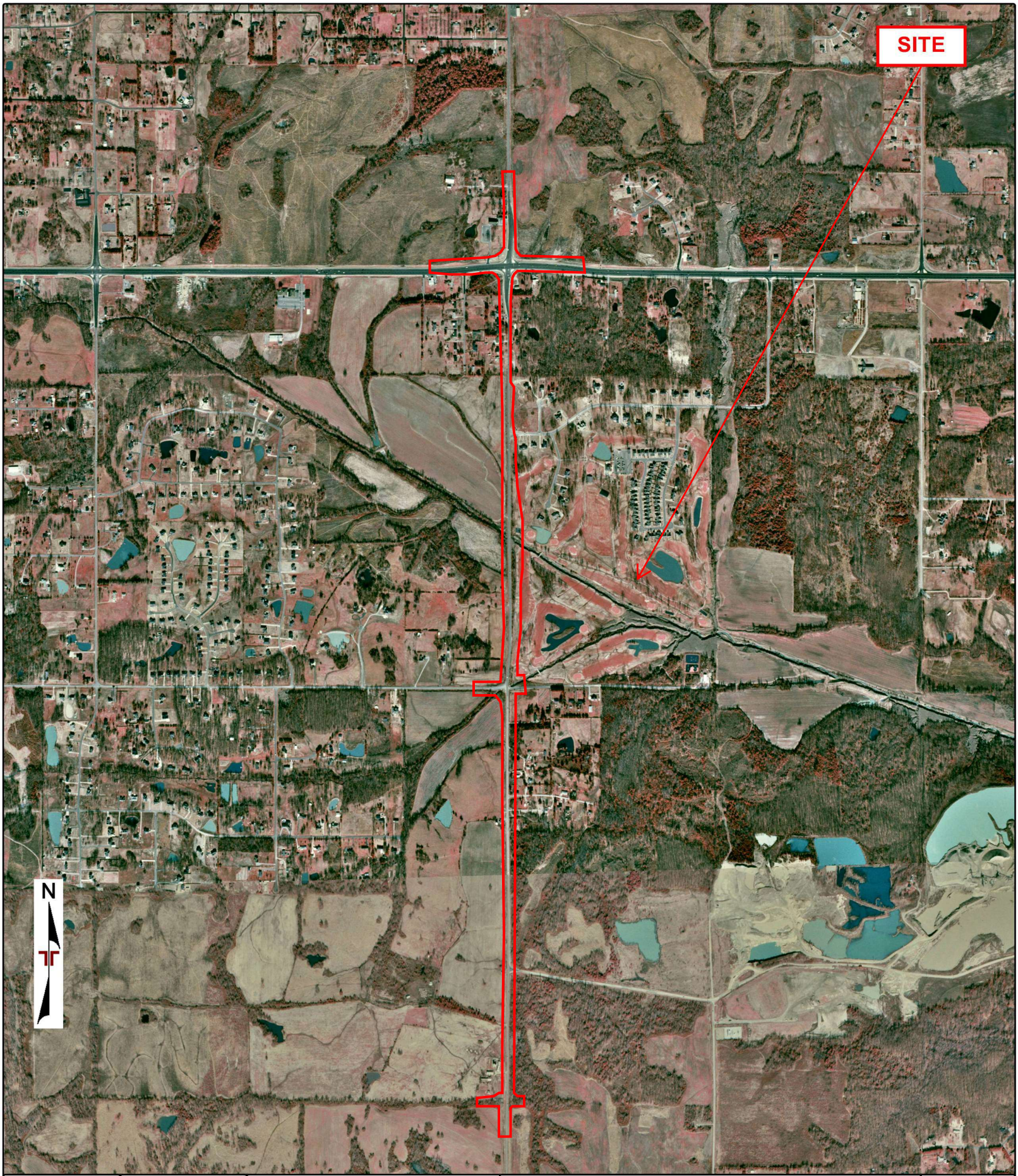
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1975 - USGS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1981 - USGS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

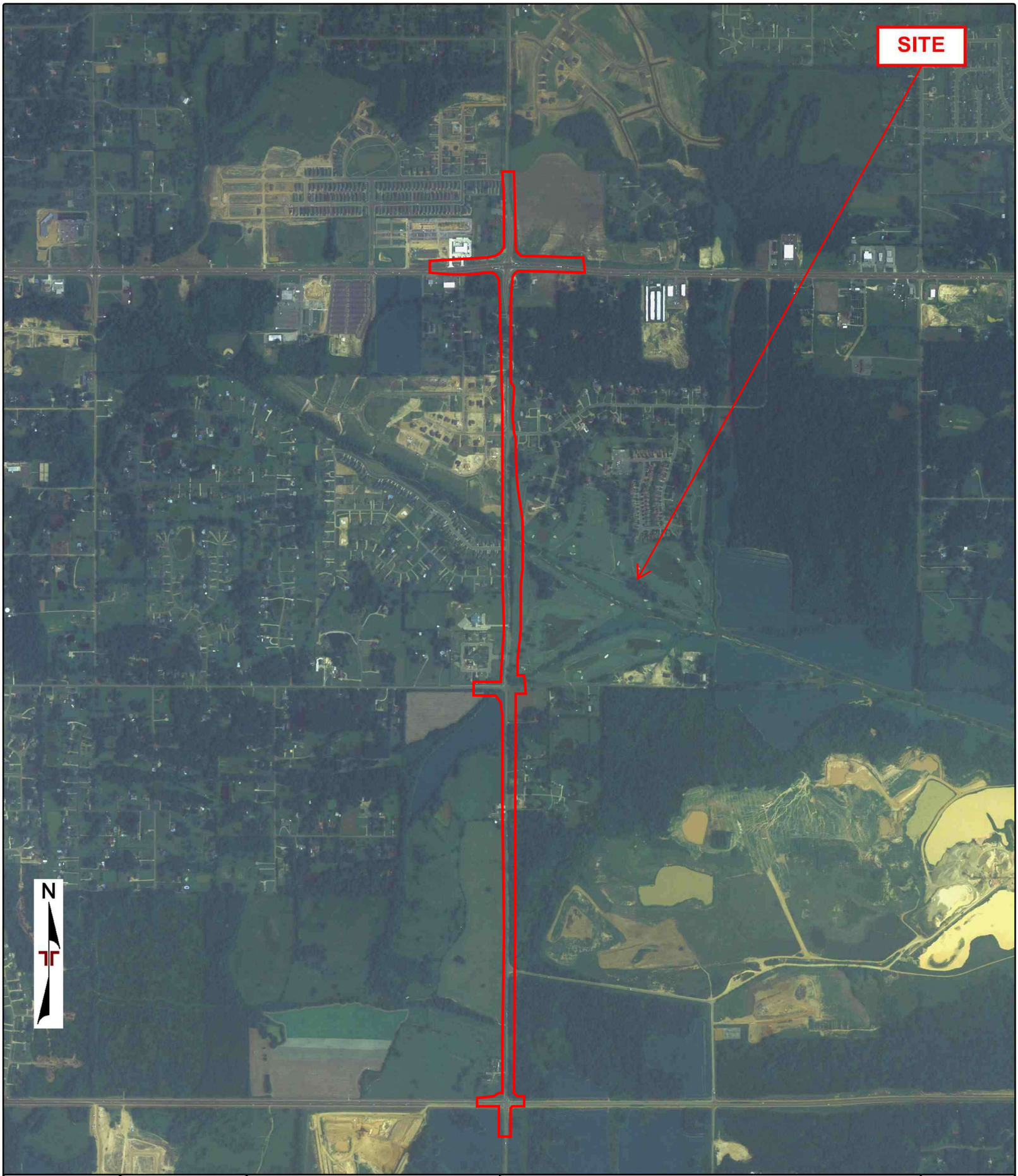


Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1991 - USGS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

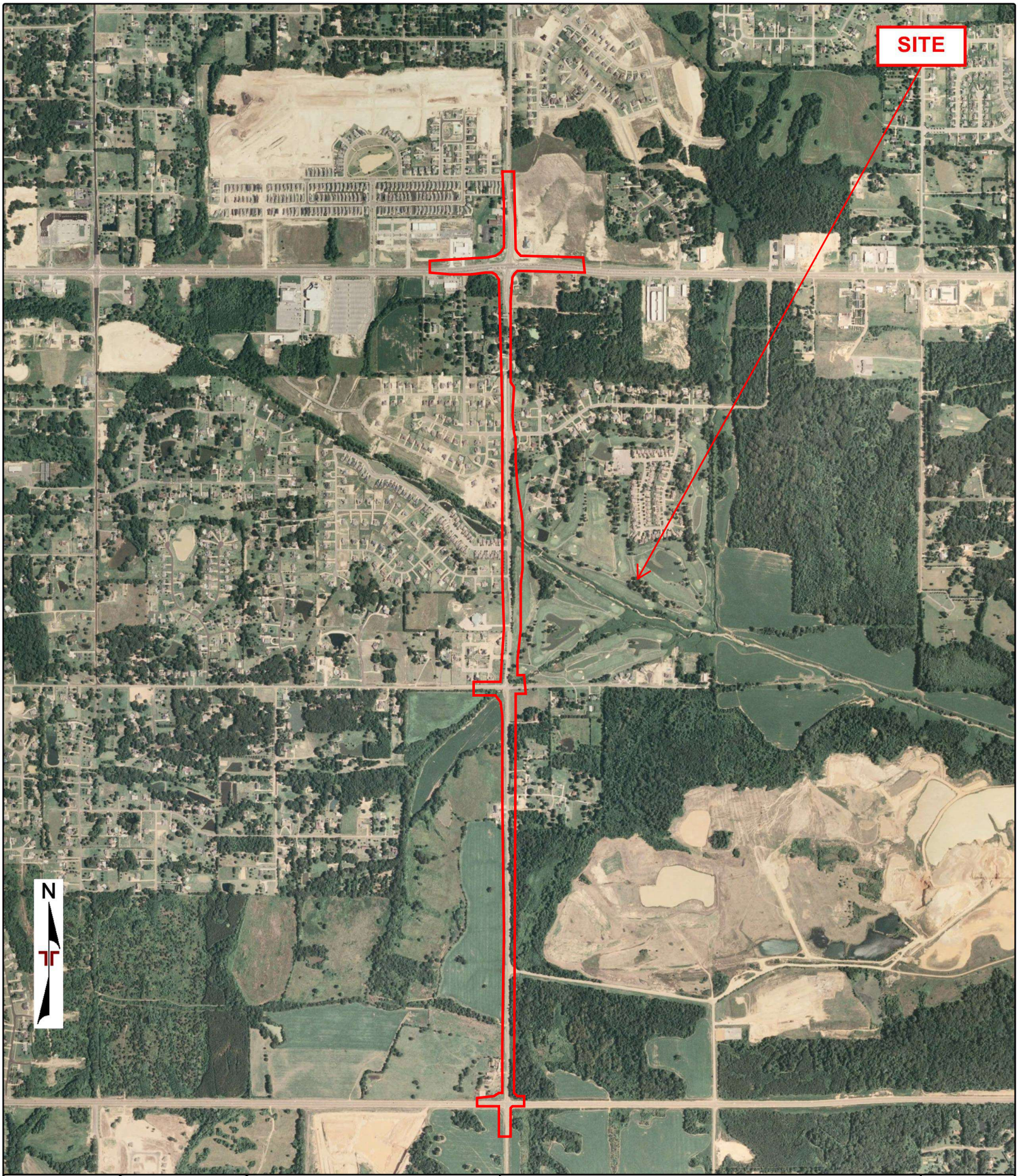


Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (1997 - USGS)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

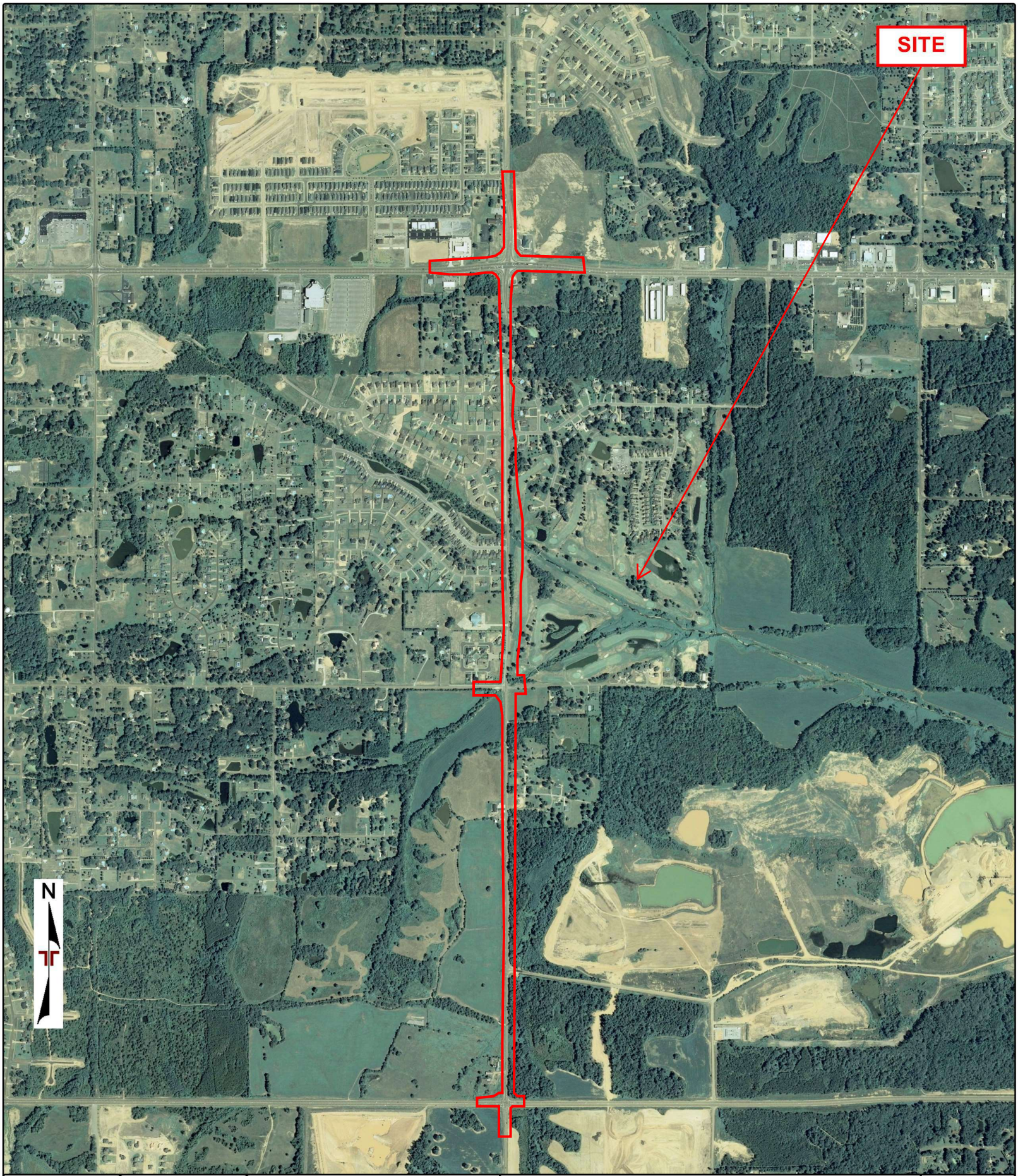
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2004 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



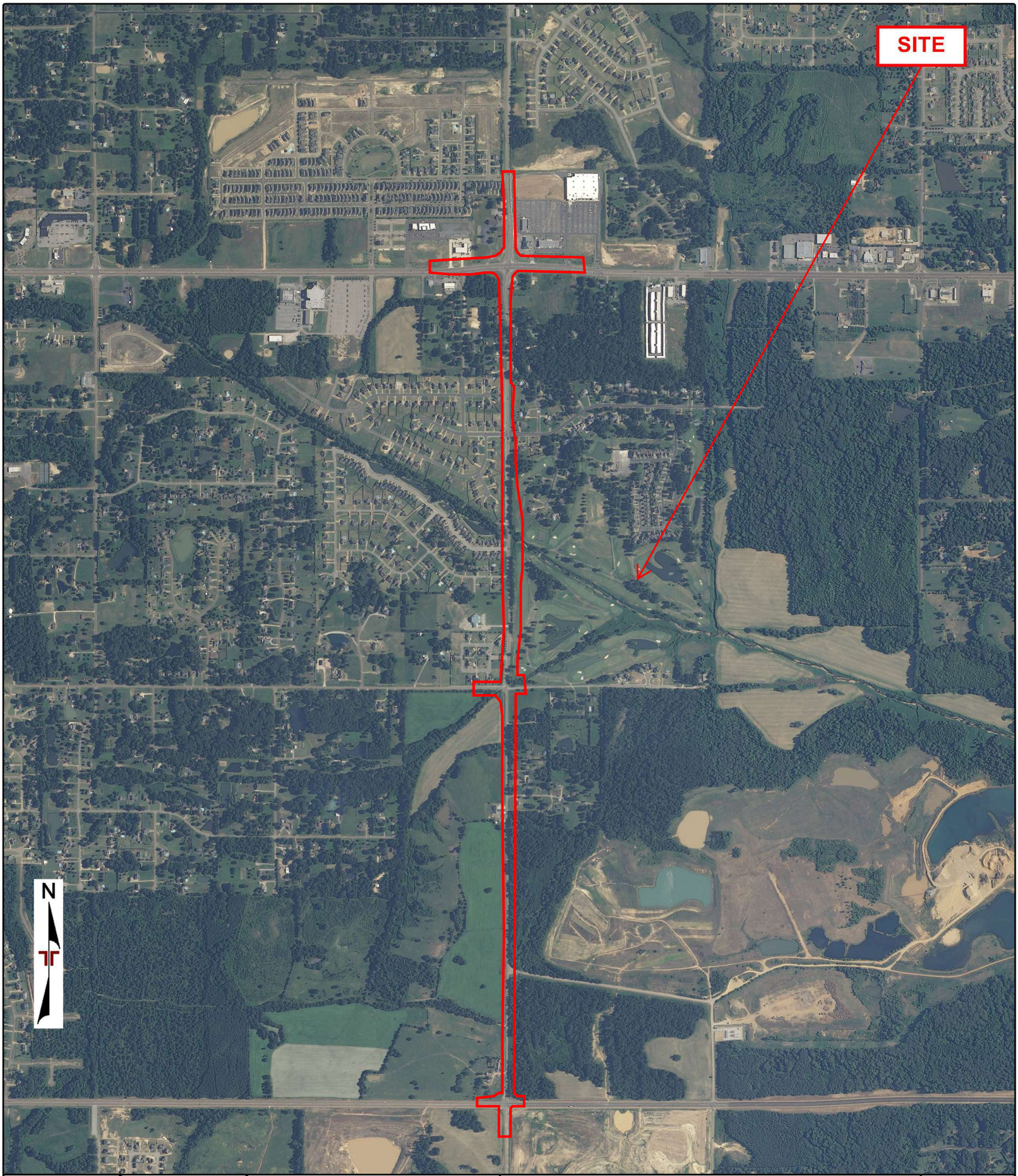
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2005 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2006 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

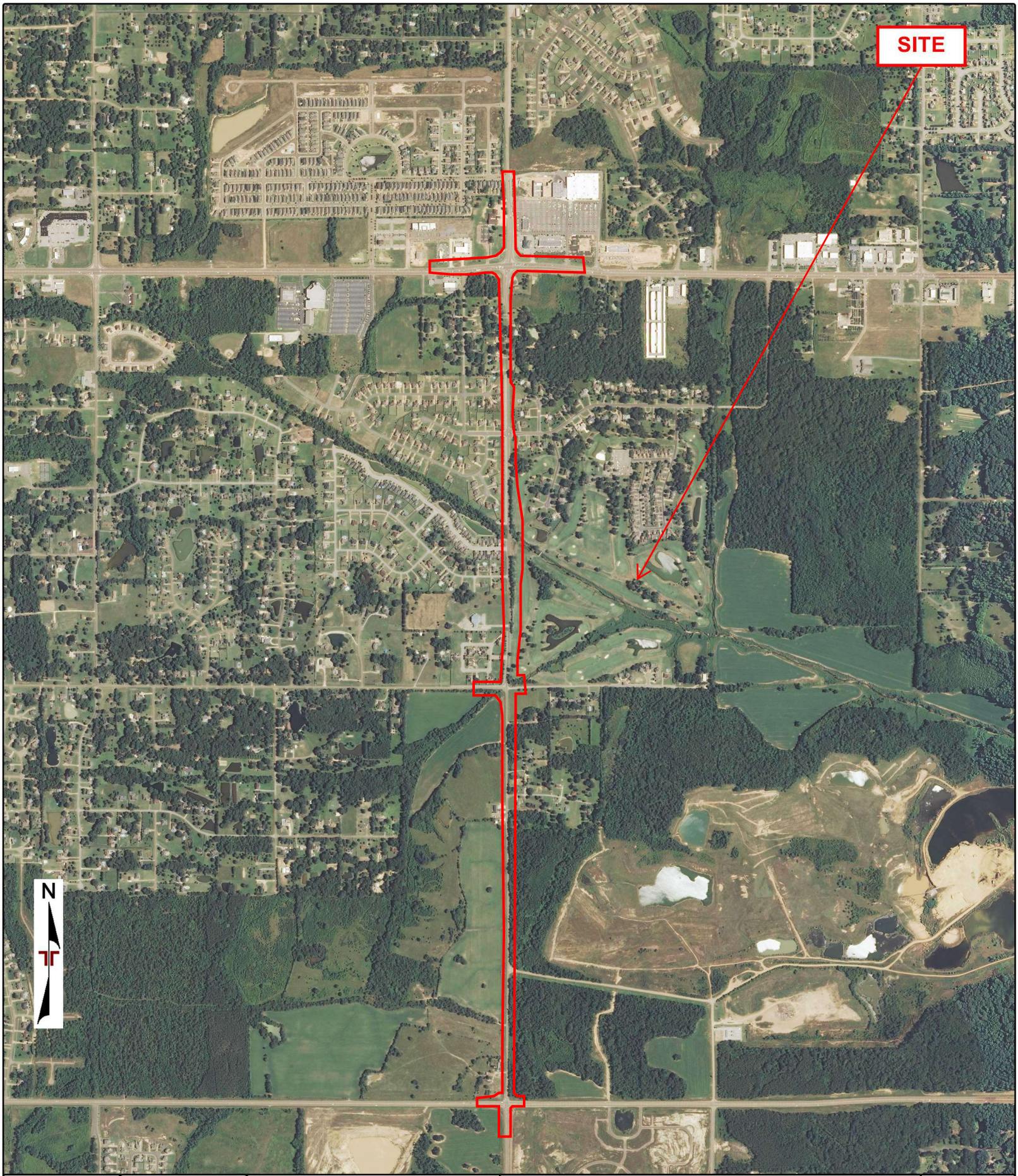


Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2007 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

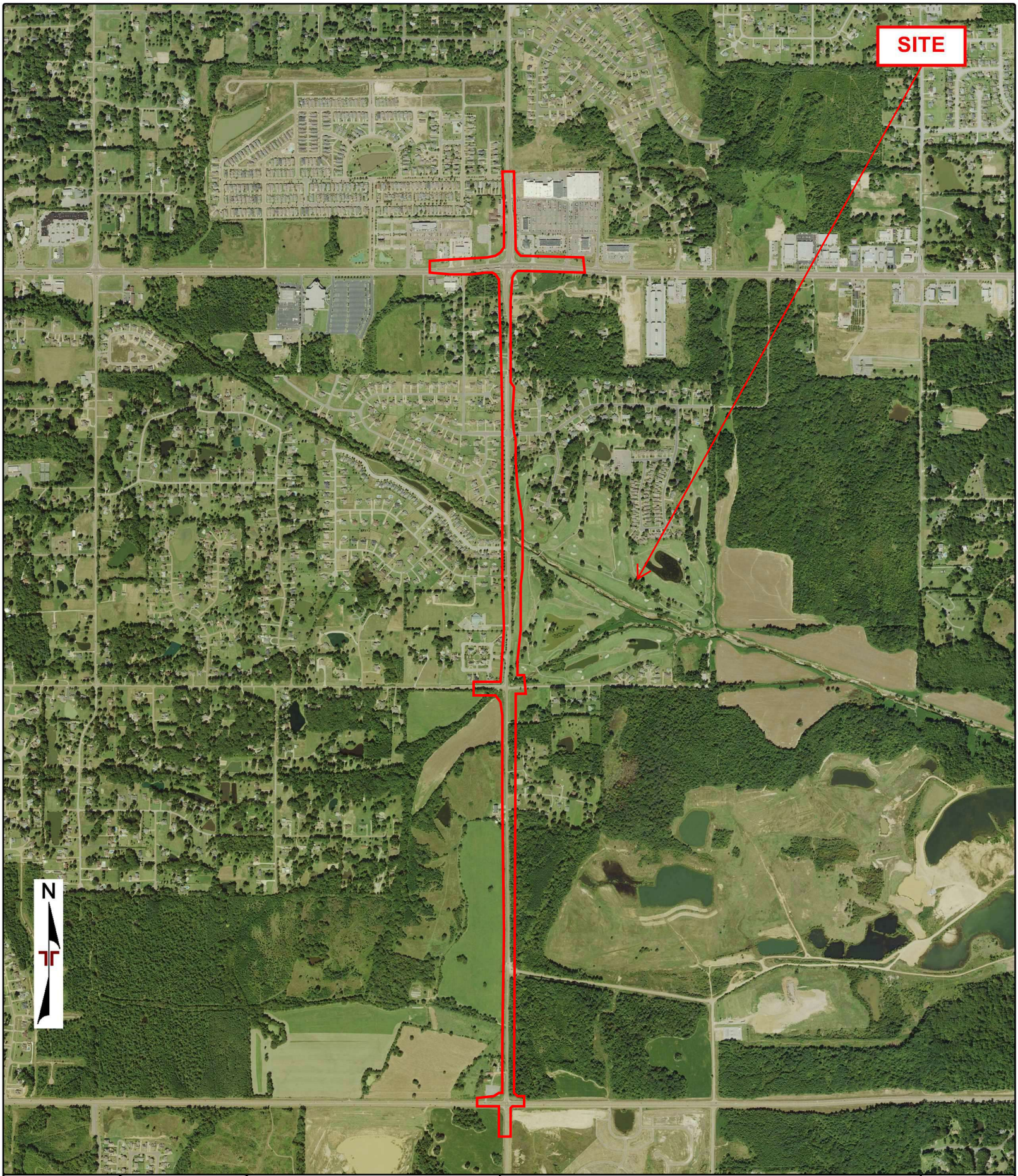


Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2009 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

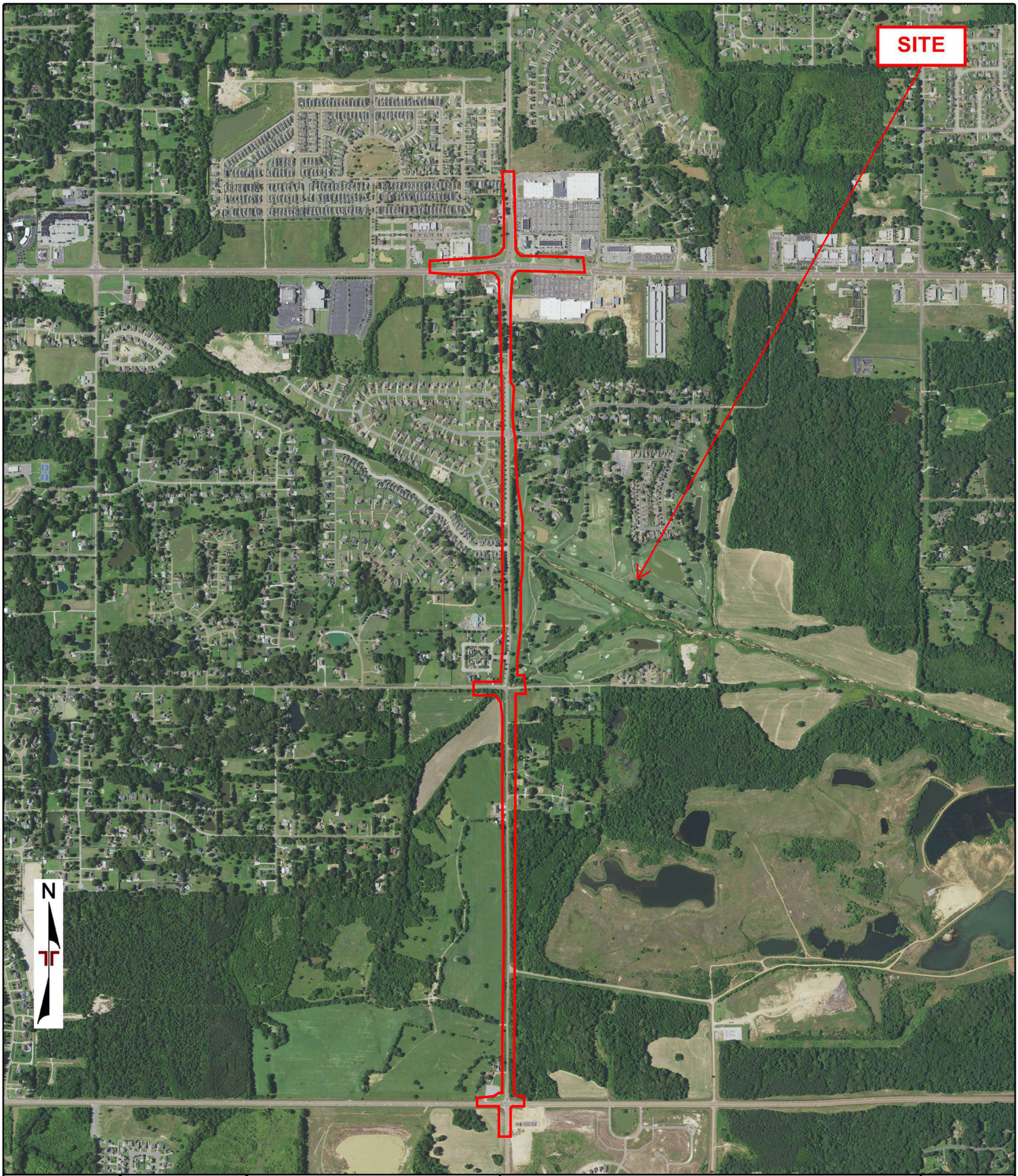
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2010 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



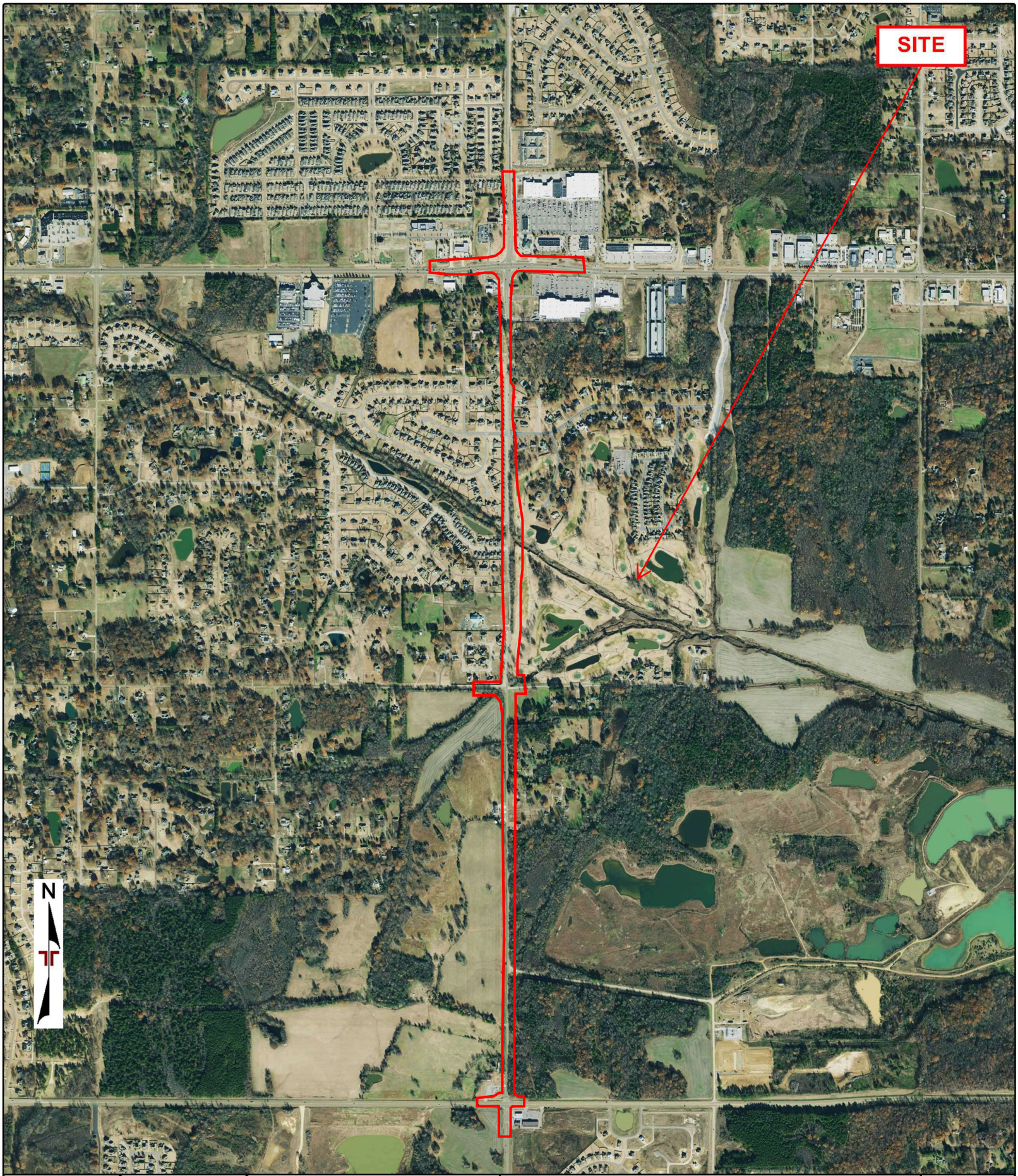
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2012 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



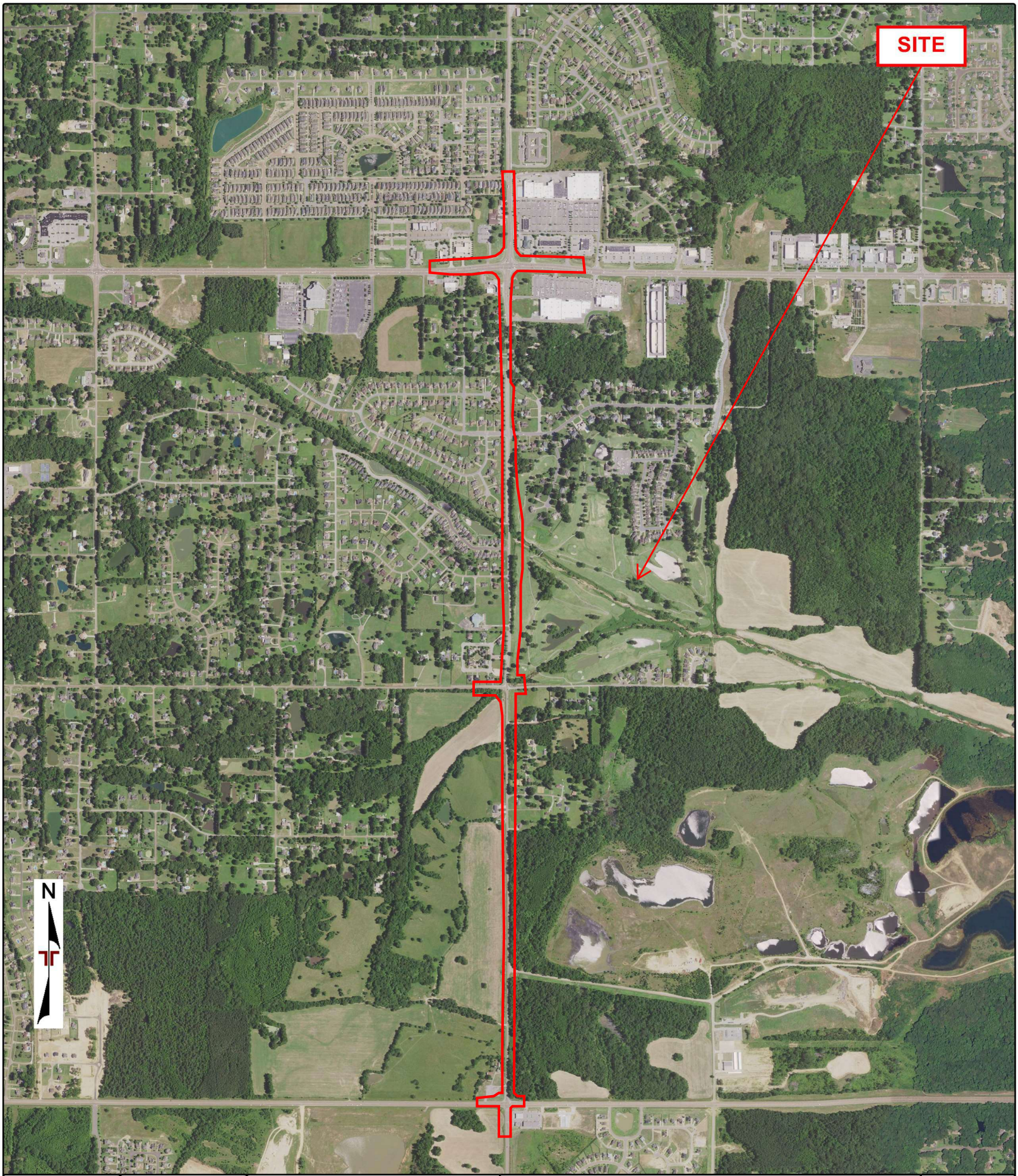
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2014 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



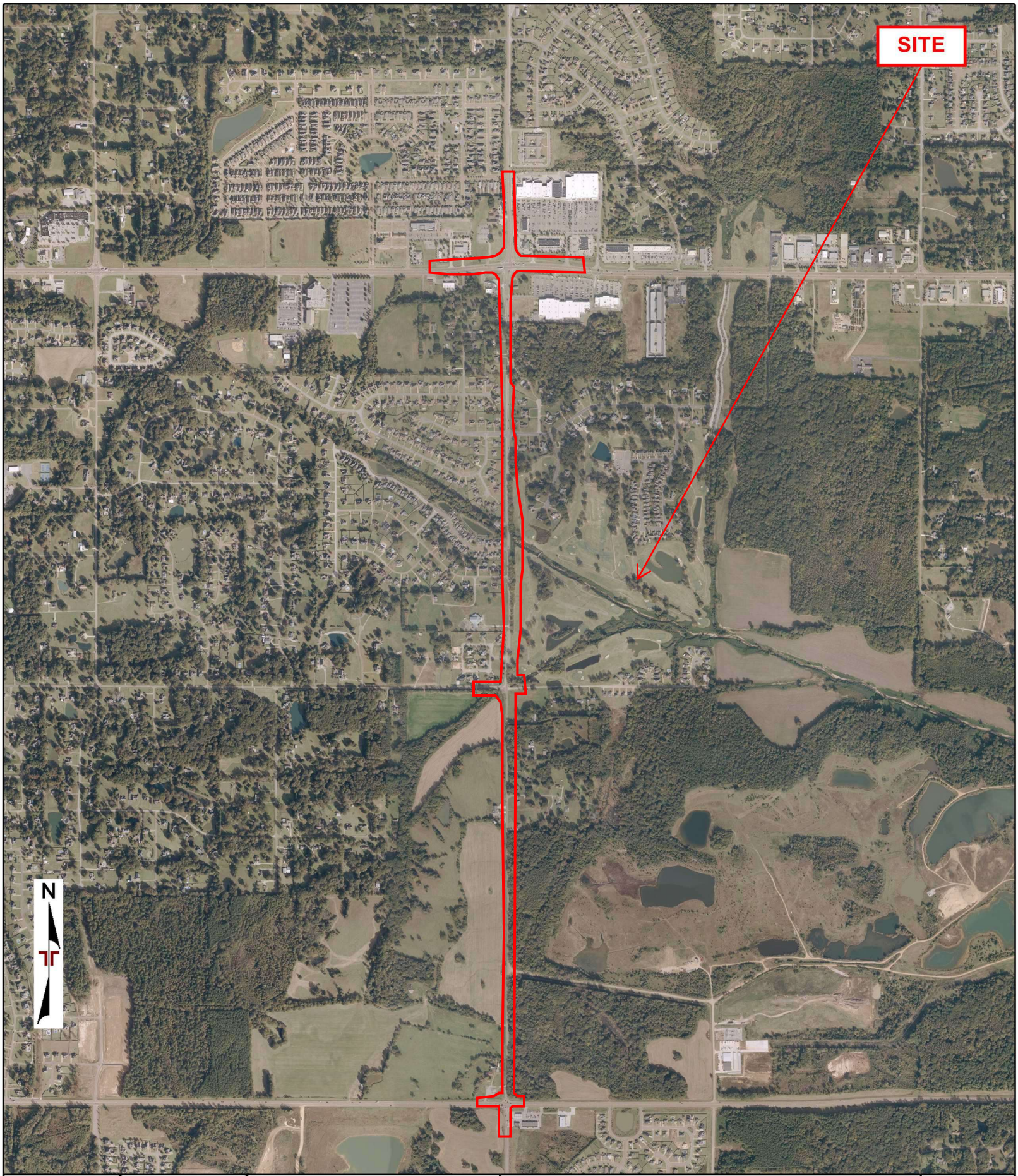
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2016 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



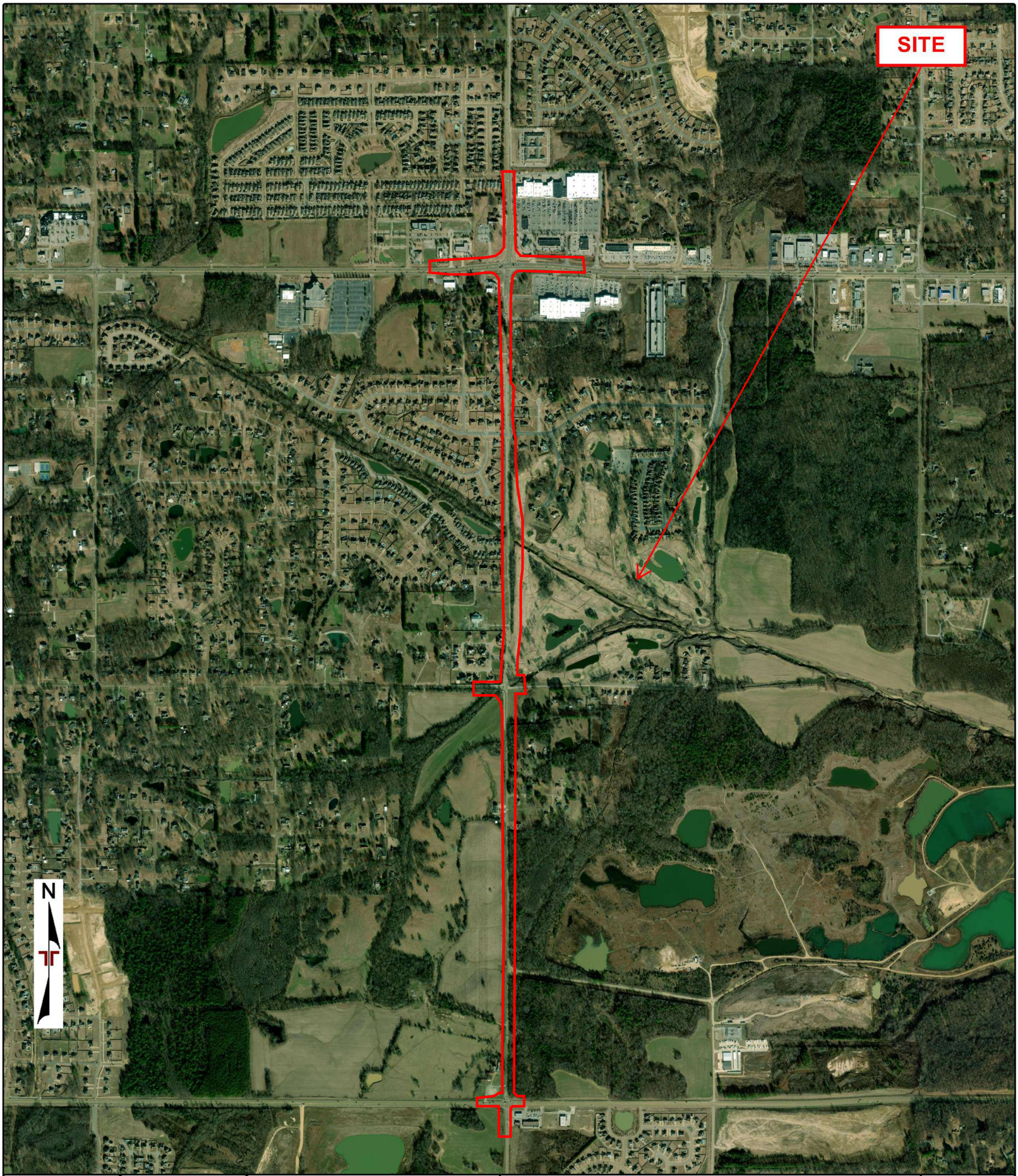
Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2018 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2020 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2021 - USDA)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			



Project Manager:	**Project No.** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	AERIAL PHOTO (2023 - MAXAR)	Appendix
Drawn by:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked by:	**File Name:** 24032500139			
Approved by:	**Date:** 2024-03-29			

TOPOGRAPHIC MAPS

Project Property:	Pleasant Hill Road n/a Olive Branch MS None
Project No:	EB237012
Requested By:	Terracon
Order No:	24032500139
Date Completed:	March 26, 2024

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
1944	15
1982	7.5
1996	7.5
2015	7.5
2021	7.5

Topographic Map Symbology for the maps may be available in the following documents:

Pre-1947

Page 223 of 1918 Topographic Instructions

Page 130 of 1928 Topographic Instructions

1947-2009

Topographic Map Symbols

2009-present

US Topo Map Symbols

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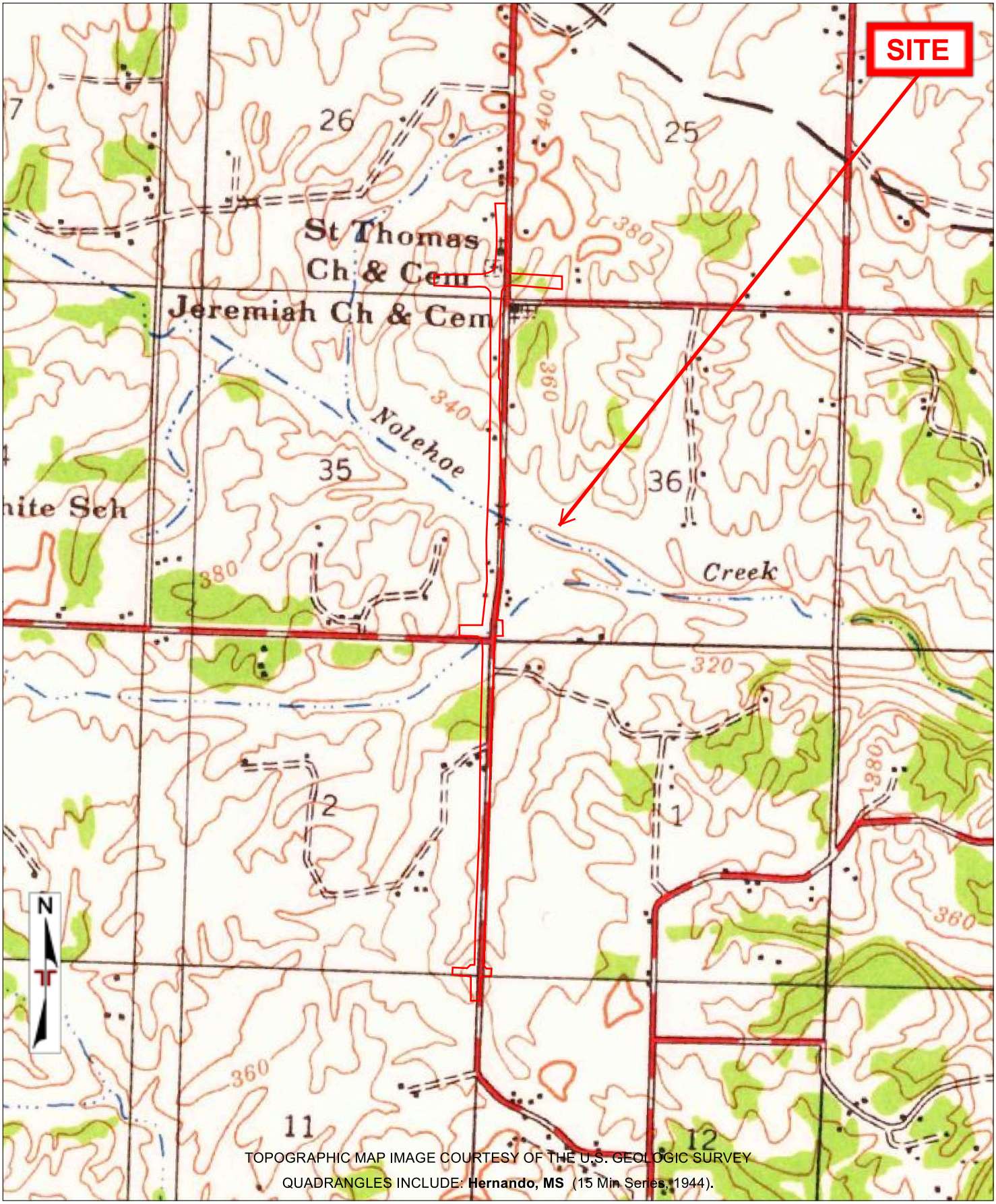
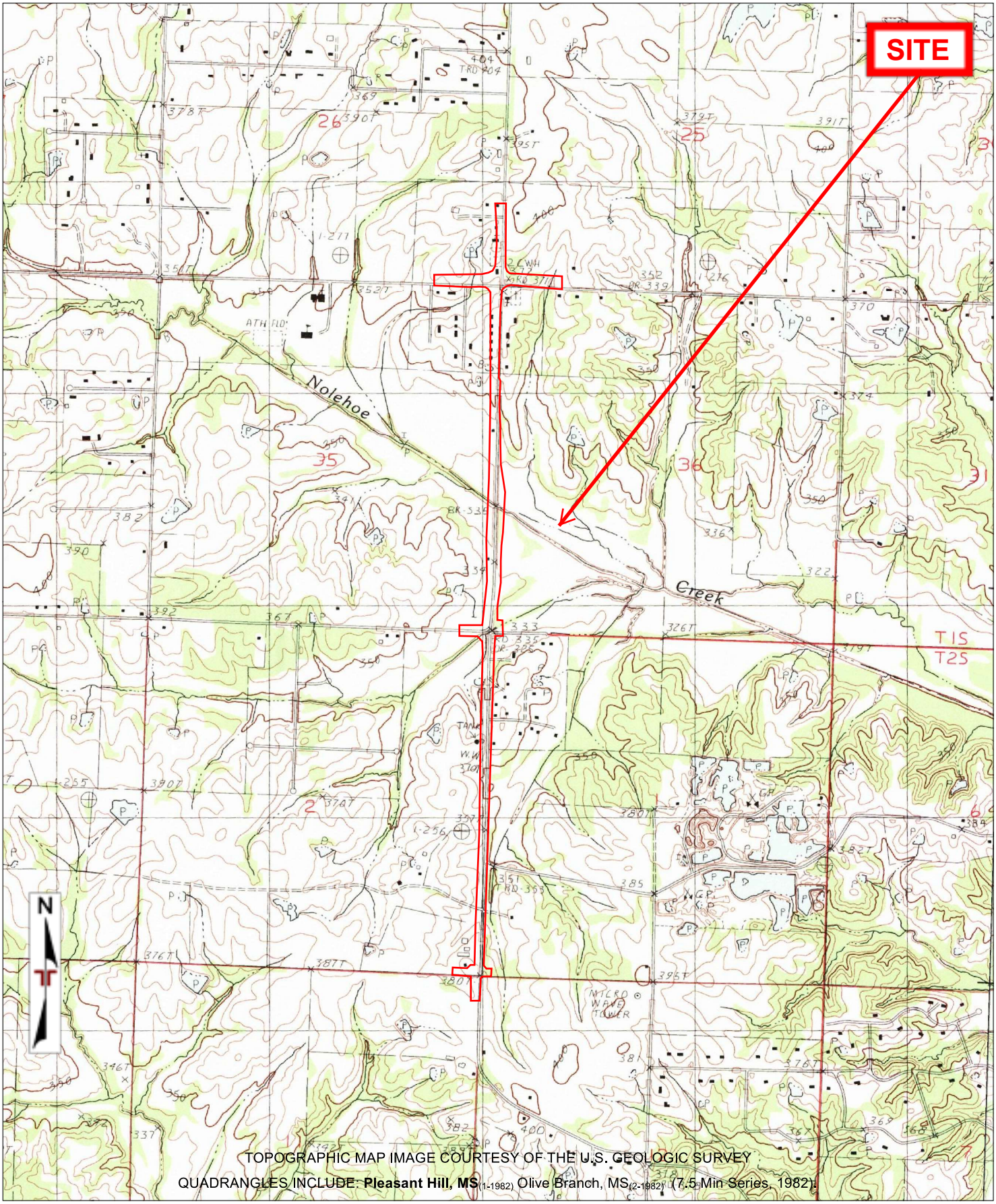


TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGIC SURVEY

QUADRANGLES INCLUDE: **Hernando, MS** (15 Min Series, 1944).

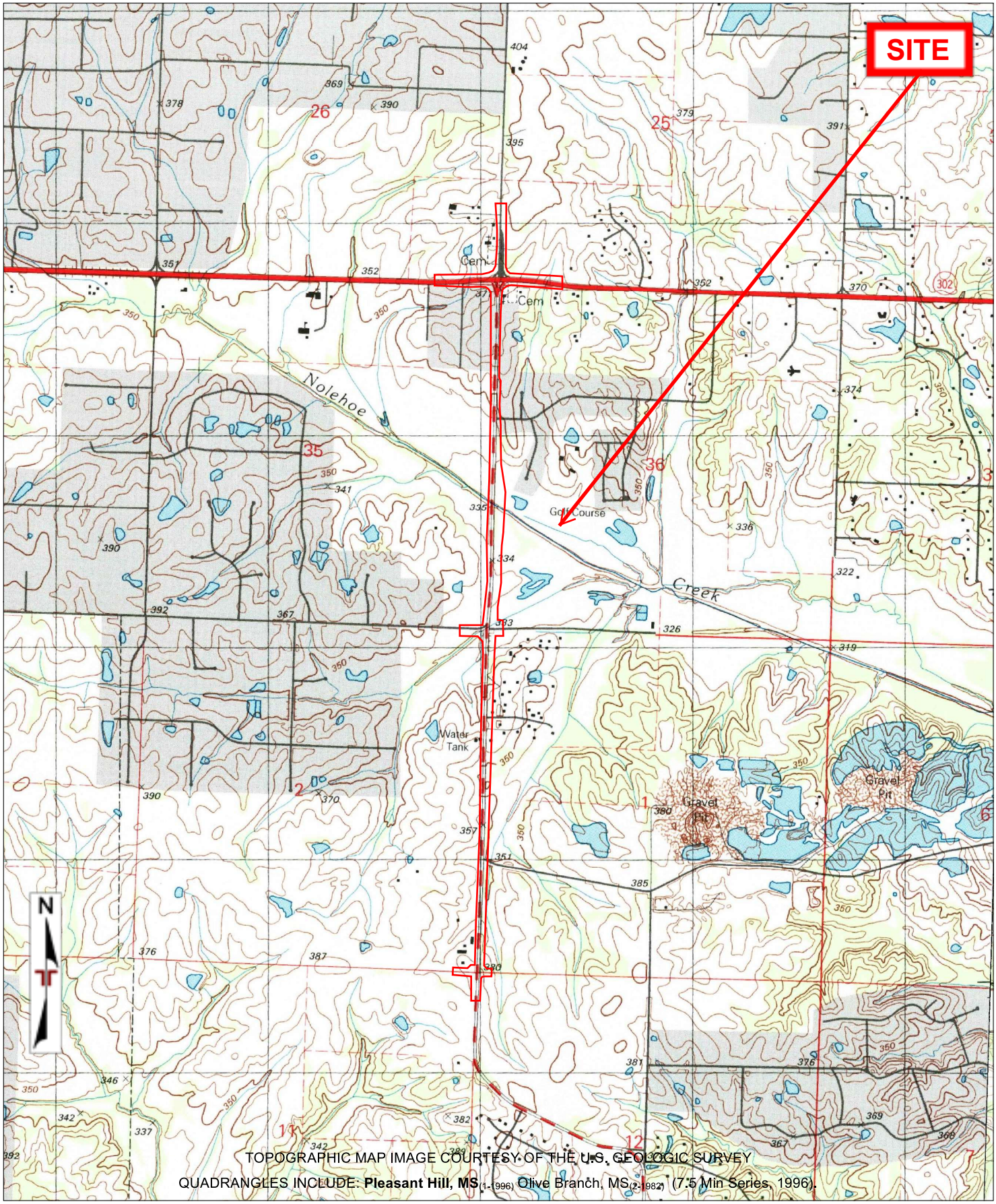
Project Manager:	**Project No:** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	TOPOGRAPHIC MAP (1944)	Appendi
Drawn By:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked By:	**File Name:** 24032500139			
Approved By:	**Date:** 2024-03-29			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGIC SURVEY

QUADRANGLES INCLUDE: **Pleasant Hill, MS**(1-1982) Olive Branch, MS(2-1982) (7.5 Min Series, 1982).

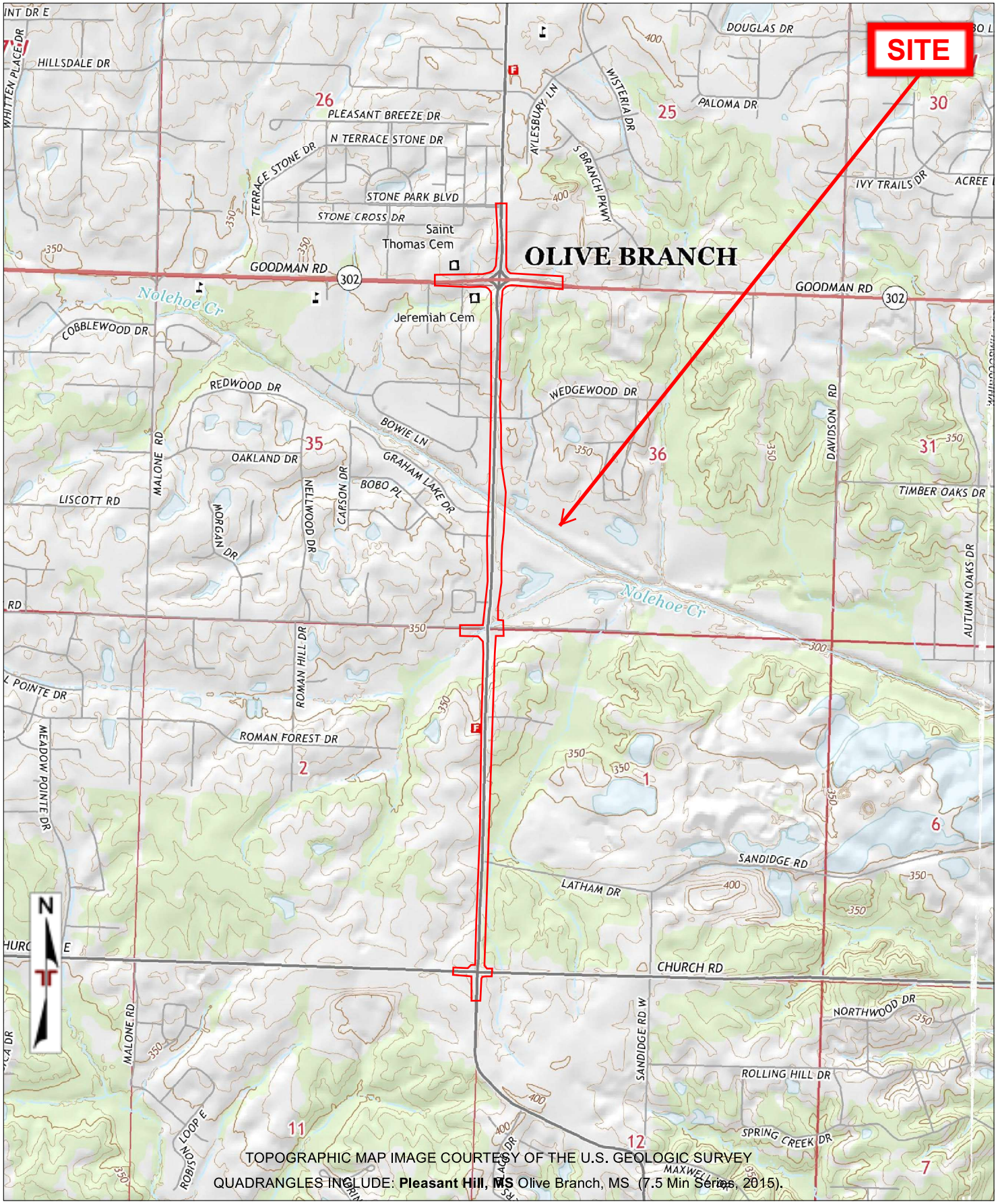
Project Manager:	**Project No:** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	TOPOGRAPHIC MAP (1982)	Appendi
Drawn By:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked By:	**File Name:** 24032500139			
Approved By:	**Date:** 2024-03-29			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGIC SURVEY

QUADRANGLES INCLUDE: **Pleasant Hill, MS** (1-1996) Olive Branch, MS (2-1982) (7.5 Min Series, 1996).

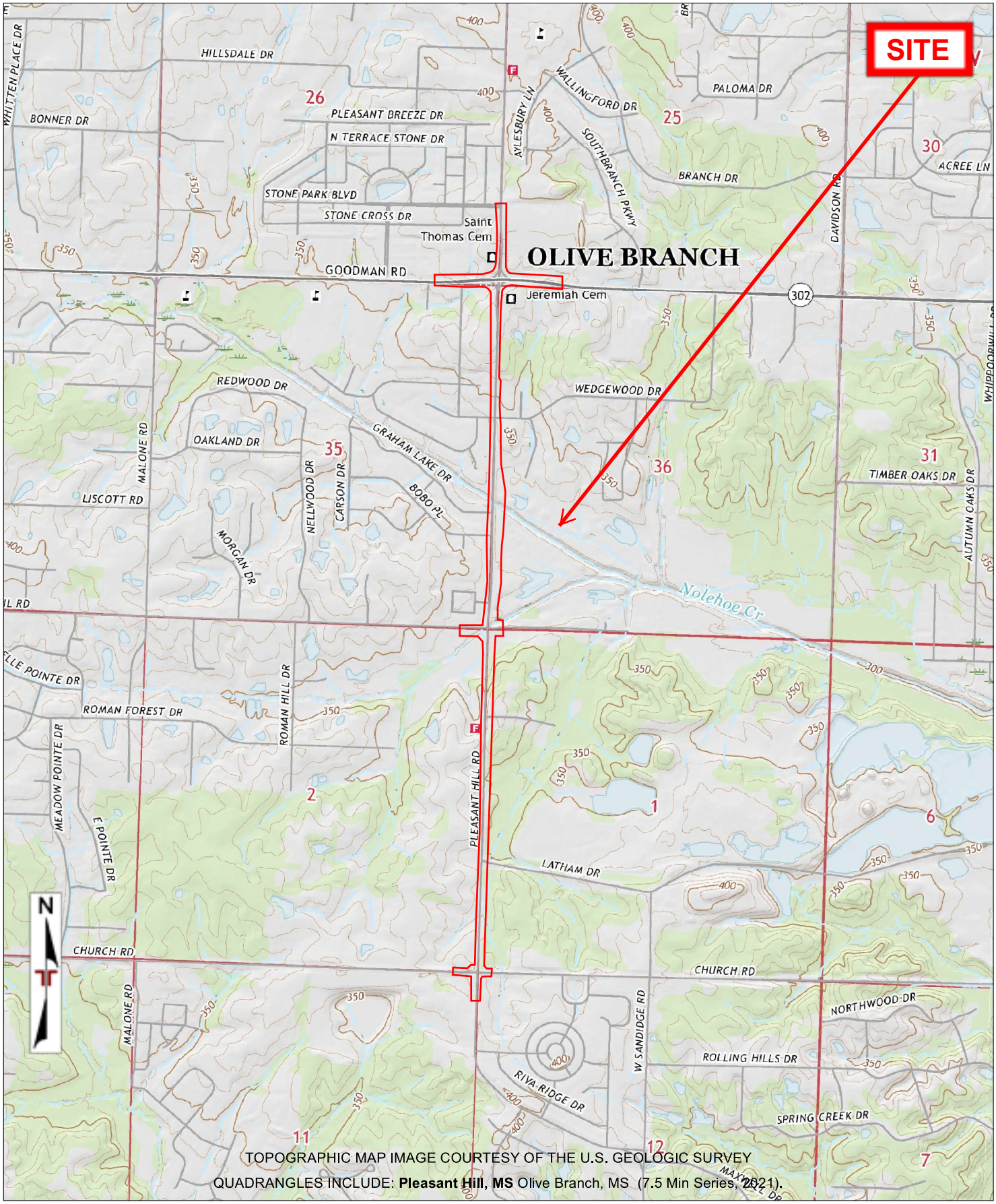
Project Manager:	**Project No:** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	TOPOGRAPHIC MAP (1996)	Appendi
Drawn By:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked By:	**File Name:** 24032500139			
Approved By:	**Date:** 2024-03-29			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGIC SURVEY

QUADRANGLES INCLUDE: **Pleasant Hill, MS** Olive Branch, MS (7.5 Min Series, 2015).

Project Manager:	**Project No:** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	TOPOGRAPHIC MAP (2015) Pleasant Hill Road n/a Olive Branch, Mississippi	\ppendi C
Drawn By:	**Scale:** 1" = 1500'			
Checked By:	**File Name:** 24032500139			
Approved By:	**Date:** 2024-03-29			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGIC SURVEY

QUADRANGLES INCLUDE: **Pleasant Hill, MS** Olive Branch, MS (7.5 Min Series, 2021).

Project Manager:	**Project No:** EB237012	Terracon 859 Pear Orchard Rd Ridgeland, Mississippi 39157	TOPOGRAPHIC MAP (2021)	Appendi
Drawn By:	**Scale:** 1" = 1500'		Pleasant Hill Road n/a Olive Branch, Mississippi	C
Checked By:	**File Name:** 24032500139			
Approved By:	**Date:** 2024-03-29			

CITY DIRECTORY

Project Property:	*Pleasant Hill Road* *n/a* *Olive Branch,MS*
Project No:	*EB237012*
Requested By:	*Terracon*
Order No:	*24032500139*
Date Completed:	*April 02, 2024*

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April 02, 2024
RE: CITY DIRECTORY RESEARCH
n/a
Olive Branch,MS

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
4900-5100 of Church Rd
4500-5400 of Goodman Rd
4700-5200 of Nail Rd
4600-7600 of Pleasant Hill Rd
Search Notes:

Search Results Summary

Date	Source	Comment
2022	DIGITAL BUSINESS DIRECTORY	
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2000	DIGITAL BUSINESS DIRECTORY	
1995	COLE	
1990	COLE	
1985	COLE	

5025 **APSARA CAFE...**RESTAURANTS
5025 **BERT WEST STATE FARM...**INSURANCE
5025 **LAPELS DRY CLEANING...**CLEANERS
5025 **VINEYARD WINE LIQUOR...**WINES-RETAIL
5025 **WEST, BERT AGT...**INSURANCE CONSULTANTS & ADVISORS
5065 **DOLLAR GENERAL...**VARIETY STORES

124 total records. Part 1 of 2

4501 **LONGVIEW HEIGHTS BAPTIST CHR...**MISSIONS
4501 **LONGVIEW HEIGHTS BAPTIST CHR...**CHURCHES
4811 **TITLE MAX...**LOANS
4811 **TITLE MAX...**TITLE LOANS
4815 **WILLIAM SUMMERS...**RESIDENTIAL
4824 **JOE, STEPHEN W DMD...**DENTISTS
4824 **WINDSTONE DENTAL...**DENTISTS
4850 **COMMUNITY MORTGAGE...**REAL ESTATE LOANS
4850 **FIRST NATIONAL REALTY...**REAL ESTATE
4850 **JANE'S GYM FITNESS FOR WOMEN...**HEALTH CLUBS STUDIOS & GYMNASIUMS
4850 **JASON'S DELI...**RESTAURANTS
4850 **MANE IMAGE SALON...**BEAUTY SALONS
4850 **MISSISSIPPI...**POTTERY
4850 **OLIVE BRANCH NUTRITION...**NUTRITIONISTS
4850 **PETRA WALKER...**NONCLASSIFIED ESTABLISHMENTS
4850 **PRO LOGISTIX...**EMPLOYMENT AGENCIES & OPPORTUNITIES
4850 **STELLA IVY BOUTIQUE...**WOMEN'S CLOTHING STORES
4850 **TANGERY, CAROLYN...**UNCLASSIFIED ESTABLISHMENTS
4857 **BEST GOLD BUYERS LLC...**JEWELRY, WATCH, PRECIOUS STONE/METAL MRCHNT WHLSRS
4857 **DESOTO CO POOL INC...**SWIMMING POOL CONTRS DEALERS & DESIGNERS
4857 **DESOTO CO POOL INC...**SWIMMING POOL EQUIPMENT & SUPLS (WHLS)
4857 **ELINA'S NAILS...**MANICURING
4857 **LIBERTY TAX SVC...**TAX RETURN PREPARATION & FILING
4857 **M & M WINE & LIQUOR...**WINES-RETAIL
4857 **OB DONUTS...**DOUGHNUTS
4857 **OLIVE BRANCH CARPETS...**CARPET & RUG DEALERS-NEW
4857 **OLIVE BRANCH CARPETS...**FLOOR MATERIALS
4857 **T L NAILS...**MANICURING
4857 **TOP SHELF INC...**LIQUORS-RETAIL
4857 **WESLEY HOLLEY...**RESIDENTIAL
4872 **BURGER KING...**RESTAURANTS
4892 **GATEWAY TIRE & SVC...**TIRE-DEALERS-RETAIL
4892 **GATEWAY TIRE & SVC...**TIREDEALERSUSED (WHLS)
5020 **HOME GOODS...**HOUSEWARES-RETAIL
5028 **FIRST SECURITY BANK...**REAL ESTATE LOANS
5028 **FIRST SECURITY BANK...**BANKS
5030 **MICHAELS...**CRAFT SUPPLIES
5036 **DE SOTO LASER AESTHETICS...**MEDICAL SPAS
5036 **DE SOTO LASER AESTHETICS...**HEALTH SPAS
5036 **FOSTER, MICHAEL E MD...**PHYSICIANS & SURGEONS
5036 **SIMPLY UNIFORMS...**UNIFORMS
5036 **WILLIAMS, RICHARD A DDS...**DENTISTS
5040 **ROSS DRESS FOR LESS...**ECOMMERCE
5040 **ROSS DRESS FOR LESS...**DEPARTMENT STORES
5040 **ROSS DRESS FOR LESS...**RETAIL SHOPS
5050 **TJ MAXX...**RETAIL SHOPS
5050 **TJ MAXX...**DEPARTMENT STORES
5050 **TJ MAXX...**ECOMMERCE
5060 **RACK ROOM SHOES...**SHOES-RETAIL
5060 **S C D LLC...**NONCLASSIFIED ESTABLISHMENTS
5070 **AT&T STORE...**CELLULAR TELEPHONES (SERVICES)
5070 **GOULD'S DAY SPA & SALON...**BEAUTY SALONS
5070 **HOLLYWOOD FEED...**FEED-DEALERS (WHLS)
5070 **LINDY LU'S...**NONCLASSIFIED ESTABLISHMENTS
5070 **PINK COCONUT BOUTIQUE...**CLOTHINGRETAIL
5070 **PINK COCONUT BOUTIQUE...**BOUTIQUE ITEMS-RETAIL
5070 **SPORT CLIPS...**BEAUTY SALONS
5070 **SPORT CLIPS...**HEALTH SPAS
5070 **TCBY...**ICE CREAM PARLORS
5075 **ACADEMY SPORTS + OUTDOORS...**SPORTING GOODS-RETAIL
5115 **HOBBY LOBBY...**CRAFT SUPPLIES
5135 **CHICKEN SALAD CHICK...**FOODS-CARRY OUT
5135 **CHICKEN SALAD CHICK...**RESTAURANTS
5135 **FIVE BELOW...**VARIETY STORES
5135 **WAYBACK BURGERS...**RESTAURANTS
5142 **GNC...**VITAMIN & FOOD SUPPLEMENTS
5142 **GOODFRED, JENNIFER C DO...**PHYSICIANS & SURGEONS

2022 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

5142 **GOODFRED, JENNIFER C DO...** *MEDICAL & SURGICAL SVC ORGANIZATIONS*
5142 **MATTRESS FIRM...** *MATTRESSES*
5142 **MOORE, MARGARET J PA...** *PHYSICIANS ASSISTANTS*
5142 **PINK COCONUT...** *BOUTIQUE ITEMS-RETAIL*
5142 **URGENT CARE BY ST FRANCIS...** *PHYSICIANS & SURGEONS-EMERGENCY SERVICE*
5150 **GHIO, JASON MAX...** *PHARMACISTS*
5150 **LEWIS, BROOKE...** *PHARMACISTS*
5150 **PIZZA HUT EXPRESS...** *PIZZA*
5150 **STARBUCKS...** *COFFEE SHOPS*
5150 **STARBUCKS...** *ESPRESSO & ESPRESSO BARS*
5150 **TARGET...** *BABY ACCESSORIES*
5150 **TARGET...** *CHILDRENS & INFANTS WEARRETAIL*
5150 **TARGET...** *ECOMMERCE*
5150 **TARGET...** *DEPARTMENT STORES*
5150 **TARGET PHARMACY...** *PHARMACIES*
5155 **ORANGETHEORY FITNESS...** *HEALTH CLUBS STUDIOS & GYMNASIUMS*
5155 **PLANET FITNESS...** *HEALTH CLUBS STUDIOS & GYMNASIUMS*
5217 **LAUREN FORD...** *RESIDENTIAL*
5218 **AMERICAN FAMILY DENTISTRY...** *OFFICES OF DENTISTS*
5218 **BATTERIES PLUS...** *AUTOMOTIVE PARTS & ACCESSORIES STORES*
5218 **C SPIRE WIRELESS...** *CELLULAR TELEPHONES (SERVICES)*
5218 **LESLIE'S SWIMMING POOL SUPLS...** *SWIMMING POOL EQUIPMENT & SUPLS-RETAIL*
5218 **NG SUN WAI...** *NONCLASSIFIED ESTABLISHMENTS*
5218 **SWEET PEPPERS DELI...** *DELICATESSENS*
5218 **SWEET PEPPERS DELI...** *RESTAURANTS*
5218 **URBAN JAPANESE FUSION CUISINE...** *RESTAURANTS*
5218 **VISIONWORKS...** *OPTICAL GOODS-RETAIL*
5218 **WINE CELLAR...** *LIQUORS-RETAIL*
5218 **WINE CELLAR...** *WINES-RETAIL*
5227 **PATRICIA BUTLER...** *RESIDENTIAL*
5227 **STEPHANIE BUTLER...** *RESIDENTIAL*
5338 **BUFF CITY SOAP...** *LINGERIE*
5338 **BUFF CITY SOAP...** *COSMETICS & PERFUMES-RETAIL*
5338 **FIREHOUSE SUBS...** *RESTAURANTS*
5338 **GREAT CLIPS...** *BEAUTY SALONS*
5338 **MERLE NORMAN COSMETIC STUDIO...** *COSMETICS & PERFUMES-RETAIL*
5338 **MOE'S SOUTHWEST GRILL...** *RESTAURANTS*
5338 **NOTHING BUNDT CAKES...** *BAKERS-RETAIL*
5338 **PAINTING WITH A TWIST...** *ART CENTERS*
5338 **PURE BARRE...** *HEALTH CLUBS STUDIOS & GYMNASIUMS*
5338 **PYRO'S FIRE FRESH PIZZA...** *RESTAURANTS*
5338 **PYRO'S FIRE FRESH PIZZA...** *ECOMMERCE*
5338 **PYRO'S FIRE FRESH PIZZA...** *HOTELS & MOTELS*
5338 **PYRO'S FIRE FRESH PIZZA...** *PIZZA*
5338 **PYRO'S-OLIVE BRANCH...** *PIZZA*
5338 **ULTIMATE FOODS OLIVE BRANCH...** *RESTAURANTS*
5338 **ULTIMATE FOODS OLIVE BRANCH...** *FOODS-CARRY OUT*
5338 **ULTIMATE FOODS OLIVE BRANCH...** *CATERERS*
5338 **VICTRA...** *CELLULAR TELEPHONES (SERVICES)*
5338 **WIGINGTON AGENCY LLC...** *INSURANCE-HOMEOWNERS*
5365 **EXTRA SPACE STORAGE...** *WAREHOUSES-MINI & SELF STORAGE*
5365 **EXTRA SPACE STORAGE...** *STORAGE-HOUSEHOLD & COMMERCIAL*
5365 **OUTBACK SELF STORAGE...** *WAREHOUSES-MERCHANDISE & SELF STORAGE*
5365 **SIMPLY SELF STGE OLIVE BR/GDMN...** *STORAGE*
5365 **SIMPLY SELF STORAGE...** *STORAGE*
5365 **SIMPLY SELF STORAGE...** *STORAGE-HOUSEHOLD & COMMERCIAL*
5400 **POTBELLY SANDWICH SHOP...** *RESTAURANTS*

2022 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **SAMUEL DANIEL...** *RESIDENTIAL*
4880 **ANDREW WILLIAMSON...** *RESIDENTIAL*
4880 **WILLIE WILLIAMSON...** *RESIDENTIAL*
4986 **CHARLIE BINGHAM...** *RESIDENTIAL*
4986 **KIMBERLY WEBB...** *RESIDENTIAL*
5165 **JOE WOFFORD...** *RESIDENTIAL*
5185 **ARTHUR ROACH...** *RESIDENTIAL*

2022 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5870 **EDGAR WOODS JR...***RESIDENTIAL*
5872 **DEWITT WRIGHT...***RESIDENTIAL*
5872 **PATRICIA WRIGHT...***RESIDENTIAL*
5874 **ANNETTE WIGGINS...***RESIDENTIAL*
5874 **DEMETRIUS WIGGINS...***RESIDENTIAL*
5924 **WILLIE HURT...***RESIDENTIAL*
5960 **ST PAUL MSSNRY BAPTIST CHURCH...***CHURCHES*
5960 **ST PAUL MSSNRY BAPTIST CHURCH...***MISSIONS*
6125 **NEW BEGINNINGS BAPTIST CHURCH...***CHURCHES*
6731 **ALTON WOODS JR...***RESIDENTIAL*
6782 **JAMES ANTHONY...***RESIDENTIAL*
6815 **BAPTIST MINOR MEDICAL...***NONCLASSIFIED ESTABLISHMENTS*
6815 **BETTY PAYNE...***RESIDENTIAL*
6818 **JOHN LABUDA...***RESIDENTIAL*
6824 **ROBERT SNEED...***RESIDENTIAL*
6830 **GERALDINE LEWELLING...***RESIDENTIAL*
6863 **CASSADY ASHLEY...***RESIDENTIAL*
6876 **LILLIAN SNEED...***RESIDENTIAL*
7250 **CULPEPPER PLACE ASSISTED LVNG...***RESIDENTIAL CARE HOMES*

2020 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5025 **APSARA CAFE...***RESTAURANTS*
5025 **BERT WEST STATE FARM...***INSURANCE*
5025 **LAPELS DRY CLEANING...***CLEANERS*
5025 **VINEYARD WINE LIQUOR...***WINES-RETAIL*
5025 **WEST, BERT AGT...***INSURANCE CONSULTANTS & ADVISORS*

123 total records. Part 1 of 2

4501 LONGVIEW HEIGHTS BAPTIST CHR...CHURCHES
4501 LONGVIEW HEIGHTS BAPTIST CHR...MISSIONS
4811 TITLE MAX...LOANS
4811 TITLE MAX...TITLE LOANS
4815 WILLIAM SUMMERS...RESIDENTIAL
4824 JOE, STEPHEN W DMD...DENTISTS
4850 AMERICA INSURANCE TRAINING INC...TRAINING PROGRAMS & SERVICES
4850 COMMUNITY MORTGAGE...REAL ESTATE LOANS
4850 EXPRESS EMPLOYMENT PRO...EMPLOYMENT AGENCIES & OPPORTUNITIES
4850 FIRST NATIONAL REALTY...REAL ESTATE
4850 JANE'S GYM FITNESS FOR WOMEN...HEALTH CLUBS STUDIOS & GYMNASIUMS
4850 JASON'S DELI...RESTAURANTS
4850 MANE IMAGE SALON...BEAUTY SALONS
4850 MISSISSIPPI...POTTERY
4850 OLIVE BRANCH NUTRITION...NUTRITIONISTS
4850 PETRA WALKER...NONCLASSIFIED ESTABLISHMENTS
4850 PRO LOGISTIX...EMPLOYMENT AGENCIES & OPPORTUNITIES
4850 STELLA IVY BOUTIQUE...WOMEN'S CLOTHING STORES
4850 TANGERY, CAROLYN...UNCLASSIFIED ESTABLISHMENTS
4857 BEST GOLD BUYERS LLC...JEWELRY, WATCH, PRECIOUS STONE/METAL MRCHNT WHLSRS
4857 DESOTO CO POOL INC...SWIMMING POOL EQUIPMENT & SUPLS (WHLS)
4857 DESOTO CO POOL INC...SWIMMING POOL CONTRS DEALERS & DESIGNERS
4857 ELINA'S NAILS...MANICURING
4857 LIBERTY TAX SVC...TAX RETURN PREPARATION & FILING
4857 M & M WINE & LIQUOR...WINES-RETAIL
4857 OB DONUTS...DOUGHNUTS
4857 OLIVE BRANCH CARPETS...CARPET & RUG DEALERS-NEW
4857 OLIVE BRANCH CARPETS...FLOOR MATERIALS
4857 PRECISION DOOR SVC OF NORTH MS...DOORS
4857 PRECISION DOOR SVC OF NORTH MS...DOORS-GARAGE
4857 T L NAILS...MANICURING
4857 TOP SHELF INC...LIQUORS-RETAIL
4857 WESLEY HOLLEY...RESIDENTIAL
4872 BURGER KING...RESTAURANTS
4892 GATEWAY TIRE & SVC...TIRE-DEALERS-RETAIL
4892 GATEWAY TIRE & SVC...TIREDEALERSUSED (WHLS)
5020 HOME GOODS...HOUSEWARES-RETAIL
5028 FIRST SECURITY BANK...REAL ESTATE LOANS
5028 FIRST SECURITY BANK...BANKS
5030 MICHAELS...CRAFT SUPPLIES
5036 BACK ON TRACK CHIROPRACTIC...CHIROPRACTORS DC
5036 DE SOTO LASER AESTHETICS...MEDICAL SPAS
5036 DE SOTO LASER AESTHETICS...HEALTH SPAS
5036 FOSTER, MICHAEL E MD...PHYSICIANS & SURGEONS
5036 SIMPLY UNIFORMS...UNIFORMS
5036 WILLIAMS, RICHARD A DDS...DENTISTS
5040 ROSS DRESS FOR LESS...RETAIL SHOPS
5040 ROSS DRESS FOR LESS...DEPARTMENT STORES
5040 ROSS DRESS FOR LESS...ECOMMERCE
5050 TJ MAXX...RETAIL SHOPS
5050 TJ MAXX...ECOMMERCE
5050 TJ MAXX...DEPARTMENT STORES
5060 RACK ROOM SHOES...SHOES-RETAIL
5060 S C D LLC...NONCLASSIFIED ESTABLISHMENTS
5070 AT&T STORE...CELLULAR TELEPHONES (SERVICES)
5070 GOULD'S DAY SPA & SALON...BEAUTY SALONS
5070 HOLLYWOOD FEED...FEED-DEALERS (WHLS)
5070 LINDY LU'S...NONCLASSIFIED ESTABLISHMENTS
5070 PINK COCONUT BOUTIQUE...CLOTHINGRETAIL
5070 PINK COCONUT BOUTIQUE...BOUTIQUE ITEMS-RETAIL
5070 SPORT CLIPS...BEAUTY SALONS
5070 SPORT CLIPS...HEALTH SPAS
5070 TCBY...ICE CREAM PARLORS
5075 ACADEMY SPORTS + OUTDOORS...SPORTING GOODS-RETAIL
5115 HOBBY LOBBY...CRAFT SUPPLIES
5135 CHICKEN SALAD CHICK...RESTAURANTS

2020 GOODMAN RD
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

5135 FIVE BELOW...VARIETY STORES
5135 WAYBACK BURGERS...RESTAURANTS
5142 GNC...VITAMIN & FOOD SUPPLEMENTS
5142 GOODFRED, JENNIFER C DO...PHYSICIANS & SURGEONS
5142 GOODFRED, JENNIFER C DO...MEDICAL & SURGICAL SVC ORGANIZATIONS
5142 MATTRESS FIRM...MATTRESSES
5142 MOORE, MARGARET J PA...PHYSICIANS ASSISTANTS
5142 MOORE, MARGARET J PA...PHYSICIANS & SURGEONS
5142 PINK COCONUT...BOUTIQUE ITEMS-RETAIL
5142 SHERI HENSLEY...RESIDENTIAL
5142 URGENT CARE BY ST FRANCIS...PHYSICIANS & SURGEONS-EMERGENCY SERVICE
5150 GHIO, JASON MAX...PHARMACISTS
5150 LEWIS, BROOKE...PHARMACISTS
5150 PIZZA HUT EXPRESS...PIZZA
5150 STARBUCKS...ESPRESSO & ESPRESSO BARS
5150 STARBUCKS...COFFEE SHOPS
5150 TARGET...CHILDRENS & INFANTS WEARRETAIL
5150 TARGET...DEPARTMENT STORES
5150 TARGET...ECOMMERCE
5150 TARGET...BABY ACCESSORIES
5150 TARGET PHARMACY...PHARMACIES
5155 ORANGETHEORY FITNESS...HEALTH CLUBS STUDIOS & GYMNASIUMS
5155 PLANET FITNESS...HEALTH CLUBS STUDIOS & GYMNASIUMS
5218 AMERICAN FAMILY DENTISTRY...OFFICES OF DENTISTS
5218 BATTERIES PLUS...AUTOMOTIVE PARTS & ACCESSORIES STORES
5218 C SPIRE WIRELESS...CELLULAR TELEPHONES (SERVICES)
5218 LESLIE'S SWIMMING POOL SUPLS...SWIMMING POOL EQUIPMENT & SUPLS-RETAIL
5218 NG SUN WAI...NONCLASSIFIED ESTABLISHMENTS
5218 SWEET PEPPERS DELI...DELICATESSENS
5218 SWEET PEPPERS DELI...RESTAURANTS
5218 URBAN JAPANESE FUSION CUISINE...RESTAURANTS
5218 WINE CELLAR...WINES-RETAIL
5218 WINE CELLAR...LIQUORS-RETAIL
5227 DORIS BUTLER...RESIDENTIAL
5338 FIREHOUSE SUBS...RESTAURANTS
5338 GREAT CLIPS...BEAUTY SALONS
5338 MERLE NORMAN COSMETIC STUDIO...COSMETICS & PERFUMES-RETAIL
5338 MOE'S SOUTHWEST GRILL...RESTAURANTS
5338 NOTHING BUNDT CAKES...BAKERS-RETAIL
5338 PAINTING WITH A TWIST...ART CENTERS
5338 PURE BARRE...HEALTH CLUBS STUDIOS & GYMNASIUMS
5338 PYRO'S FIRE FRESH PIZZA...HOTELS & MOTELS
5338 PYRO'S FIRE FRESH PIZZA...PIZZA
5338 PYRO'S FIRE FRESH PIZZA...RESTAURANTS
5338 PYRO'S FIRE FRESH PIZZA...ECOMMERCE
5338 ULTIMATE FOODS-OLIVE BRANCH...CATERERS
5338 ULTIMATE FOODS-OLIVE BRANCH...RESTAURANTS
5338 ULTIMATE FOODS-OLIVE BRANCH...FOODS-CARRY OUT
5338 VICTRA...CELLULAR TELEPHONES (SERVICES)
5338 WIGINGTON AGENCY LLC...INSURANCE-HOMEOWNERS
5365 EXTRA SPACE STORAGE...WAREHOUSES-MINI & SELF STORAGE
5365 EXTRA SPACE STORAGE...STORAGE-HOUSEHOLD & COMMERCIAL
5365 OUTBACK SELF STORAGE...WAREHOUSES-MERCHANDISE & SELF STORAGE
5365 SIMPLY SELF STGE-OLIVE BR/GDMN...STORAGE
5365 SIMPLY SELF STORAGE...STORAGE
5365 SIMPLY SELF STORAGE...STORAGE-HOUSEHOLD & COMMERCIAL
5400 POTBELLY SANDWICH SHOP...RESTAURANTS

2020 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **CAROLYN DANIEL**...*RESIDENTIAL*
4880 **ANDREW WILLIAMSON**...*RESIDENTIAL*
4986 **CHARLIE BINGHAM**...*RESIDENTIAL*
4986 **KIMBERLY WEBB**...*RESIDENTIAL*
5165 **FRANCES WOFFORD**...*RESIDENTIAL*
5185 **ARTHUR ROACH**...*RESIDENTIAL*

2020 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5870 **DAISY WOODS**...*RESIDENTIAL*
5872 **DEWITT WRIGHT**...*RESIDENTIAL*
5872 **PATRICIA WRIGHT**...*RESIDENTIAL*
5874 **ANNETTE WIGGINS**...*RESIDENTIAL*
5874 **NEKEYIA WILLIAMS**...*RESIDENTIAL*
5924 **WILLIE HURT**...*RESIDENTIAL*
5960 **ST PAUL M B CHURCH**...*CHURCHES*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**...*MISSIONS*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**...*CHURCHES*
6125 **NEW BEGINNINGS BAPTIST CHURCH**...*CHURCHES*
6731 **TONIA WOODS**...*RESIDENTIAL*
6782 **JAMES ANTHONY**...*RESIDENTIAL*
6787 **MERRY STILL**...*RESIDENTIAL*
6815 **BAPTIST MINOR MEDICAL**...*NONCLASSIFIED ESTABLISHMENTS*
6815 **BETTY PAYNE**...*RESIDENTIAL*
6818 **BETTIE LABUDA**...*RESIDENTIAL*
6818 **JOHN LABUDA**...*RESIDENTIAL*
6824 **LAURA SNEED**...*RESIDENTIAL*
6863 **CASSADY ASHLEY**...*RESIDENTIAL*
6876 **LILLIAN SNEED**...*RESIDENTIAL*
7250 **CULPEPPER PLACE ASSISTED LVNG**...*RESIDENTIAL CARE HOMES*

2016 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2016 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

91 total records. Part 1 of 2

4501	**LONGVIEW HEIGHTS BAPTIST CHR...** *CHURCHES*
4811	**TITLE MAX...** *TITLE LOANS*
4811	**TITLE MAX...** *LOANS*
4815	**WILLIAM SUMMERS...** *RESIDENTIAL*
4824	**JOE, STEPHEN W DMD...** *DENTISTS*
4850	**AMERICA INSURANCE TRAINING INC...** *SCHOOLS-INDUSTRIAL TECHNICAL & TRADE*
4850	**AMERICA INSURANCE TRAINING INC...** *TRAINING PROGRAMS & SERVICES*
4850	**COMMUNITY MORTGAGE...** *REAL ESTATE LOANS*
4850	**DISTINCTIVE CARPET LLC...** *UNCLASSIFIED ESTABLISHMENTS*
4850	**EXPRESS EMPLOYMENT PRO...** *EMPLOYMENT AGENCIES & OPPORTUNITIES*
4850	**FIRST NATIONAL REALTY...** *REAL ESTATE*
4850	**FLAGSTAR BANK HOME LOAN CTR...** *COMMERCIAL BANKING*
4850	**JANE'S GYM FITNESS FOR WOMEN...** *HEALTH CLUBS STUDIOS & GYMNASIUMS*
4850	**JASON'S DELI...** *RESTAURANTS*
4850	**MANE IMAGE SALON...** *BEAUTY SALONS*
4850	**MISSISSIPPI...** *POTTERY*
4850	**PARTY BOUTIQUE...** *BOUTIQUE ITEMS-RETAIL*
4850	**PETRA WALKER...** *NONCLASSIFIED ESTABLISHMENTS*
4850	**PRO LOGISTIX...** *EMPLOYMENT AGENCIES & OPPORTUNITIES*
4850	**STELLA IVY BOUTIQUE...** *WOMEN'S CLOTHING STORES*
4850	**TANGERY, CAROLYN...** *UNCLASSIFIED ESTABLISHMENTS*
4857	**ALLSTATE...** *INSURANCE*
4857	**BEST GOLD BUYERS LLC...** *JEWELRY, WATCH, PRECIOUS STONE/METAL MRCHNT WHLSRS*
4857	**CHECK 2 CASH...** *LOANS*
4857	**CHECK 2 CASH...** *CHECK CASHING SERVICE*
4857	**DESOTO CO POOL INC...** *SWIMMING POOL EQUIPMENT & SUPLS (WHLS)*
4857	**ELINA'S NAILS...** *MANICURING*
4857	**J & J LIQUOR...** *LIQUORS-RETAIL*
4857	**LIBERTY TAX SVC...** *TAX RETURN PREPARATION & FILING*
4857	**M & M WINE & LIQUOR...** *WINES-RETAIL*
4857	**OLIVE BRANCH CARPETS...** *FLOOR MATERIALS*
4857	**OLIVE BRANCH CARPETS...** *CARPET & RUG DEALERS-NEW*
4857	**T L NAILS...** *UNCLASSIFIED ESTABLISHMENTS*
4857	**TITLE 2 CASH...** *LOANS*
4857	**TITLE 2 CASH...** *TITLE COMPANIES*
4857	**TOP SHELF INC...** *LIQUORS-RETAIL*
4857	**WESLEY HOLLEY...** *RESIDENTIAL*
4872	**BURGER KING...** *FOODS-CARRY OUT*
4872	**BURGER KING...** *RESTAURANTS*
4892	**GATEWAY TIRE & SVC...** *TIRE-DEALERS-RETAIL*
5020	**HOME GOODS...** *HOUSEWARES-RETAIL*
5028	**FIRST SECURITY BANK...** *BANKS*
5030	**MICHAELS...** *CRAFT SUPPLIES*
5036	**BACK ON TRACK CHIROPRACTIC...** *CHIROPRACTORS DC*
5036	**DE SOTO LASER AESTHETICS...** *MEDICAL SPAS*
5036	**DESOTO SURGERY CLINIC...** *PHYSICIANS & SURGEONS*
5036	**DESOTO SURGERY CLINIC...** *HAIR REMOVING*
5036	**FOSTER, MICHAEL E MD...** *PHYSICIANS & SURGEONS*
5036	**SIMPLY UNIFORMS...** *UNIFORMS*
5036	**WILLIAMS, RICHARD A DDS...** *DENTISTS*
5036	**WILLIAMS, RICHARD A DDS...** *OFFICES OF DENTISTS*
5040	**ROSS DRESS FOR LESS...** *DEPARTMENT STORES*
5040	**ROSS DRESS FOR LESS...** *RETAIL SHOPS*
5050	**TJ MAXX...** *RETAIL SHOPS*
5050	**TJ MAXX...** *DEPARTMENT STORES*
5060	**RACK ROOM SHOES...** *SHOES-RETAIL*
5060	**S C D LLC...** *NONCLASSIFIED ESTABLISHMENTS*
5070	**AT&T STORE...** *CELLULAR TELEPHONES (SERVICES)*
5070	**GOULD'S DAY SPA & SALON...** *BEAUTY SALONS*
5070	**HOLLYWOOD FEED...** *FEED-DEALERS (WHLS)*
5070	**LINDY LU'S...** *NONCLASSIFIED ESTABLISHMENTS*
5070	**PINK COCONUT BOUTIQUE...** *BOUTIQUE ITEMS-RETAIL*
5070	**SPORT CLIPS...** *BEAUTY SALONS*
5070	**TCBY...** *YOGURT*
5070	**TCBY...** *ICE CREAM PARLORS*
5142	**GNC...** *VITAMIN & FOOD SUPPLEMENTS*

2016 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

5142 **MATTRESS FIRM**...*MATTRESSES*
5142 **S C D LLC**...*NONCLASSIFIED ESTABLISHMENTS*
5142 **URGENT CARE BY ST FRANCIS**...*PHYSICIANS & SURGEONS-EMERGENCY SERVICE*
5150 **CARDTRONICS ATM**...*AUTOMATED TELLER MACHINES*
5150 **TARGET**...*BABY ACCESSORIES*
5150 **TARGET**...*DEPARTMENT STORES*
5150 **TARGET PHARMACY**...*PHARMACIES*
5218 **AMERICAN FAMILY DENTISTRY**...*OFFICES OF DENTISTS*
5218 **BATTERIES PLUS**...*BATTERIES-STORAGE-RETAIL*
5218 **BATTERIES PLUS**...*AUTOMOTIVE PARTS & ACCESSORIES STORES*
5218 **C SPIRE WIRELESS**...*CELLULAR TELEPHONES (SERVICES)*
5218 **LESLIE'S SWIMMING POOL SUPLS**...*SWIMMING POOL EQUIPMENT & SUPLS-RETAIL*
5218 **NG SUN WAI**...*NONCLASSIFIED ESTABLISHMENTS*
5218 **SWEET PEPPERS DELI**...*DELICATESSENS*
5218 **WINE CELLAR**...*WINES-RETAIL*
5227 **DANNY BUTLER**...*RESIDENTIAL*
5227 **DORIS BUTLER**...*RESIDENTIAL*
5227 **PATRICIA BUTLER**...*RESIDENTIAL*
5227 **TERESA BUTLER**...*RESIDENTIAL*
5338 **MOE'S SOUTHWEST GRILL**...*RESTAURANTS*
5338 **PAINTING WITH A TWIST**...*ART CENTERS*
5338 **PYRO'S FIRE FRESH PIZZA**...*PIZZA*
5338 **ULTIMATE FOODS-OLIVE BRANCH**...*RESTAURANTS*
5365 **EXTRA SPACE STORAGE**...*STORAGE-HOUSEHOLD & COMMERCIAL*
5365 **OUTBACK SELF STORAGE**...*WAREHOUSES-MERCHANDISE & SELF STORAGE*

2016 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **CAROLYN DANIEL**...*RESIDENTIAL*
4731 **LEE DANIEL**...*RESIDENTIAL*
4731 **SAMUEL DANIEL**...*RESIDENTIAL*
4880 **ANDREW WILLIAMSON**...*RESIDENTIAL*
4880 **BETSIE WILLIAMSON**...*RESIDENTIAL*
4880 **JEFFREY WILLIAMSON**...*RESIDENTIAL*
4880 **WILLIE WILLIAMSON**...*RESIDENTIAL*
4986 **EDWARD NERREN**...*RESIDENTIAL*
4986 **MERIDETH NERREN**...*RESIDENTIAL*
5165 **FRANCES WOFFORD**...*RESIDENTIAL*
5165 **JOE WOFFORD**...*RESIDENTIAL*
5185 **ARTHUR ROACH**...*RESIDENTIAL*

2016 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5870 **DAISY WOODS**...*RESIDENTIAL*
5870 **EDGAR WOODS JR**...*RESIDENTIAL*
5872 **DEWITT WRIGHT**...*RESIDENTIAL*
5872 **PATRICIA WRIGHT**...*RESIDENTIAL*
5874 **ANNETTE WIGGINS**...*RESIDENTIAL*
5874 **DEMETRIUS WIGGINS**...*RESIDENTIAL*
5874 **NEKEYIA WILLIAMS**...*RESIDENTIAL*
5960 **ST PAUL MISSIONARY BAPTIST CH**...*CHURCHES*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**...*CHURCHES*
6125 **NEW BEGINNINGS BAPTIST CHURCH**...*CHURCHES*
6782 **JAMES ANTHONY**...*RESIDENTIAL*
6782 **MARY ANTHONY**...*RESIDENTIAL*
6787 **MERRY STILL**...*RESIDENTIAL*
6815 **BAPTIST MINOR MEDICAL**...*NONCLASSIFIED ESTABLISHMENTS*
6815 **BETTY PAYNE**...*RESIDENTIAL*
6815 **DAVID PAYNE**...*RESIDENTIAL*
6815 **JOHN PAYNE**...*RESIDENTIAL*
6818 **BETTIE LABUDA**...*RESIDENTIAL*
6818 **JOHN LABUDA**...*RESIDENTIAL*
6824 **LAURA SNEED**...*RESIDENTIAL*
6824 **ROBERT SNEED**...*RESIDENTIAL*
6863 **CASSADY ASHLEY**...*RESIDENTIAL*
6876 **LILLIAN SNEED**...*RESIDENTIAL*
7600 **SUMMERSHILL FIRE DEPT I**...*FIRE DEPARTMENTS*

2012 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2012 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4501 LONGVIEW HEIGHTS BAPTIST CHR...*CHURCHES*
4811 TITLE MAX...*TITLE LOANS*
4815 WILLIAM SUMMERS...*RESIDENTIAL*
4850 JANE'S GYM FITNESS FOR WOMEN...*HEALTH CLUBS STUDIOS & GYMNASIUMS*
4850 MANE IMAGE SALON...*BEAUTY SALONS*
4850 MISS PUNKINS...*GIFT SHOPS*
4850 PROLOGISTIX...*EMPLOYMENT AGENCIES & OPPORTUNITIES*
4857 BRISK CAFE & STEAK HOUSE...*RESTAURANTS*
4857 CHECK 2 CASH...*CHECK CASHING SERVICE*
4857 DESOTO CO POOL INC...*SWIMMING POOL EQUIPMENT & SUPLS (WHLS)*
4857 OLIVE BRANCH CARPETS...*CARPET & RUG DEALERS-NEW*
4857 TITLE 2 CASH...*LOANS*
4892 GATEWAY TIRE & SVC...*TIRE-DEALERS-RETAIL*
5027 GLITTER & GLAM BOUTIQUE...*BOUTIQUE ITEMS-RETAIL*
5036 BACK ON TRACK CHIROPRACTIC...*CHIROPRACTORS DC*
5036 DESOTO LASER AESTHETICS...*HAIR REMOVING*
5036 DESOTO SURGERY CLINIC...*PHYSICIANS & SURGEONS*
5070 AT&T STORE...*CELLULAR TELEPHONES (SERVICES)*
5070 GOULD'S DAY SPA & SALON...*BEAUTY SALONS*
5070 MASTER JEWELERS...*JEWELERS-RETAIL*
5070 SPORT CLIPS...*BEAUTY SALONS*
5150 CARDTRONICS ATM...*AUTOMATED TELLER MACHINES*
5150 STARBUCKS...*COFFEE SHOPS*
5150 TARGET...*DEPARTMENT STORES*
5150 TARGET PHARMACY...*PHARMACIES*
5223 TRULEE BARNETT...*RESIDENTIAL*
5365 OUTBACK SELF STORAGE...*STORAGE-HOUSEHOLD & COMMERCIAL*

2012 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 CAROLYN DANIEL...*RESIDENTIAL*
4731 LEE DANIEL...*RESIDENTIAL*
4880 ALEXIS WILLIAMSON...*RESIDENTIAL*
4880 ANDY WILLIAMSON...*RESIDENTIAL*
4880 BETSIE WILLIAMSON...*RESIDENTIAL*
4880 MARGARET WILLIAMSON...*RESIDENTIAL*
4986 AMY HARGRAVE...*RESIDENTIAL*
4986 CHRISTOPHER HARGRAVE...*RESIDENTIAL*
4986 KIMBERLY GWINN...*RESIDENTIAL*
5155 TOMMY LANG...*RESIDENTIAL*
5165 FRANCES WOFFORD...*RESIDENTIAL*
5185 DONNA ROACH...*RESIDENTIAL*
5185 TINA ROACH...*RESIDENTIAL*
5185 TOM ROACH...*RESIDENTIAL*

2012 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5870 **EDGAR WOODS**...*RESIDENTIAL*
5870 **MARILYN WOODS**...*RESIDENTIAL*
5872 **EBONY WOODS**...*RESIDENTIAL*
5872 **PATRICIA WRIGHT**...*RESIDENTIAL*
5872 **WRIGHT PATRICIA**...*RESIDENTIAL*
5874 **ANETTE WIGGINS**...*RESIDENTIAL*
5874 **DEMETRIUS WIGGINS**...*RESIDENTIAL*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**...*CHURCHES*
6731 **ALTON WOODS**...*RESIDENTIAL*
6731 **AMY WOODS**...*RESIDENTIAL*
6731 **JAMES WOODS**...*RESIDENTIAL*
6731 **TONIA WOODS**...*RESIDENTIAL*
6782 **MARY ANTHONY**...*RESIDENTIAL*
6787 **BARNEY STILL**...*RESIDENTIAL*
6818 **BETTIE LABUDA**...*RESIDENTIAL*
6818 **JOHN LABUDA**...*RESIDENTIAL*
6818 **PHIL COLEMAN**...*RESIDENTIAL*
6818 **SHARON COLEMAN**...*RESIDENTIAL*
6901 **DONNA SUMMERS**...*RESIDENTIAL*
7172 **ST PAULS TENDER LOVE & CARE**...*CHILD CARE SERVICE*
7600 **SUMMERSHILL FIRE DEPT I**...*FIRE DEPARTMENTS*

2008 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2008 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4501 **LONGVIEW HEIGHTS BAPTIST CHR...** *CHURCHES*
4503 **DE SOTO COUNTY ACADEMY...** *SCHOOLS*
4576 **GERALD LABOURDETTE...** *RESIDENTIAL*
4578 **MICHAEL HARDIN...** *RESIDENTIAL*
4815 **WILLIAM S SUMMERS...** *RESIDENTIAL*
4815 **WILLIAM S SUMMERS...** *UNCLASSIFIED*
4835 **BECKY MITCHELL...** *RESIDENTIAL*
4857 **CHECK 2 CASH...** *CHECK CASHING SERVICE*
4857 **J & J LIQUOR...** *LIQUORS-RETAIL*
4857 **MID-SOUTH MINIMOTO...** *MOTORCYCLES & MOTOR SCOOTERS-DEALERS*
4857 **OLIVE BRANCH CARPET...** *RET FLOOR COVERING*
4857 **OLIVE BRANCH CARPETS...** *FLOOR MATERIALS*
4857 **TITLE 2 CASH...** *LOANS*
5217 **C DAUGHTRY...** *RESIDENTIAL*
5217 **SADIE L MARSHALL...** *RESIDENTIAL*
5227 **DANNY R BUTLER...** *RESIDENTIAL*
5278 **E SUTLIFFE...** *RESIDENTIAL*
5365 **DESIGNS BY JERRI...** *BUSINESS SERVICES, NEC, NSK*
5365 **OUTBACK STORAGE...** *STORAGE-HOUSEHOLD & COMMERCIAL*

2008 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **LEE DANIEL...** *RESIDENTIAL*
4880 **ANDY & BETSIE WILLIAMSON...** *RESIDENTIAL*
4980 **JOHN E ALLEN...** *RESIDENTIAL*
4986 **CHRIS & AMY HARGRAVE...** *RESIDENTIAL*
5155 **CAROLYN LANG...** *RESIDENTIAL*
5165 **JOE T WOFFORD...** *RESIDENTIAL*
5185 **ARTHUR T ROACH...** *RESIDENTIAL*
5185 **COMPREHENSIVE HEALTH CARE INC...** *MANAGEMENT CONSULTING SERVICES*

2008 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5804 **HENRY JOHNSON**...*RESIDENTIAL*
5870 **EDGAR JR WOODS**...*RESIDENTIAL*
5872 **DEWITT & PATRICIA JR WRIGHT**...*RESIDENTIAL*
5874 **ANNETTE & DEMETRIUS WIGGINS**...*RESIDENTIAL*
5900 **MYRTLE THREATT**...*RESIDENTIAL*
5924 **BRADFORD D CROWLEY**...*RESIDENTIAL*
5960 **ST PAUL M B CHURCH INC**...*RELIGIOUS ORGANIZATION*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**...*CHURCHES*
6125 **NEW BEGGININGS BAPTIST CHURCH**...*RELIGIOUS ORGANIZATION*
6125 **NEW BEGINNINGS BAPTIST CHURCH**...*CHURCHES*
6763 **JERRY L JOHNSON**...*RESIDENTIAL*
6787 **BURNEY G STILL**...*RESIDENTIAL*
6818 **JOHN & BETTIE B LABUDA**...*RESIDENTIAL*
6863 **CASSADY ASHLEY**...*RESIDENTIAL*
6876 **LILLIAN I SNEED**...*RESIDENTIAL*
6890 **MARC & DONNA WHEETLEY**...*RESIDENTIAL*
7172 **ST PAULS TENDER LOVE & CARE**...*CHILD CARE SERVICE*
7600 **SUMMERSHILL FIRE DEPT I**...*FIRE DEPARTMENTS*

2003 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2003 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4501 **LONGVIEW HEIGHTS BAPTIST**
4503 **DE SOTO COUNTY ACADEMY**...*PUBLIC ELEMENTARY AND SECONDARY SCHOOLS*
4811 **NEW YORK PIZZA & SUBS SOUTHERN**...*STEAK AND BARBECUE RESTAURANTS*
4815 **WILLIAM S SUMMERS**...*RESIDENTIAL*
4835 **BECKY MITCHELL**...*RESIDENTIAL*
5085 **LOVELADY'S AUTO REPAIR**...*ENGINE REPAIR*
5217 **C DAUGHTRY**...*RESIDENTIAL*
5227 **DANNY R BUTLER**...*RESIDENTIAL*
5237 **RICHARD HENRY**...*RESIDENTIAL*
5365 **V R FEENER**...*RESIDENTIAL*

2003 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **LEE DANIEL**...*RESIDENTIAL*
4880 **ANDY & BETSIE WILLIAMSON**...*RESIDENTIAL*
5165 **JOE T WOFFORD**...*RESIDENTIAL*
5185 **ARTHUR T ROACH**...*RESIDENTIAL*
5185 **TH MEDICAL BILLING**

2003 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5870 **EDGAR JR WOODS...***RESIDENTIAL*
5870 **GOODNEY WOOD...***RESIDENTIAL*
5872 **DEWITT JR & PATRICIA WRIGHT...***RESIDENTIAL*
5874 **ANNETTE & DEMETRIUS WIGGINS...***RESIDENTIAL*
5900 **MYRTLE THREATT...***RESIDENTIAL*
5924 **BRADFORD D CROWLEY...***RESIDENTIAL*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**
6125 **NEW BEGINNINGS BAPTIST CHURCH**
6763 **JERRY L JOHNSON...***RESIDENTIAL*
6787 **BURNEY G STILL...***RESIDENTIAL*
6818 **MICHAEL T ABEL...***RESIDENTIAL*
6845 **ROBINSONVILLE UNITED METHODIST**
6876 **LILLIAN I SNEED...***RESIDENTIAL*
6890 **H W LOVELADY...***RESIDENTIAL*
6892 **TIM LOVELADY...***RESIDENTIAL*
6901 **DONNA L SUMMERS...***RESIDENTIAL*
7172 **ST PAULS TENDER LOVE & CARE**
7600 **SUMMERSHILL FIRE DEPT I...***FIRE PROTECTION, LEVEL OF GOVERNMENT*

2000 CHURCH RD

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2000 GOODMAN RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4501 **LONGVIEW HEIGHTS BAPTIST CHR**
4503 **DE SOTO COUNTY ACADEMY**...*PUBLIC ELEMENTARY AND SECONDARY SCHOOLS*
4811 **CUPBOARD COUNTRY**...*RESIDENTIAL*
4815 **WILLIAM S SUMMERS**...*RESIDENTIAL*
4835 **BECKY MITCHELL**...*RESIDENTIAL*
5085 **LOVELADY'S AUTO REPAIR**...*ENGINE REPAIR*
5217 **C DAUGHTRY**...*RESIDENTIAL*
5227 **DANNY R BUTLER**...*RESIDENTIAL*
5237 **RICHARD HENRY**...*RESIDENTIAL*
5365 **V R FEENER**...*RESIDENTIAL*

2000 NAIL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

4731 **LEE DANIEL**...*RESIDENTIAL*
4880 **ANDY & BETSIE WILLIAMSON**...*RESIDENTIAL*
5165 **JOE T WOFFORD**...*RESIDENTIAL*

2000 PLEASANT HILL RD

SOURCE: DIGITAL BUSINESS DIRECTORY

5804 **JIMMIE LUE BAPTIST...** *RESIDENTIAL*
5870 **EDGAR WOODS...** *RESIDENTIAL*
5870 **GOODNEY WOOD...** *RESIDENTIAL*
5874 **ANNETTE & DEM WIGGINS...** *RESIDENTIAL*
5900 **MYRTLE THREATT...** *RESIDENTIAL*
5924 **B D CROWLEY...** *RESIDENTIAL*
5960 **ST PAUL MSSNRY BAPTIST CHURCH**
6125 **NEW BEGINNINGS BAPTIST CHURCH**
6763 **JERRY L JOHNSON...** *RESIDENTIAL*
6782 **MARVIN HILL...** *RESIDENTIAL*
6787 **BURNEY G STILL...** *RESIDENTIAL*
6818 **MICHAEL T ABEL...** *RESIDENTIAL*
6845 **ROBINSONVILLE UNITED METHODIST**
6876 **B J SNEED...** *RESIDENTIAL*
6890 **HOMER W LOVELADY...** *RESIDENTIAL*
6892 **TIM LOVELADY...** *RESIDENTIAL*
6901 **DONNA L SUMMERS...** *RESIDENTIAL*
7213 **TERRANCE PORK...** *RESIDENTIAL*
7600 **SUMMERSHILL FIRE DEPT I...** *FIRE PROTECTION, LEVEL OF GOVERNMENT*
7600 **VOLHUNTEER FIRE DE SUMMERSHILL...** *RESIDENTIAL*

1995 CHURCH RD

SOURCE: COLE

STREET NOT LISTED

1995 GOODMAN RD

SOURCE: COLE

4105	CROSS CRK BAPT CHR
4501	LONGVIEW HTS CH
4503	DESOTO CNTY ACADMY
4811	BECKY MITCHELL
4811	COUNTRY CUPBOARD
4811	MIKEYS PIZZA PLACE
4815	WM $ SUMMERS
5085	LOVELADYS BODY SHP
5217	C DAUGHTRY
5227	DANNY R BUTLER
5227	DANNY RAY BUTLER
5237	RICHARD HENRY
5365	V R FEENER
5485	QUALITY LNDSCP & GDN

1995 NAIL RD

SOURCE: COLE

4691	MEMPHIS STEHR REP
4691	MPHS TAPE MCH RPR
4691	WILLIAM B HOUSE JR
4731	LEE DANIEL
4880	ANDY WILLIAMSON
5165	JOE T WOFFORD

1995 PLEASANT HILL RD

SOURCE: COLE

4571	NP
5804	JIMMIE LUE BAPTIST
5870	EDGAR WOODS JR
5870	GOODNEY WOOD
5874	DEMETRUIS WIGGINS
5900	MYRTLE THREATT
5924	BRADFORD D CROWLEY
5960	ST PAUL MB CHURCH
6715	JOHN PAYNE BRKRGE
6763	JERRY L JOHNSON
6782	MARVIN HILL
6787	BURNEY G STILL
6818	MICHAEL T ABEL
6863	NP
6876	B J SNEED
6890	H W LOVELADY
6892	TIM LOVELADY
6901	DONNA L SUMMERS
7600	SUMMERSHL FIRE DPT
7723	MALVIN JEFFORDS

1990 CHURCH RD

SOURCE: COLE

STREET NOT LISTED

1990 GOODMAN RD

SOURCE: COLE

4084 ROBERT MAHONEY
4501 LONGVIEW HTS CH
4503 DESETE CATY ACADMY
4811 BECKY MITCHEL
4811 COUNTRY CUPBOARD
4811 UNIQUE NAIR FSHNS
4815 WM S SUMMERS
5085 LOVELADYS BODY SHP
5217 C DAUGHTRY
5227 DANNY R BUTLER
5237 RICHARD HENRY
5365 JOHN I GRACE
5489 RAYMOND A WALDROP

1990 NAIL RD

SOURCE: COLE

DIRECTORY PAGE MISSING

1990 PLEASANT HILL RD

SOURCE: COLE

4529	BILLY W SULLIVAN
4571	L P CARTWRIGHT
5180	NP
5198	WILLE MASSEY
5804	JIMMIE LUE BAPTIST
5870	EDGAR WOODS JR
5870	GOODNEY WOOD
5900	MYRTLE THREATT
5924	BRADFORD D CROWLEY
6575	LILLIE RICHMOND
6715	GOLDEN TRANS SV
6715	JOHN PAYNE BRKRGE
6763	JERRY L JOHNSON
6782	ARCHIE GOODWIN
6787	BURNEY G STILL
6815	JOHN PAYNE BROKRAG
6818	MICHAEL T ABEL
6830	NP
6863	LOURSE F SUMMERS
6876	B J SNEED
6890	HW LOVELADY
6901	M ICHAEL W ASHLEY
7172	JESSIE B EASLEY
7213	KIM KEO
7215	NP
7600	SUMMERSH ! FIRE DPT
7723	BUBBA FULGHUM

1985 CHURCH RD

SOURCE: COLE

STREET NOT LISTED

1985 GOODMAN RD

SOURCE: COLE

3790	AD FERRELL 80 895-3715
4501	LONGVIEW HTS CH 895-6368
4503	DESOTO CNTY ACADMY 895-6385
4811	HANDY SHOP 895-9933
4815	WM S SUMMERS 77 895-5014
5161	CLAUDE B MORRIS 80 895-2550
5217	C DAUGHTRY 82 895-6760
5237	RICHARD HENRY 76 895-6100
5489	RAYMOND A WALDROP 895-2603
5499	JERRY R WALDRON 80 895-3955

1985 NAIL RD

SOURCE: COLE

4691	MPHS TAPE MCH RPR .. 895-5748
4691	WILLIAM B HOUSE JR 77 895-5748
15300	SAMMIE L PHILLIPS 895-2490

4529	BILLYW SULLIVAN 895-3125
4571	L P CARTWRIGHT 82 895-6610
5180	NP
5198	WILLIE MASSEY 77 895-2547
5804	CORA SANDERS 77 895-2729
5870	EDGAR WOODS JR 81 895-5367
5900	MYRTLE THREATT 895-5882
5924	BRADFROD D CROWLEY 895-2522
6575	LILLIE RICHMOND 895-6237
6763	JERRY L JOHNSON 76 895-2098
6782	ARCHIE GOODWIN 895-5632
6787	BURNEY G STILL 77 895-3154
6815	JOHN PAYNE 77 895-3177
6818	NP
6830	LARRY ALDERSON 72 895-2486
6863	JERRY T BURNETT 78 895-2885
6876	B J SNEED 895-2335
6890	H W LOVELADY 72 895-5317
6901	MICHAEL W ASHLEY 75 895-5359
7172	JESSIE B EASLEY 76 895-5290
7313	KIM KEO 83 895-6674
7610	JD TAGGARD 895-2315

FIRE INSURANCE MAPS

Project Property:	Pleasant Hill Road n/a Olive Branch MS
Project No:	EB237012
Requested By:	Terracon
Order No:	24032500139
Date Completed:	March 26, 2024

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

PSR
PHYSICAL SETTING REPORT

Property Information

Order Number:		24032500139p
Date Completed:		March 26, 2024
Project Number:		EB237012
Project Property:		Pleasant Hill Road n/a Olive Branch MS
Coordinates:		
	Latitude:	34.94888402
	Longitude:	-89.90135093
	UTM Northing:	3871402.5789 Meters
	UTM Easting:	235051.849125 Meters
	UTM Zone:	UTM Zone 16S
	Elevation:	335.23 ft
	Slope Direction:	E

Topographic Information....2
Hydrologic Information....14
Geologic Information....26
Soil Information....30
Wells and Additional Sources....43
Summary....49
Detail Report....51
Radon Information....74
Appendix....75
Liability Notice....77

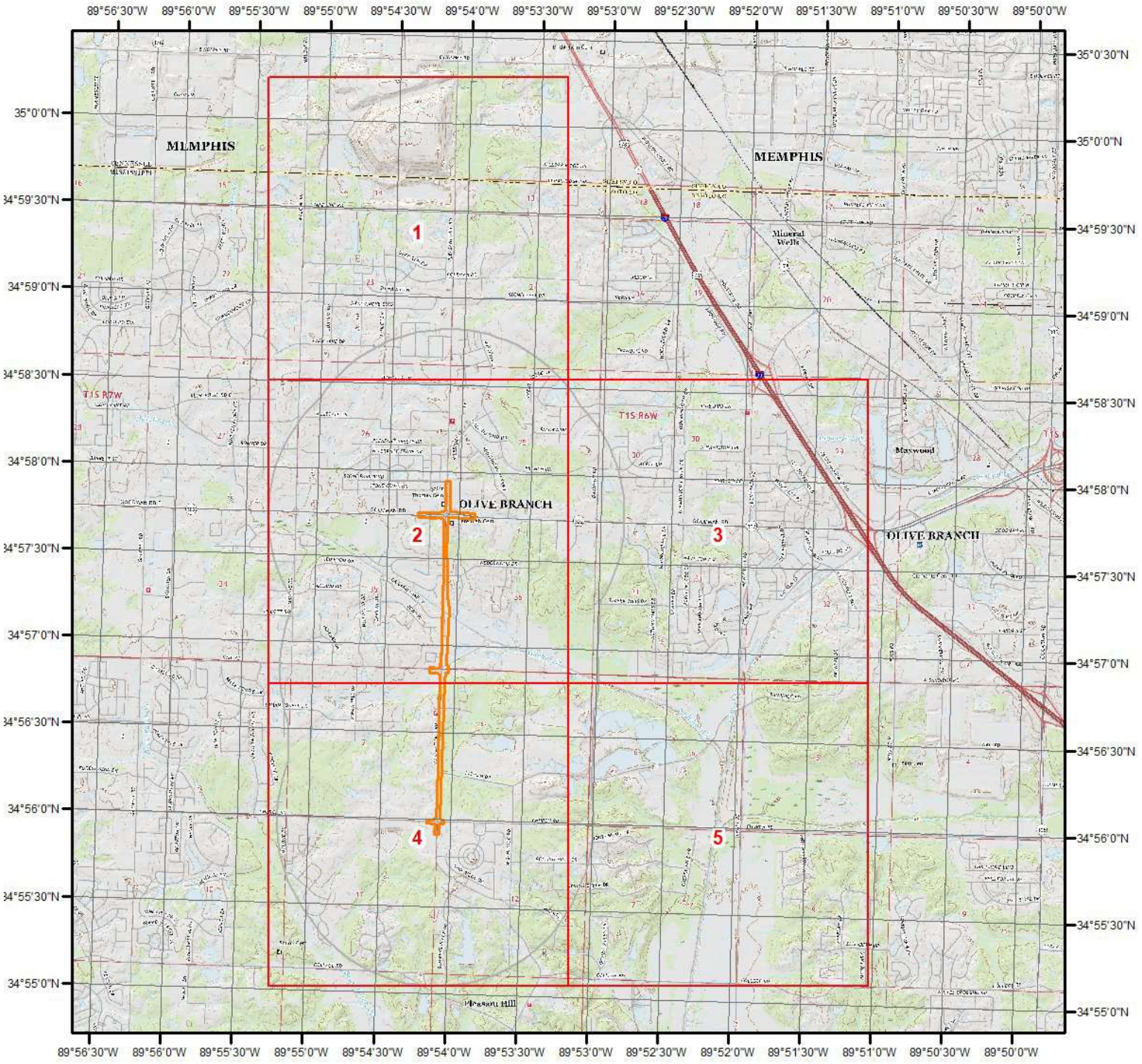
The ERIS ***Physical Setting Report - PSR*** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

Topographic Information



Current USGS Topo (2019)

0 0.2 0.4 0.8 1.2 1.6 2 2.4 Miles

N

Quadrangle(s): Horn Lake,MS; Southwest Memphis,TN; Hernando,MS; Lewisburg,MS; Southeast Memphis,TN; Olive Branch,MS; Frees Corn

Source: USGS 7.5 Minute Topographic Map

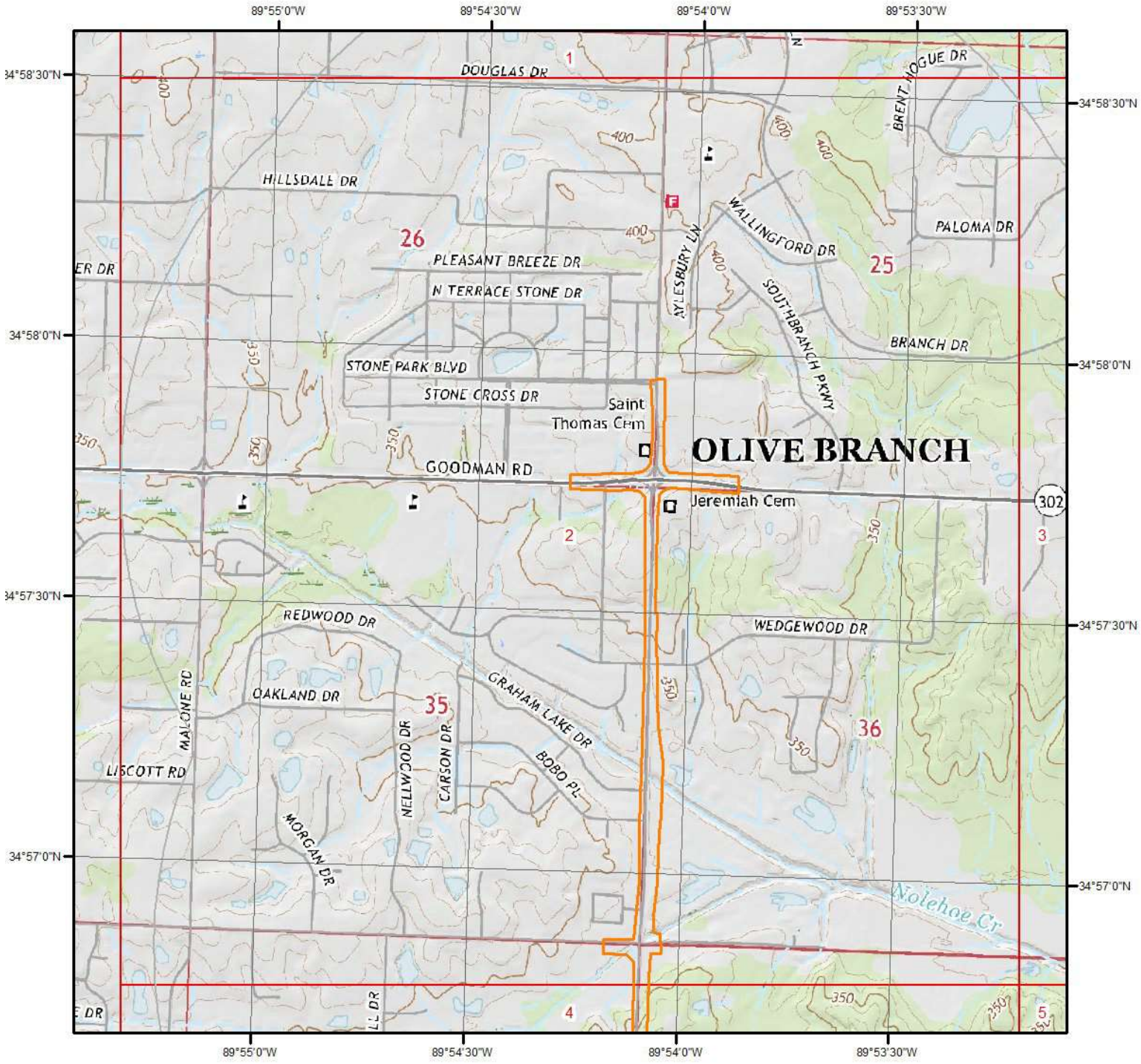
Topographic Information

Current USGS Topo - Page 1

Quadrangle(s): Southeast Memphis,TN; Pleasant Hill,MS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 2

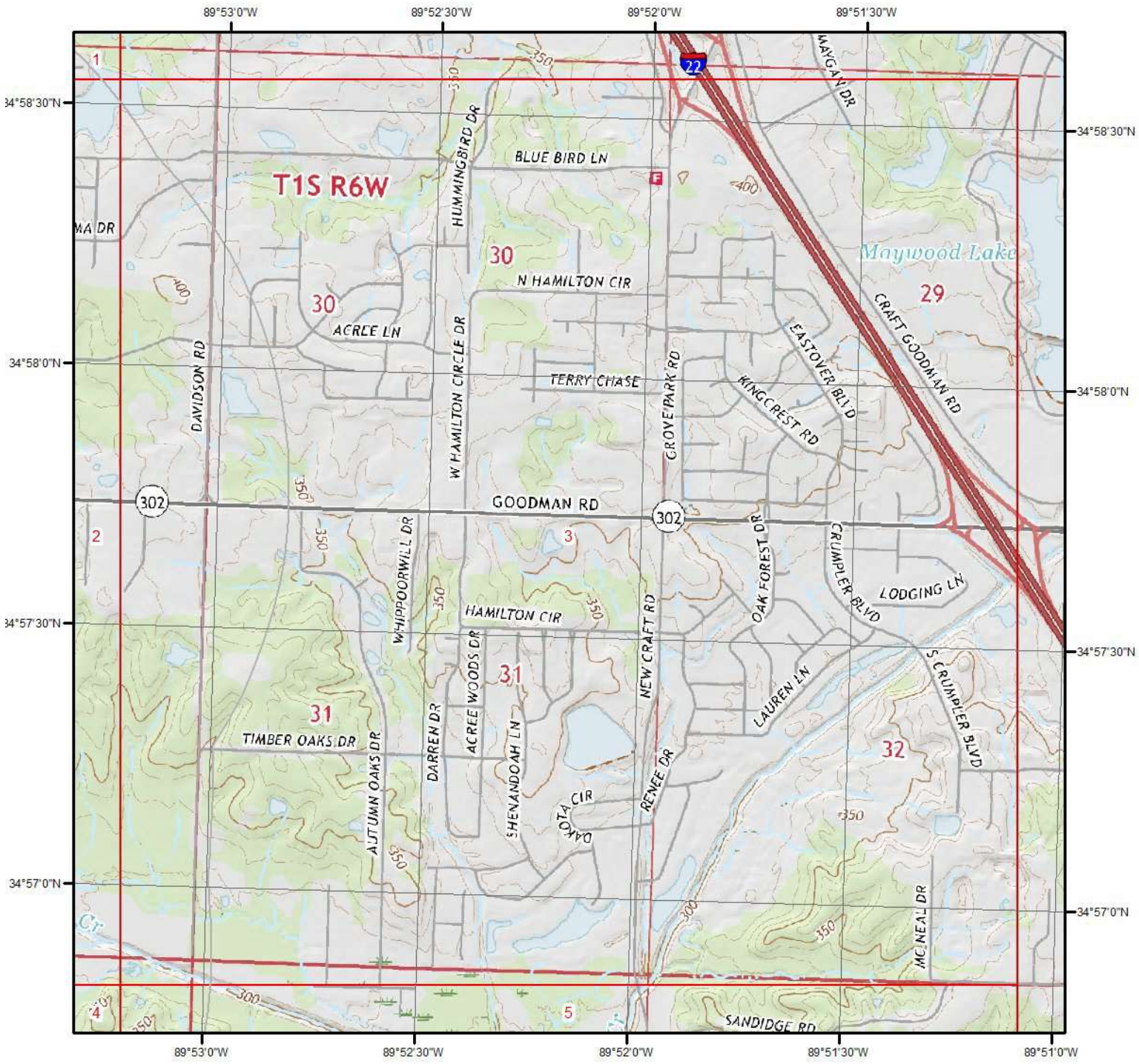
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Pleasant Hill,MS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 3

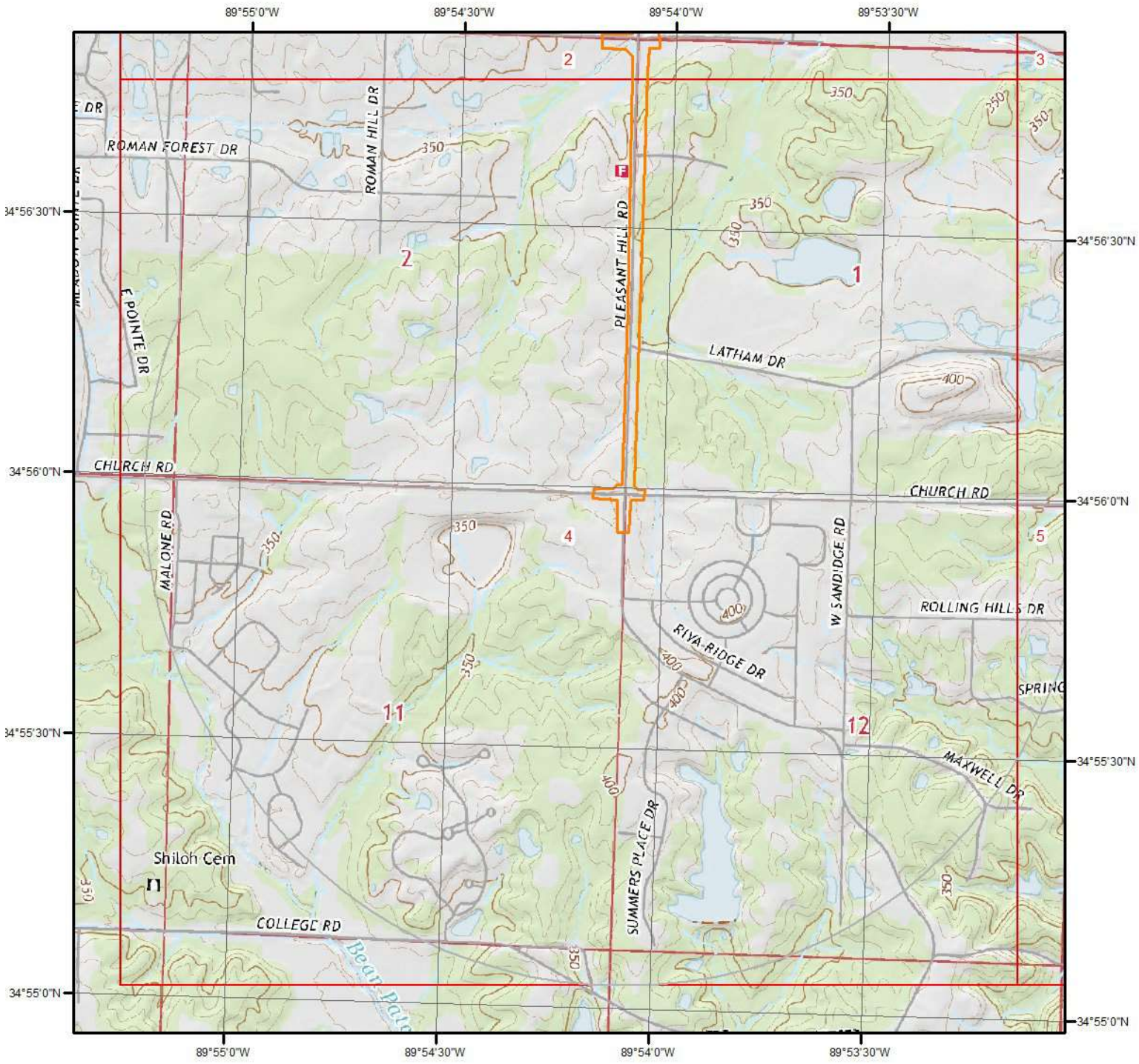
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Olive Branch,MS; Pleasant Hill,MS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 4

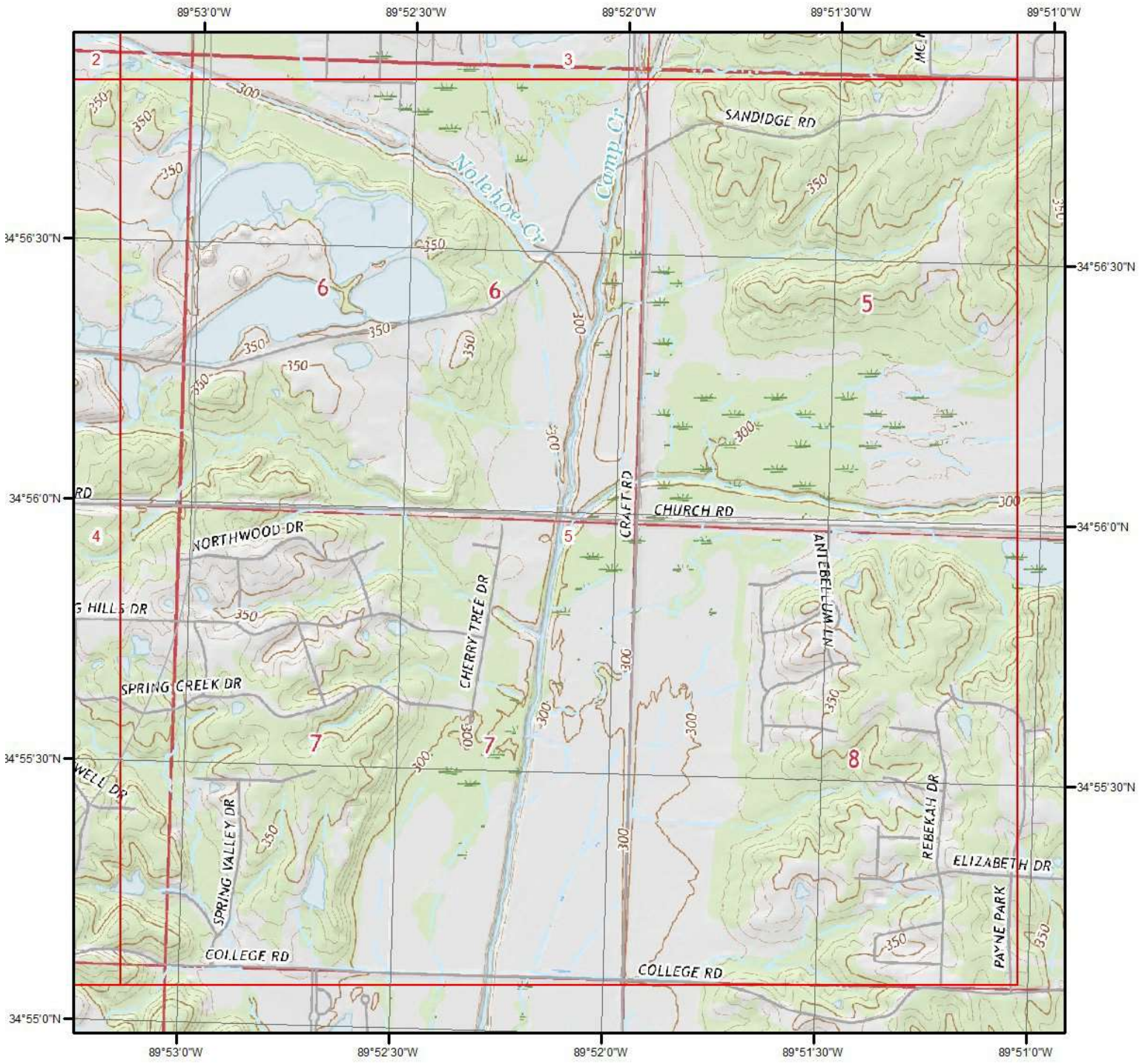
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Pleasant Hill,MS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 5

0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Olive Branch,MS; Pleasant Hill,MS

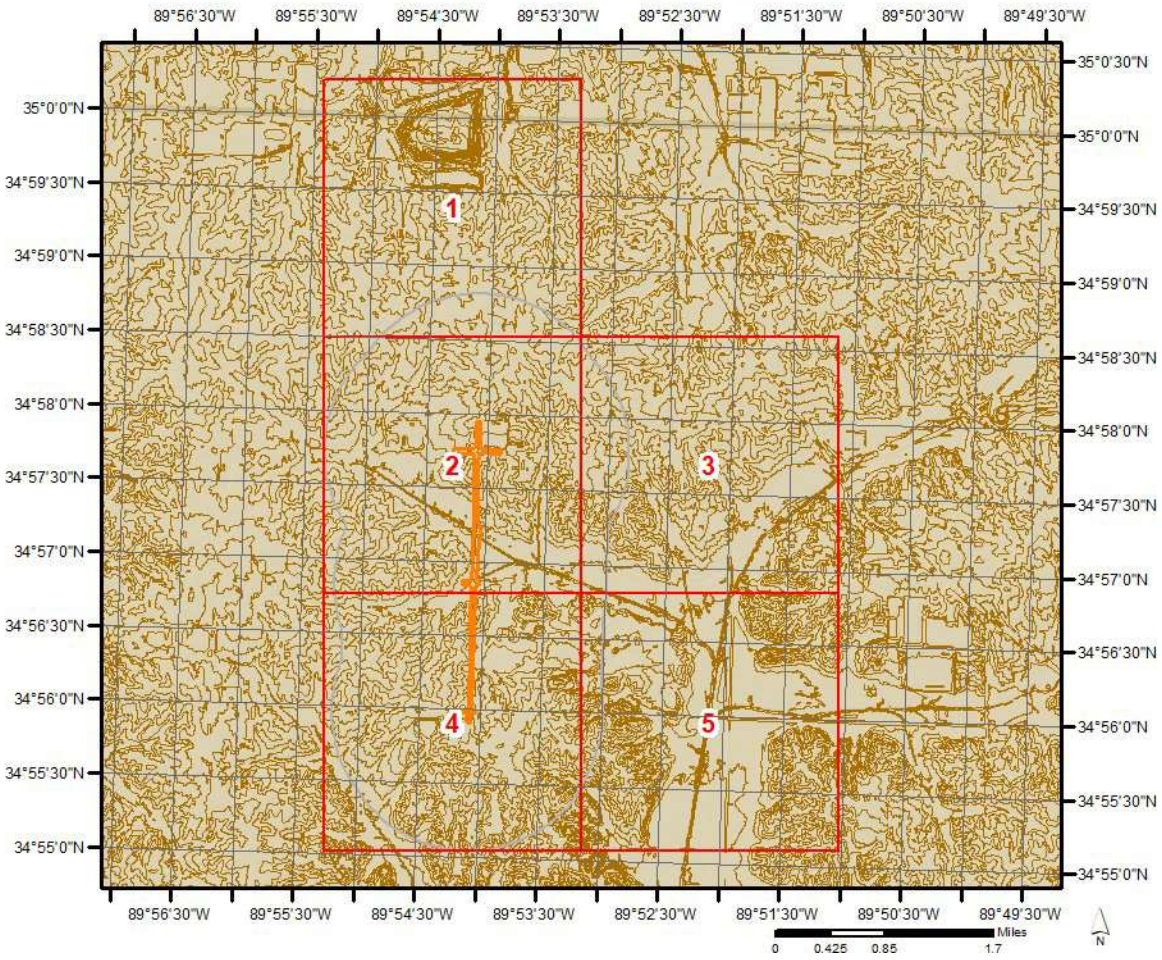
Source: USGS 7.5 Minute Topographic Map

Topographic Information

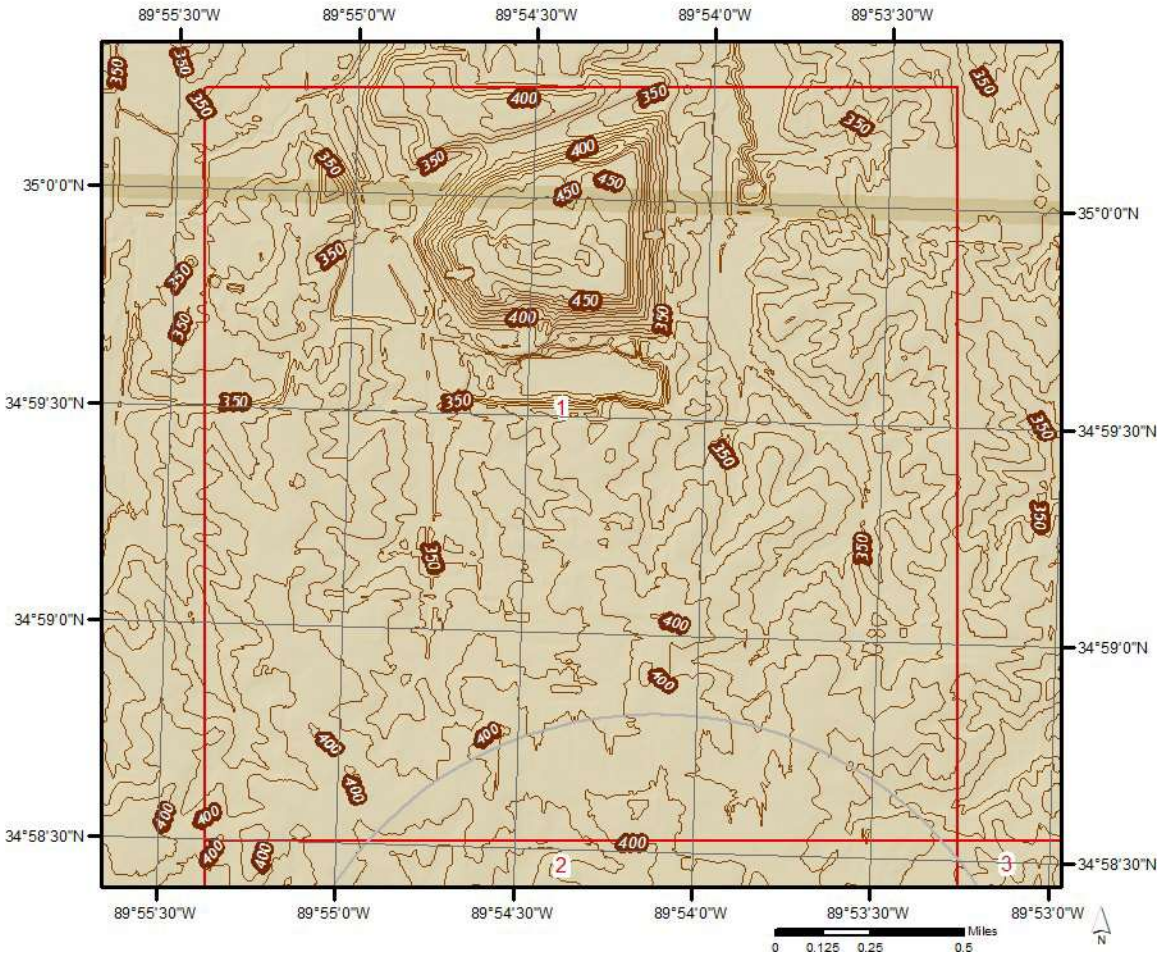
The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

Topographic information at project property:

Elevation:	335.23 ft
Slope Direction:	E



Topographic Information



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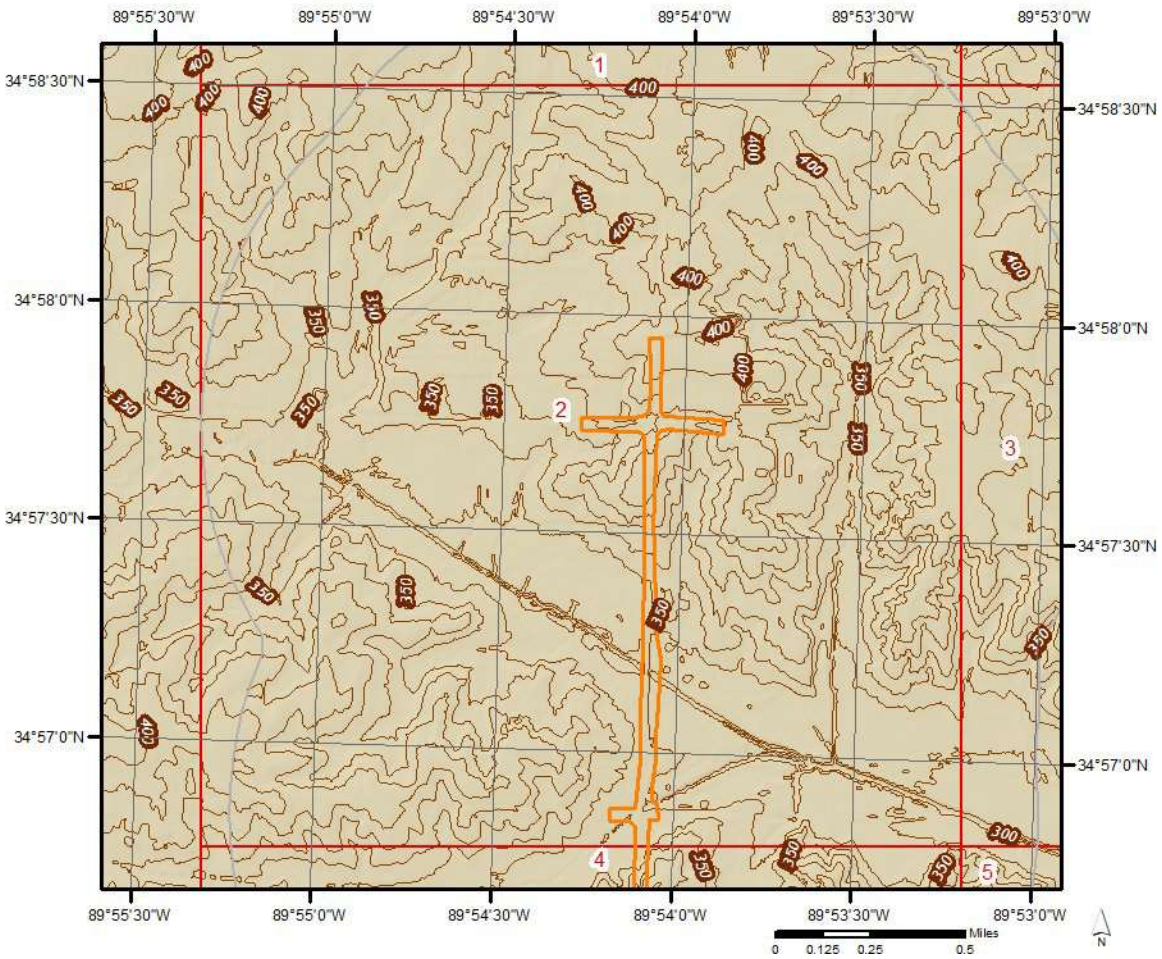

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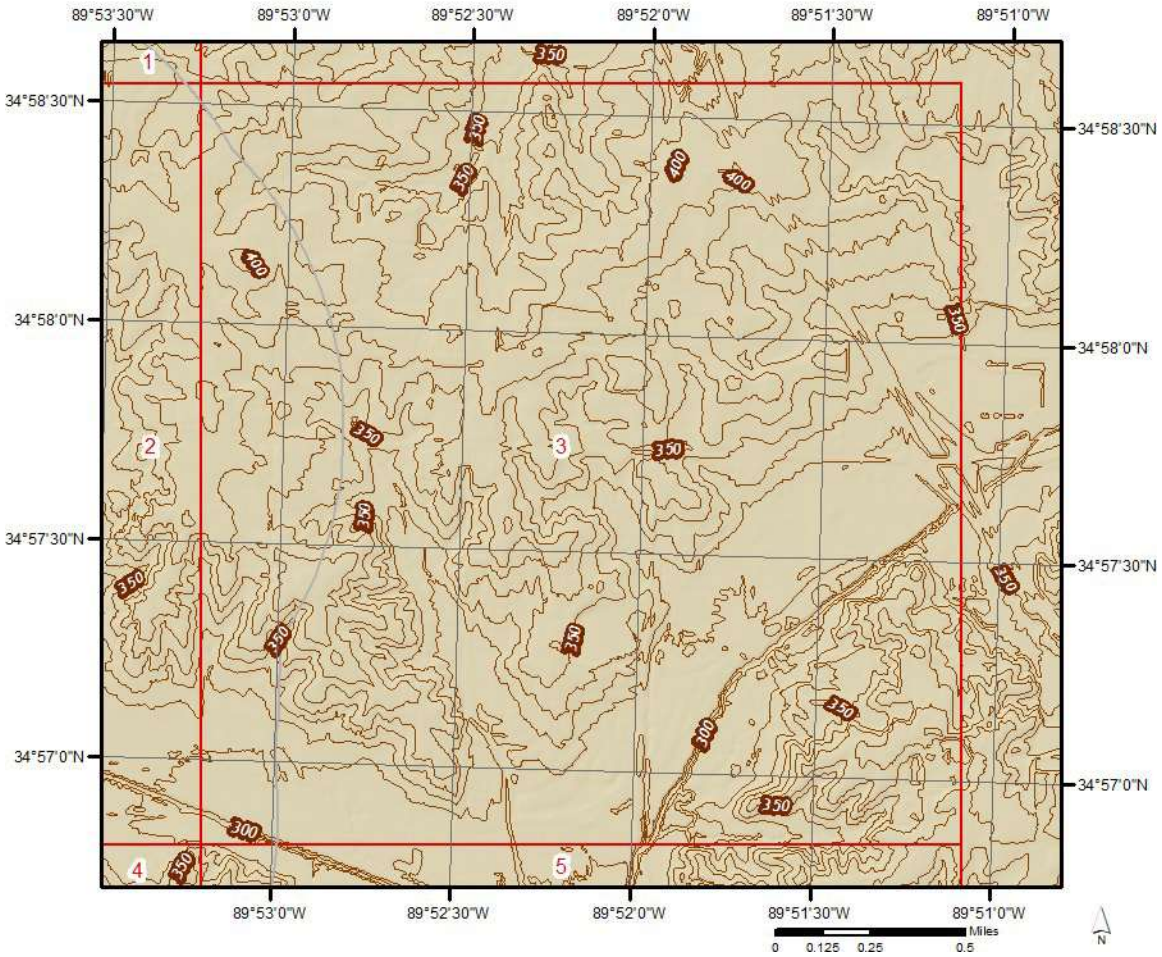

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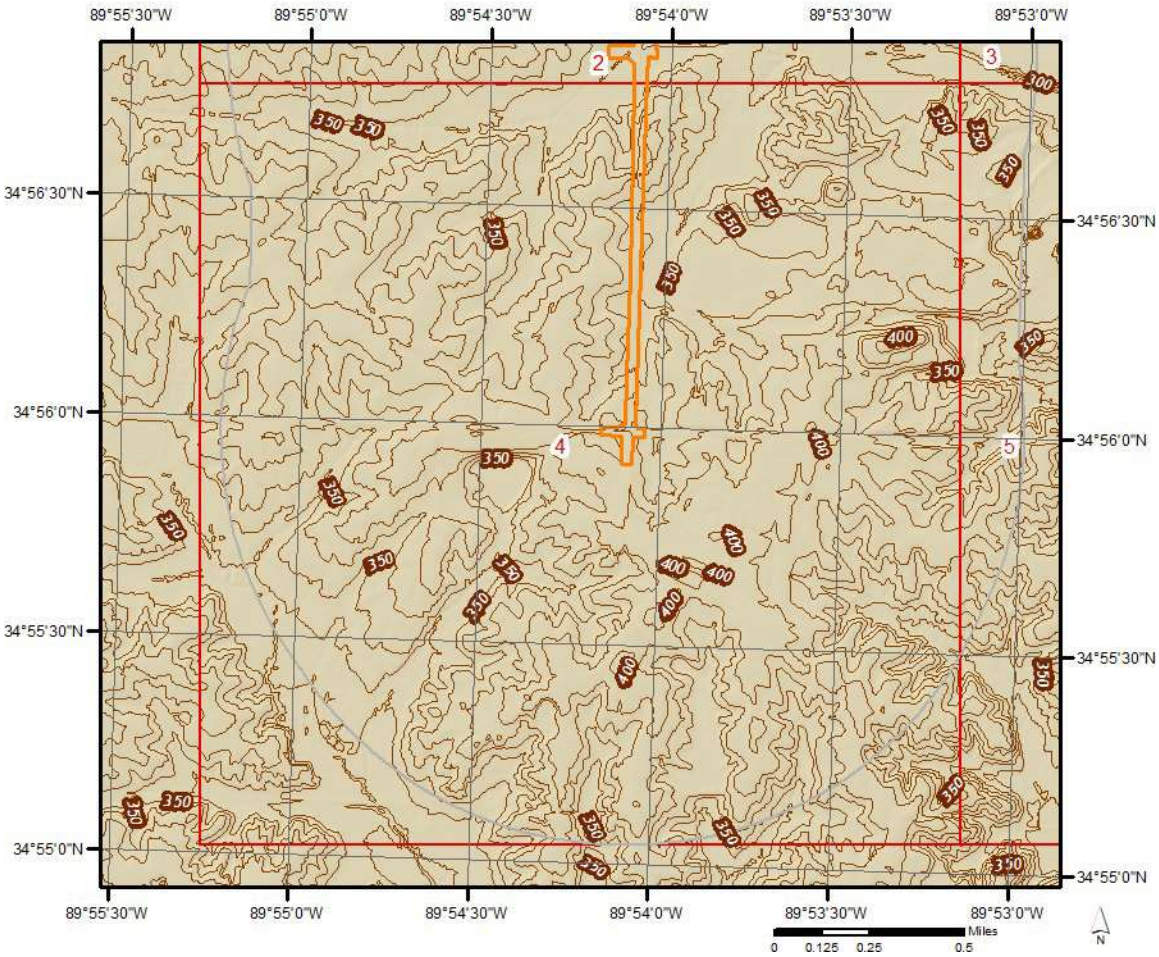

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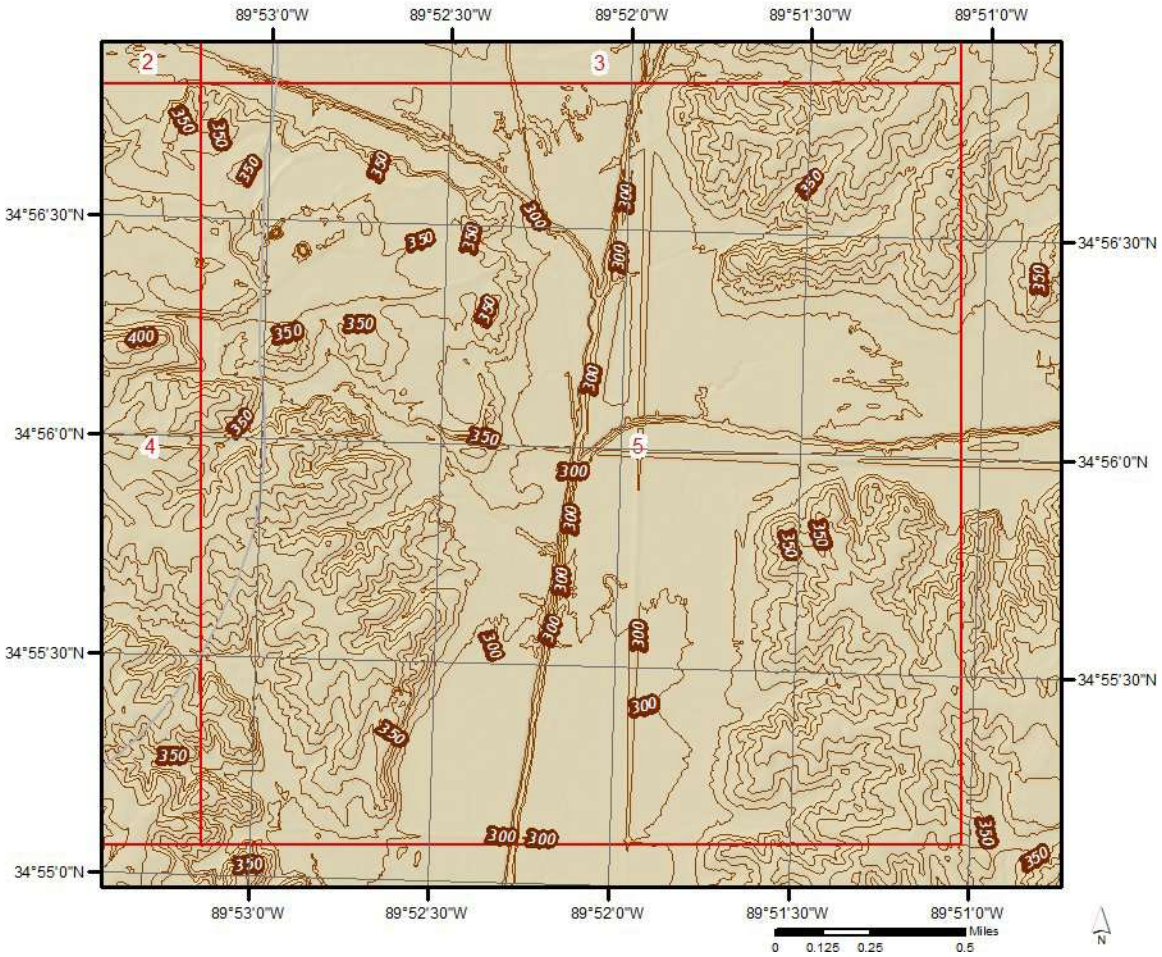
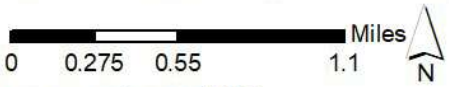


Hydrologic Information

Wetland

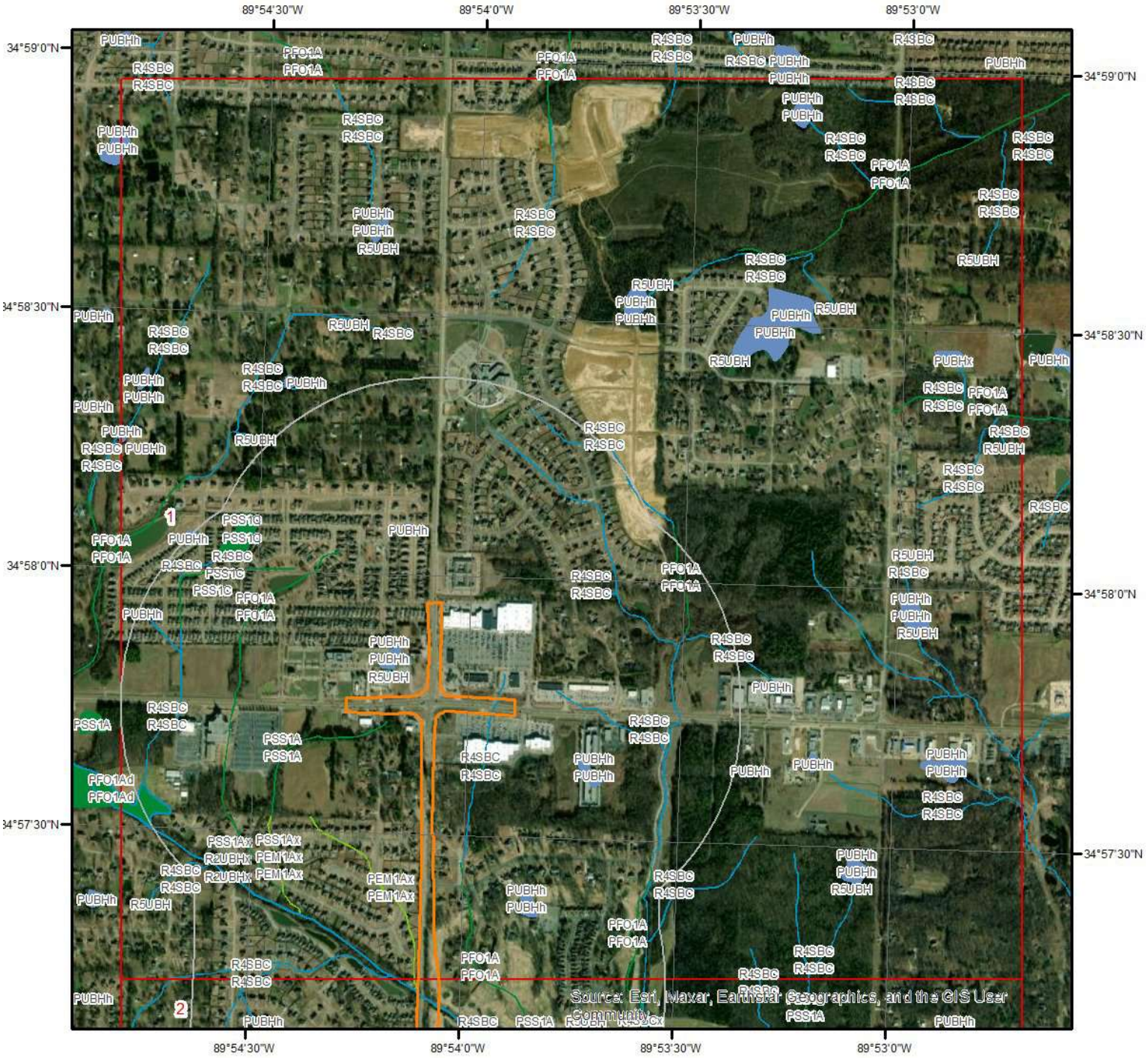


This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Wetland Type - Page 1

Miles
0 0.125 0.25 0.5

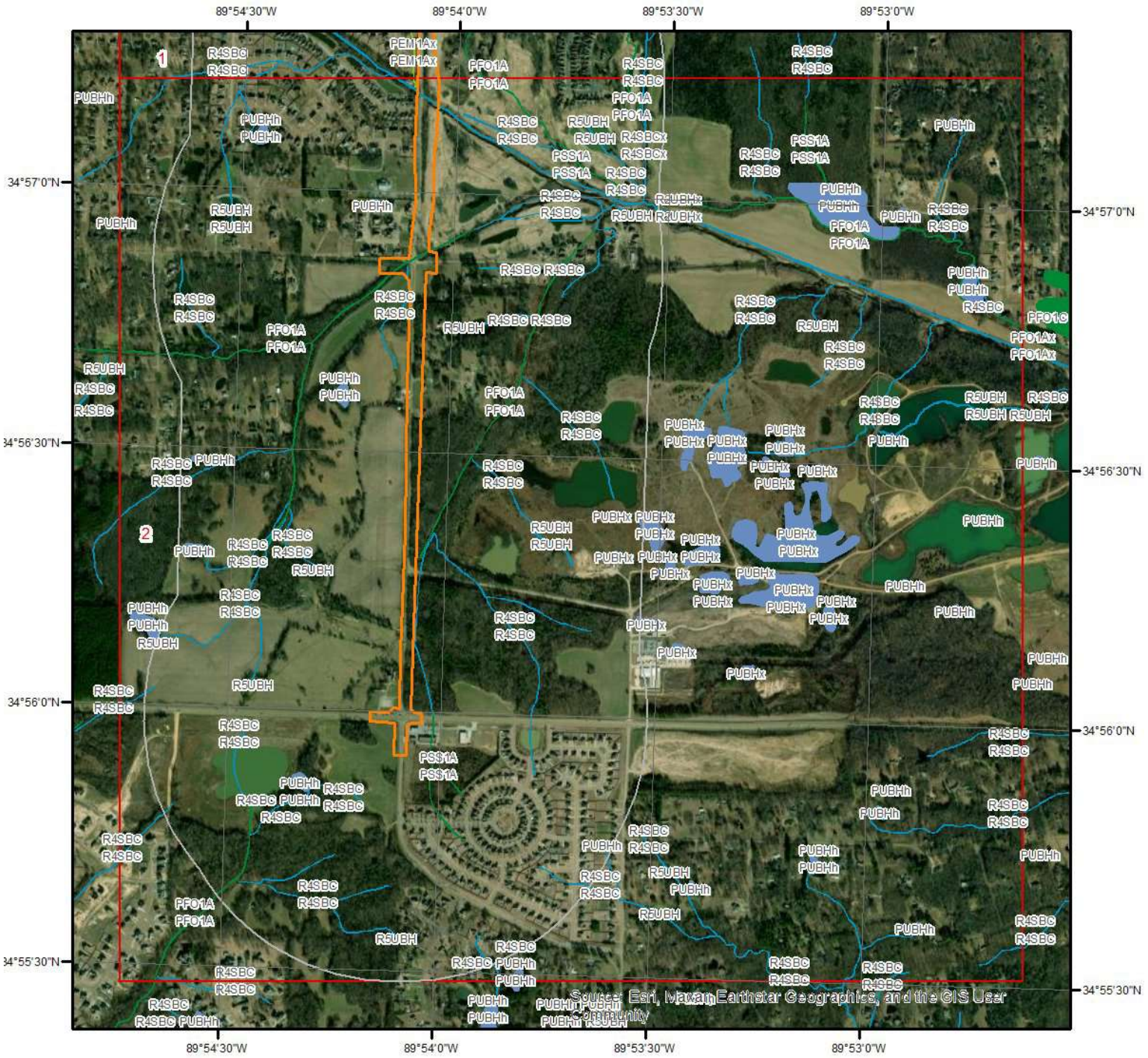
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Wetland Type - Page 2

Miles
0 0.125 0.25 0.5

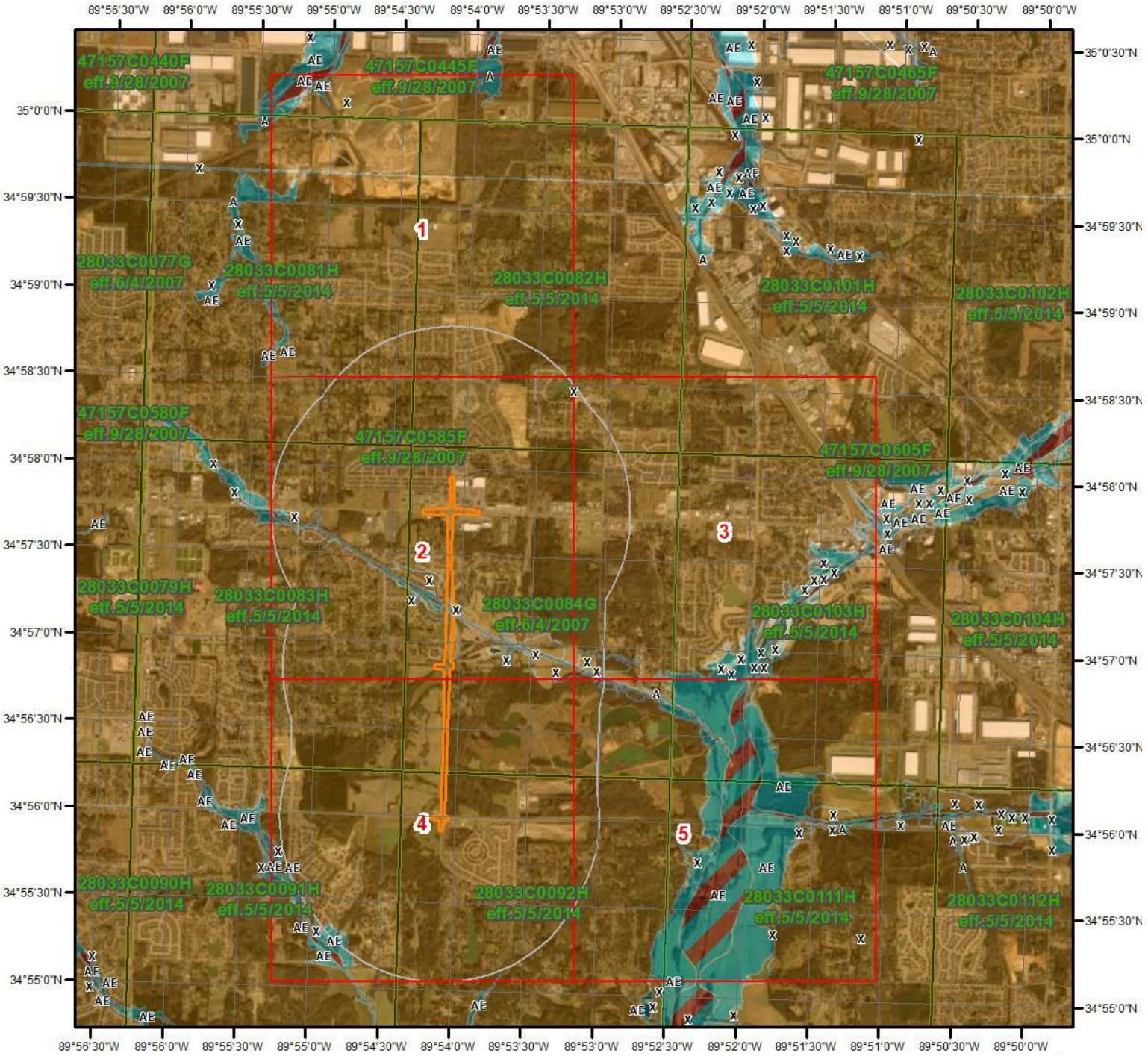
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Flood Hazard Zones

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

Miles
0 0.2 0.4 0.8 1.2

N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s): Horn Lake,MS; Southwest Memphis,TN; Hernando,MS;

ERIS

Hydrologic Information

Flood Hazard Zones - Page 1

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

0 0.2 0.4 Miles

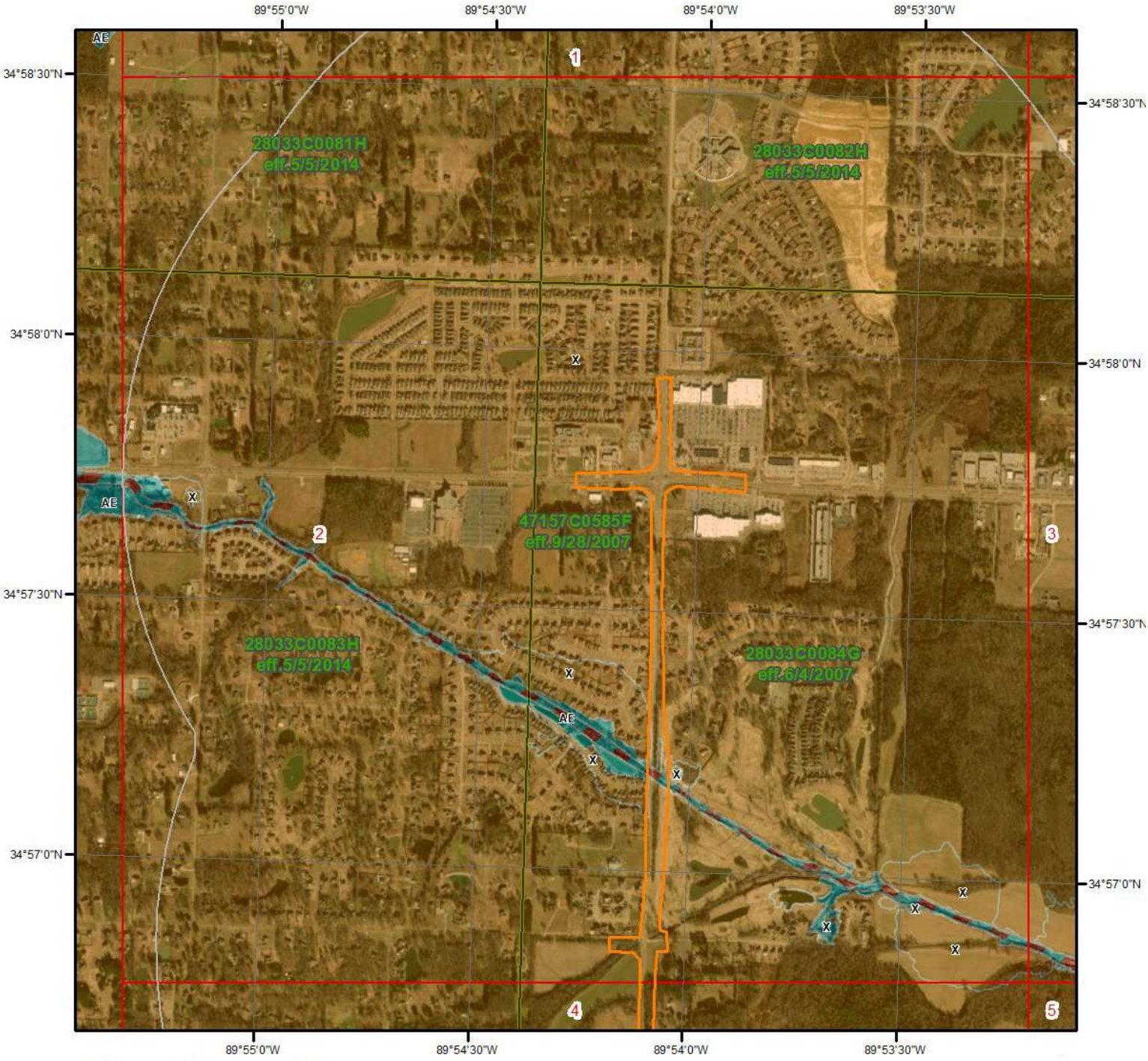
N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s):

ERIS

Hydrologic Information



Flood Hazard Zones - Page 2

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

Miles
0 0.2 0.4

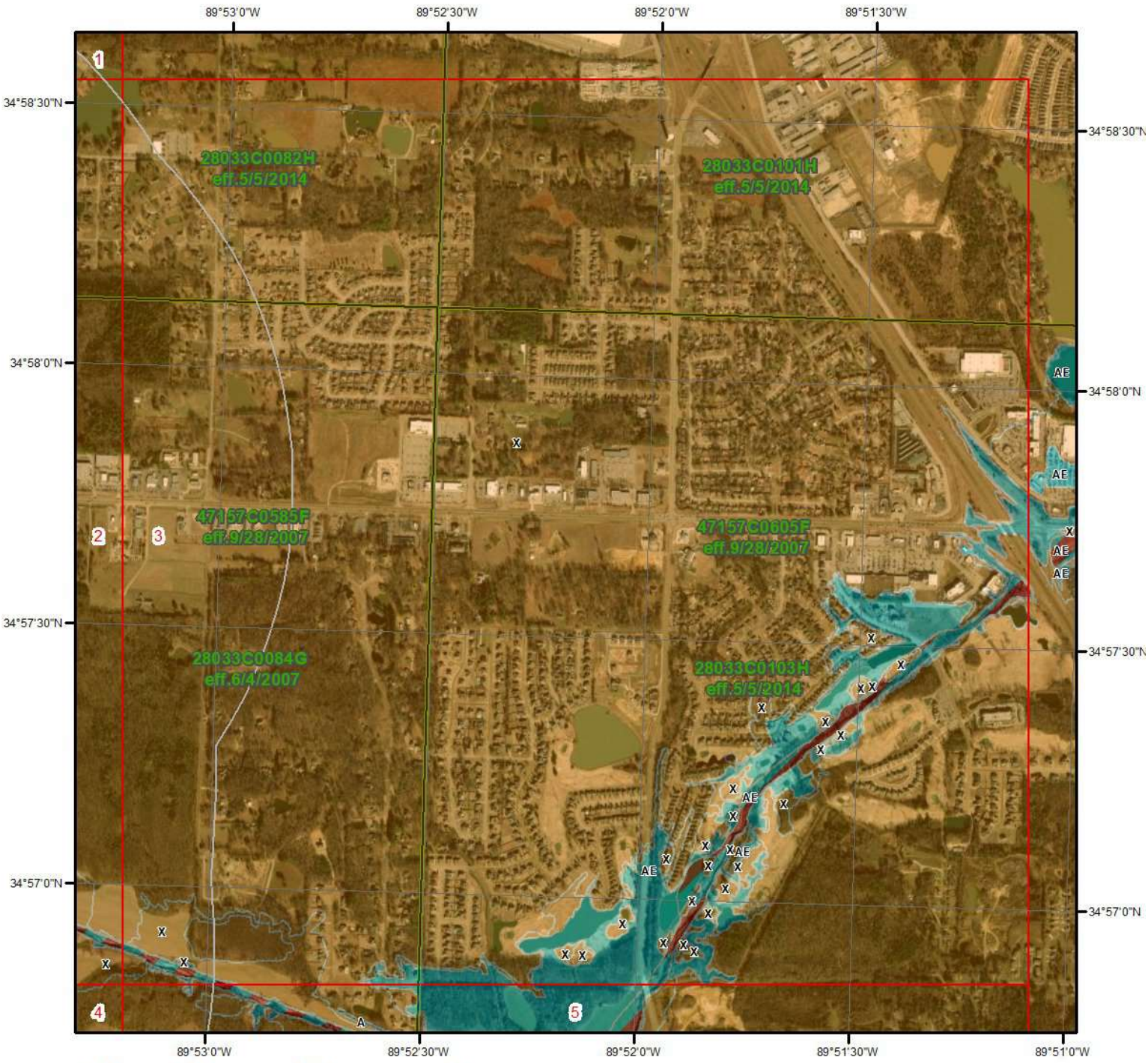
N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s):

ERIS

Hydrologic Information



Flood Hazard Zones - Page 3

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

0 0.2 0.4 Miles

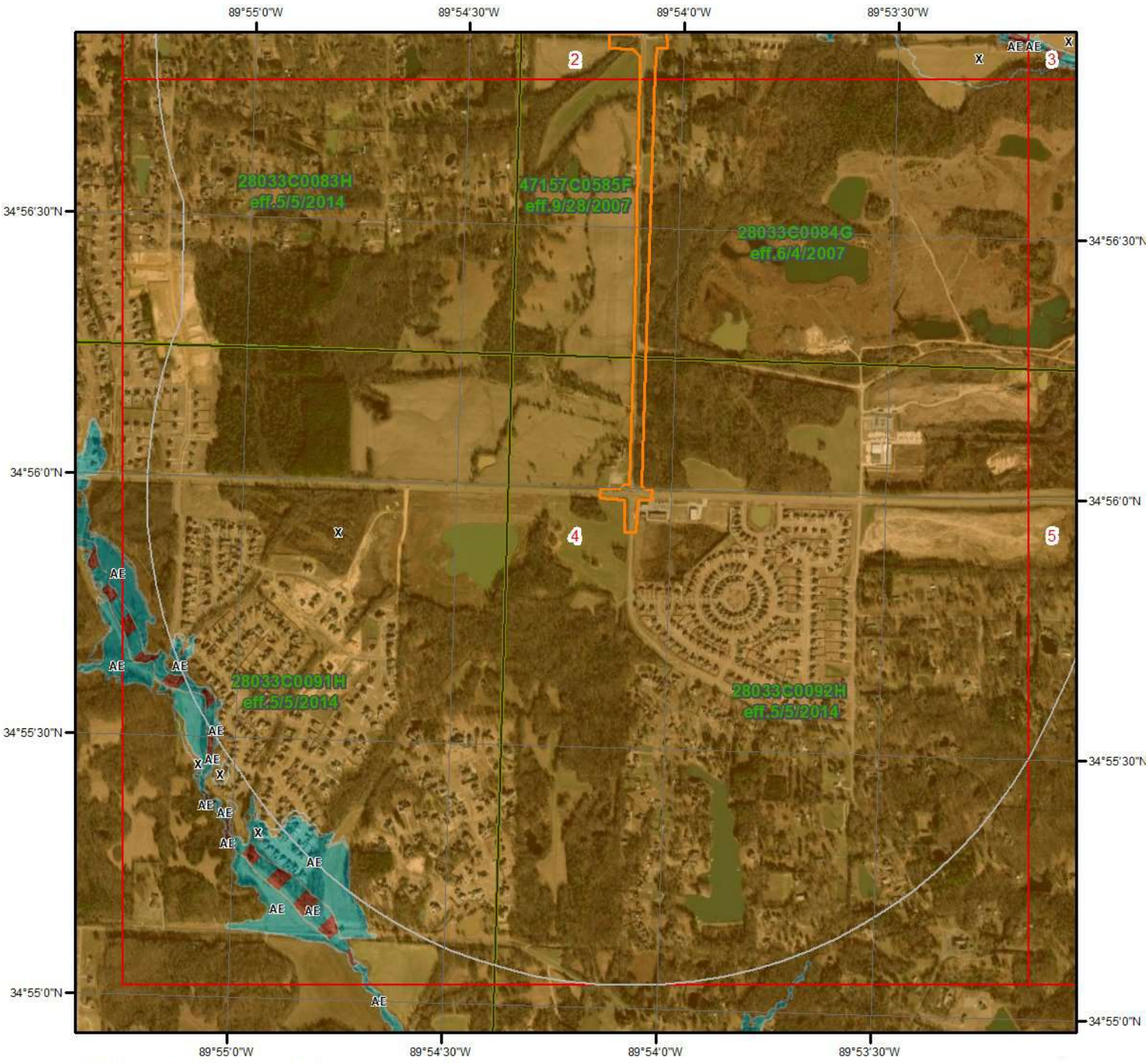
N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s):

ERIS

Hydrologic Information



Flood Hazard Zones - Page 4

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

0 0.2 0.4 Miles

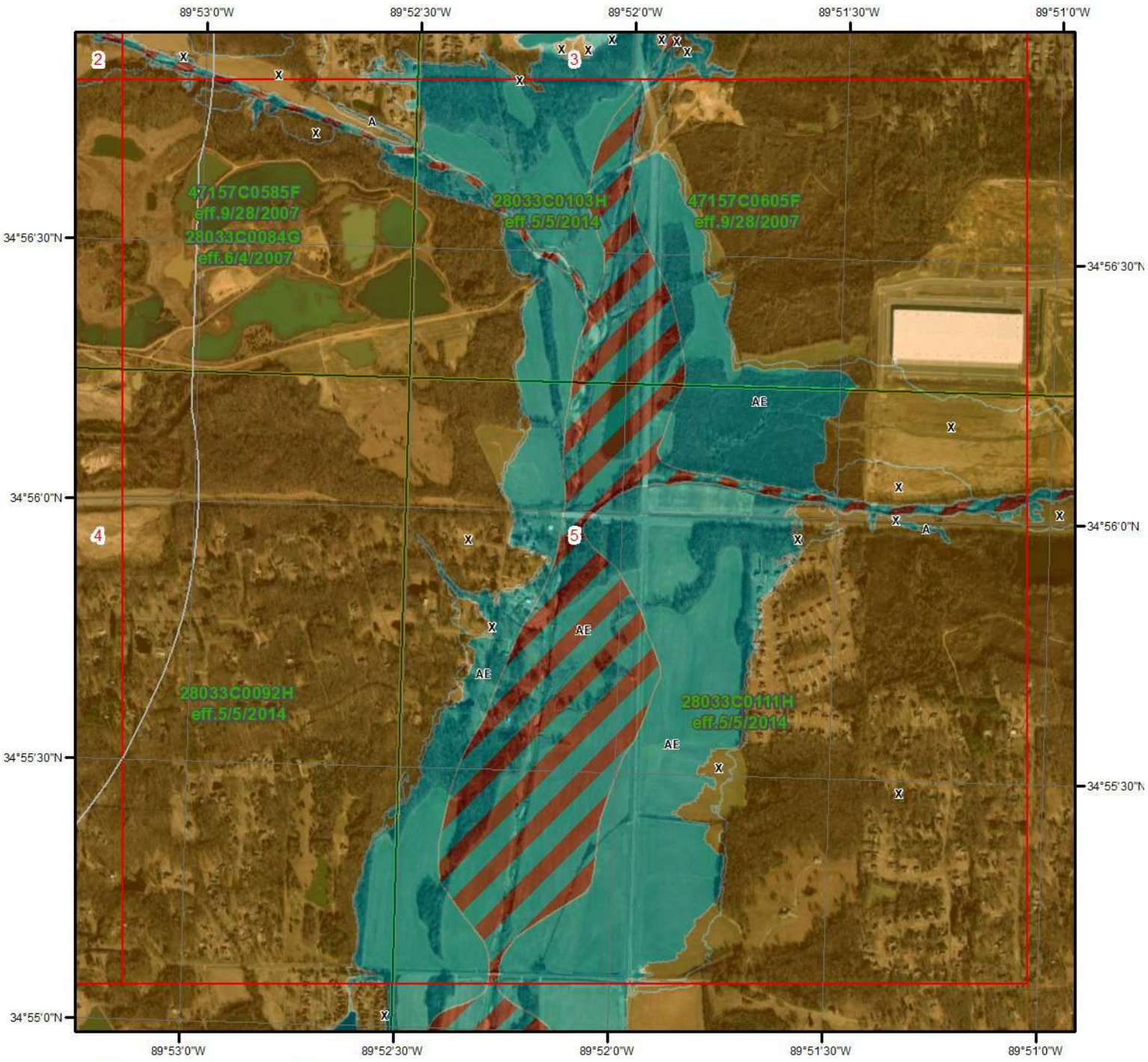
N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s):

ERIS

Hydrologic Information



Flood Hazard Zones - Page 5

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

Miles
0 0.2 0.4

N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

ERIS

Quadrangle(s):

Hydrologic Information

The Wetland Type map shows wetland existence overlaid on an aerial imagery. The Flood Hazard Zones map shows FEMA flood hazard zones overlaid on an aerial imagery. Relevant FIRM panels and detailed zone information is provided below.
For detailed Zone descriptions please click the link: https://floodadvocate.com/fema-zone-definitions

Available FIRM Panels in area:	47157C0585F(effective:2007-09-28) 28033C0082H(effective:2014-05-05) 28033C0081H(effective:2014-05-05) 28033C0084G(effective:2007-06-04) 28033C0083H(effective:2014-05-05) 28033C0092H(effective:2014-05-05) 28033C0091H(effective:2014-05-05)

Flood Zone AE-01

Zone:	AE
Zone subtype:	

Flood Zone AE-11

Zone:	AE
Zone subtype:	FLOODWAY

Flood Zone X-01

Zone:	X
Zone subtype:	0.2 PCT ANNUAL CHANCE FLOOD HAZARD

Flood Zone X-12

Zone:	X
Zone subtype:	AREA OF MINIMAL FLOOD HAZARD

Hydrologic Information

FEMA Flood Zone Definitions

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply in these zones.

ZONE	DESCRIPTION
A	Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.
AE, A1-A30	Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
AH	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1–3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1–3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.
AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may be used only when the flood protection system has reached specified statutory progress toward completion. No BFEs or flood depths are shown.

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas (CHHA) represent the area subject to inundation by 1-percent-annual chance flood, extending from offshore to the inland limit of a primary front al dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Structures located within the CHHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory purchase requirements apply in these zones.

ZONE	DESCRIPTION
V	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed coastal analyses have not been performed, no BFEs or flood depths are shown.
VE, V1-V30	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones. (Zone VE is used on new and revised maps in place of Zones V1–V30.)

Hydrologic Information

Moderate and Minimal Risk Areas

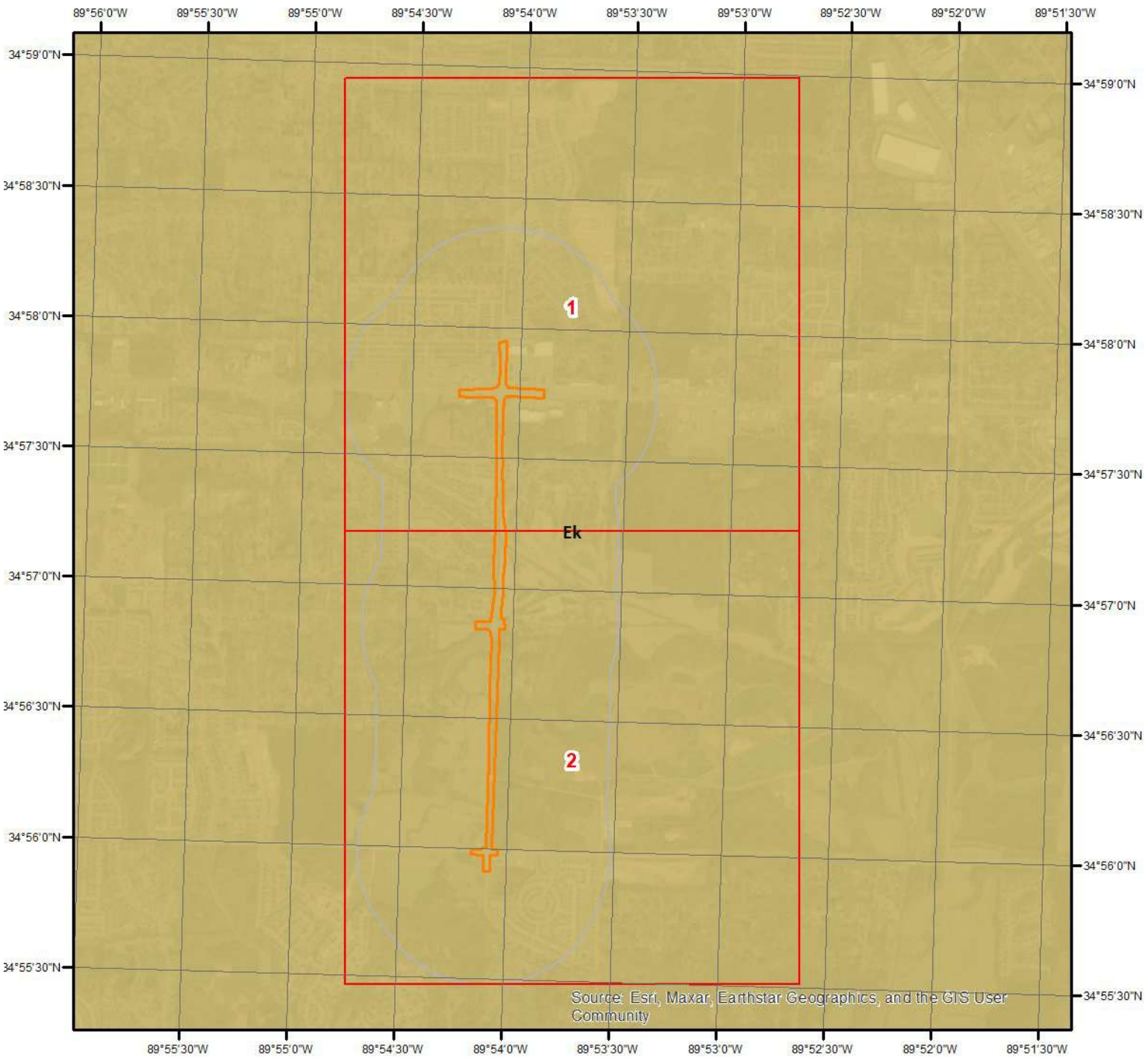
Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 25-percent of all flood claims filed are for structures located within these zones.

ZONE	DESCRIPTION
B, X (shaded)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
C, X (unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

Geologic Information



Miles
0 0.2 0.4 0.8 1.2

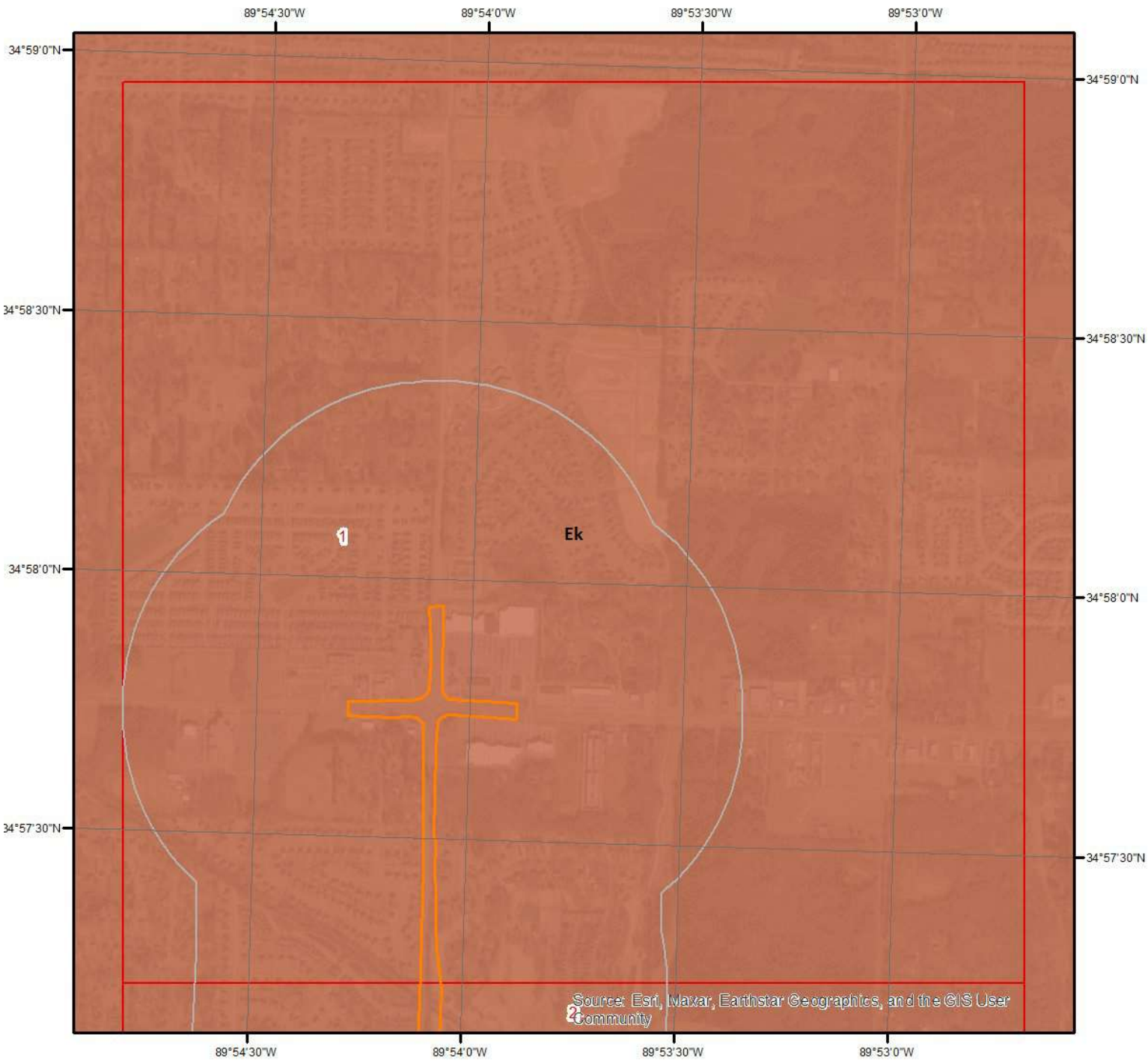
N

Geologic Units

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

ERIS

Geologic Information



0 0.2 0.4 Miles

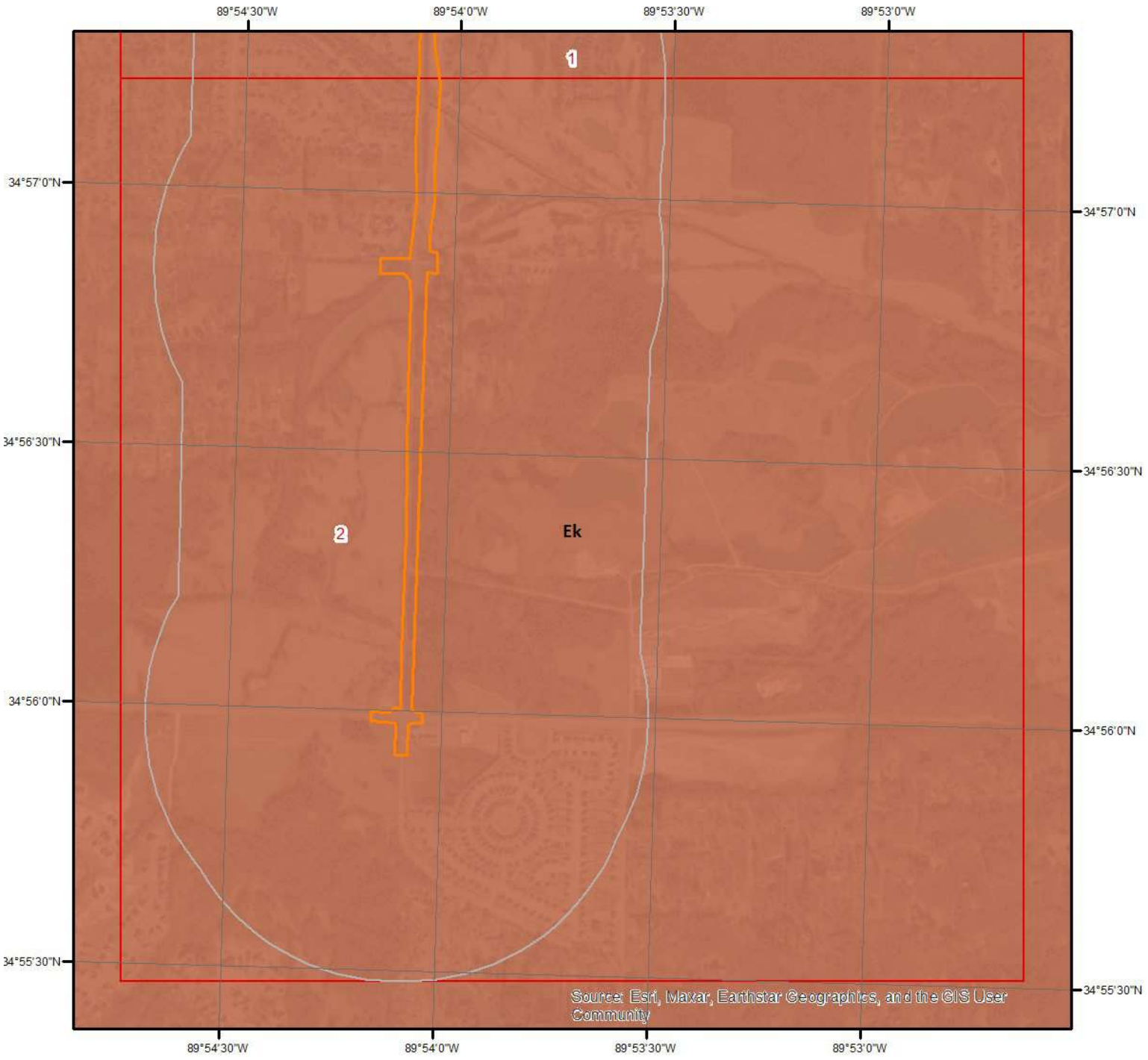
N

Geologic Units - Page 1

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

ERIS

Geologic Information



Geologic Units - Page 2

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

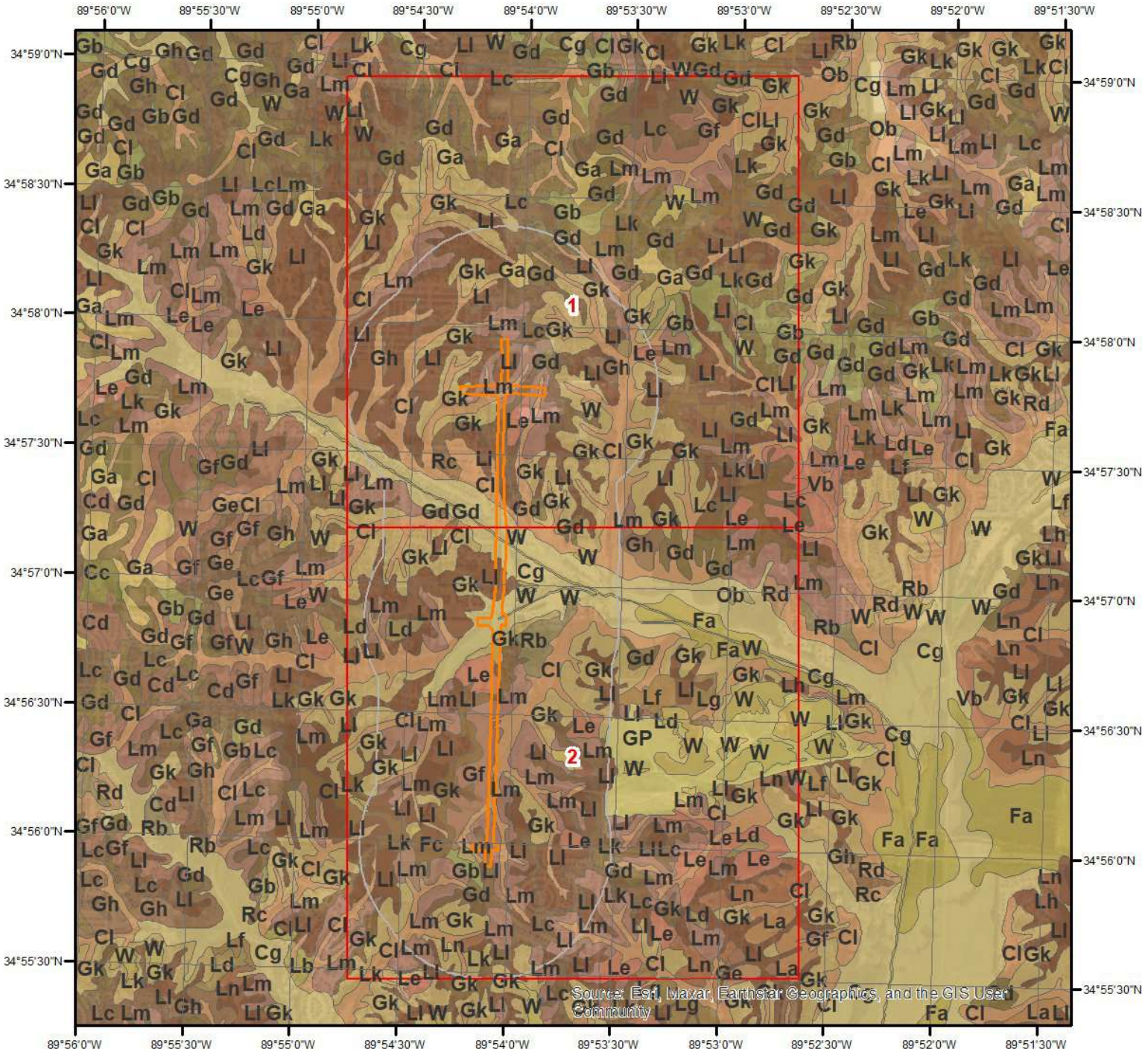
Geologic Information

The previous page shows USGS geology information. Detailed information about each unit is provided below.

Geologic Unit Ek

Unit Name:	Kosciusko formation
Unit Age:	Eocene
Primary Rock Type:	sand
Secondary Rock Type:	clay or mud
Unit Description:	Kosciusko formation - (Claiborne group), irregularly bedded sand, clay, and some quartzite.

Soil Information



SSURGO Soils

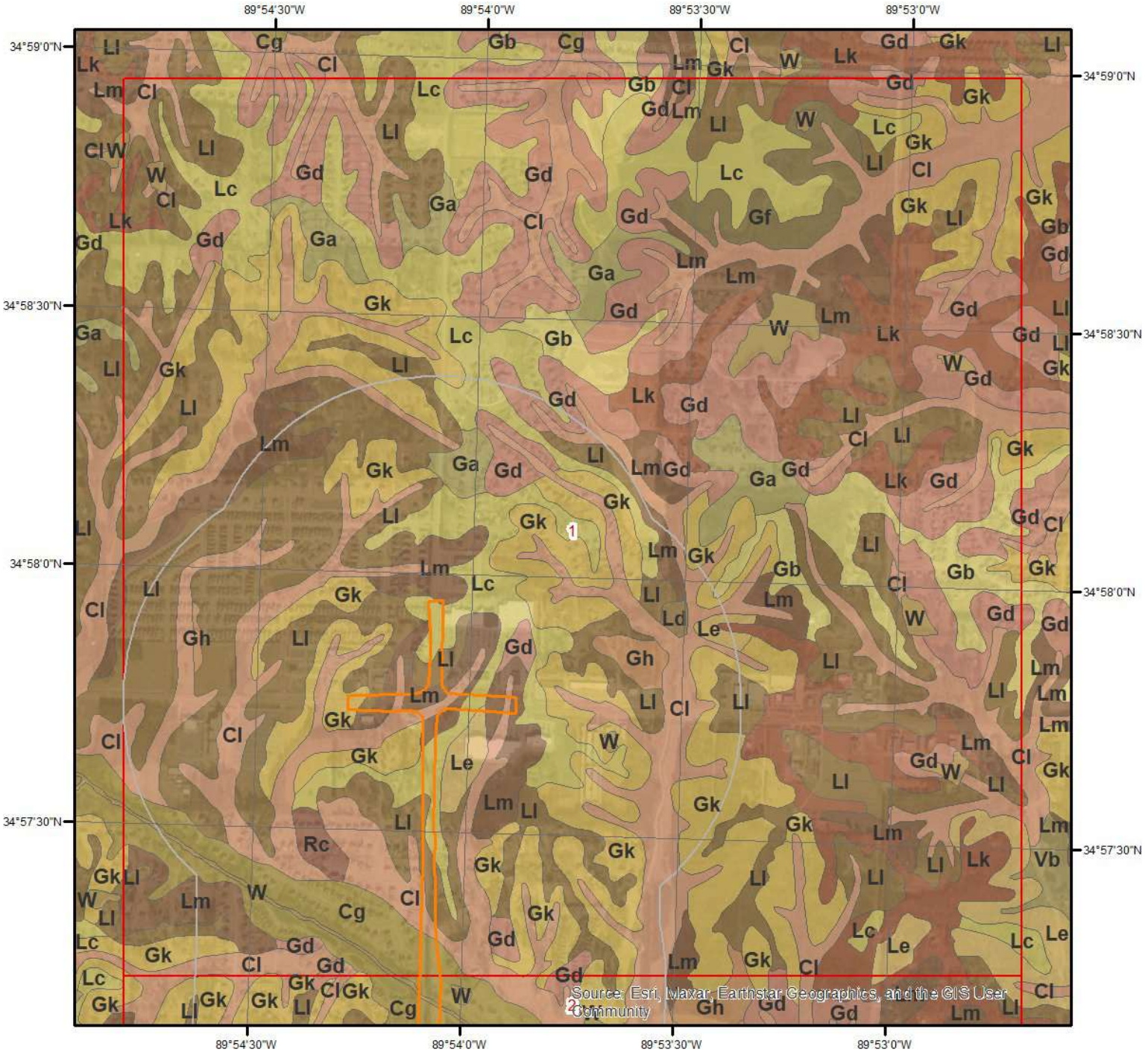
Miles
0 0.2 0.4 0.8 1.2

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information



SSURGO Soils - Page 1

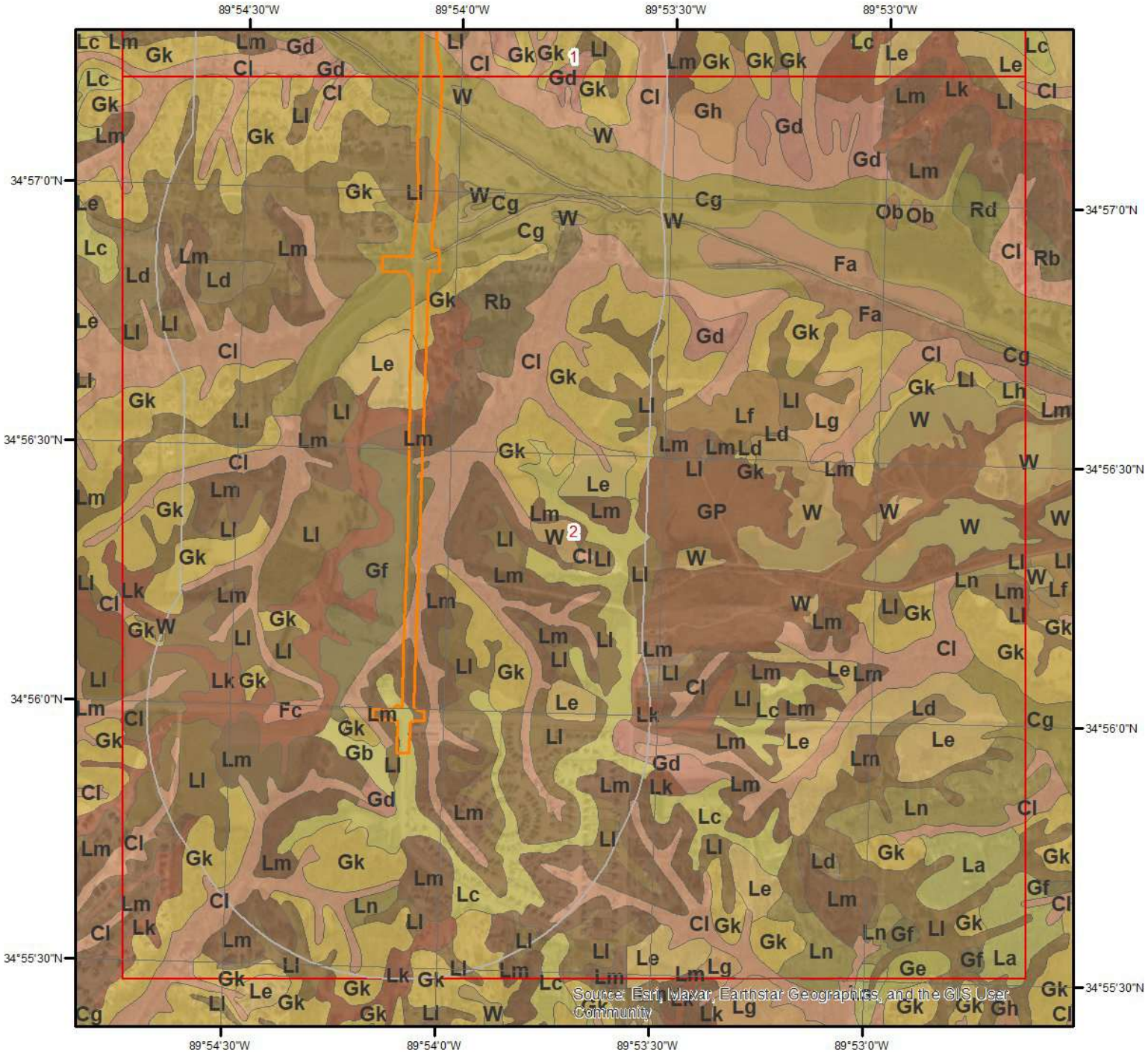
Miles
0 0.2 0.4

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information



SSURGO Soils - Page 2

Miles
0 0.2 0.4

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

Map Unit Cg (26.58%)

Map Unit Name:	Collins silt loam (adler)
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	76cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Collins(100%)	
horizon H1(0cm to 15cm)	Silt loam
horizon H2(15cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Cg - Collins silt loam (adler)

Component: Collins (100%)
The Collins component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Cl (14.57%)

Map Unit Name:	Collins and Falaya silt loams, local alluvium phases
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	46cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Collins(50%)	
horizon H1(0cm to 15cm)	Silt loam
horizon H2(15cm to 107cm)	Silt loam
Falaya(40%)	
horizon H1(0cm to 25cm)	Silt loam
horizon H2(25cm to 102cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Cl - Collins and Falaya silt loams, local alluvium phases

Component: Collins (50%)
The Collins component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is

moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 42 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Falaya (40%)
The Falaya component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Unnamed hydric soils (134de) (3%)
Generated brief soil descriptions are created for major soil components. The Unnamed hydric soils (134de) soil is a minor component.

Map Unit Fc (0.05%)

Map Unit Name:	Falaya and Waverly silt loams, local alluvium phases (arkabutla and rosebloom)
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	15cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	B/D - These soils have moderately low runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Falaya(60%)	
horizon H1(0cm to 25cm)	Silty clay loam
horizon H2(25cm to 102cm)	Silt loam
Waverly(30%)	
horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 122cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Fc - Falaya and Waverly silt loams, local alluvium phases (arkabutla and rosebloom)

Component: Falaya (60%)
The Falaya component makes up 60 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Waverly (30%)
The Waverly component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Map Unit Ga (0.15%)

Map Unit Name:	Grenada silt loam, eroded, very gently sloping phase

Soil Information

Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	58cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Grenada(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Ga - Grenada silt loam, eroded, very gently sloping phase

Component: Grenada (100%)
The Grenada component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 18 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit Gb (0.32%)

Map Unit Name:	Grenada silt loam, severely eroded very gently sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	58cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Grenada(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Gb - Grenada silt loam, severely eroded very gently sloping phase

Component: Grenada (100%)
The Grenada, severely eroded component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 18 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Gd (0.92%)

Map Unit Name:	Grenada silt loam, severely eroded, gently sloping phase
Bedrock Depth - Min:	null

Soil Information

Watertable Depth - Annual Min:	58cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Grenada(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Gd - Grenada silt loam, severely eroded, gently sloping phase

Component: Grenada (100%)
The Grenada, severely eroded component makes up 100 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 18 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Gf (0.66%)

Map Unit Name:	Grenada silt loam, severely eroded sloping phase (loring)
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Grenada(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Gf - Grenada silt loam, severely eroded sloping phase (loring)

Component: Grenada (100%)
The Grenada, severely eroded component makes up 100 percent of the map unit. Slopes are 8 to 12 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 18 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit Gh (0.17%)

Map Unit Name:	Gullied land, Grenada soil material
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null

Soil Information

Drainage Class - Dominant:	null
Hydrologic Group - Dominant:	null
Major components are printed below	
Gullied land(100%)	
horizon H1(0cm to 23cm)	Silt loam
horizon H2(23cm to 58cm)	Silty clay loam
horizon H3(58cm to 203cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Gh - Gullied land, Grenada soil material

Component: Gullied land (100%)
Generated brief soil descriptions are created for major soil components. The Gullied land is a miscellaneous area.

Map Unit Gk (11.48%)

Map Unit Name:	Gullied land, Loring soil material
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	null
Hydrologic Group - Dominant:	null
Major components are printed below	
Gullied land(100%)	
horizon H1(0cm to 23cm)	Silt loam
horizon H2(23cm to 58cm)	Silty clay loam
horizon H3(58cm to 203cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Gk - Gullied land, Loring soil material

Component: Gullied land (100%)
Generated brief soil descriptions are created for major soil components. The Gullied land is a miscellaneous area.

Map Unit GP (2.64%)

Map Unit Name:	Gravel pits

No more attributes available for this map unit

Component Description:

Minor map unit components are excluded from this report.

Map Unit: GP - Gravel pits

Component: Gravel pits (100%)
Generated brief soil descriptions are created for major soil components. The Gravel pits is a miscellaneous area.

Map Unit Lc (3.76%)

Map Unit Name:	Loring silt loam, 2 to 5 percent slopes, moderately eroded, central

Soil Information

Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	66cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(90%)

horizon Ap(0cm to 13cm)	Silt loam
horizon Bt(13cm to 69cm)	Silty clay loam
horizon Btx(69cm to 142cm)	Silt loam
horizon C(142cm to 203cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Lc - Loring silt loam, 2 to 5 percent slopes, moderately eroded, central

Component: Loring (90%)
The Loring component makes up 90 percent of the map unit. Slopes are 2 to 5 percent. This component is on ridges and side slopes of loess hills, hills. The parent material consists of noncalcareous loess. Depth to a root restrictive layer, fragipan, is 27 to 33 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Providence (5%)
Generated brief soil descriptions are created for major soil components. The Providence soil is a minor component.

Component: Memphis (3%)
Generated brief soil descriptions are created for major soil components. The Memphis soil is a minor component.

Component: Grenada (1%)
Generated brief soil descriptions are created for major soil components. The Grenada soil is a minor component.

Component: Byram (1%)
Generated brief soil descriptions are created for major soil components. The Byram soil is a minor component.

Map Unit Ld (0.5%)

Map Unit Name:	Loring silt loam, gently sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Ld - Loring silt loam, gently sloping phase

Component: Loring (100%)

Soil Information

The Loring component makes up 100 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Le (0.75%)

Map Unit Name:	Loring silt loam, sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silt loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Le - Loring silt loam, sloping phase

Component: Loring (100%)
The Loring component makes up 100 percent of the map unit. Slopes are 8 to 12 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Lk (4.1%)

Map Unit Name:	Loring silty clay loam, severely eroded very gently sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silty clay loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Lk - Loring silty clay loam, severely eroded very gently sloping phase

Component: Loring (100%)
The Loring, severely eroded component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural

drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Ll (10.97%)

Map Unit Name:	Loring silty clay loam, severely eroded gently sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silty clay loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Ll - Loring silty clay loam, severely eroded gently sloping phase

Component: Loring (100%)
The Loring, severely eroded component makes up 100 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Lm (6.82%)

Map Unit Name:	Loring silty clay loam, severely eroded sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silty clay loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Lm - Loring silty clay loam, severely eroded sloping phase

Component: Loring (100%)
The Loring, severely eroded component makes up 100 percent of the map unit. Slopes are 8 to 12 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone

of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit Ln (0.06%)

Map Unit Name:	Loring silty clay loam, severely eroded strongly sloping phase
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Loring(100%)

horizon H1(0cm to 13cm)	Silty clay loam
horizon H2(13cm to 66cm)	Silty clay loam
horizon H3(66cm to 122cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Ln - Loring silty clay loam, severely eroded strongly sloping phase

Component: Loring (100%)
The Loring, severely eroded component makes up 100 percent of the map unit. Slopes are 12 to 17 percent. This component is on uplands. The parent material consists of loess deposits. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit Rb (0.4%)

Map Unit Name:	Richland silt loam, severely eroded gently sloping phase (loring)
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	71cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Richland(100%)

horizon H1(0cm to 15cm)	Silt loam
horizon H2(15cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Rb - Richland silt loam, severely eroded gently sloping phase (loring)

Component: Richland (100%)
The Richland, severely eroded component makes up 100 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of silty loess. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Soil Information

Map Unit Rc (0.13%)

Map Unit Name:	Richland silt loam, severely eroded very gently sloping phase (loring)
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	46cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Richland(100%)

horizon H1(0cm to 15cm)	Silt loam
horizon H2(15cm to 61cm)	Silt loam
horizon H3(61cm to 107cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: Rc - Richland silt loam, severely eroded very gently sloping phase (loring)

Component: Richland (100%)
The Richland, severely eroded component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on uplands. The parent material consists of silty loess. Depth to a root restrictive layer, fragipan, is 14 to 35 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit W (14.97%)

Map Unit Name:	Water

No more attributes available for this map unit

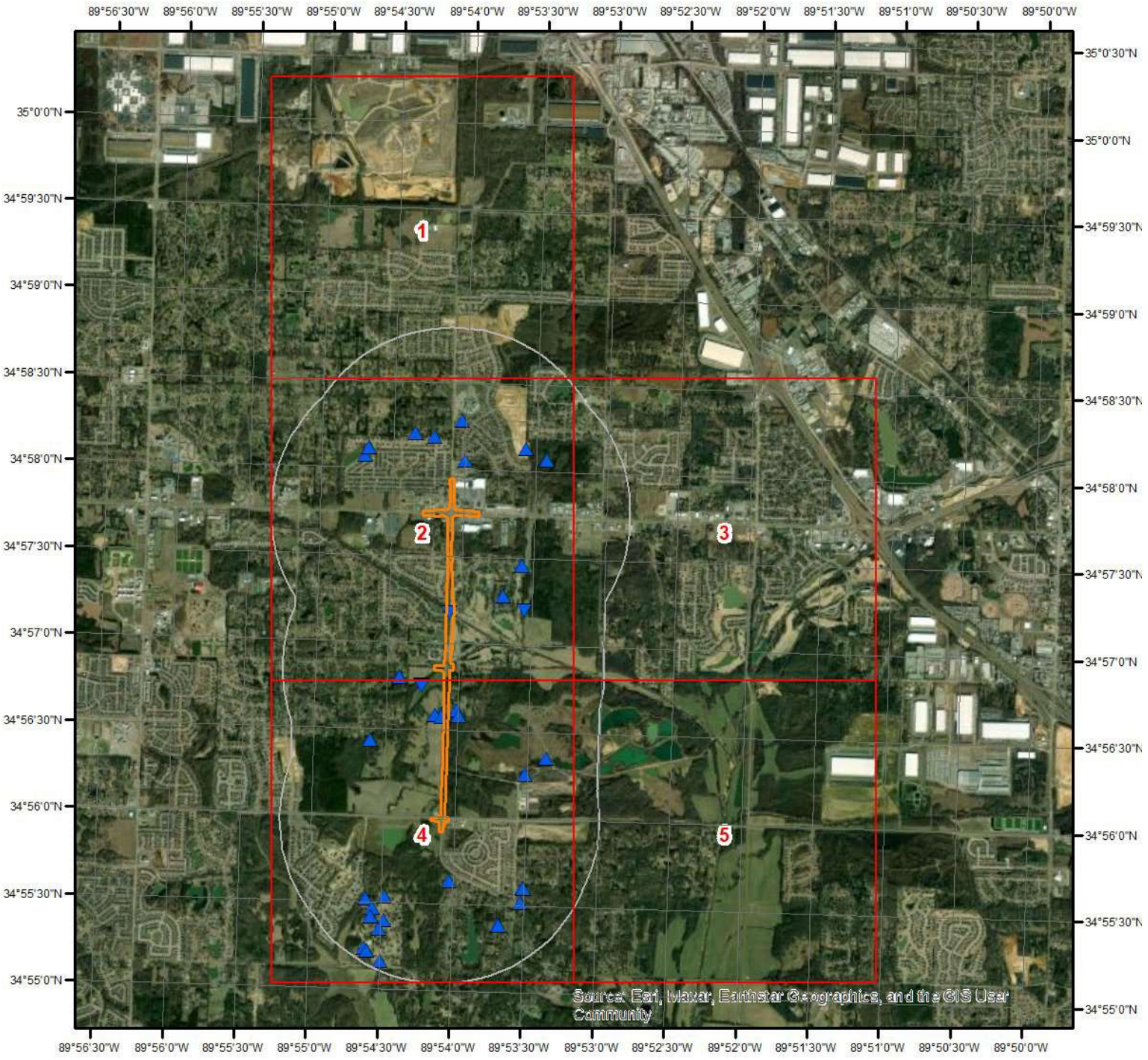
Component Description:

Minor map unit components are excluded from this report.

Map Unit: W - Water

Component: Water (100%)
Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Wells and Additional Sources



Wells & Additional Sources

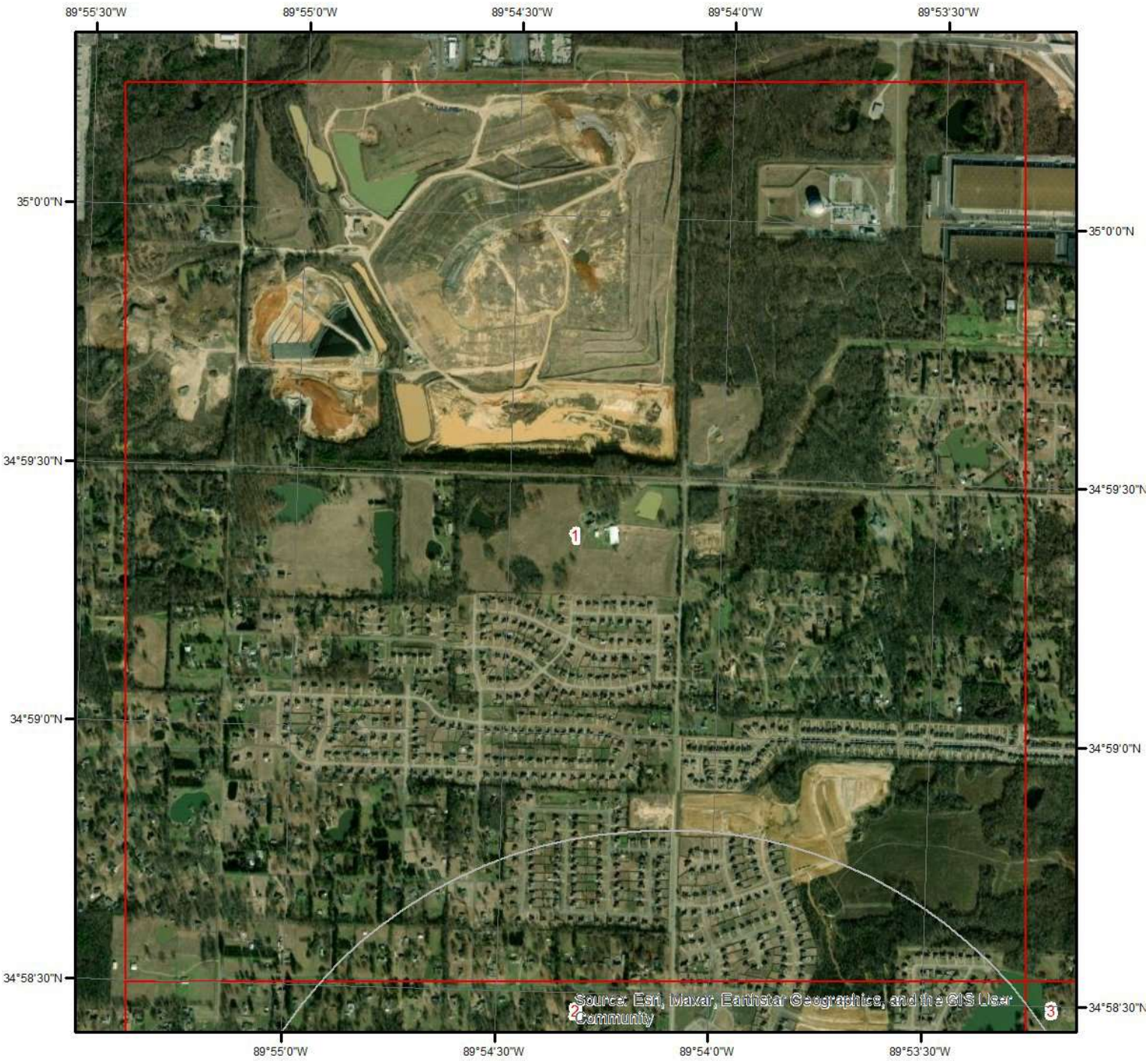
N

0 0.45 0.9 1.8 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 1

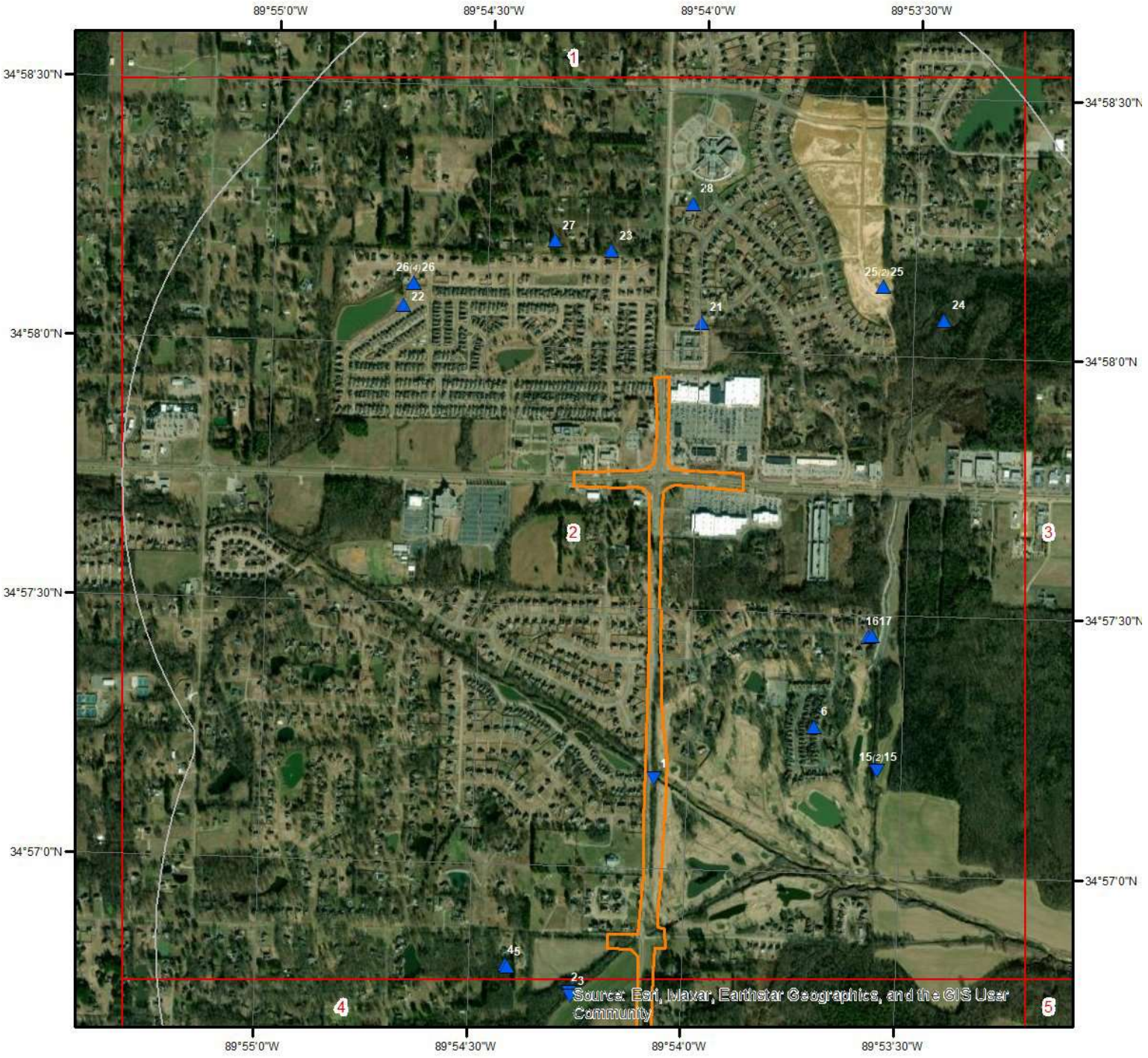
N

0 0.15 0.3 0.6 Miles

- ▲ Sites with Higher Elevation
- ■ Sites with Same Elevation
- ▼ Sites with Lower Elevation
- ○ Sites with Unknown Elevation
- ▲ OGW Sites with Higher Elevation
- ■ OGW Sites with Same Elevation
- ▼ OGW Sites with Lower Elevation
- ● OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 2

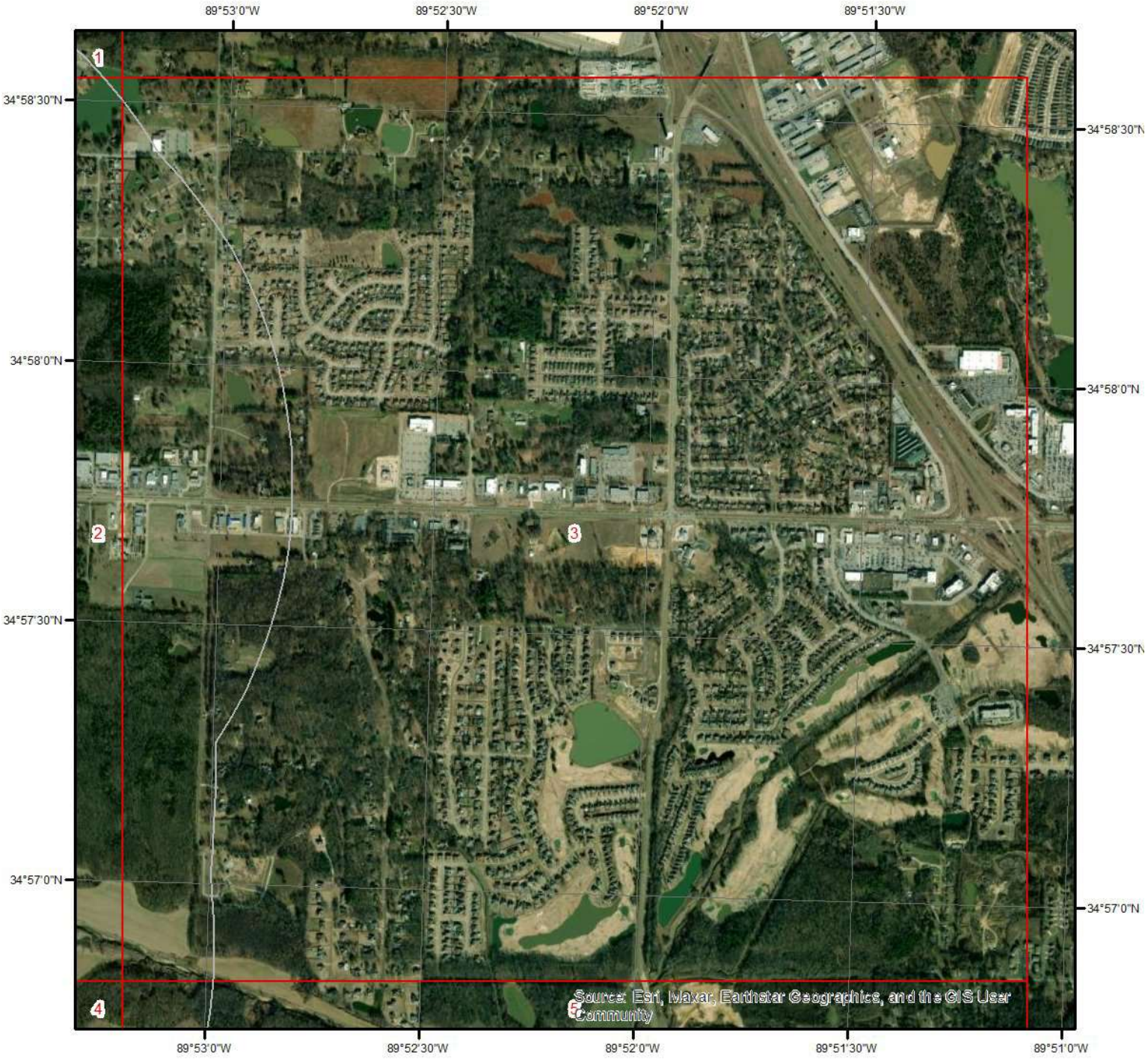
N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 3

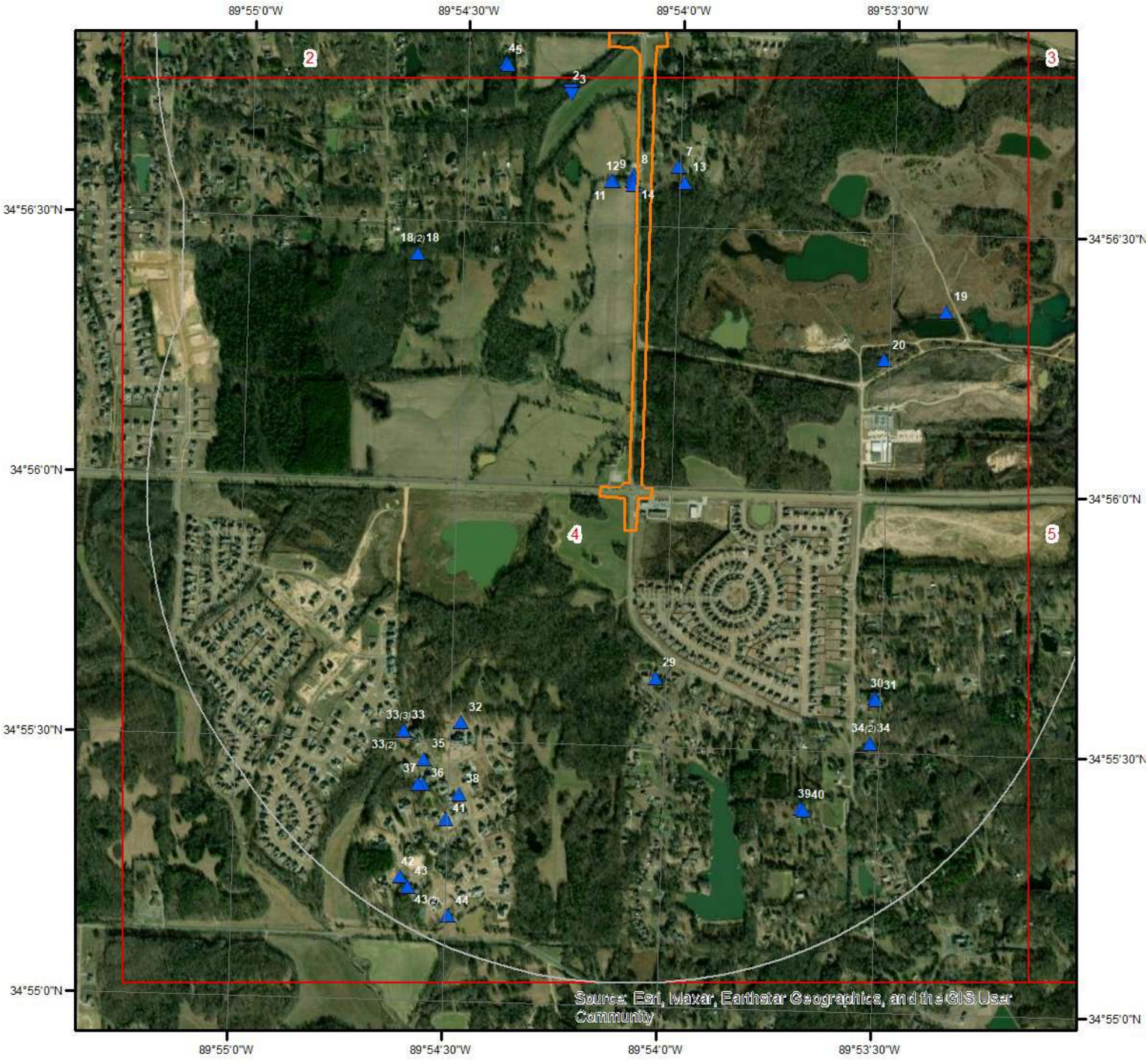
N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 4

N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources

Wells & Additional Sources - Page 5

N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources Summary

Federal Sources

Public Water Systems Violations and Enforcement Data

Map Key	PWS ID	Distance (ft)	Direction
17	TN0004778	2281.52	NE

Safe Drinking Water Information System (SDWIS)

Map Key	PWS ID	Distance (ft)	Direction
16	TN0004778	2256.59	NE

USGS National Water Information System

Map Key	Site No	Distance (ft)	Direction
1	USGS-07279090	0.00	-
2	USGS-345645089541501	681.42	SSW
4	USGS-345648089542401	1203.30	SW
7	USGS-345707089535901	315.74	S
9	USGS-345631089541701	52.58	S
12	USGS-345631089541901	294.45	S
14	USGS-345631089540201	35.98	S
20	USGS-345615089533001	2788.55	SSE
21	USGS-345803089535901	749.40	N
22	USGS-345804089544101	2786.56	NNW
23	USGS-345811089541201	1567.01	N
24	USGS-345804089532501	2964.33	NNE
27	USGS-345812089542001	1982.60	N
30	USGS-345536089533001	3402.62	SSE
39	USGS-345523089534001	3768.54	S

State Sources

Oil and Gas Wells

Map Key	ID	Distance (ft)	Direction
	No records found		

Public Water Supply Wells

Map Key	Permit No	Distance (ft)	Direction
10	MS-GW-02186	36.21	S
11	MS-GW-02185	276.07	S
13	MS-GW-15069	396.59	S
28	MS-GW-07638	2048.68	N

Water Wells

Map Key	Well ID	Distance (ft)	Direction

Wells and Additional Sources Summary

3	033G0005	707.98	SSW
5	033G0072	1191.31	SW
6		1751.54	NE
8	033G0019	35.26	S
15	033C2000	2455.28	ENE
15	033C2011	2455.28	ENE
18	033G2039	2536.73	SW
18	033G2040	2536.73	SW
19	033G0028	3491.92	SE
25	033C0028	2718.49	NNE
25	033C0029	2718.49	NNE
26	033C0031	2896.44	NNW
26	033C0030	2896.44	NNW
26	033C2012	2896.44	NNW
26	033C2019	2896.44	NNW
29	033G0112	1737.65	S
31	033G0051	3428.77	SSE
32	033G0124	2938.67	SSW
33	033G0120	3464.49	SSW
33	033G0089	3464.49	SSW
33	033G0090	3464.49	SSW
34	033G2031	3689.47	SSE
34	033G2001	3689.47	SSE
35	033G0121	3542.54	SSW
36	033G0117	3771.97	SSW
37	033G0116	3808.09	SSW
38	033G0111	3631.26	SSW
40	033G0032	3805.38	S
41	033G0098	3958.47	SSW
42	033G0110	4813.61	SSW
43	033G0099	4862.33	SSW
43	033G0101	4862.33	SSW
44	033G0088	4944.26	SSW

Public Water Systems Violations and Enforcement Data

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
17	NE	0.43	2,281.52	340.38	PWSV

Address Line 2:
State Code: MS
Zip Code: 38654
City Name: OLIVE BRANCH
Address Line 1: 5468 WEDGEWOOD DR.
PWS ID: TN0004778
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A
PWS Activity Description: Active
PWS Deactivation Date:
Phone Number: 731-642-9612

--Details--
Population Served Count: 25
City Served:
County Served: Henry
State Served: TN
Zip Code Served:

Safe Drinking Water Information System (SDWIS)

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	NE	0.43	2,256.59	342.58	SDWIS

PWS ID: TN0004778
PWS Type Code: TNCWS
PSW Type: Transient non-community system
Primary Source Code: GW
Primary Source: Ground water
Pws Activity Code: I
Activity: Inactive
PWS Deactivation Dt: 03/06/2013
Phone No: 731-642-9612
Phone Ext No:
Admin Name: YOUNG, GERALD
Alt Phone No:
Email Addr:
Fax No:

Wells and Additional Sources Detail Report

Cds ID:	
Population Served Count:	25
Epa Region Desc:	Region 4
Epa Region:	04
First Reported Date:	05/24/1993
Gw or Sw:	Groundwater
Is Grant Eligible Ind:	No
Outstanding Performer:	
Is School or Daycare Ind:	No
Is Wholesaler Ind:	No
Lt2 Schedule Cat:	
Last Reported Date:	11/20/2018
Org Name:	YOUNG, GERALD
Outstanding Perform Begin Date:	
Owner Type:	Private
Pop Cat 11:	<=100
Pop Cat 2:	<10,000
Pop Cat 3:	<=3300
Pop Cat 4:	<10K
Pop Cat 5:	<=500
Primacy Agency:	Tennessee
Primacy Agency Code:	TN
Season Begin Date:	01-01
Season End Date:	12-31
Service Connections Count:	48
Submission Yr Qtr:	2023Q3
Primacy Type:	State
Dbpr Schedule Category:	
Submission Status:	Reported and accepted
Reduced Monitoring Begin:	
Reduced Monitoring End Date:	
Reduced Rtcr Monitoring:	
Seasonal Startup System:	
Source Protection Begin Date:	09/18/2008
City Served:	
County Served:	Henry

USGS National Water Information System

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	-	0.00	0.00	315.10	FED USGS

Site No:	USGS-07279090
Site Type:	Stream
Formation Type:	

Date Drilled:
Well Depth:
Well Depth Unit:
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS Mississippi Water Science Center
Station Name: NOLEHOE CREEK NR PLEASANT HILL, MS
Latitude: 34.95287178000000
Longitude: -89.9011999000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
2	SSW	0.13	681.42	332.97	FED USGS

Site No: USGS-345645089541501
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19690101
Well Depth: 350
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0005 DESOTO
Latitude: 34.94592754000000
Longitude: -89.9042555000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	SW	0.23	1,203.30	357.45	FED USGS

Site No: USGS-345648089542401
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19600805
Well Depth: 197
Well Depth Unit: ft
Well Hole Depth: 197
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0072 DESOTO
Latitude: 34.94676084000000
Longitude: -89.9067555000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	S	0.06	315.74	361.53	FED USGS

Wells and Additional Sources Detail Report

Site No:	USGS-345707089535901
Site Type:	Well
Formation Type:	Sparta Sand
Date Drilled:	19960520
Well Depth:	292
Well Depth Unit:	ft
Well Hole Depth:	384
Well Hole Depth Unit:	ft
Reporting Agency:	USGS Mississippi Water Science Center
Station Name:	033G0076 DESOTO
Latitude:	34.94360278000000
Longitude:	-89.8999667000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
9	S	0.01	52.58	356.90	FED USGS

Site No:	USGS-345631089541701
Site Type:	Well
Formation Type:	Sparta Sand
Date Drilled:	19650101
Well Depth:	273
Well Depth Unit:	ft
Well Hole Depth:	
Well Hole Depth Unit:	
Reporting Agency:	USGS Mississippi Water Science Center
Station Name:	033G0019 DESOTO
Latitude:	34.94314984000000
Longitude:	-89.9017554000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	S	0.06	294.45	363.01	FED USGS

Site No:	USGS-345631089541901
Site Type:	Well
Formation Type:	Sparta Sand
Date Drilled:	19730601
Well Depth:	387
Well Depth Unit:	ft
Well Hole Depth:	
Well Hole Depth Unit:	
Reporting Agency:	USGS Mississippi Water Science Center
Station Name:	033G0069 DESOTO
Latitude:	34.94308610000000
Longitude:	-89.9025611000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

14	S	0.01	35.98	367.75	FED USGS

Site No: USGS-345631089540201
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19810805
Well Depth: 292
Well Depth Unit: ft
Well Hole Depth: 360
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0070 DESOTO
Latitude: 34.94297220000000
Longitude: -89.9016972000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	SSE	0.53	2,788.55	382.24	FED USGS

Site No: USGS-345615089533001
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19710101
Well Depth: 319
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0028 DESOTO
Latitude: 34.93759445000000
Longitude: -89.8917552000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
21	N	0.14	749.40	402.27	FED USGS

Site No: USGS-345803089535901
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19820316
Well Depth: 291
Well Depth Unit: ft
Well Hole Depth: 319
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033C0017 DESOTO
Latitude: 34.96759357000000

Longitude: -89.8998109000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	NNW	0.53	2,786.56	368.47	FED USGS

Site No: USGS-345804089544101
Site Type: Well
Formation Type:
Date Drilled: 20070123
Well Depth:
Well Depth Unit:
Well Hole Depth: 230
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033C0032 DESOTO
Latitude: 34.96787130000000
Longitude: -89.9114779000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	N	0.30	1,567.01	392.43	FED USGS

Site No: USGS-345811089541201
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 20050815
Well Depth: 300
Well Depth Unit: ft
Well Hole Depth: 300
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033C0031 DESOTO
Latitude: 34.96981570000000
Longitude: -89.9034221000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
24	NNE	0.56	2,964.33	377.99	FED USGS

Site No: USGS-345804089532501
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 20040719
Well Depth: 323
Well Depth Unit: ft
Well Hole Depth: 323
Well Hole Depth Unit: ft

Wells and Additional Sources Detail Report

Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033C0028 DESOTO
Latitude: 34.96787135000000
Longitude: -89.8903663000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	N	0.38	1,982.60	387.12	FED USGS

Site No: USGS-345812089542001
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 20050814
Well Depth: 300
Well Depth Unit: ft
Well Hole Depth: 300
Well Hole Depth Unit: ft
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033C0030 DESOTO
Latitude: 34.97009349000000
Longitude: -89.9056444000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	SSE	0.64	3,402.62	375.17	FED USGS

Site No: USGS-345536089533001
Site Type: Well
Formation Type:
Date Drilled:
Well Depth:
Well Depth Unit:
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0051 DESOTO
Latitude: 34.92676140000000
Longitude: -89.8917552000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
39	S	0.71	3,768.54	384.94	FED USGS

Site No: USGS-345523089534001
Site Type: Well
Formation Type: Sparta Sand
Date Drilled: 19720101
Well Depth: 380

Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS Mississippi Water Science Center
Station Name: 033G0032 DESOTO
Latitude: 34.92315040000000
Longitude: -89.8945330000000

Public Water Supply Wells

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
10	S	0.01	36.21	359.31	PWSW

Permit No: MS-GW-02186
Well ID: 033G0070
BOH No: 0170015-14
Date Drilled: 8/5/1981
Screen Base:
Pump Rate:
Water Level Date:
Water Level:
Aquifer: SPRT
Description:
Use: PS
Well Depth: 292
Casing Diameter: 8
Casing Length: 252
Screen Length: 40
Owner Name: OLIVE BRANCH, CITY OF
App Name: OLIVE BRANCH, CITY OF

Date Expired: 3/26/2028
Ben Use 1: PS
Ben Use 2:
Ben Use 3:
Quarter 1: NE
Quarter 2: SE
Elevation: 368
Screen1 Bottom: -292
Maximum Rate: 250
County Name: DESOTO
Section: 02
Township: 02S
Range: 07W
Latitude: 34.9431
Longitude: -89.9017

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	S	0.05	276.07	360.06	PWSW

Permit No: MS-GW-02185
Well ID: 033G0069
BOH No: 0170015-13
Date Drilled: 6/1/1973
Screen Base:
Pump Rate:
Water Level Date:
Water Level:
Aquifer: SPRT
Description:
Use: PS
Well Depth: 387
Casing Diameter: 8

Date Expired: 3/26/2028
Ben Use 1: PS
Ben Use 2:
Ben Use 3:
Quarter 1: NE
Quarter 2: SE
Elevation: 365
Screen1 Bottom: -387
Maximum Rate: 250
County Name: DESOTO
Section: 02
Township: 02S
Range: 07W

Casing Length:	347	Latitude:	34.9431
Screen Length:	40	Longitude:	-89.9025
Owner Name:	OLIVE BRANCH, CITY OF		
App Name:	OLIVE BRANCH, CITY OF		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
13	S	0.08	396.59	352.55	PWSW

Permit No:	MS-GW-15069	Date Expired:	11/3/2018
Well ID:	033G0076	Ben Use 1:	PS
BOH No:	0170015-16	Ben Use 2:	
Date Drilled:	10/1/1996	Ben Use 3:	
Screen Base:		Quarter 1:	NW
Pump Rate:		Quarter 2:	SW
Water Level Date:		Elevation:	362
Water Level:		Screen1 Bottom:	-292
Aquifer:	SPRT	Maximum Rate:	1000
Description:		County Name:	DESOTO
Use:	PS	Section:	01
Well Depth:	300	Township:	02S
Casing Diameter:	16	Range:	07W
Casing Length:	250	Latitude:	34.9431
Screen Length:	40	Longitude:	-89.8997
Owner Name:	OLIVE BRANCH, CITY OF		
App Name:	OLIVE BRANCH, CITY OF		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	N	0.39	2,048.68	404.62	PWSW

Permit No:	MS-GW-07638	Date Expired:	3/26/2028
Well ID:	033C0017	Ben Use 1:	PS
BOH No:	0170015-15	Ben Use 2:	
Date Drilled:	5/1/1988	Ben Use 3:	
Screen Base:		Quarter 1:	NW
Pump Rate:		Quarter 2:	SW
Water Level Date:		Elevation:	402
Water Level:		Screen1 Bottom:	-291
Aquifer:	SPRT	Maximum Rate:	500
Description:		County Name:	DESOTO
Use:	PS	Section:	25
Well Depth:	291	Township:	01S
Casing Diameter:	12	Range:	07W
Casing Length:	228	Latitude:	34.9714
Screen Length:	40	Longitude:	-89.9003
Owner Name:	OLIVE BRANCH, CITY OF		
App Name:	OLIVE BRANCH, CITY OF		

Wells and Additional Sources Detail Report

Water Wells

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
3	SSW	0.13	707.98	325.22	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0005	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	1/1/1969	Quarter 1:	
Aquifer:	SPRT	Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	350	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	JOHNSON
Casing Length:		Section:	02
Screen Length:		Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9458
Elevation:		Long DD:	-89.9042
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	SW	0.23	1,191.31	357.26	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0072	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	8/5/1960	Quarter 1:	
Aquifer:	SPRT	Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	197	County Name:	DESOTO
Casing Diameter:	2	Owner Name:	HOUSE JR, N H
Casing Length:	190	Section:	02
Screen Length:		Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9467
Elevation:		Long DD:	-89.9067
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
6	NE	0.33	1,751.54	359.13	WATER WELLS

Permit No:	MS-GW-14077	Ben Use 1:	IR
Well ID:		Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	12/31/1989	Quarter 1:	SW

Aquifer:	SPRT	Quarter 2:	NE
Use:	IR	Maximum Rate:	280
Well Depth:	290	County Name:	DESOTO
Casing Diameter:	6	Owner Name:	MARKLE DON
Casing Length:	20	Section:	03
Screen Length:		Township:	01S
App Name:	MARKLE DON	Range:	07W
Date Expired:	7/28/2002	Lat DD:	34.9547
Elevation:	360	Long DD:	-89.895
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
8	S	0.01	35.26	357.37	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0019	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	9/2/1965	Quarter 1:	
Aquifer:	SPRT	Quarter 2:	
Use:	AB	Maximum Rate:	
Well Depth:	273	County Name:	DESOTO
Casing Diameter:	10	Owner Name:	OLIVE BRANCH, CITY OF
Casing Length:	238	Section:	02
Screen Length:	35	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9433
Elevation:		Long DD:	-89.9017
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	ENE	0.47	2,455.28	327.11	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C2000	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	9/24/1979	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	GLOTT, RICHARD
Casing Length:	223	Section:	36
Screen Length:	7	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9533
Elevation:		Long DD:	-89.8925
Screen1 Bottom:			

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	ENE	0.47	2,455.28	327.11	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C2011	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	7/29/1990	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	250	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	STEPP, JAMES
Casing Length:	235	Section:	36
Screen Length:	15	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9533
Elevation:		Long DD:	-89.8925
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	SW	0.48	2,536.73	355.93	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G2039	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/26/2000	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	215	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	WILSON, DALE
Casing Length:	195	Section:	02
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9406
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	SW	0.48	2,536.73	355.93	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G2040	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/26/2000	Quarter 1:	
Aquifer:		Quarter 2:	

Use:	IR	Maximum Rate:	
Well Depth:	235	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	WILSON, DALE
Casing Length:	215	Section:	02
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9406
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SE	0.66	3,491.92	370.56	WATER WELLS

Permit No:	MS-GW-01819	Ben Use 1:	AB
Well ID:	033G0028	Ben Use 2:	IN
Boh No:		Ben Use 3:	
Date Drilled:	8/23/1971	Quarter 1:	SE
Aquifer:	SPRT	Quarter 2:	NW
Use:	AB	Maximum Rate:	0
Well Depth:	320	County Name:	DESOTO
Casing Diameter:	10	Owner Name:	MEMPHIS STONE AND GRAVEL COMPANY
Casing Length:	277	Section:	01
Screen Length:		Township:	02S
App Name:	MEMPHIS STONE AND GRAVEL COMPANY	Range:	07W
Date Expired:	3/11/2006	Lat DD:	34.9392
Elevation:	340	Long DD:	-89.8894
Screen1 Bottom:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	NNE	0.51	2,718.49	373.87	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C0028	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	7/19/2004	Quarter 1:	
Aquifer:	SPRT	Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	323	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	DESOTO COUNTY SCHOOL DISTRICT
Casing Length:	313	Section:	25
Screen Length:	10	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9689
Elevation:		Long DD:	-89.8928

Wells and Additional Sources Detail Report

Screen1 Bottom:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	NNE	0.51	2,718.49	373.87	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C0029	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	5/28/2004	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	323	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	DESOTO COUNTY SCHOOL DISTRICT
Casing Length:	313	Section:	25
Screen Length:	0	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9689
Elevation:		Long DD:	-89.8928
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	NNW	0.55	2,896.44	370.56	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C0031	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	8/15/2005	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	300	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	INGRAM, ROBERT
Casing Length:	280	Section:	26
Screen Length:	20	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9686
Elevation:		Long DD:	-89.9111
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	NNW	0.55	2,896.44	370.56	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C0030	Ben Use 2:	
Boh No:		Ben Use 3:	

Date Drilled:	8/14/2005	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	300	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	GRAVES, JOHNNY
Casing Length:	280	Section:	26
Screen Length:	20	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9686
Elevation:		Long DD:	-89.9111
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	NNW	0.55	2,896.44	370.56	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C2012	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	6/17/1992	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	208	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	BURNETT, JERRY
Casing Length:	198	Section:	26
Screen Length:	10	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9686
Elevation:		Long DD:	-89.9111
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	NNW	0.55	2,896.44	370.56	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033C2019	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	10/4/2001	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	180	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	COOK, PERRY
Casing Length:	160	Section:	26
Screen Length:	20	Township:	01S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9686
Elevation:		Long DD:	-89.9111

Wells and Additional Sources Detail Report

Screen1 Bottom:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	S	0.33	1,737.65	388.58	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0112	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/24/2008	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	260	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	REED, TIM
Casing Length:	240	Section:	12
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9272
Elevation:		Long DD:	-89.9003
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	SSE	0.65	3,428.77	373.48	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0051	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:		Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	0	County Name:	DESOTO
Casing Diameter:	0	Owner Name:	LINCOLN, BOB
Casing Length:		Section:	12
Screen Length:		Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9267
Elevation:		Long DD:	-89.8917
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	SSW	0.56	2,938.67	363.42	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0124	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	11/24/2014	Quarter 1:	

Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	240	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	BROWN, PHILLIP
Casing Length:	220	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9256
Elevation:		Long DD:	-89.9078
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	SSW	0.66	3,464.49	343.19	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0120	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/6/2009	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	220	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	MCCUNNANAN, MALCOLM
Casing Length:	210	Section:	11
Screen Length:	10	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9253
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	SSW	0.66	3,464.49	343.19	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0089	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	9/16/2004	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	246	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	WILLIAMS, REEVES
Casing Length:	216	Section:	11
Screen Length:	0	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9253
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	SSW	0.66	3,464.49	343.19	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0090	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	9/17/2004	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	WILLIAMS, REEVES
Casing Length:	230	Section:	11
Screen Length:	0	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9253
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	SSE	0.70	3,689.47	366.89	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G2031	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	5/30/1991	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	DUNLAP, KENNETH
Casing Length:	215	Section:	12
Screen Length:	15	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9253
Elevation:		Long DD:	-89.8919
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	SSE	0.70	3,689.47	366.89	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G2001	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	8/9/1975	Quarter 1:	
Aquifer:		Quarter 2:	

Use:	DO	Maximum Rate:	
Well Depth:	240	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	CHAPMAN, H T
Casing Length:	226	Section:	12
Screen Length:	14	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9253
Elevation:		Long DD:	-89.8919
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
35	SSW	0.67	3,542.54	345.35	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0121	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	10/26/2009	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	220	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	KOSTKA, RUSSELL
Casing Length:	200	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9244
Elevation:		Long DD:	-89.9092
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
36	SSW	0.71	3,771.97	360.44	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0117	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	12/9/2008	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	KLEPZIG, MIKE
Casing Length:	210	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9236
Elevation:		Long DD:	-89.9092
Screen1 Bottom:			

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	SSW	0.72	3,808.09	358.10	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0116	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	12/8/2008	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	HIGGINBOTTOM, BOB
Casing Length:	210	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9236
Elevation:		Long DD:	-89.9094
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	SSW	0.69	3,631.26	362.33	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0111	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/23/2008	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	DO	Maximum Rate:	
Well Depth:	225	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	SKELTON, CATHY
Casing Length:	205	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9233
Elevation:		Long DD:	-89.9078
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	S	0.72	3,805.38	383.24	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0032	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	1/1/1972	Quarter 1:	
Aquifer:	SPRT	Quarter 2:	
Use:	DO	Maximum Rate:	

Well Depth:	380	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	CARLISLE, RAY
Casing Length:		Section:	12
Screen Length:		Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9231
Elevation:		Long DD:	-89.8944
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	SSW	0.75	3,958.47	368.56	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0098	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/3/2007	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	ROY, LARRY MR
Casing Length:	210	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9225
Elevation:		Long DD:	-89.9083
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	SSW	0.91	4,813.61	353.39	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0110	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/22/2008	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	HIGGINBOTTOM, BOB
Casing Length:	210	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9206
Elevation:		Long DD:	-89.91
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	SSW	0.92	4,862.33	352.58	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0099	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/4/2007	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	230	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	LOOSIER, DON
Casing Length:	210	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9203
Elevation:		Long DD:	-89.9097
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	SSW	0.92	4,862.33	352.58	WATER WELLS

Permit No:		Ben Use 1:	
Well ID:	033G0101	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	4/6/2007	Quarter 1:	
Aquifer:		Quarter 2:	
Use:	IR	Maximum Rate:	
Well Depth:	215	County Name:	DESOTO
Casing Diameter:	4	Owner Name:	SHEOR, DON
Casing Length:	195	Section:	11
Screen Length:	20	Township:	02S
App Name:		Range:	07W
Date Expired:		Lat DD:	34.9203
Elevation:		Long DD:	-89.9097
Screen1 Bottom:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
44	SSW	0.94	4,944.26	346.14	WATER WELLS

Permit No:	MS-GW-16126	Ben Use 1:	IR
Well ID:	033G0088	Ben Use 2:	
Boh No:		Ben Use 3:	
Date Drilled:	9/15/2004	Quarter 1:	SE
Aquifer:	SPRT	Quarter 2:	SE
Use:	IR	Maximum Rate:	40
Well Depth:	256	County Name:	DESOTO

Wells and Additional Sources Detail Report

Casing Diameter:	6	Owner Name:	SPRING PLACE ESTATES LLC
Casing Length:	226	Section:	11
Screen Length:	30	Township:	02S
App Name:	SPRING PLACE ESTATES LLC	Range:	07W
Date Expired:	7/13/2025	Lat DD:	34.9194
Elevation:	340	Long DD:	-89.9081
Screen1 Bottom:	-256		

Radon Information

This section lists any relevant radon information found for the target property.

No Radon Zone Level records found for the project property or surrounding properties.

Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L
Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L
Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L

No Indoor Radon Data records found for the project property or surrounding properties.

Appendix

Federal Sources

FEMA National Flood Hazard Layer — **FEMA FLOOD**

The National Flood Hazard Layer (NFHL) data incorporates Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters Of Map Revision (LOMRs) that have been issued against those databases since their publication date. The FIRM Database is the digital, geospatial version of the flood hazard information shown on the published paper FIRMs. The FIRM Database depicts flood risk information and supporting data used to develop the risk data. The FIRM Database is derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available.

Indoor Radon Data — **INDOOR RADON**

Indoor radon measurements tracked by the Environmental Protection Agency(EPA) and the State Residential Radon Survey.

Public Water Systems Violations and Enforcement Data — **PWSV**

List of drinking water violations and enforcement actions from the Safe Drinking Water Information System (SDWIS) made available by the Drinking Water Protection Division of the US EPA's Office of Groundwater and Drinking Water. Enforcement sensitive actions are not included in the data released by the EPA. Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

Radon Zone Level — **RADON ZONE**

Areas showing the level of Radon Zones (level 1, 2 or 3) by county. This data is maintained by the Environmental Protection Agency (EPA).

Safe Drinking Water Information System (SDWIS) — **SDWIS**

This national download of Safe Drinking Water Act (SDWA) data is sourced from the U.S Environmental Protection Agency's (EPA) Enforcement and Compliance History Online (ECHO) system that incorporates Public Water Systems data from EPA's Safe Drinking Water Information System (SDWIS) database. SDWIS contains information on public water systems from the Public Water System Supervision (PWSS) Program related to requirements established by the Safe Drinking Water Act (SDWA). Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

Soil Survey Geographic database — **SSURGO**

The Soil Survey Geographic database (SSURGO) contains information about soil as collected by the National Cooperative Soil Survey at the Natural Resources Conservation Service (NRCS). Soil maps outline areas called map units. The map units are linked to soil properties in a database. Each map unit may contain one to three major components and some minor components.

U.S. Fish & Wildlife Service Wetland Data — **US WETLAND**

The U.S. Fish & Wildlife Service Wetland layer represents the approximate location and type of wetlands and deepwater habitats in the United States.

USGS Current Topo — **US TOPO**

US Topo topographic maps are produced by the National Geospatial Program of the U.S. Geological Survey (USGS). The project was launched in late 2009, and the term "US Topo" refers specifically to quadrangle topographic maps published in 2009 and later.

USGS Geology — **US GEOLOGY**

Seamless maps depicting geological information provided by the United States Geological Survey (USGS).

USGS National Water Information System — **FED USGS**

The U.S. Geological Survey's (USGS) National Water Information System (NWIS) is the nation's principal repository of water resources data. The data includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data. This NWIS database information is obtained through the Water Quality Data Portal (WQP). The WQP is a cooperative service sponsored by the USGS, the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC).

Appendix

State Sources

Oil and Gas Wells **OGW**

Oil and Gas Wells Data collected by Mississippi Oil and Gas Board.

Public Water Supply Wells **PWSW**

The Office of Land and Water Resources (OLWR) is charged with conserving, managing, and protecting the water resources of Mississippi. The agency regulates water quantity issues affecting the beneficial use of these resources in the best interest and welfare of the citizens of the state. The OLWR also maintains a list of Public Water Supply Wells.

Water Wells **WATER WELLS**

List of water wells and water well permits provided by the Water Resources Management Division, MDEQ Office of Land and Water Resources.

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Reliance on information in Report: The Physical Setting Report (PSR) DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a review of environmental databases and physical characteristics for the site or adjacent properties.

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STATE OF MISSISSIPPI
NOTIFICATION FOR UNDERGROUND STORAGE TANKS

For USTs in	Return Completed Form To:	(state use only)
MS	Mississippi Dept. of Environmental Quality Office of Pollution Control – UST Branch P.O. Box 2261 Jackson, MS 39225	ID # 13110 Date Recorded: 2-2-17

Instructions

- This form must be completed and submitted within 30 days of bringing an underground storage tank (UST) into use.
- Type or print in ink all items except "signature" in Sections VII and IX.
- Complete each section of this form that applies to the type of notification you are submitting.

I. Type of UST Facility

☒ Retail ☐ Industrial ☐ Federal Military ☐ Federal Non-Military ☐ State Government ☐ Local Government
☐ Utility ☐ Farm ☐ Airport/Aircraft ☐ Truck/Transporter ☐ Other (specify):

II. Ownership of Tanks

Owner Name: Pop's PH Inc.

Mailing Address: P.O Box 931

City: Olive Branch | State: MS | Zip Code: 38654

Telephone: 901-331-9742 | Facsimile:

e-mail: Donny.Singh@Popsexpress.com

III. Location of Tanks

Facility Name: POP'S EXPRESS PH | MDEQ ID Number: 13110

Physical Address (PO Box not acceptable): 5005 CHURCH ROAD

City (nearest if not within city limits): OLIVE BRANCH | State: MS | Zip Code: 38654

County: DESOTO | Telephone:

Fuel Brand (BP, Exxon, Shell, etc.): SHELL | Indicate Total Number of USTs at this Location: 2

IV. Billing Information

Complete this section only if annual tank fee invoice should be sent to different name/address than that shown in Section II.

Company Name: Pop's PH Inc.

Billing Address: 5005 Church Rd.

City: Olive Branch | State: MS | Zip Code: 38654

Billing Contact Person: (Mr.) Ms. Donny Singh | Telephone: 901-331-9742

V. Type of Notification

☒ New UST facility
☐ New UST's added to an existing facility
☐ New UST's to replace existing UST's
☐ New piping to replace existing piping
☐ New dispensers to replace existing dispensers
☐ New submersible pumps to replace existing pumps
☐ New spill buckets to replace existing spill buckets
☐ New overfill prevention to replace existing overfill prevention
☐ Change in tank status (complete Number 1 of Section VIII only)
☐ Other (specify):

RECEIVED
JAN 30 2017
Dept. of Environmental Quality

VI. Financial Responsibility

Select a method showing how you have met the financial responsibility requirements in accordance with UST-2 Subpart H.

☒ State Trust Fund (motor fuel tanks only) ☐ Self Insurance ☐ Private Insurance ☐ Guarantee or Surety Bond

VII. Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and Title of UST Owner (type or print)	Signature of UST Owner	Date Signed
(Mr.) Ms. Donny Singh / Pop's PH Inc		1/25/17

VIII. Description of Underground Storage Tank (UST) System

Complete for each UST at this location. Mark each box that applies with a check mark or an "X" unless a date is required.

			Tank Number	1	2A	2B		
1	Tank Information		Tank is Currently in Use	X	X	X		
			Tank is Temporarily Out of Use					
			Date of Tank Installation	5/11/16	5/11/16	5/11/16		
			Date Tank Placed in Service	12/15/16	12/15/16	12/15/16		
			Date Tank Taken Temporarily Out of Use					
2	Total Tank Capacity (gallons)			20,000				
	For Compartment Tanks Only (multi-compartment tanks are considered to be a single tank)		Compartment 1 Capacity		6,000			
			Compartment 2 Capacity			6,000		
			Compartment 3 Capacity					
	Tanks are Manifolded (list each manifolded tank separately)							
3	Substance Currently or Last Stored in Greatest Volume (Note: If a compartment tank, enter compartment number in appropriate box)	GASOLINE	"Regular"	X				
			"Mid-grade"		X			
			"Premium"					
			Ethanol Blend (specify %)					
			Other gasoline (specify)					
		DIESEL	"Highway" (taxed)			X		
			"Off road" (tax exempt)					
			Biodiesel (specify %)					
			Other Diesel (specify)					
			Kerosene					
			Used Oil					
			Other Petroleum (specify)					
			Hazardous Substance (specify)					
4a	Tank Material of Construction (choose only one)							
			Asphalt Coated or Bare Steel					
			Coated & Cathodically Protected Steel (sti-P_3®)					
			Fiberglass Reinforced Plastic					
			Composite - Steel with Fiberglass	X	X	X		
			Composite – Steel with Thermoplastic					
			Other (specify)					
4b	Tank Construction (Note: All tanks installed after 9-30-08 must be double-walled)							
			Single-walled					
			Double-walled	X	X	X		
			Interior Lined with Epoxy Coating					
			Cathodically Protected					
	Type of Cathodic Protection System		Galvanic (Sacrificial Anode)					
			Impressed Current					
5	Spill and Overfill Prevention							
	Spill Prevention		Catchment Basin	X	X	X		
			Other (describe)					
			Date Installed	5/30/16	5/30/16	5/30/16		
	Overfill Prevention		Ball Float Valve					
			Drop Tube Device	X	X	X		
			Electronic Alarm					
			Date Installed	11/16/16	11/16/16	11/16/16		

6 Tank Leak Detection Note: All tanks installed after 9-30-08 must conduct interstitial monitoring.						
Groundwater/Vapor Monitoring						
Automatic Tank Gauging		X	X	X		
Monthly (visual) Interstitial Monitoring						
Continuous (electronic) Interstitial Monitoring		X	X	X		
Tank Tightness Testing with Inventory Control						
Statistical Inventory Reconciliation (SIR)						
Manual Tank Gauging (less than 2001 gal. only)						
Tank is used ONLY to fuel emergency power generator						
7 Pipe Information	Date of Pipe Installation	7/14/16	7/14/16	7/14/16		
	Date Pipe Placed in Service	12/15/16	12/15/16	12/15/16		
	New Pipe Installed for New UST	X	X	X		
	New Pipe Installed to Replace Existing Pipe					
	New Pipe Added to Existing Pipe (added dispenser)					
	Existing Pipe Modified at Dispenser					
	Existing Pipe Modified at Submersible Pump					
	Date of Dispenser Installation	11/9/16	11/9/16	11/9/16		
	Date of Submersible Pump Installation	11/16/16	11/16/16	11/16/16		
8 Type of Pipe System						
Pressure		X	X	X		
American Suction (check valve is at tank)						
Safe Suction (only check valve is at dispenser)						
Gravity Fed Only						
No Product Piping or all Pipe is Aboveground						
9a Pipe Material of Construction						
Bare or Galvanized Steel						
Epoxy Coated Steel						
Rigid Fiberglass Reinforced Plastic		X	X	X		
Semi-Rigid Thermoplastic						
Flexible Thermoplastic						
Composite (metal with thermoplastic)						
Other (specify)						
Pipe Manufacturer (Ameron, APT, OPW, Smith, etc.)		AMERON	AMERON	AMERON		
9b Pipe Construction Note: All piping installed after 9-30-08 must be double-walled						
Single-Walled						
Double-Walled		X	X	X		
Cathodically Protected						
Type of Cathodic Protection System	Galvanic (Sacrificial Anode)					
	Impressed Current					
10 Dispenser Sump Information	**Dispenser Sump Construction**					
	Date Containment Sumps Installed					
	Fiberglass Reinforced Plastic					
	Thermoplastic	X	X	X		
	Steel					
	Dispenser Sump Monitoring Note: All sumps installed after 9-30-08 must be monitored.					
	Monthly (visual) Interstitial Monitoring					
	Continuous (electronic) Interstitial Monitoring	X	X	X		

11 Tank Sump Information	**Tank Sump Construction**					
	Date Containment Sumps Installed	7/12/16	7/12/16	7/12/16		
	Fiberglass Reinforced Plastic	X	X	X		
	Thermoplastic					
	Steel					
	Tank Sump Monitoring Note: All sumps installed after 9-30-08 must be monitored.					
	Monthly (visual) Interstitial Monitoring					
	Continuous (electronic) Interstitial Monitoring	X	X	X		
12 Pipe Termination Information	**Pipe Termination at Tanks**					
	Metallic Flexible Connector	X	X	X		
	Steel Swing Joint					
	Pipe Termination Corrosion Protection @ Tank					
	Isolated from Soil/Water By Containment Sump	X	X	X		
	Isolated from Soil/Water by Nonmetallic Boot					
	Coated/Wrapped and Cathodically Protected					
	Pipe Termination at Dispensers					
	Metallic Flexible Connector	X	X	X		
	Steel Swing Joint or Steel Riser					
	Pipe Termination Corrosion Protection @ Disp.					
	Isolated from Soil/Water By Containment Sump	X	X	X		
	Isolated from Soil/Water by Nonmetallic Boot					
	Coated/Wrapped and Cathodically Protected					
13a **Primary Pipe Leak Detection** Note: All piping except "safe suction" must have a primary leak detection method.						
	Monthly Groundwater/Vapor Monitoring					
	Monthly (visual) Interstitial Monitoring					
	Continuous (electronic) Interstitial Monitoring	X	X	X		
	Annual Precision Line Tightness Testing					
	Statistical Inventory Reconciliation (SIR)					
	Monthly 0.2 gph Leak Testing (electronic line leak detector)					
13b **Catastrophic Pipe Leak Detection** Note: All pressurized piping must have a catastrophic leak detection method.						
	Mechanical Automatic Line Leak Detector	X	X	X		
	Electronic Automatic Line Leak Detector					

IX. Certification of Work Conducted on Underground Storage Tank (UST) System

(Complete for USTs or piping installed, altered, or upgraded after December 22, 1988)

Oath: I certify that the information concerning installation and alteration provided in Section VIII. is true to the best of my belief and knowledge.

Note: Attach 1) precision tightness test for tanks and/or piping installed or repaired after 12-22-88 and 2) Site map showing location of facility.

Type of Work Conducted Under this Oath:

☒ Installation ☒ Tanks ☒ Spill Buckets ☒ Submersible Pumps ☒ Dispenser Sumps ☒ STP Sumps

☐ Repair ☒ Piping ☒ Overfill Device ☒ Dispensers ☐ Other (specify):

Date(s) Work Conducted: 5/9/16 – 12/15/16

Installer's Company	Company Phone	Installer's MDEQ UST Worker Certification No.
MURPHY & SONS, INC	662-393-3130	NHB1458

Installer's Name (type or print)	Installer's Signature	Date Signed
Mr. Ms. Stephen L. Williams	Stephen L. Williams	12/15/16

STATE OF MISSISSIPPI
PHIL BRYANT
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
GARY C. RIKARD, EXECUTIVE DIRECTOR

Copy

October 3, 2019

Mr. Donnie Singh
Pop's PH Inc
PO Box 931
Olive Branch, MS 38654

RE: UNDERGROUND STORAGE TANKS (USTs)
Pop's Express Ph
5005 Church Road
Olive Branch, Mississippi
Facility I.D. # 13110

Dear Mr. Singh:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the information submitted for the above referenced facility. After reviewing this information, **no further action** is required at this time to assess or remediate this facility.

To remain eligible to participate in the Mississippi Groundwater Protection Trust Fund (MGPTF), you must maintain compliance with all regulatory requirements; such as, leak detection, spill/overfill prevention, corrosion protection, and annual tank fees. **Please remember, if greater than 1/8 inch of product is noted in a leak detection well, or if there are any irregular vapor readings, inventory readings, or tank or line tightness test results, you must notify this office immediately.**

We appreciate your cooperation and assistance in this matter. Should you have any questions, please do not hesitate to call me at (601) 961-5655.

Sincerely,

Joseph R. Curro III, P.E.
MDEQ - UST Branch

cc: Martha Martin, MDEQ

STATE OF MISSISSIPPI
PHIL BRYANT
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
GARY C. RIKARD, EXECUTIVE DIRECTOR

CERTIFIED MAIL
7012 1010 0000 9759 6361

June 29, 2017

POP'S PH INC
PO BOX 931
OLIVE BRANCH, MS 38654

Re: Notice of Violation

Facility ID #13110, Pop's Express Ph, 5005 Church Road, Olive Branch

Pop's PH Inc:

On 4/11/2017, the underground storage tank (UST) system at the above referenced facility was inspected by Department of Environmental Quality (Department) personnel as authorized by Mississippi Code Annotated § 49-17-415 et seq. (1972, as amended). The inspection resulted in the assessment of the following citations:

a. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: An acceptable tank interstitial sensor status report is not available.(No Records Provided.).
b. Leaks were found within one or more of the dispensers.(Slow leak on Diesel pipe at Dispenser 3/4.).
c. Containment sumps of one or more pipes installed after 10-1-2008 have not been tested at installation.(No Record Provided.).
d. The secondary containment of one or more pipes installed after 10-1-2008 have not been tested at installation.(No Record Provided.).
e. Secondary containments of one or more tanks installed after 10-1-2008 have not been tested at installation. (No Record Provided.).
f. The pressurized piping shear valves have not been tested within the previous twelve (12) month period.(No Record Provided.).
g. Free phase product was found in one or more of the tank sumps.(3.5 inches fuel in Diesel STP sump.).
h. An acceptable leak alarm history with proper reconciliation of all alarms is not available. (No Records Provided.).
i. Failure to test spill prevention integrity once every twelve (12) months {280.30 (c)};: the integrity of one or more of the spill containment buckets has not been tested within the previous twelve (12) month period. (No Record Provided.).
j. Failure to inspect overfill prevention once every twelve (12) months {280.30 (d)};: there are one or more overfill protection devices that have not been inspected within the previous twelve (12) month period.(No Record Provided.).

k. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: One or more of the electronic sump sensors are not properly positioned.(Sensor should be lower in STP sumps due to how low sump penetration fitting. STP sump sensors should be lower as evidenced by the product in #2. Product was in contact and slightly above conduit penetration fittings. Sensors need minimal 1" to activate. The sensor in Diesel STP sump was installed above 3" from sump bottom so it wouldn't activate untill fuel hit 4 + inches.).
l. Failure to test electronic interstitial monitoring devices once every twelve (12) months {280.43 (g)}. (No Records Provided.).
m. Failure to test electronic interstitial monitoring devices once every twelve (12) months {280.43 (g)};: The electronic devices monitoring the double-walled tanks have not been tested within the previous twelve (12) month period.(No Records Provided.).
n. A completed UST Operations Clerk Log or Certificate of Completion for certified UST Operations Clerks was not available.
o. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: There are one or more containment sumps that have an inch or more of water in them. (Fuel Diesel STP sump.).
p. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: The piping interstice does not appear to be in communication with the sumps. (Pipe Interstice needs schrader valve stems removed. Stem was removed at Diesel STP sump but not removed at furthest dispensers or at the Regular and Premium STP sumps. The Diesel pipe passes around a lot of the dispensers and it should be opened at multiple locations.).
q. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: An acceptable pipe interstitial sensor status report is not available. (No Records Provided.).
r. Failure to provide adequate release detection method/records for a UST system {280.40 - 280.45}.: An acceptable leak alarm history with proper reconciliation of all alarms is not available.(No Records Provided.).
s. Failure to precision tightness test a UST system after installation and before bringing into service {280.20}.: The piping was not precision tightness tested after installation.(No Record Provided from Installation).
t. Failure to test automatic line leak detectors once every twelve (12) months {280.44 (a)}.: One or more of the mechanical automatic line leak detectors have not been tested within the previous twelve (12) month period.(No Record Provided.).
u. Leaks were found at one or more of the submersible turbine pumps.(Leak from Diesel STP pipe elbow.).

The first such citations received during a three year period are correctable by either of the following two options:

(a) Correct the citations as soon as possible but no later than September 27, 2017, and pay a monetary penalty of $1000.

(b) Correct the citations as soon as possible but no later than September 27, 2017, and attend a Department sponsored compliance workshop.

If you choose option "a", please contact us so that we may make the necessary arrangements. If you choose option "b", the workshop will be held at the Department's offices in Jackson, Mississippi. Our office is located at 515 East Amite Street (map enclosed). The workshop will be held on August 3, 2017, beginning at 9:00 a.m. and ending at 3:00 p.m. The person attending the workshop must be

in a responsible management position and must complete and pass an examination at the end of the workshop. Failure to correct the citations and/or successfully complete the workshop (score at least 70 on the exam) will result in the assessment of the monetary penalty.

After completion of the workshop, you will be given a 90-day grace period in which to ensure that any other UST facility you own that is not referenced in this letter is also in compliance. After the expiration of the grace period, every subsequent violation that you are cited for within three years of the issuance of this notice will be subject to penalty. This applies to every UST facility that you own. You may not re-attend a compliance workshop within this time period in order to avoid a monetary penalty.

Regardless of which option you choose to settle this matter, you must submit the enclosed Certification of Compliance and supporting documentation that the citations have been corrected. Examples of supporting documentation are paid invoices, work orders, testing records or may simply be a narrative explanation of actions taken that is signed by the tank owner. The Department may at its discretion re-inspect the facility in order to further document compliance.

The necessary corrective actions are:

a. Submittal of "Electronic Interstitial Monitoring" records that document that the tank interstitial sensor status is recorded each month.
b. Documentation that the minor leak(s) found by our inspector at one or more of your dispensers has been corrected.
c. Documentation that the containment sumps have been tested.
d. Documentation that the integrity of the pipe secondary containment has been tested.
e. Documentation that the integrity of the tank secondary containment has been tested.
f. Documentation that the piping shear valves have been tested within the previous 12 month period and are properly functioning;
g. Documentation that the fuel found by our inspector within one or more of the tank sumps has been properly removed and disposed of.
h. Submittal of "Electronic Interstitial Monitoring" records that document any alarms you experience related to a possible leak are properly reconciled.
i. Documentation that the spill containment buckets have been tested within the previous 12 month period and passed integrity testing;
j. Documentation that the overfill prevention has been inspected within the previous 12 month period and is properly installed and properly functioning;
k. Documentation that all of the sump sensors utilized for leak detection have been properly positioned and are operating in accordance with the manufacturers requirements.
l. Documentation that the electronic devices monitoring the piping have been inspected within the previous 12 month period and are properly functioning;
m. Documentation that the electronic devices monitoring the tanks have been tested within the previous 12 month period and are properly functioning;
n. Documentation that a qualified UST Operations Clerk is on-site at any time the UST system is in operation.
o. Documentation that the water that was found in the containment sumps has been removed. Please be aware that in order to conduct interstitial monitoring, you must be able to keep the water out and demonstrate that the sumps are liquid tight. Integrity testing of the sumps is normally accomplished by conducting a hydrostatic test. Please contact us for further clarification if you do not understand what the requirements for interstitial monitoring are.
p. Documentation that the double-walled piping system has been repaired/modified to allow adequate communication of the piping interstice with the containment sumps and/or leak detection sensors.

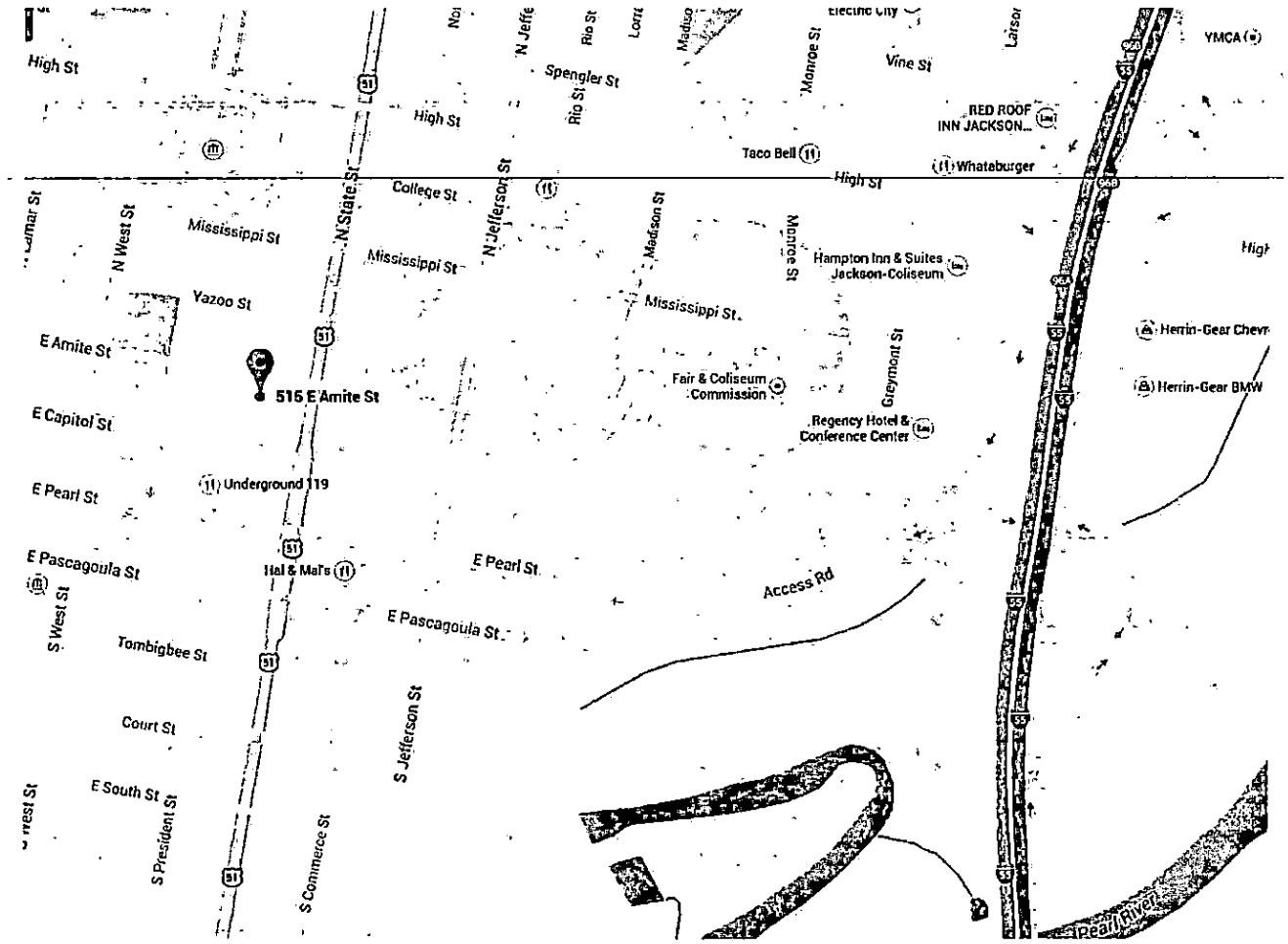
q. Submittal of "Electronic Interstitial Monitoring" records that document that the pipe interstitial sensor status is recorded each month.
r. Documentation that indicates all of the alarms you have experienced related to a suspected release have been adequately resolved.
s. Documentation that the piping system has been precision tightness tested at any time since installation.
t. Documentation that the automatic line leak detectors have been tested for proper operation and can detect a leak equivalent to three (3) gallons per hour at ten (10) pounds per square inch line pressure. Please be aware that automatic line leak detectors must be tested for proper operation at least once every 12 months.
u. Documentation that the leak found by our inspector at the submersible pump has been corrected.

If we do not receive the Certification of Compliance and supporting documentation by no later than September 27, 2017, formal enforcement action may be initiated which may include penalties of up to $25,000 per day and designation as ineligible to receive delivery of product should the USTs remain out of compliance.

Should you have any questions or if I can be of any assistance, please do not hesitate to contact me at 601-961-4256. You may also fax any necessary correspondence to my attention at 601-961-5093.

Sincerely,

Scott Slater
ECED-UST Branch



515 East Amite Street
Jackson, Mississippi

Free parking is available in the parking lot north of the MDEQ Building on East Amite Street.

RECEIVED
MAY 3 1993
DEQ OPC

UNDERGROUND STORAGE TANK CLOSURE REPORT

Within 30 days of receipt of laboratory results submit lab results and this form to address below.

Received:

Ownership of Tanks

Account No.
DEES Oil Co.
Owner's Name (Corporation, Individual, Public Agency, or Other)
P.O. Box 98
Mailing Address
Ripley MS 38663
City State Zip Code
Tippah 601-837-9341
County Telephone No.

Location of Tanks

#0-010850
Facility ID No.:
Kaddy Shack
Location Name of Company Site Identifier
Goodman Road
Mailing Address
Olive Branch MS 3
City State Zip Code
DeSoto 601-895-9090
County Telephone No.

Indicate Number of Tanks at this location: 3 0

Description of Underground Storage Tanks (Complete for each tank at this location)

	Tank No. ROV	Tank No. ROV	Tank No. ROV	Tank No.	Tank No.	Tank No.
Tank Information						
1. Date of tank installation (mo/day/yr)	3/10/90	3/10/90	3/10/90			
2. Estimated age of tank (years)	3 yrs	3 yrs	3 yrs			
3. Estimated total capacity (gallons)	8000	8000	6000			
4. Material stored in tank	GAS	GAS	~~DIESEL~~ GAS			
Tank Closure Information						
5. Date product was removed from tank (mo/day/yr)	5/4/93	5/4/93	5/4/93			
6. Date tank was removed from ground (mo/day/yr)	5/7/93	5/7/93	5/7/93			
7. If closed in place, date tank was filled with inert material (mo/day/yr)						
8. If closed in place, list inert material used (sand, concrete, virgin drilling mud)						
Site Assessment Information						
9. Was a leak detection system operating on tank? (yes,no)	MONITOR WELLS YES	YES	YES			
10. Date samples were collected (mo/day/yr)						
11. Was evidence of a leak detected? (yes/no)	NO	NO	NO			

Oath: I certify that the information concerning closure is true to the best of my belief and knowledge. (Please print all but signature.)

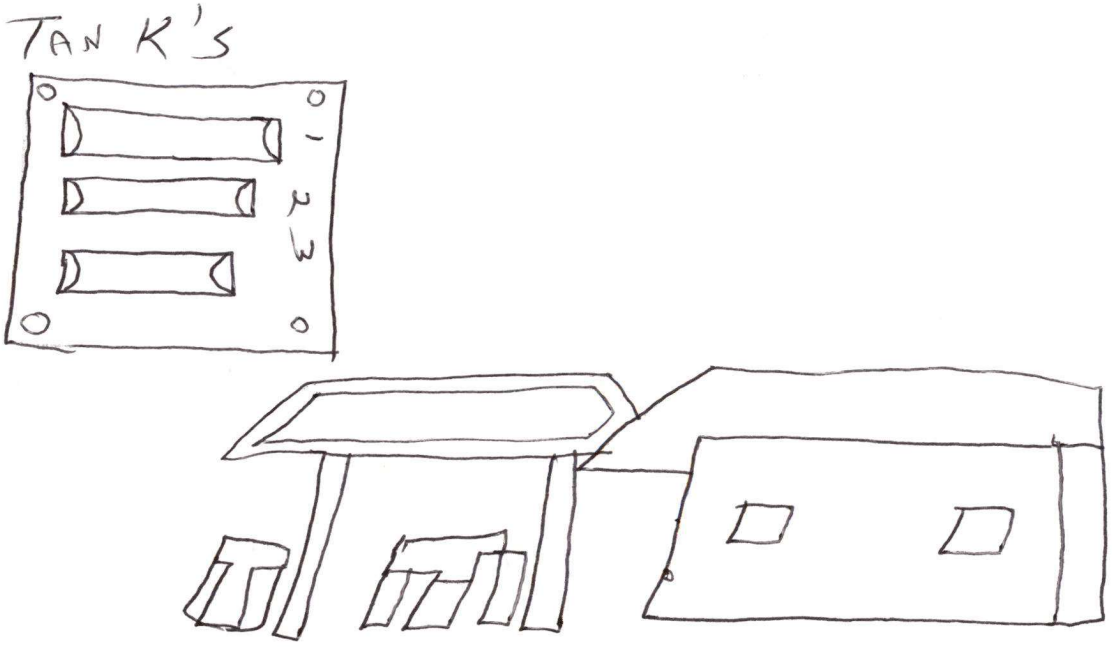
Owner's Name DEES OIL Co.
Owner's Signature Michael Dees Date 5-11-93
Certified Remover's Name Billy Burns's Certification No.: NHB0578
Certified Remover's Signature Billy Burns Date 5-11-93
Certified Remover's Company Custom Sign Co.
Certified Remover's Position: Manager

DRAW SITE MAP ON BACK OF THIS FORM.

Produced by Mississippi Department of Environmental Quality, Office of Pollution Control, P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 11/91

Amended 5-13-93 (LB)

LOCATION OF TANK FACILITY (Complete for all tank closures)
SITE MAP



Produced by Mississippi Department of Environmental Quality, Office of Pollution Control,
P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 11/91

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

FILE COPY

05/13/93

Michael Dees
Dee's Oil Company
Hwy 15
Ripley MS 38663

Dear Michael Dees

RE: Underground Storage Tanks
KADDY SHACK
7031 PLEASANT HILL ROAD
OLIVE BRANCH MS 38654
Facility ID #0-010850

The Office of Pollution Control (OPC) has reviewed the analytical results of the soil sample(s) collected during the closure of the underground storage tank(s) (USTs) at the above referenced location(s). The Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) concentrations were below the maximum allowable concentration of 100 ppm. Therefore, no further action is is required for the closure of these underground storage tank(s).

We appreciate all of your cooperation and if you need assistance in the future, please write to us or call us at (601) 961-5075.

Sincerely,

Lynn Svendsen
MS Underground Storage Tank Section

/sv

STATE OF MISSISSIPPI
NOTIFICATION FOR UNDERGROUND STORAGE TANKS

FOR TANKS IN MISS.	RETURN COMPLETED FORM TO	Department of Environmental Quality Bureau of Pollution Control P.O. Box 10385 Jackson, Mississippi 39289-0385	STATE USE ONLY ✓89; ✓90; ✓91; ✓92; ✓93 ID #: 10850 DATE RECORDED: 1-21-93

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section VIII. Please mark all boxes that apply in each section. This form must be completed for each location containing underground storage tanks. If more than five (5) tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form. **Number of continuation sheets attached** _____.

I. TYPE OF NOTIFICATION

1-8-93 mml

☐ A. New Location

☒ B. Amended Facility I.D. #: 10850 (Olive Branch)

☐ 1. New Tank(s) at Location

☐ 2. Changes to Current Tank(s)

☒ 3. Change in Ownership

Supply previous owner's name: Smith Oil Inc.

Telephone Number ( )

☐ C. Closure Facility I.D. #_____

II. OWNERSHIP OF TANK(S)

Account #: D138

DEES Oil Co.

Owner's Name (Corporation, Individual, Public Agency, or Other)

P.O. Box 98

Mailing Address

Ripley MS 38663

City State ZIP Code

Tippah (601) 837-9341

County Telephone Number

III. BILLING OF TANK(S)

If same as owner in Section II, **check here** ✓ and proceed to Section IV.

Name of Individual or Company responsible for fee

Billing Address

City State ZIP Code

( )

Telephone Number

IV. LOCATION OF TANK(S)

Kaddy Shack

Location Name or Company Site Identifier, as applicable

7031 Pleasant Hill Rd.

Street Address (P.O. Box not acceptable)

Olive Branch MS 38654

City State ZIP Code

DeSoto (601) 895-9090

County Telephone Number

Indicate Number of Tanks at This Location 3

3T ROV 5-7-93

V. TYPE OF OWNER

☐ Federal Government ☐ Commercial

☐ State Government ☑ Private

☐ Local Government

VI. INDIAN LANDS

Tanks are located on land within an Indian Reservation or on other trust lands. ☐

Tanks are owned by native American nation, tribe, or individual. ☐

Tribe or Nation:

VII. TYPE OF FACILITY

Select the Appropriate Facility Description(s):

✓ Gas Station	Local Government	Contractor	Petroleum Distributor
State Government	Trucking/Transport	Air Taxi (Airline)	Federal-Non-Military
Utilities	Aircraft Owner	Federal-Military	Farm or Residential (over 1,100 gal. tanks)
Auto Dealership	Commercial	Railroad	Industrial
Other (Explain)			

VIII. CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner (print)	Signature	Date signed
MICHAEL DEES, PRESIDENT	Michael Dees	1/12/93

Produced by Mississippi Department of Environmental Quality, Bureau of Pollution Control,
P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 6/90

Amended 5-13-93

LS

Owner Name (from Section II) Dees Oil Location (from Section IV) Olive Branch Page No. 2 of 4 Pages

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

	Tank No. #1	Tank No. #2	Tank No #3	Tank No.	Tank No.
1. Status of Tank					
Currently in Use	T	V	V		
Temporarily Out of Use (Complete Section XI) 4-12-93					
Permanently Out of Use (Complete Section XI)	X (2D)	X (1D)	X (1D)		
Newly Installed					
2. Date of Installation (mo/day/yr)	3/1/90	3/1/90	3/1/90		
3. Estimated Age (Years)	NEW	NEW	NEW		
4. Estimated Total Capacity (Gallons)	8000	8000	6000		
5. Material of Construction					
Asphalt Coated or Bare Steel					
Cathodically Protected Steel	✓	✓	✓		
Lined Interior					
Epoxy Coated Steel	✓	✓	✓		
Composite (Steel with Fiberglass)					
Fiberglass Reinforced Plastic					
Double Walled					
Polyethylene Tank Jacket					
Concrete					
Excavation Liner					
Unknown					
Other, please specify					
Has tank been repaired?					
6. Piping (Material)					
Bare Steel					
Galvanized Steel					
Coated/Wrapped Steel	✓	✓	✓		
Fiberglass Reinforced Plastic					
Copper					
Cathodically Protected	✓	✓	✓		
Double Walled					
Secondary Containment					
Unknown					
Other, please specify					
7. Piping (Type)					
Suction: check valve directly under pump					
Suction: valve at tank					
Pressure	✓	✓	✓		
Gravity Fed					
Unknown					
Has piping been repaired?					
8. Substance Currently or Last Stored In Greatest Quantity by Volume					
Gasoline	✓	✓	✓		
Diesel					
Gasohol					
Kerosene					
Heating Oil					
Used Oil					
Other, please specify					
Hazardous Substance-CERCLA name					
CAS Number					
Mixture of Substances, please specify					
Tank is currently empty					

Owner Name(from Section II) Dees Oil Location(from Section IV) Olive Branch Page No. 3 of 4 Pages

X. FINANCIAL RESPONSIBILITY

I have met the financial responsibility requirements in accordance with 40 CFR Subpart H ☐

☑ State funds ☐ Self Insurance ☐ Surety Bond ☐ Trust Fund ☐ Risk Retention Group

☐ Letter of Credit ☐ Guarantee ☐ Other Method Allowed(Specify)

XI. TANKS TEMPORARILY OUT OF USE, PERMANENTLY OUT OF USE, OR CHANGE IN SERVICE OF TANKS

mmc 1-27-93 Place 1-13-93 Burned + not in use now as per conver w/Dale at Dees Oil

	Tank No. ROV	Tank No. ROV	Tank No. ROV	Tank No.	Tank No.
1. Temporarily Out of Use Tanks					
Date product was removed from tank (mo/day/yr)	1-13-93	1-13-93	1-13-93		
2. Permanently Out of Use Tanks.					
Date product was removed from tank (mo/day/yr)	5-4-93	5-4-93	5-4-93		
Date tank removed from ground (mo/day/yr)	5-7-93	5-7-93	5-7-93		
Date tank filled with inert material (sand, concrete, etc.) (mo/day/yr)					
Date of change in service (mo/day/yr)					
3. Site Assessment Completed					
Estimated date of action (mo/day/yr)					
Evidence of a leak detected					

XII. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

1. Installation					
Installer certified by tank and piping manufacturers					
Installer certified or licensed by the implementing agency					
Installation inspected and certified by a registered engineer					
Installation inspected and approved by implementing agency					
Manufacturer's installation checklists have been completed					
Other method allowed by State agency, please specify					
2. Cathodic Protection (if applicable)					
Date Installed	3/1/90	3/1/90	3/1/90		
Galvanic (Sacrificial) Anode System	✓	✓	✓		
Impressed Current Anode System					
Other, Please Specify					
3. Release Detection for Tanks					
Date installed					
Manual tank gauging (Applies only to 2,000 gallon tanks or less)					
Tank tightness testing					
Monthly inventory controls	✓	✓	✓		
Automatic tank gauging					
Vapor monitoring	✓	✓	✓		
Groundwater monitoring					
Interstitial monitoring/double walled tank					
Other method allowed by implementing agency, please specify					

Produced by Mississippi Department of Environmental Quality, Bureau of Pollution Control,
P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 6/90

Amended 5-13-93 (18)

XII. CERTIFICATION OF COMPLIANCE (Continued)

	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
3.Release Detection for Piping (Continued)					
Vapor Monitoring	✓	✓	✓		
Groundwater monitoring					
Interstitial monitoring/secondary containment					
Automatic line leak detectors	~~✓~~	~~✓~~	~~✓~~		
Line tightness testing	✓	✓	✓		
Other method allowed by implementing agency, please specify					
4.Spill and Overfill Protection					
Overfill device installed					
Date installed	3/1/90	3/1/90	3/1/90		
Spill device installed	✓	✓	✓		
Date installed	3/1/90	3/1/90	3/1/90		

5. Please provide the following information for newly installed tanks and lines:
Date of final precision tank tightness test: _____
Name of testing company: _____
Please attach copy of precision test report.

6.Oath: I certify that the information concerning installation provided in section XII is true to the best of my belief and knowledge. (Please print all but signature)

Installer's Name **Certification Number**

Signature **Date**

Position **Company**

XIII. LOCATION OF TANK FACILITY (Complete for all new tank installations)

Please locate the tank facility on a city or topographic map and attach to this form. Should you need assistance, please call the Bureau at (601) 961-5171.

STATE OF MISSISSIPPI
NOTIFICATION FOR UNDERGROUND STORAGE TANKS

FOR TANKS IN MISS.

RETURN COMPLETED FORM TO: Department of Environmental Quality
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

STATE USE ONLY
___89; ___90; ___91; ___92; ___93
ID #: 10850
DATE RECORDED: APR 1 9 1990

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section VIII. Please mark all boxes that apply in each section. This form must be completed for each location containing underground storage tanks. If more than five (5) tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form. Number of continuation sheets attached ___.

I. TYPE OF NOTIFICATION

- ☑ A. New Location
- ☐ B. Amended Facility I.D. # _____
  - ☑ 1. New Tank(s) at Location
  - ☐ 2. Changes to Current Tank(s)
  - ☐ 3. Change in Ownership

  Supply previous owner's name _____

  Telephone Number (___) _____
- ☐ C. Closure Facility I.D. # _____

II. OWNERSHIP OF TANK(S)

5/163
Smith Oil Inc
Owner's Name (Corporation, Individual, Public Agency, or Other)
P.O. Box 885
Mailing Address
Oxford Miss 38655
City State ZIP Code
Lafayette ( )
County Telephone Number
601-234-5601

III. BILLING OF TANK(S)

If same as owner in Section II, check here ☑ and proceed to Section IV.

Name of Individual or Company responsible for fee

Billing Address

City State ZIP Code
( )
Telephone Number

IV. LOCATION OF TANK(S)

Krady Shack
Facility Name or Company Site Identifier, as Applicable
7031 Pleasant Hill Rd.
Street Address (P.O. Box not acceptable)
Olive Branch ( ) MS 38654
City State ZIP Code
County DeSoto Telephone Number 601-895-7090
Indicate Number of Tanks at This Location 5

V. TYPE OF OWNER

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☐ Commercial
- ☑ Private

VI. INDIAN LANDS

Tanks are located on land within an Indian Reservation or on other trust lands. ☐

Tanks are owned by native American nation, tribe, or individual. ☐

Tribe or Nation:

VII. TYPE OF FACILITY

Select the Appropriate Facility Description(s):

- ☑ Gas Station
- ___ State Government
- ___ Utilities
- ___ Auto Dealership
- ___ Other(Explain)
- ___ Local Government
- ___ Trucking/Transport
- ___ Aircraft Owner
- ___ Commercial
- ___ Contractor
- ___ Air Taxi (Airline)
- ___ Federal-Military
- ___ Railroad
- ___ Petroleum Distributor
- ___ Federal-Non-Military
- ___ Farm or Residential(over 1,100 gal. tanks)
- ___ Industrial

VIII. CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner (print)	Signature	Date signed
Donald C Smith	Donald C Smith	5-1-90

Produced by Mississippi Department of Environmental Quality, Bureau of Pollution Control,
P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 7/89

Owner Name(from Section II) Smith Oil Location(from Section IV) Page No. 2 of 4 Pages

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
1. Status of Tank					
Currently in Use	✓	✓	✓		
Temporarily Out of Use (Complete Section XI)					
Permanently Out of Use (Complete Section XI)					
Newly Installed					
2. Date of Installation (mo/day/yr)	5-1-70	5-1-70	5-1-70		
3. Estimated Age (Years)	NEW	NEW	NEW		
4. Estimated Total Capacity (Gallons)	8000	8000	6000		
5. Material of Construction					
Asphalt Coated or Bare Steel					
Cathodically Protected Steel	✓	✓	✓		
Lined Interior					
Epoxy Coated Steel	✓	✓	✓		
Composite (Steel with Fiberglass)					
Fiberglass Reinforced Plastic					
Double Walled					
Polyethylene Tank Jacket					
Concrete					
Excavation Liner					
Unknown					
Other, please specify					
Has tank been repaired?					
6. Piping (Material)					
Bare Steel					
Galvanized Steel					
Coated/Wrapped Steel	✓	✓	✓		
Fiberglass Reinforced Plastic					
Copper					
Cathodically Protected	✓	✓	✓		
Double Walled					
Secondary Containment					
Unknown					
Other, please specify					
7. Piping (Type)					
Suction: no valve at tank					
Suction: valve at tank					
Pressure	✓	✓	✓		
Gravity Fed					
Has piping been repaired?					
8. Substance Currently or Last Stored in Greatest Quantity by Volume					
Gasoline	✓	✓	✓		
Diesel					
Gasohol					
Kerosene					
Heating Oil					
Used Oil					
Other, please specify					
Hazardous Substance-CERCLA name					
CAS Number					
Mixture of Substances, please specify					
Tank is currently empty					

Owner Name(from Section II) Smith Oil Location(from Section IV) Page No. 5 of 4 Pages

X. FINANCIAL RESPONSIBILITY

I have met the financial responsibility requirements in accordance with 40 CFR Subpart H ☐

☐ Self Insurance ☐ Surety Bond ☐ Trust Fund ☐ Risk RetentionGroup ☐ Letter of Credit

☐ Guarantee ☑ State Funds ☐ Other Method Allowed(Specify)

XI. TANKS TEMPORARILY OUT OF USE, PERMANENTLY OUT OF USE, OR CHANGE IN SERVICE OF TANKS

	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
1. Temporarily Out of Use Tanks					
Estimated Date last used (mo/day/yr)					
2.Permanently Out of Use Tanks.					
Estimated date last used (mo/day/yr)					
Estimated date tank closed (mo/day/yr)					
Tank was removed from ground					
Tank was closed in ground					
Tank filled with inert material					
Change in service					
3.Site Assessment Completed					
Estimated date of action (mo/day/yr)					
Evidence of a leak detected					

XII. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

1.Installation					
Installer certified by tank and piping manufacturers					
Installer certified or licensed by the implementing agency	✓	✓	✓		
Installation inspected and certified by a registered engineer					
Installation inspected and approved by implementing agency	✓	✓	✓		
Manufacturer's installation checklists have been completed	✓	✓	✓		
Other method allowed by State agency, please specify					
2.Cathodic Protection (if applicable)					
Date Installed	3-1-90	3-1-90	3-1-90		
Galvanic(Sacrificial) Anode System	✓	✓	✓		
Impressed Current Anode System					
Other, Please Specify					
3.Release Detection					
Date installed					
Manual tank gauging (Applies only to 2,000 gallon tanks or less)					
Tank tightness testing					
Monthly inventory controls	✓	✓	✓		
Automatic tank gauging					
Vapor monitoring	✓	✓	✓		
Groundwater monitoring					
Interstitial monitoring/double walled tank					

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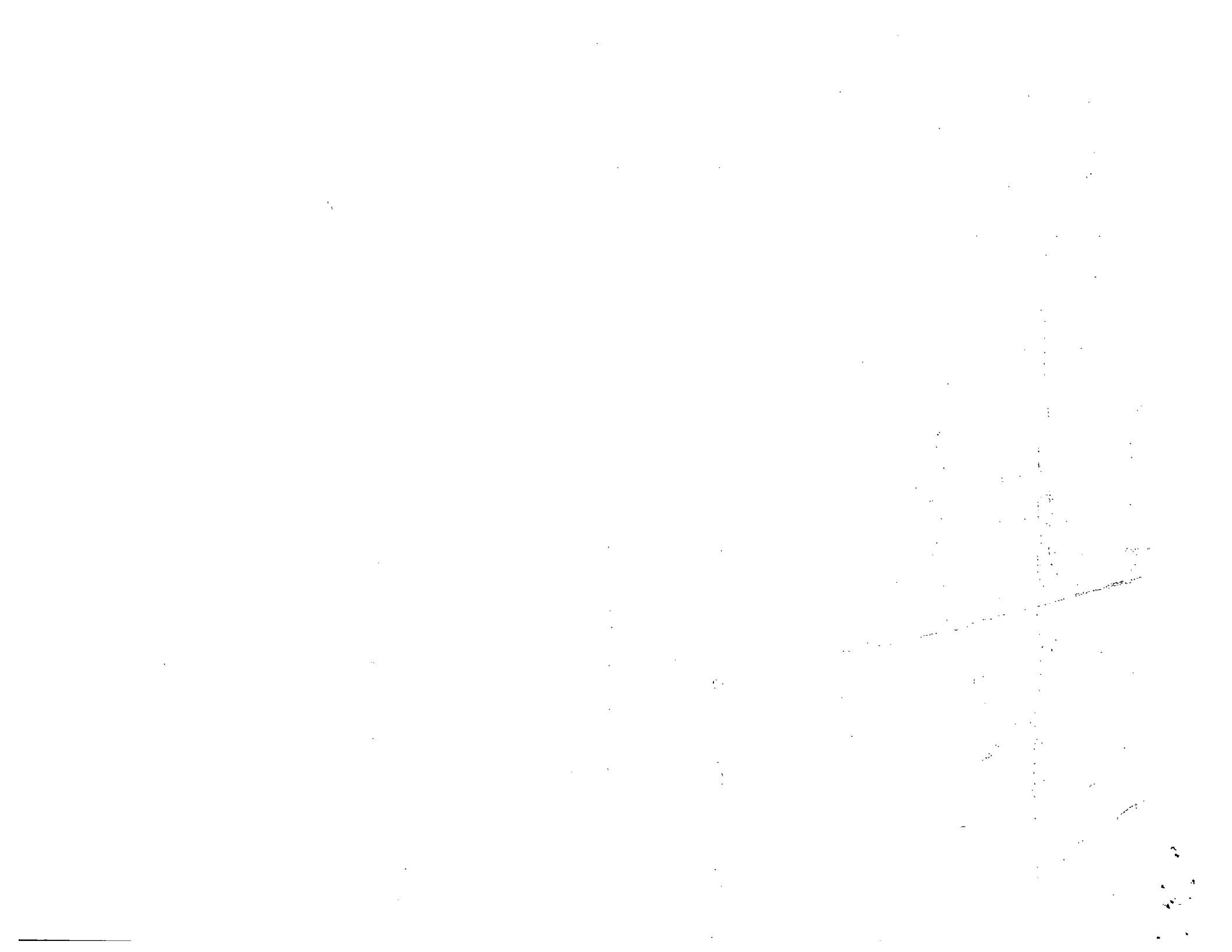
P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 7/89



#10850

Owner Name(from Section II) Smith O. I Location (from Section IV) Page No. 4 of 4 Pages

XII. CERTIFICATION OF COMPLIANCE (Continued)

	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
3. Release Detection (Continued)					
Interstitial monitoring/secondary containment					
Automatic line leak detectors	✓	✓	✓		
Line tightness testing					
Other method allowed by implementing agency, please specify					
4. Spill and Overfill Protection					
Overfill device installed	✓	✓	✓		
Date installed	5-1-90	5-1-90	5-1-90		
Spill device installed	✓	✓	✓		
Date installed	5-1-90	5-1-90	5-1-90		

5. Oath: I certify that the information concerning installation provided in section XII is true to the best of my belief and knowledge. (Please print all but signature)

Dan Smith

Installer's Name

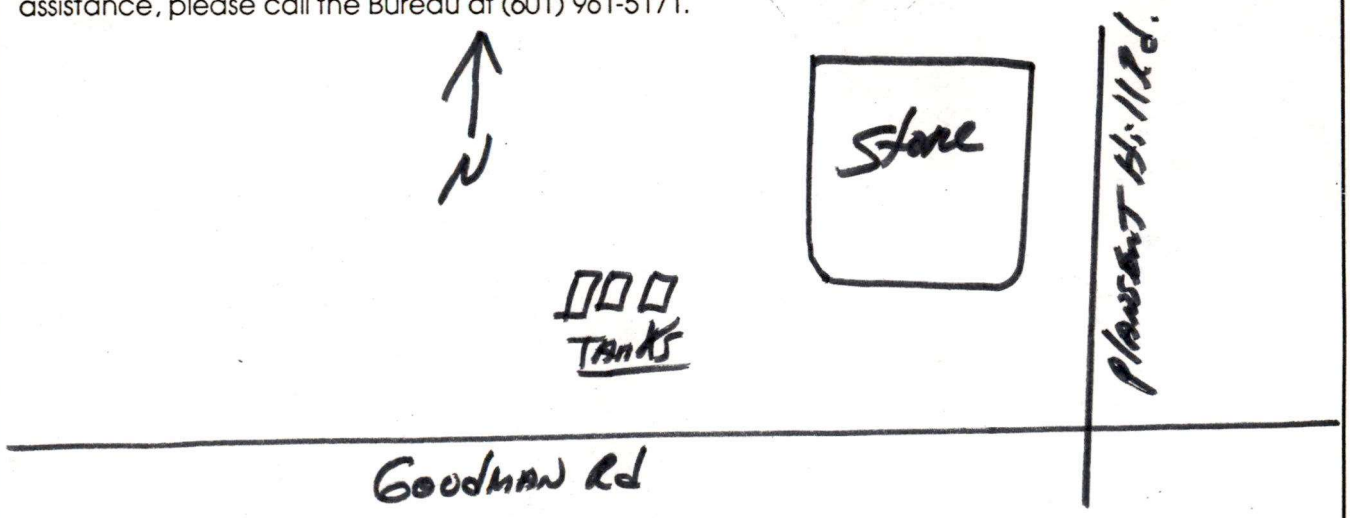
Signature 5-1-90 Date

President Smith Oil Co. Inc.

Position Company

XIII. LOCATION OF TANK FACILITY (Complete for all new tank installations)

Please locate the tank facility on a city or topographic map and attach to this form. Should you need assistance, please call the Bureau at (601) 961-5171.



Produced by Mississippi Department of Environmental Quality, Bureau of Pollution Control, P.O. Box 10385, Jackson, MS 39289-0385 / (601) 961-5171 7/89

Environmental
Protection
Systems

10850 OK

AN ENGINEERING/ANALYTICAL REPORT
FOR A SITE ASSESSMENT OF
CITGO KADDY SHACK
DESOTO COUNTY, MISSISSIPPI

MSHD Project No.: 97-0021-01-007-10 ROW

Prepared For:

MISSISSIPPI HIGHWAY DEPARTMENT
JACKSON, MISSISSIPPI

Report No. 1.4803.50
April, 1990

Comprehensive Environmental Services

AN ENGINEERING/ANALYTICAL REPORT FOR A SITE ASSESSMENT OF CITGO KADDY SHACK DESOTO COUNTY, MISSISSIPPI

MSHD Project No.: 97-0021-01-007-10 ROW

PREPARED FOR:

MISSISSIPPI HIGHWAY DEPARTMENT
JACKSON, MISSISSIPPI

PREPARED BY:

ENVIRONMENTAL PROTECTION SYSTEMS
A DIVISION OF ENVIRO/ANALYSIS
JACKSON, MISSISSIPPI

Report No. 1.4803.50
April, 1990

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1.0 INTRODUCTION

Environmental Protection Systems (EPS) was retained by the Mississippi Highway Department, Jackson, Mississippi, to perform a petroleum hydrocarbon site assessment at Citgo Kaddy Shack, Hwy. 302, DeSoto County, Mississippi, project no. 97-0021-01-007-10, to determine if any hydrocarbon contaminants have been released into the soil or groundwater from possible leaking underground fuel storage systems (see Figure 1, Site Location). Prior to conducting the field work both the site owner and utility companies were notified. The site assessment was conducted on April 19, 1990. Mr. David Woodard, the site owner, was present at the time of the assessment.

Scope of Work

Assessment procedures included the following:

1. Preliminary inspection of site and surrounding areas.
2. An inquiry with utility companies to locate underground services.
3. Soil boring activities for the collection of soil samples for both field and laboratory analysis along with documentation of shallow subsurface geological conditions.
4. Field analysis of soil samples utilizing a photoionization detector (PID) to detect ionizable hydrocarbons in vapor phase.
5. Laboratory analysis of 2 soil samples, selected by PID field screening.
6. Collection and laboratory analysis of 4 groundwater grab samples.
7. Preparation of the assessment report.

2.0 SITE DESCRIPTION

Citgo Kaddy Shack presently serves as a convenience store/filling station/restaurant with 3 underground fuel storage tanks and 4 pump islands (see Figure 2, Site Plan). Table 1 lists the UST data. Underground utilities include natural gas, telephone, water, and sewer.

The site is presently owned by Mr. David Woodard, 7031 Pleasant Hill Road, telephone number 895-9090. The underground fuel storage system is owned by Smith Oil Company, Oxford, Mississippi, telephone number 1-800-255-5910.

3.0 SAMPLE ANALYSIS

Two representative soil samples (2 BTEX and 2 TPH) were selected for laboratory analysis by field screening all samples utilizing a PID. The soil samples having the highest ionizable hydrocarbon concentrations were submitted to the EPS laboratory for analysis (see Table 2, Borehole Sample Data). Parameters of analysis are:

Gasoline Tanks	Diesel/Waste Oil Tanks/Abandoned
Benzene	Total Petroleum Hydrocarbons
Toluene	
Ethyl Benzene	
Xylene	

Four groundwater grab samples were also collected and analyzed for BTEX and TPH (see Table 2). Laboratory analysis reports are presented in Appendix A.

Laboratory analysis was conducted in accordance with 40 CFR Part 261, November, 1986, "Test Methods for Evaluating Solid Waste" (SW-846).

4.0 GEOLOGY

4.1 DeSoto County Geology

DeSoto County is located in the Bluff Hills region of north Mississippi. The overall slope of the surface is to the southwest. DeSoto County is predominantly outcropped with Kosciusko formation and loess deposits. To a lesser extent, Terrace deposits are outcropped along the northern portion of the county and Alluvium deposits are outcropped in the extreme northwest corner. Aquifers outcropping in the county include the Sparta formation and the Mississippi River Valley Alluvium.

4.2 Local Geology

Based on information obtained from the Mississippi State Geological Survey Bulletin No. 78 and "Sources for Water Supplies in Mississippi" U.S. Geological Survey, it is believed that Citgo Kaddy Shack is located in the outcrop area of the Kosciusko formation loess deposits and is in a possible aquifer recharge zone. According to information obtained from the assessment borings, shallow subsurface strata is characterized as brown and tan silty clays with a ground water level at 2.5 ft. on the day of the assessment.

5.0 BOREHOLE LOCATIONS

Four borings were drilled using a 3-inch outside diameter hand auger.

The selection of the borehole locations was based on information available at the time of the assessment. Locations were selected which would target areas prone to contamination from leaking UST systems, such as pump islands and pipe trenches, as well as near the USTs. The borehole logs are presented in Appendix B.

Boreholes B1-B4 were drilled near the pump islands to a depth of 3 ft. Groundwater was not encountered.

Four monitoring wells are situated around the USTs and four groundwater samples were collected.

6.0 CONCLUSIONS

Information obtained from the site inspection indicates that the proposed right-of-way acquisition area, Kaddy Shack Citgo, located at 7031 Pleasant Hill Road is not contaminated with BTEX or TPH in concentrations above the Mississippi Department of Environmental Quality regulatory limit of 100 ppm BTEX or TPH in soil and 18 ppm BTEX or TPH in groundwater.

FIGURE 1

SITE LOCATION

DE SOTO COUNTY
MISSISSIPPI

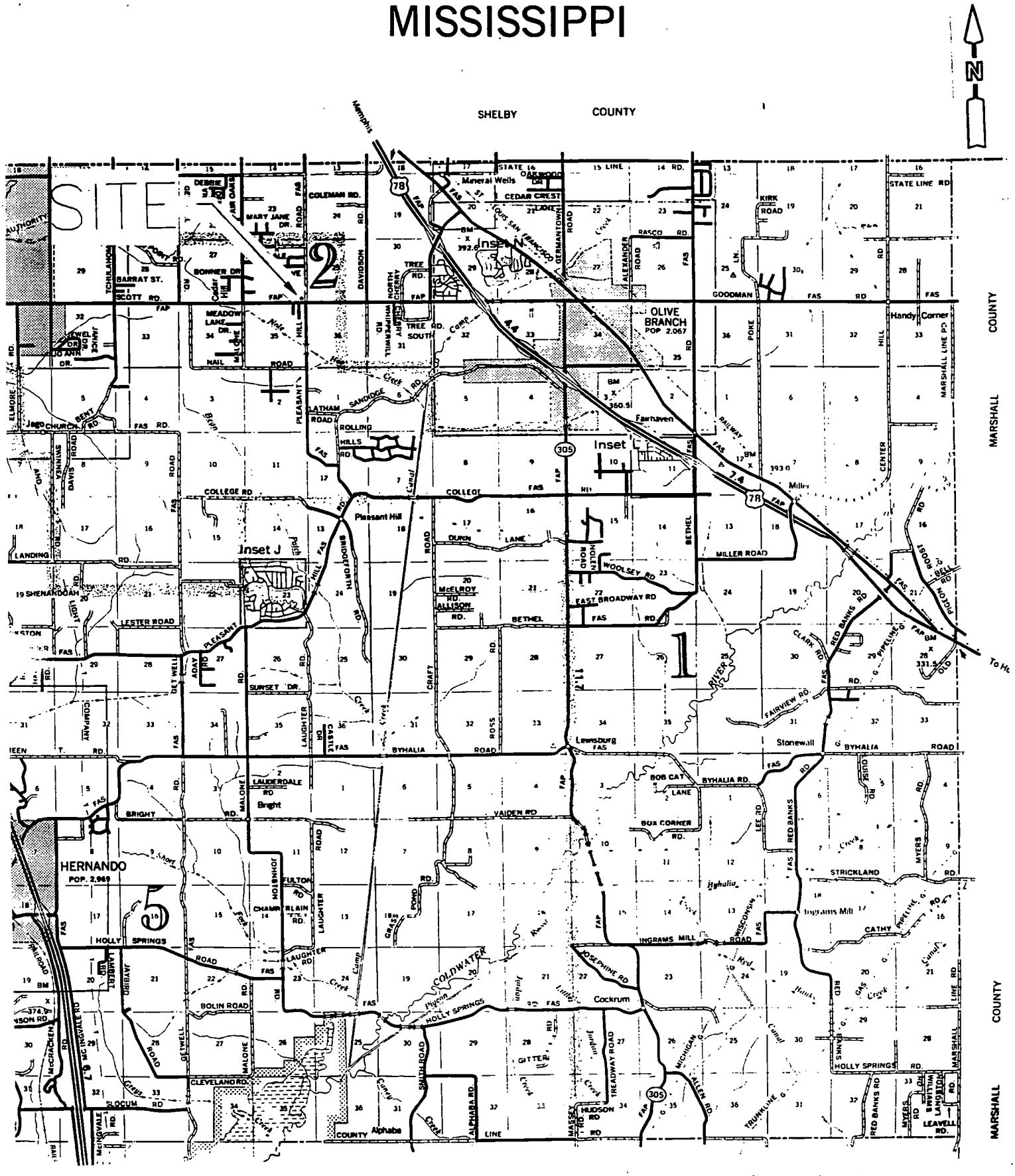
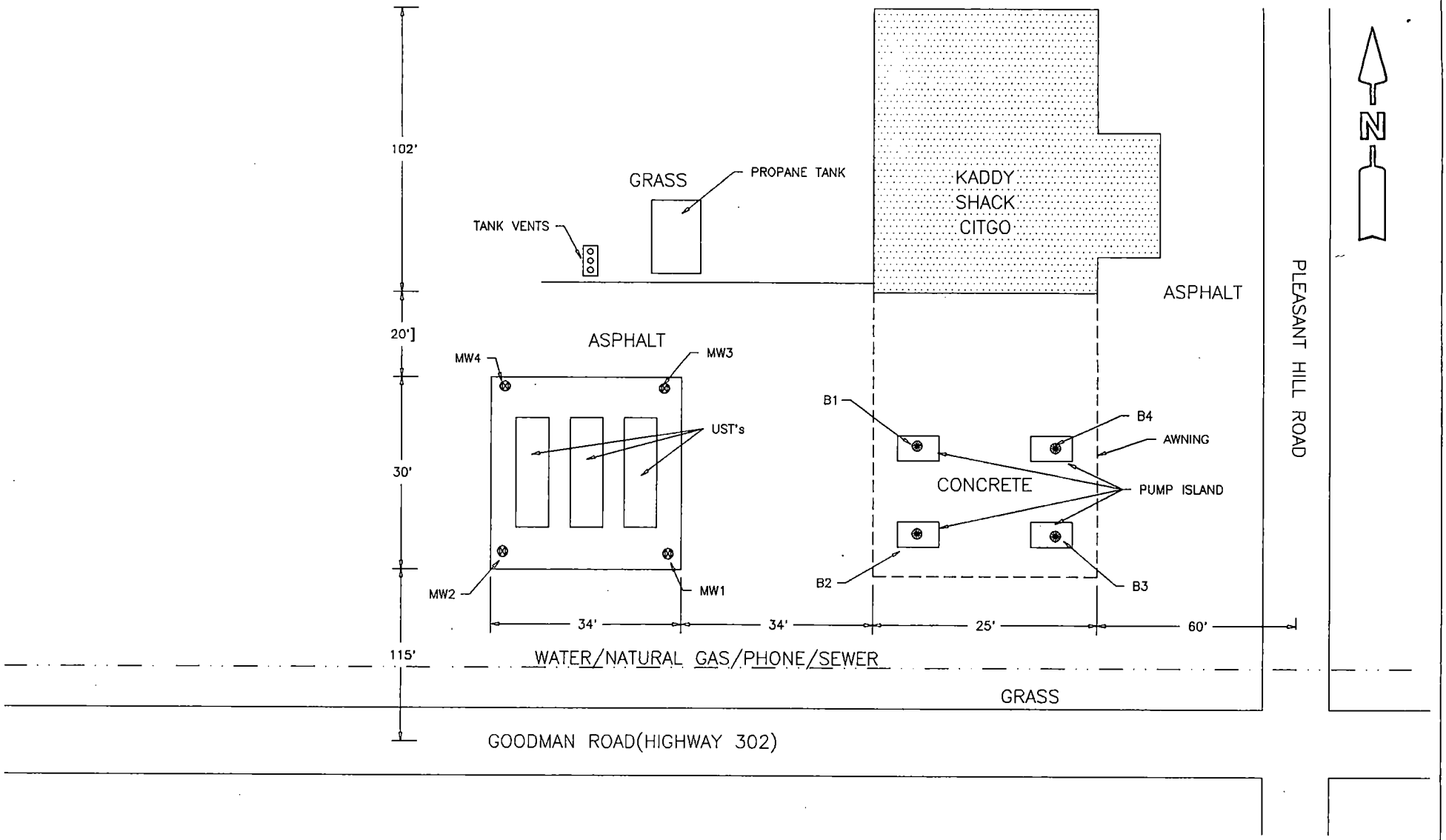


FIGURE 2

SITE PLAN



LEGEND

- ⊛ – BOREHOLE
- ⊗ – MONITORING WELL LOCATION

Environmental Protection Systems		5360 I–55 NORTH JACKSON, MISSISSIPPI 39211
PROJECT TITLE:	PETROLEUM HYDROCARBON SITE ASSESSMENT MS STATE HIGHWAY DEPARTMENT 7031 PLEASANT HILL ROAD HIGHWAY 302 DESOTO COUNTY, MISSISSIPPI	
SCALE: N.T.S.	DRAWN BY: W.H.F.	CHECKED BY: R.E.B.
DATE: 19 APR 1990		APPROVED BY: J.T.M.
PROJECT NUMBER: 1.4803.50		DRAWING NUMBER: EPS–5523

TABLE 1

UST DATA SHEET

TABLE 1
UST DATA SHEET
STATION NO.

Description of Underground Storage Tanks (Complete for each tank at the location)					
Site ID No. 7031 Pleasant Hill Rd.	Tank 1	Tank 2	Tank 3	Tank	Tank
1. Status of Tank:					
Currently In Use	✓	✓	✓		
Temporarily Out of Order					
Permanently Out of Use					
Brought into use after 5/8/86					
2. Estimated Age (Years)	2 mo.	2 mo.	2 mo.		
3. Estimated Total Capacity (Gallons)	10K	10K	10K		
4. Material of Construction:					
Steel	✓	✓	✓		
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, please specify					
5. Internal Protection:					
Cathodic Protection					
Interior Lining (e.g. epoxy resins)					
None					
Unknown	✓	✓	✓		
Other, please specify					
6. External Protection:					
Cathodic Protection					
Painted (e.g. asphaltic)	✓	✓	✓		
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, please specify					
7. Piping:					
Bare Steel					
Galvanized Steel	✓	✓	✓		
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, please specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume:					
Empty					
Petroleum:					
Diesel					
Kerosene					
Gasoline	✓	✓	✓		
Used Oil					
Other, please specify					
Hazardous Substance					
Name of CERCLA Substance					
CAS No.					
Does tank store a mixture of subst.					
Unknown					
9. Additional information (for tanks permanently taken out-of-service:					
Estimated date last used (mo/yr)		/	/	/	/
Estimated quantity of subst. remng.					
Was tank filled with inert material (Describe)					
Closed in place					
Removed from ground					

10. Oil Jobber/Company Smith Oil Co. Oxford

Phone 1-800-255-5910

*Unknown, filler necks not accessible at time of assessment

TABLE 2

BOREHOLE/SAMPLE DATA

TABLE 2
BOREHOLE/SAMPLE DATA

Dodge's Store
DeSoto County, Mississippi
April 19, 1990

Borehole No.	Depth (ft)	PID (ppm)	BTEX (ppm)	TPH (ppm)	Lithology/Comments
B1	3.0	22.0	---	---	Brown Silty Clay, Moist
B2	*4.0	310.0	1.09	32.0	Brown Silty Clay, Wet ++
B3	*4.0	300	4.36	84.0	Tan Silty Clay, Moist ++
B4	3.0	11.0	---	---	Red Medium to Coarse Grained Sand, Moist
**MW1	---	---	0.002	0.002	Water Level at 2 ft. 2 in.
**MW2	---	---	0.002	0.007	Water Level at 2 ft. 4 in.
**MW3	---	---	0.002	0.007	Water Level at 3 ft.
**MW4	---	---	0.002	0.002	Water Level at 2 ft. 9 in.

Note: Mississippi Department of Environmental Quality regulatory limit for BTEX or TPH in soil is 100 ppm and 18 ppm for BTEX or TPH in groundwater (laboratory analysis).
*Soil sample collected for laboratory analysis
**Groundwater sample collected for laboratory analysis
MW Monitoring Well
++Petroleum odor

APPENDIX A:
LABORATORY ANALYTICAL RESULTS

EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-

DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.

COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90

REPORT NO.: 13140
PROJECT NO.:

PAGE NO.: 1

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT				ANALYSIS INFORMATION			BATCH QUALITY CONTROL		
						ANALYST	DATE	TIME	SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17335.00									
Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Ethyl Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Toluene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
TOTAL PETROLEUM HYDROCARBONS	ug/l	2.1				JRB	04/27/90	16:00	NA	NA	NA
Xylenes, Total	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA

SUPPLEMENTARY INFORMATION:
Analysis conducted in accordance with 40 CFR Part 136,1986 "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act."

SAMPLE DESCRIPTION:

17335.00 KADDYSHACK WATER SAMPLE MW1

COLLECTION DATE/TIME:

04/19/90 04/19/90 08:35

CERTIFICATION:

Ray Hudnall
Quality Assurance and Quality Control

Herbert L. Johnston
Analytical Services

This report applies only to the sample(s) analyzed. The liability of the laboratory is limited to the amount paid for the report by the client. The client assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the contents hereof.

EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-
DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.
COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90
REPORT NO.: 13141
PROJECT NO.:
PAGE NO.: 1

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT				ANALYSIS INFORMATION			BATCH QUALITY CONTROL		
						ANALYST	DATE	TIME	SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17336.00									
Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Ethyl Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Toluene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
TOTAL PETROLEUM HYDROCARBONS	mg/l	0.7				JRB	04/27/90	16:00	NA	NA	NA
Xylenes, Total	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA

SUPPLEMENTARY INFORMATION:
Analysis conducted in accordance with 40 CFR Part 136,1986 "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act."

SAMPLE DESCRIPTION:
17336.00 KADDYSHACK WATER SAMPLE MW2

COLLECTION DATE/TIME:
04/19/90 04/19/90 08:57

CERTIFICATION:
Ray Hudnall
Quality Assurance and Quality Control
Herbert R. Johnston
Analytical Services

This report applies only to the sample(s) analyzed. The liability of the laboratory is limited to the amount paid for the report by the client. The client assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the contents hereof.

EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-
DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.
COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90
REPORT NO.: 13142
PROJECT NO.:

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT				ANALYSIS INFORMATION			BATCH QUALITY CONTROL		
						ANALYST	DATE	TIME	SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17337.00									
Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Ethyl Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Toluene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
TOTAL PETROLEUM HYDROCARBONS	mg/l	0.7				JRB	04/27/90	16:00	NA	NA	NA
Xylenes, Total	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA

SUPPLEMENTARY INFORMATION:
Analysis conducted in accordance with 40 CFR Part 136,1986 "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act."

SAMPLE DESCRIPTION:
17337.00 KADDYSHACK WATER SAMPLE MW3

COLLECTION DATE/TIME:
04/19/90 04/19/90 09:20

CERTIFICATION:
Ray Hudnall
Quality Assurance and Quality Control
Herbert A. Johnston
Analytical Services

This report applies only to the sample(s) analyzed. The liability of the laboratory is limited to the amount paid for the report by the client. The client assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the contents hereof.

EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-

DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.

COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90

REPORT NO.: 13114
PROJECT NO.:

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT				ANALYSIS INFORMATION: ANALYST	DATE	TIME	BATCH QUALITY CONTROL: SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17338.00									
Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Ethyl Benzene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
Toluene	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
TOTAL PETROLEUM HYDROCARBONS	ug/l	1.5				JRB	04/27/90	16:00	NA	NA	NA
Xylenes, Total	ug/l	<0.5				SCP	04/25/90	12:58	40	99	NA
TEST RESULTS FOR SAMPLE LOG NUMBER:			17340.00								
Benzene	ug/kg		0.21			SCP	04/27/90	15:17	0.02	102	13
Ethyl Benzene	ug/kg		<0.01			SCP	04/27/90	15:17	0.02	102	13
Moisture	% by wt.		11.3			JRB	04/26/90	13:00	NA	NA	4.1

SUPPLEMENTARY INFORMATION:
Analysis conducted in accordance with 40 CFR Part 136,1986 "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act."
Analyses conducted in accordance with 40 CFR, Part 261, November 1986, "Test Methods for Evaluating Solid Waste" (SW-846).

SAMPLE DESCRIPTION:

17338.00 KADDYSHACK WATER SAMPLE MW4
17340.00 KADDYSHACK SOIL SAMPLE B2

COLLECTION DATE/TIME:

04/19/90 04/19/90 09:45
04/19/90 04/19/90 10:00

CERTIFICATION:

Ray Hudnall
Quality Assurance and Quality Control

Herbert R. Johnston
Analytical Services

This report applies only to the sample(s) analyzed. The liability of the laboratory is limited to the amount paid for the report by the client. The client assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the contents hereof.

EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-

DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.

COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90

REPORT NO.: 13114
PROJECT NO.:

PAGE NO.: 2

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT				ANALYSIS INFORMATION			BATCH QUALITY CONTROL		
						ANALYST	DATE	TIME	SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17340.00									
Toluene	ug/kg	0.50				SCP	04/27/90	15:17	0.02	102	13
TOTAL PETROLEUM HYDROCARBONS	ug/kg	32				JRB	04/26/90	11:00	NA	NA	10
Xylenes, Total	ug/kg	0.37				SCP	04/27/90	15:17	0.02	102	13

SUPPLEMENTARY INFORMATION:
Analyses conducted in accordance with 40 CFR, Part 261, Noveaber 1986, "Test Methods for Evaluating Solid Waste" (SW-846).

SAMPLE DESCRIPTION:
17340.00 KADDYSHACK SOIL SAMPLE B2

COLLECTION DATE/TIME:
04/19/90 04/19/90 10:00

CERTIFICATION:

Ray Hudnall
Quality Assurance and Quality Control

Herbert A. Johnston
Analytical Services

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EPS Analytical Services
5360 I-55 North • Jackson, MS 39211 • Telephone (601) 956-1400 • FAX (601) 956-2365

LABORATORY REPORT

CLIENT: EPS - JACKSON ENGINEERING
LOCATION: JACKSON, MS 39211-
DATE: 04/27/90
PROJECT LOCATION: VARIOUS MS.
COLLECTED BY: EPS-JM
RECEIPT DATE: 04/23/90
REPORT NO.: 13139
PROJECT NO.:
PAGE NO.: 1

ANALYTE	UNITS	LABORATORY RESULTS / REGULATORY LIMIT	ANALYSIS INFORMATION: ANALYST	DATE	TIME	BATCH QUALITY CONTROL: SPIKE VALUE	% RECOVERY	RELATIVE % DEVIATION
TEST RESULTS FOR SAMPLE LOG NUMBER:		17341.00						
Benzene	ug/kg	0.57	SCP	04/27/90	15:17	0.02	102	13
Ethyl Benzene	ug/kg	0.61	SCP	04/27/90	15:17	0.02	102	13
Moisture	% by wt.	21.5	JRB	04/26/90	13:00	NA	NA	4.1
Toluene	ug/kg	2.27	SCP	04/27/90	15:17	0.02	102	13
TOTAL PETROLEUM HYDROCARBONS	ug/kg	84	JRB	04/26/90	11:00	NA	NA	10
Xylenes, Total	ug/kg	0.91	SCP	04/27/90	15:17	0.02	102	13

SUPPLEMENTARY INFORMATION:
Analyses conducted in accordance with 40 CFR, Part 261, November 1986, "Test Methods for Evaluating Solid Waste" (SW-846).

SAMPLE DESCRIPTION:
17341.00 KADDYSHACK SOIL SAMPLE B3

COLLECTION DATE/TIME:
04/19/90 04/19/90 10:20

CERTIFICATION:
Ray Hudnall
Quality Assurance and Quality Control
Herbert A. Johnston
Analytical Services

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APPENDIX B:
BOREHOLE LOG SHEETS

ENVIRONMENTAL PROTECTION SYSTEMS
ENGINEERS, PLANNERS, AND SCIENTISTS
DIVISION OF ENVIRO/ANALYSIS CORP.
JACKSON, MISSISSIPPI

PAGE : 1 OF 1
DATE : 4/19/90
TIME : 0900
WEATHER : Clear, breezy 60°

SITE ID: Kaddy Shack/CITGO (BORING/SITE)
PROJECT#: (EPS) 1.4803.50 / MHD # 97-0021-01-007-10
LOCATION: B1
DRILL METHOD: Hand Auger SAMPLE TOOL: Auger HOLE DIA: 3"
GEOLOGIST: D Woodall DRILLER: J McInnis
SOIL CLASSIFICATION: METER CALIBRATION: 0.8 (PRE) / 1.0 (POST)

START / STOP	P I D	SAMPLE # / DEPTH	DEPTH IN FT.	SYMBOL	SURFACE CONDITIONS : Concrete Apron / Sample Taken Beneath the Pump
0930	22.0	Lab Sample * 3'	0		
			3	BOH	Brown Silty Clay, Slightly moist, No Petroleum odor
			6		* Placed on engineering hold 4/23/90.
			9		
			12		
			15		
			18		
			21		
			24		
			27		
			30		
			33		
			36		
			39		
			42		

WATER LEVEL OBSERVATIONS
NOTED ON RODS: _____ FT.
AT COMPLETION: _____ FT.
AFTER: _____ HRS. _____ FT.

M = MOIST
S = SATURATED
P = PETROLEUM ODER

ENVIRONMENTAL PROTECTION SYSTEMS
ENGINEERS, PLANNERS, AND SCIENTISTS
DIVISION OF ENVIRO/ANALYSIS CORP.
JACKSON, MISSISSIPPI

PAGE : 2 OF 4
DATE : 4/19/90
TIME : 1000
WEATHER : Warm, breezy, fair

SITE ID: Kadd, Shack / CITGO (BORING/SITE) PROJECT#: EPS 1.4803.50 / MDO# 97-0021-01-007-10
LOCATION: B2
DRILL METHOD: Hand Auger SAMPLE TOOL: Auger HOLE DIA: 3"
GEOLOGIST: D Woodall DRILLER: J McInnis
SOIL CLASSIFICATION: METER CALIBRATION: PRE , POST

START / STOP	P I D	SAMPLE# / DEPTH	DEPTH IN FT.	SYMBOL	SURFACE CONDITIONS : Concrete Apron / Sample Taken Beneath the Pump
			0		
				Backfill	
			3		
		Lab Sample #1	4		Brown Silty Clay, wet Strong Petroleum Odor
1000	310.0			BDN	
			6		
			9		
			12		
			15		
			18		
			21		
			24		
			27		
			30		
			33		
			36		
			39		
			42		

WATER LEVEL OBSERVATIONS
NOTED ON RODS: FT.
AT COMPLETION: FT.
AFTER: HRS. FT.

M = MOIST
S = SATURATED
P = PETROLEUM ODER

ENVIRONMENTAL PROTECTION SYSTEMS
ENGINEERS, PLANNERS, AND SCIENTISTS
DIVISION OF ENVIRO/ANALYSIS CORP.
JACKSON, MISSISSIPPI

PAGE : 3 OF 4
DATE : 4/19/90
TIME : 1015
WEATHER : Clear, breezy 60°

SITE ID: Kaddy Shack / Citgo
LOCATION: BORING/SITE B3
EPS PROJECT#: 1,4903.50 / MHAD # 97-0021-01-003-1.3
DRILL METHOD: Hand Auger SAMPLE TOOL: Auger HOLE DIA: 3"
GEOLOGIST: D Woodall DRILLER: J McLemore
SOIL CLASSIFICATION: METER CALIBRATION: PRE , POST

START / STOP	P I D	SAMPLE# / DEPTH	DEPTH IN FT.	SYMBOL
			0	
			3	Backfill
1020	300.0	Lab Sample 4'	4	BGW
			6	
			9	
			12	
			15	
			18	
			21	
			24	
			27	
			30	
			33	
			36	
			39	
			42	

SURFACE CONDITIONS :
Concrete Apron / Sample Taken Beneath The Pump

Tan Silty Clay, moist, Strong Petroleum odor

WATER LEVEL OBSERVATIONS
NOTED ON RODS: _____ FT.
AT COMPLETION: _____ FT.
AFTER: _____ HRS. _____ FT.

M = MOIST
S = SATURATED
P = PETROLEUM ODER

ENVIRONMENTAL PROTECTION SYSTEMS
ENGINEERS, PLANNERS, AND SCIENTISTS
DIVISION OF ENVIRO/ANALYSIS CORP.
JACKSON, MISSISSIPPI

PAGE : 4 OF 4
DATE : 4/19/90
TIME : 1035
WEATHER : Clear, breezy, 60°

SITE ID: Kaddy Shack / Citgo
LOCATION: BORING/SITE B4
PROJECT#: 1.4903.50/MNA-97-0021-01-007-113
DRILL METHOD: Hand Auger
SAMPLE TOOL: Auger
HOLE DIA: 3"
GEOLOGIST: D Woodall
DRILLER: J McLemore
SOIL CLASSIFICATION:
METER CALIBRATION: PRE 8.4/5 POST 11:00

START / STOP	PID	SAMPLE# / DEPTH	DEPTH IN FT.	SYMBOL
1040	11.0	Lab Sample * 3'	0	
			3	BON
			6	
			9	
			12	
			15	
			18	
			21	
			24	
			27	
			30	
			33	
			36	
			39	
			42	

SURFACE CONDITIONS :
Concrete Apron / Sample Taken Beneath The Pump

Red medium to Coarse grain Sand, Slightly moist, NO oder

* Placed on engineering hold.

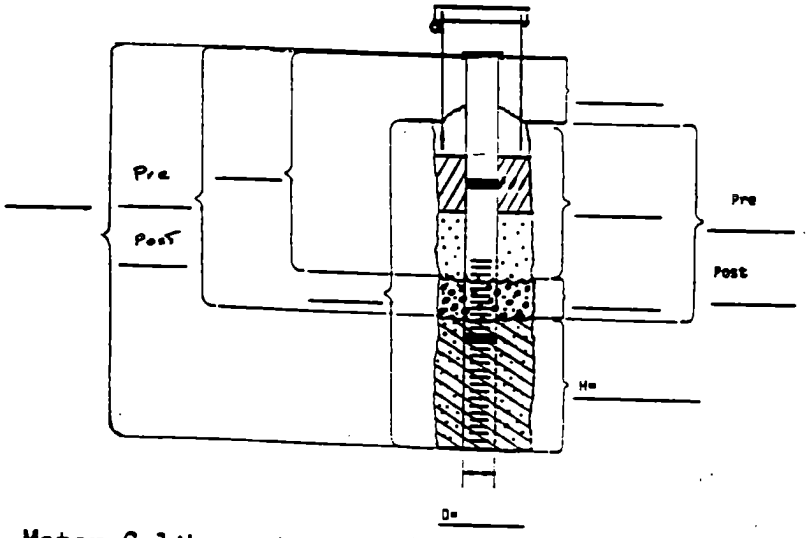
WATER LEVEL OBSERVATIONS
NOTED ON RODS: _____ FT.
AT COMPLETION: _____ FT.
AFTER: _____ HRS. _____ FT.

M = MOIST
S = SATURATED
P = PETROLEUM ODER

ENVIRONMENTAL PROTECTION SYSTEMS
MONITORING WELL DATA SHEET

Sheet 1 of 4

Project Name Caddy Shack
Site Location MW #1
Project No. 1.4803.50
Signature of Sampler John McLemore / B Conley
Collection Date 4/19/80
Measuring Device Water level Indicator
Collection Time 8:35



$V = \pi r^2 H$
Purge _____ volumes of water
r = D/2 = 2
H = 17' (12)

π (2)^2 84 = 1055 ci

_____ ci X 0.004329 gal/ci = 4.7 gal

_____ gal x 3 =

14 gal to purge

56

Meter Calibrated _____

Floating Product Slight Sheen

Test	Temp °C	pH	Cond x1 µMHO	Gal	Notes
1	15.6	6.15	130	5	
2	15.4	6.22	145	10	38
3	15.9	6.20	150	15	56
4					
5					
6					

COMMENTS

2'2" H_2O To Top of Casing

9'3" Bottom of well

2'10" Post H_2O Top of Casing

T05-053 (Trial Period 12/23/87-02/23/88)

ENVIRONMENTAL PROTECTION SYSTEMS
MONITORING WELL DATA SHEET

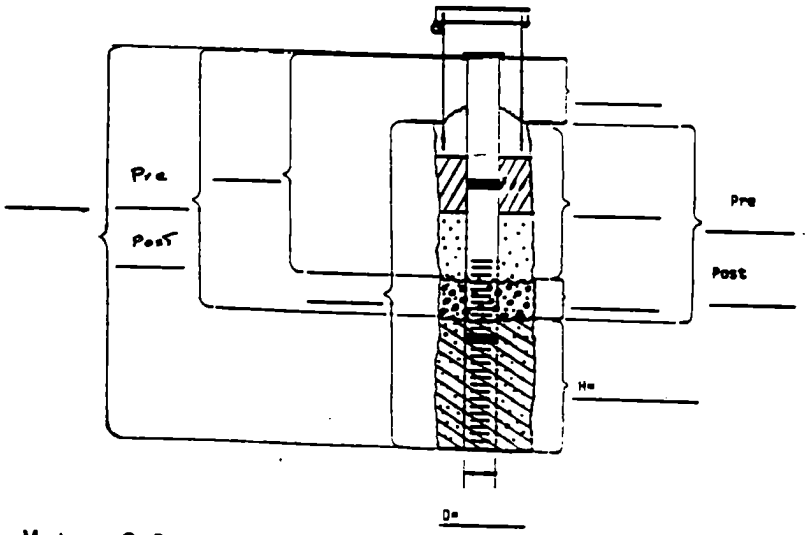
Sheet 2 of 4

Project Name _____ Project No. 1.4803.50

Site Location Kelly Shack MW2

Signature of Sampler John McLemore/ Collection Date 4/19/90

Measuring Device Water Level Indicator Collection Time 8:57



$V = \pi r^2 H$

Purge _____ volumes of water

r = D/2=

H = 6.7 - 3.0

π (_____)^2 10 = 1010 ci

1010 ci X 0.004329 gal/ci = 4.37 gal

4.37 gal x 3 =

13.1 gal to purge

Meter Calibrated _____ Floating Product _____

Test	Temp °C	pH	Cond X1 µMHOS	Gal	Notes
1	16.0	6.05	90	5.0	
2	15.8	6.08	120	10	
3	15.8	6.04	120	15	
4					
5					
6					

COMMENTS

2'4" H_2O to top of Casing

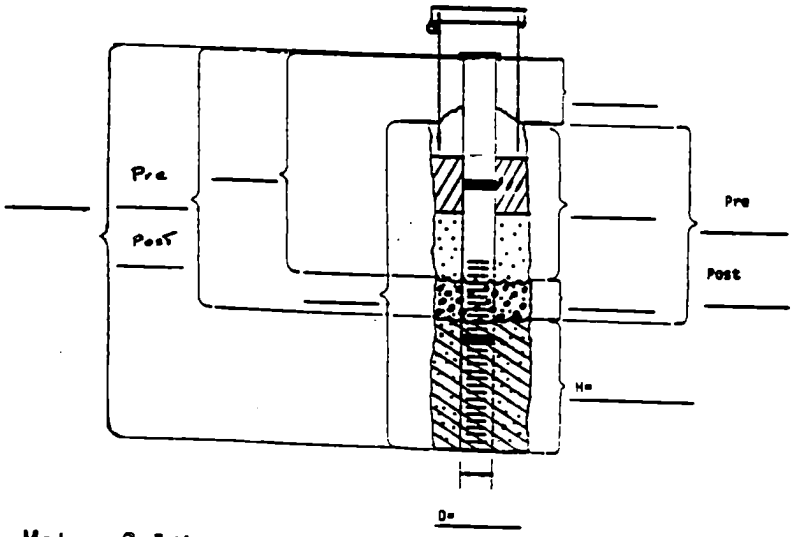
9'0" Bottom of Well

3.0' Post H_2O Level

ENVIRONMENTAL PROTECTION SYSTEMS
MONITORING WELL DATA SHEET

Sheet 3 of 4

Project Name _____ Project No. 1,4803.50
Site Location KADDY SHACK MW #3
Signature of Sampler DALE WOODALL Collection Date 4/19/90
Measuring Device WATER LEVEL INDICATOR Collection Time 0920



$V = \pi r^2 H$
Purge _____ volumes of water
r = D/2 = 2
H = 6

π (2)^2 72 = 905 ci

_____ ci X 0.004329 gal/ci = 3.9 gal

_____ gal x 3 = ~~0~~

11.8 gal to purge

Meter Calibrated _____ Floating Product _____

Test	Temp °C	pH	Cond___	Gal	Notes
1	15.6	6.35	175	4.0	16
2	15.6	6.04	125	8.0	32
3	15.~~5~~	6.0	120	12.0	47
4					
5					
6					

COMMENTS

TD = 7'

pre H_2O Level = 3.0'

post H_2O Level = 5.0'

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

DATABASE REPORT

Project Property:	*Pleasant Hill Road* *n/a* *Olive Branch MS*
Project No:	*EB237012*
Report Type:	*Database Report*
Order No:	*24032500139*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*December 9, 2025*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*Pleasant Hill Road* *n/a Olive Branch MS*
Project No:		*EB237012*
Coordinates:		
	Latitude:	*34.94888402*
	Longitude:	*-89.90135093*
	UTM Northing:	*3,871,402.59*
	UTM Easting:	*235,051.85*
	UTM Zone:	*16S*
Elevation:		*335 FT*

Order Information:

Order No:	*24032500139*
Date Requested:	*March 25, 2024*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	**1**	0	0	-	-	**1**
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	0	0	0	0
DELISTED SHWS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	**2**	-	**2**
SWF PERMIT	Y	0.5	0	0	0	**1**	-	**1**
DEBRIS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	**1**	0	0	0	-	**1**
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	**4**	0	0	-	-	**4**
UST PERMIT	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
UST MDAC	Y	0.25	**2**	0	0	-	-	**2**
TANK	Y	0.25	0	0	0	-	-	0
DTNK	Y	0.25	0	0	0	-	-	0
VCP	Y	0.5	0	0	0	0	-	0
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
ENG	Y	0.5	0	0	0	0	-	0
INST	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County	***No County databases were selected to be included in the search.***							

Additional Environmental Records

Federal

FINDS/FRS	Y	PO	**6**	-	-	-	-	**6**

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
PFAS ERNS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	**1**	**1**
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PCB	Y	0.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
ENSITE	Y	0.5	0	**1**	0	**2**	-	**3**
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental record sources available for this State.***							
	Total:		**14**	**1**	0	**5**	**1**	**21**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	UST	Circle K 2709318	4955 Goodman Road Olive Branch MS 38654 ***Facility ID:*** *13083*	N	0.00 / 0.00	34	20
1	UST MDAC	Circle K # 2709318	4955 Goodman Rd Olive Branch MS 38654 ***Bus ID | Active:*** *20444 | Yes*	N	0.00 / 0.00	34	25
2	FINDS/FRS	OLIVE BRANCH COMMONS	HIGHWAY 302 AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID:*** *110070201935*	N	0.00 / 0.00	35	25
3	FINDS/FRS	COOPERS MINI MART	4811 GOODMAN ROAD OLIVE BRANCH MS 38654 ***Registry ID:*** *110044645621*	NNW	0.00 / 0.00	32	26
3	UST	Coopers Mini Mart	4811 Goodman Road Olive Branch MS 38654 ***Facility ID:*** *4482*	NNW	0.00 / 0.00	32	26
4	FINDS/FRS	WEDGEWOOD COMMONS	5150 GOODMAN ROAD OLIVE BRANCH MS 38654 ***Registry ID:*** *110038359264*	NNE	0.00 / 0.00	44	28
4	FINDS/FRS	TARGET STORE T2442	5150 GOODMAN RD OLIVE BRANCH MS 38654 ***Registry ID:*** *110045980818*	NNE	0.00 / 0.00	44	29
4	RCRA SQG	TARGET STORE T2442	5150 GOODMAN RD OLIVE BRANCH MS 38654 ***Handler ID | Recycler Activity?:*** *MSR000104091 | YES*	NNE	0.00 / 0.00	44	30
5	FINDS/FRS	KADDY SHACK	7031 PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID:*** *110044539470*	N	0.00 / 0.00	47	48
5	UST	Kaddy Shack	7031 Pleasant Hill Road Olive Branch MS 38654 ***Facility ID:*** *10850*	N	0.00 / 0.00	47	49
6	FINDS/FRS	MARGARETTE MANOR AT ROBINSON CROSSING	CHURCH ROAD AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID:*** *110038353787*	S	0.00 / 0.00	44	52
7	LUST	Pop's Express Ph	5005 Church Road Olive Branch MS 38654 ***Facility ID:*** *13110*	S	0.00 / 0.00	42	52
7	UST	Pop's Express Ph	5005 Church Road Olive Branch MS 38654 ***Facility ID:*** *13110*	S	0.00 / 0.00	42	54

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
7	UST MDAC	Saint Monica Inc	5005 Church Rd Olive Branch MS 38654 ***Bus ID*	*Active:** *21325*	*Yes*	S	0.00 / 0.00	42	57

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
8	ENSITE	SR EPC LLC, SR West Marshall PV	4745 Highway 302 Olive Branch MS 38654	NNW	0.10 / 524.76	24	57
9	ENSITE	Pleasant Hill Storage LLC	5100 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,569.59	48	58
10	ENSITE	DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	54	59
10	SWF PERMIT	DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	54	62
10	SWF/LF	DeSoto Co Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	54	63
10	SWF/LF	DeSoto County Rubbish Site	5255 West Sandidge Rd Olive Branch MS 38654	SSE	0.49 / 2,573.23	54	63
11	MRDS	BRIDGEFORTH PLANT	DESOTO COUNTY OLIVE BRANCH MS 38654 ***Dep ID:*** 10243464	SE	0.53 / 2,779.45	47	64

Executive Summary: Summary by Data Source

Standard

Federal

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Sep 1, 2025 has found that there are 1 RCRA SQG site(s) within approximately 0.25miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
TARGET STORE T2442	5150 GOODMAN RD OLIVE BRANCH MS 38654	NNE	0.00 / 0.00	4
	Handler ID **|** ***Recycler Activity?****: MSR000104091*	*YES*		

State

SWF/LF - Solid Waste Management Facilities Listing

A search of the SWF/LF database, dated Oct 3, 2025 has found that there are 2 SWF/LF site(s) within approximately 0.50miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
DeSoto Co Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	10
DeSoto County Rubbish Site	5255 West Sandidge Rd Olive Branch MS 38654	SSE	0.49 / 2,573.23	10

SWF PERMIT - Solid Waste Facility Permits

A search of the SWF PERMIT database, dated Sep 8, 2025 has found that there are 1 SWF PERMIT site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	10

LUST - Leaking Underground Storage Tanks

A search of the LUST database, dated Sep 4, 2025 has found that there are 1 LUST site(s) within approximately 0.50miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Pop's Express Ph	5005 Church Road Olive Branch MS 38654 ***Facility ID**: 13110*	S	0.00 / 0.00	7

UST - Underground Storage Tanks

A search of the UST database, dated Sep 4, 2025 has found that there are 4 UST site(s) within approximately 0.25miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Circle K 2709318	4955 Goodman Road Olive Branch MS 38654 ***Facility ID**: 13083*	N	0.00 / 0.00	1
Coopers Mini Mart	4811 Goodman Road Olive Branch MS 38654 ***Facility ID**: 4482*	NNW	0.00 / 0.00	3
Kaddy Shack	7031 Pleasant Hill Road Olive Branch MS 38654 ***Facility ID**: 10850*	N	0.00 / 0.00	5
Pop's Express Ph	5005 Church Road Olive Branch MS 38654 ***Facility ID**: 13110*	S	0.00 / 0.00	7

UST MDAC - Underground Storage Tanks - Agriculture & Commerce

A search of the UST MDAC database, dated Nov 5, 2025 has found that there are 2 UST MDAC site(s) within approximately 0.25miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Circle K # 2709318	4955 Goodman Rd Olive Branch MS 38654 ***Bus ID**	**Active**: 20444 | Yes*	N	0.00 / 0.00	1
Saint Monica Inc	5005 Church Rd Olive Branch MS 38654 ***Bus ID**	**Active**: 21325 | Yes*	S	0.00 / 0.00	7

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Oct 10, 2025 has found that there are 6 FINDS/FRS site(s) within approximately 0.02miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
OLIVE BRANCH COMMONS	HIGHWAY 302 AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID**: 110070201935*	N	0.00 / 0.00	2
COOPERS MINI MART	4811 GOODMAN ROAD OLIVE BRANCH MS 38654 ***Registry ID**: 110044645621*	NNW	0.00 / 0.00	3
TARGET STORE T2442	5150 GOODMAN RD OLIVE BRANCH MS 38654 ***Registry ID**: 110045980818*	NNE	0.00 / 0.00	4
WEDGEWOOD COMMONS	5150 GOODMAN ROAD OLIVE BRANCH MS 38654 ***Registry ID**: 110038359264*	NNE	0.00 / 0.00	4
KADDY SHACK	7031 PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID**: 110044539470*	N	0.00 / 0.00	5
MARGARETTE MANOR AT ROBINSON CROSSING	CHURCH ROAD AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654 ***Registry ID**: 110038353787*	S	0.00 / 0.00	6

MRDS - Mineral Resource Data System

A search of the MRDS database, dated Mar 15, 2016 has found that there are 1 MRDS site(s) within approximately 1.00miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BRIDGEFORTH PLANT	DESOTO COUNTY OLIVE BRANCH MS 38654 ***Dep ID**: 10243464*	SE	0.53 / 2,779.45	11

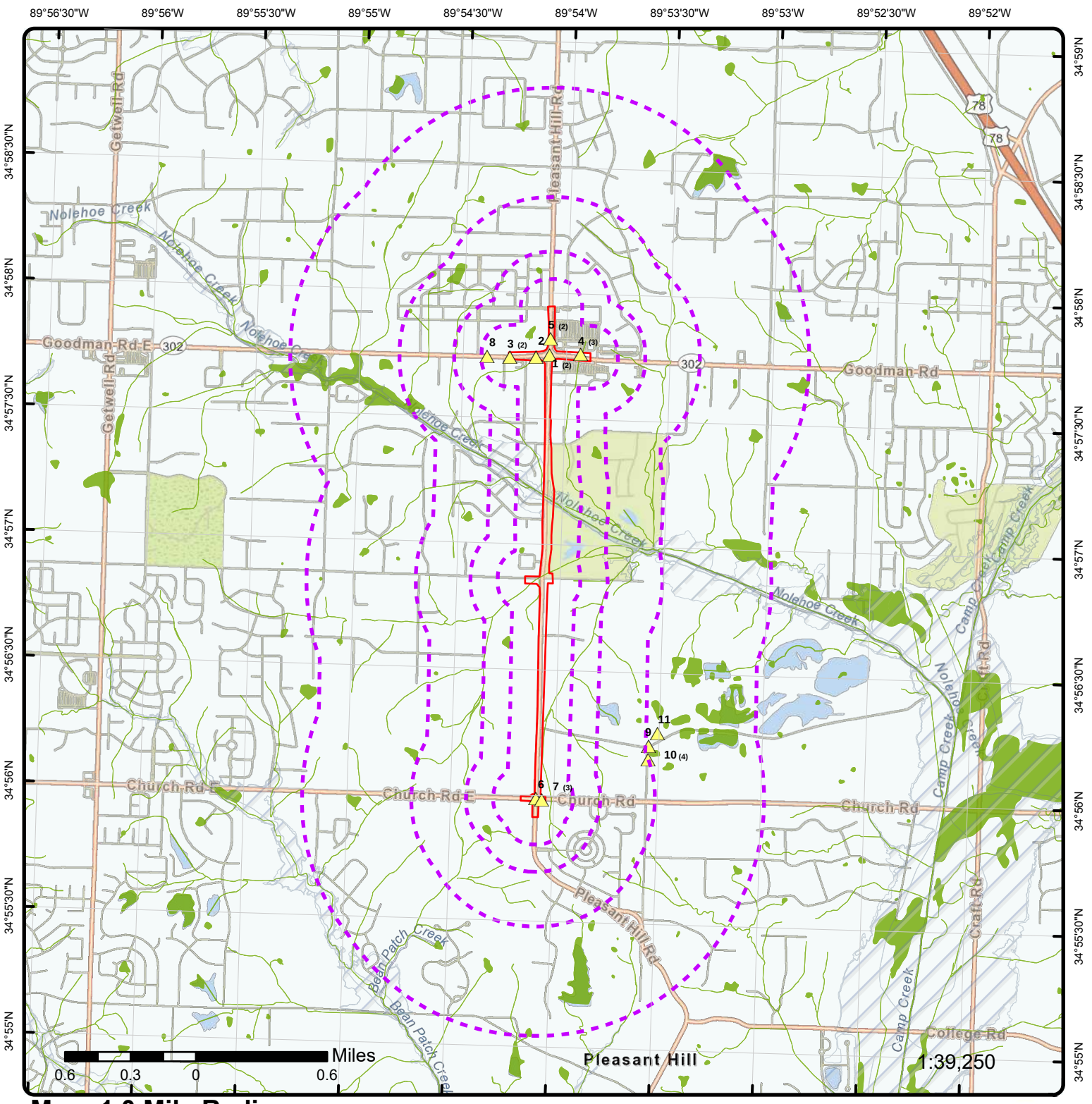
State

ENSITE - Environmental Site Information System

A search of the ENSITE database, dated Sep 8, 2025 has found that there are 3 ENSITE site(s) within approximately 0.50miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SR EPC LLC, SR West Marshall PV	4745 Highway 302 Olive Branch MS 38654	NNW	0.10 / 524.76	8
Pleasant Hill Storage LLC	5100 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,569.59	9
DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site	5255 Sandidge Road Olive Branch MS 38654	SSE	0.49 / 2,573.23	10

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key



Map: 1.0 Mile Radius

Order Number: 24032500139

Address: n/a, Olive Branch, MS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

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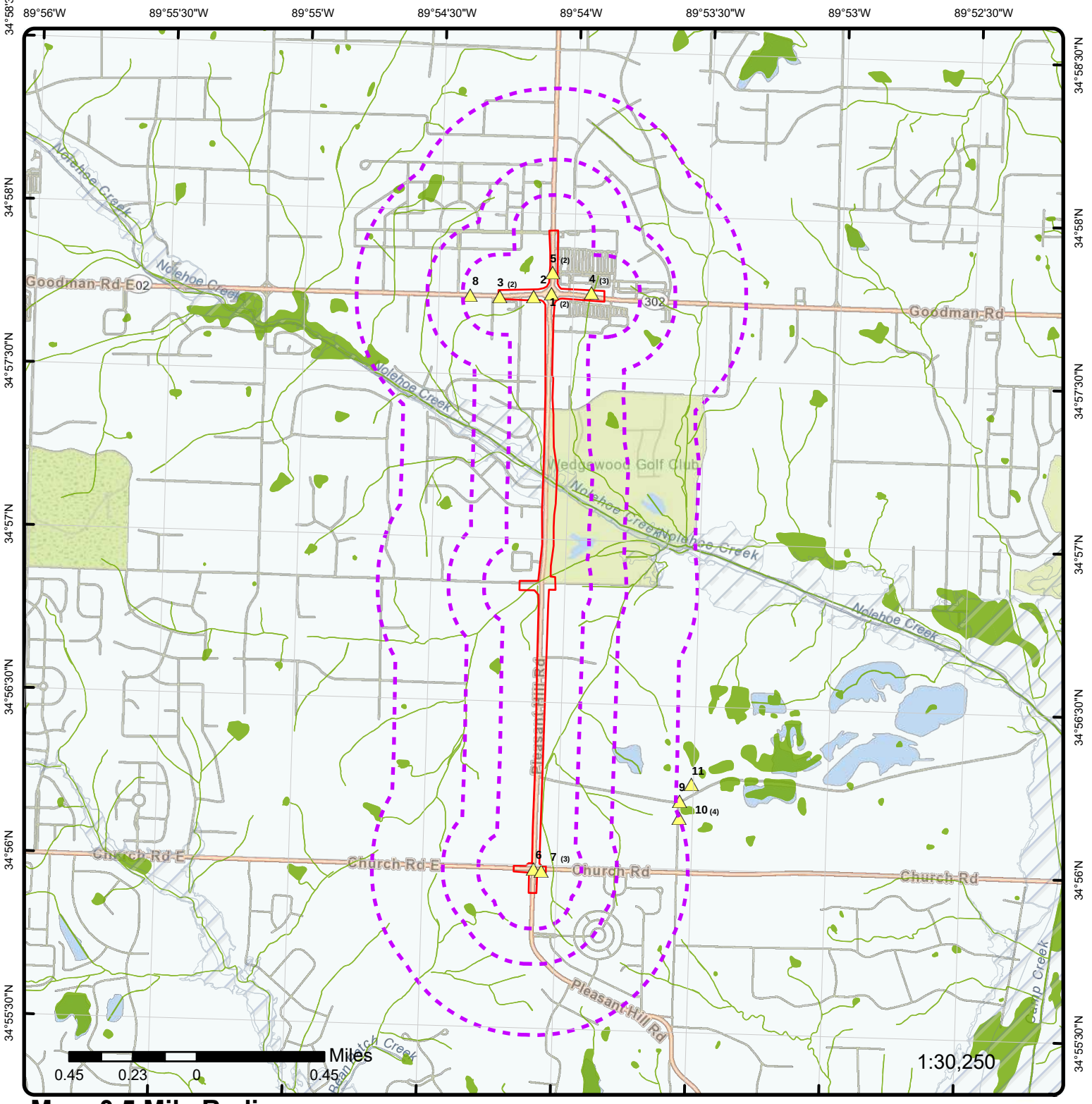

Map: 0.5 Mile Radius

Order Number: 24032500139

Address: n/a, Olive Branch, MS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

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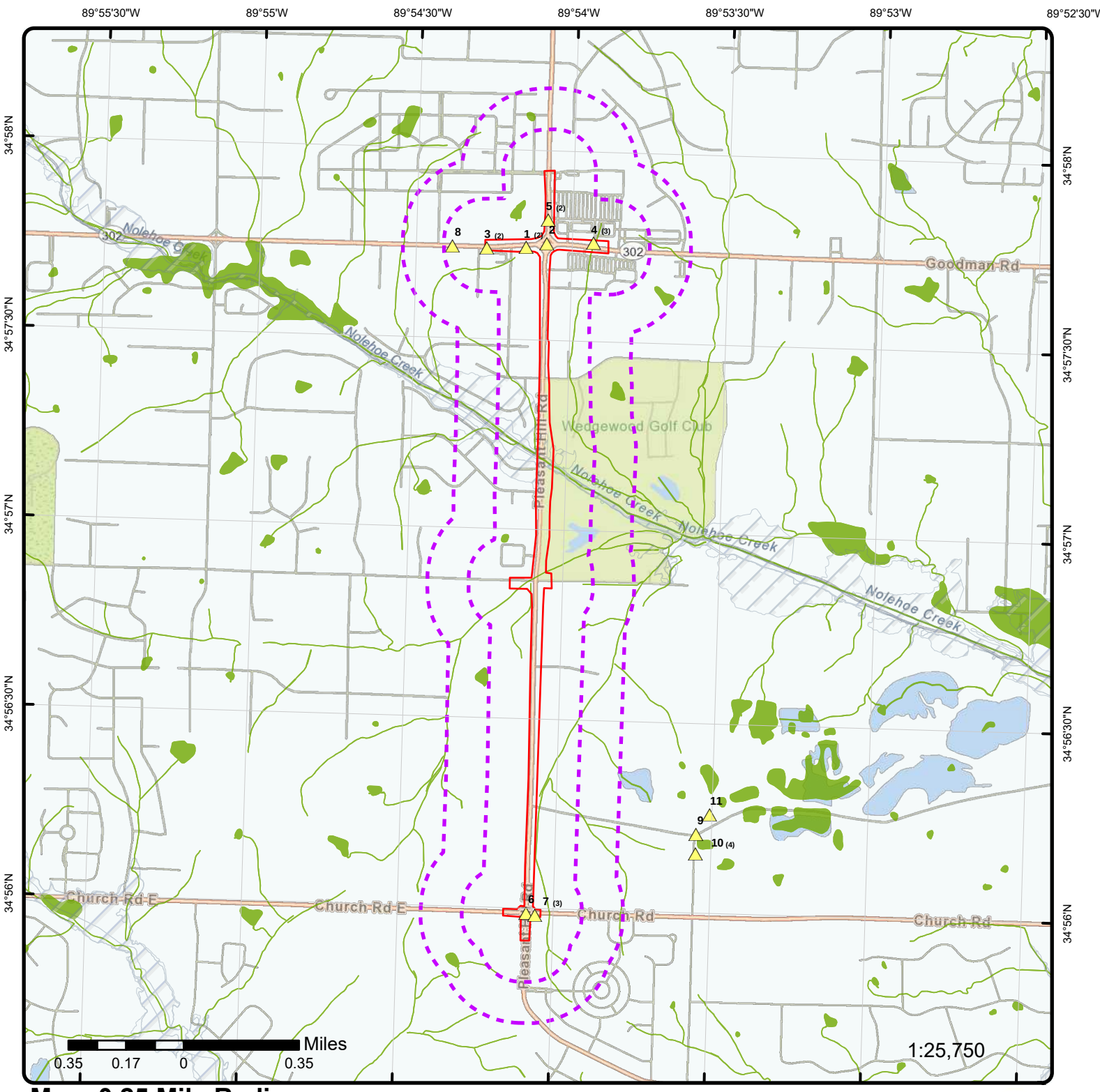

Map: 0.25 Mile Radius

Order Number: 24032500139

Address: n/a, Olive Branch, MS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

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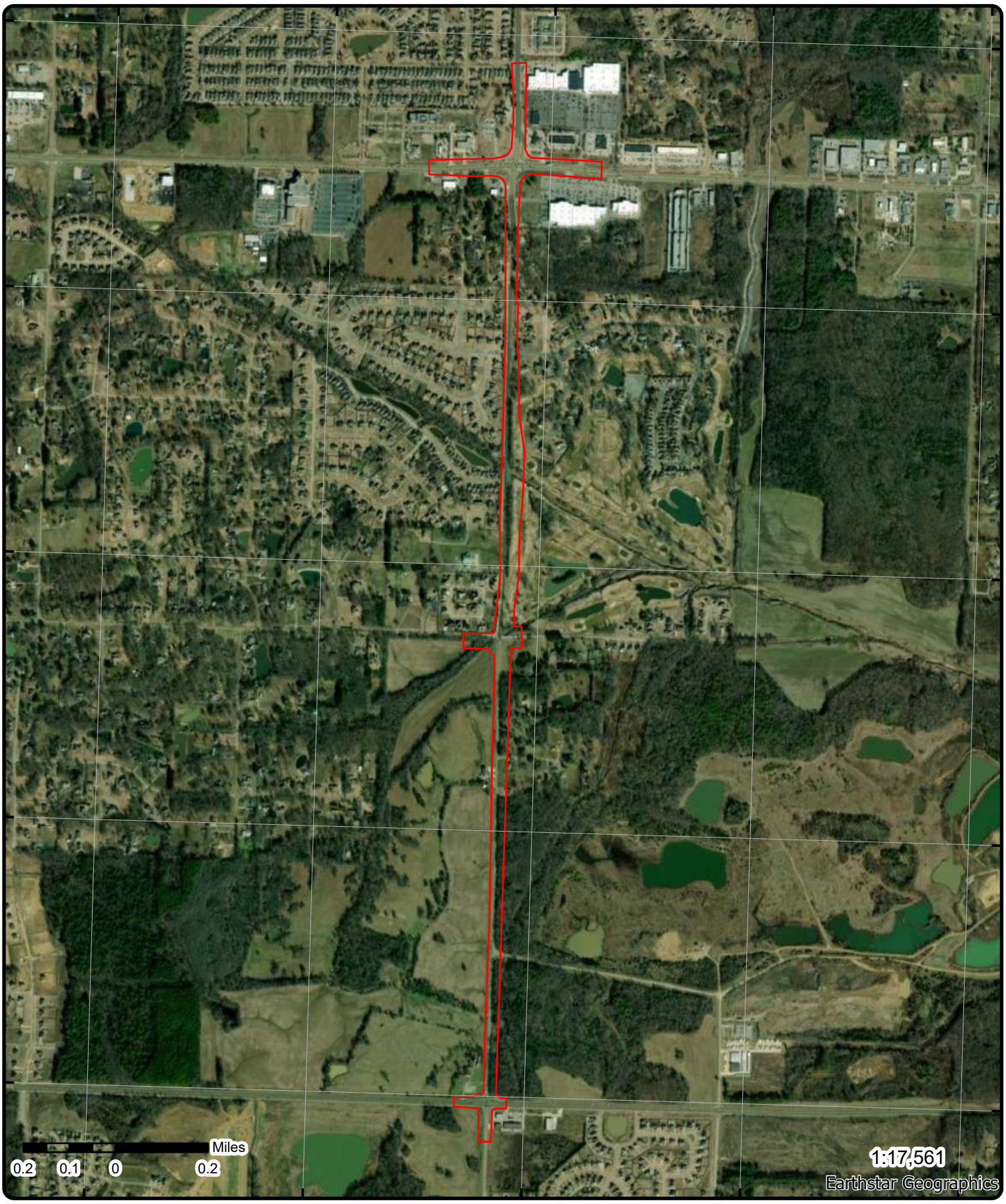

Aerial **Year: 2025**

Address: n/a, Olive Branch, MS

Source: ESRI World Imagery

Order Number: 24032500139

ERIS

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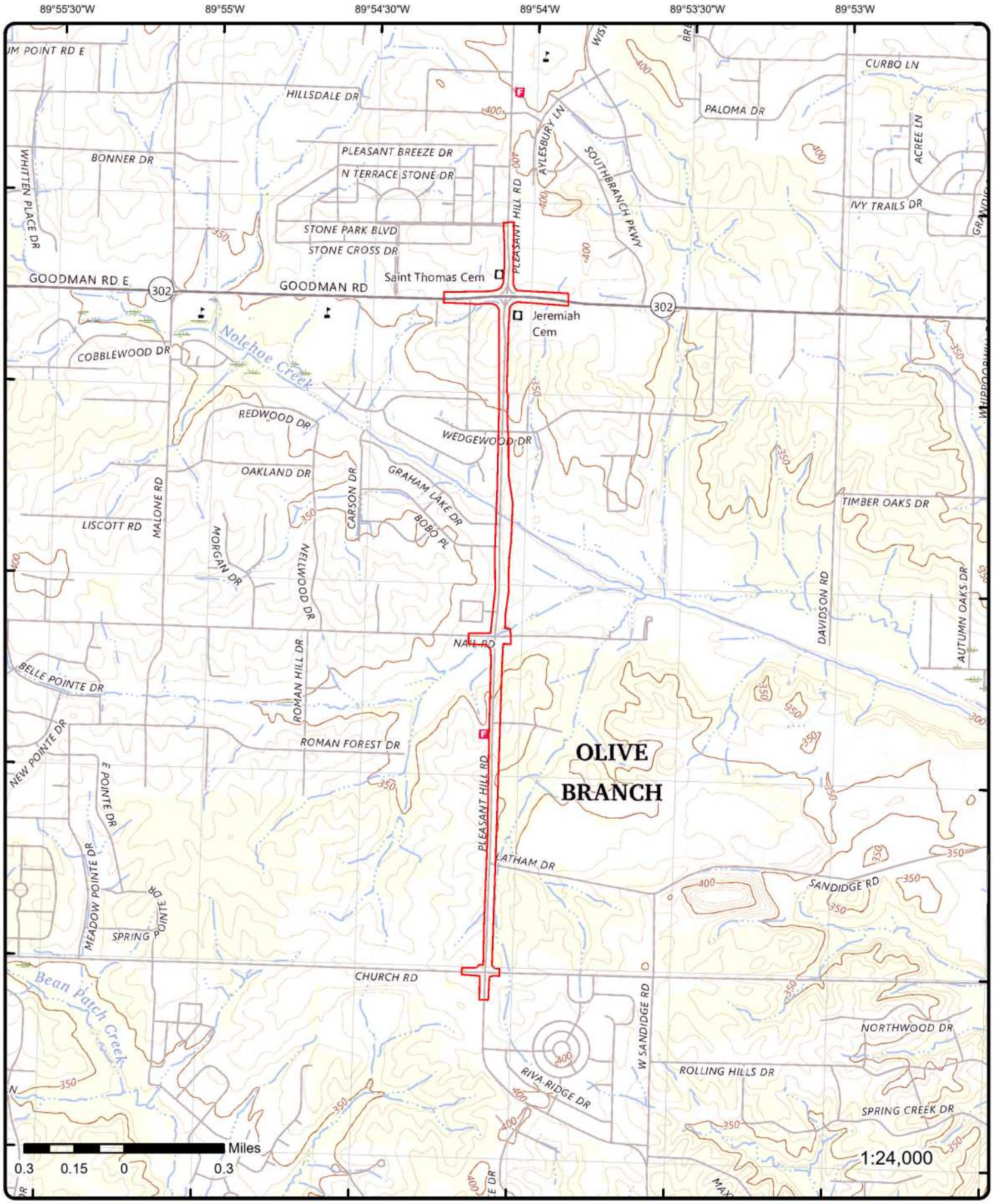

Topographic Map

Year: 2024

Order Number: 24032500139

Address: n/a, MS

Quadrangle(s): Pleasant Hill MS,TN, Olive Branch MS,TN

Source: USGS Topographic Map

ERIS

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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 2	N	0.00 / 0.00	369.70 / 34	Circle K 2709318 4955 Goodman Road Olive Branch MS 38654	UST

Facility ID: 13083
Facility Name (CAP):
Facility Address (CAP):
Facility City (CAP):
Facility Zip (CAP):
Facility State (CAP):
Owner Name (CAP):
Data Source(s): MDEQ UST Facilities & Owners Information (as of 4 Sep 2025); MDEQ Muster UST Facilities & Owners (as of 4 Sep 2025); MDEQ UST FaciIties & Owners Violation (as of 4 Sep 2025)

Violation Details

Oce Status:	New	**Fac Count:**	2958
Due Date:	2025-06-18 00:00:00	**Own Count:**	1518
Override Date:		**Facility Name:**	Circle K 2709318
Manager:	Wesley McCain	**Fac City:**	Olive Branch

Additional Details

Tank ID:		**Pipe Index:**	3
Tank Index:	2	**Pipe Status Desc:**	Currently In Use
Tank Status:	Currently In Use	**Pipe Install Dt:**	2015-11-30 00:00:00
Tank Capacity:	20000	**Pipe Dt Last Used:**	
Tank Mat Desc:	Fiberglass Reinforced Plastic	**Pipe Date Closed:**	
Tank Mod Desc:	Double-Walled	**Pipe Mat Desc:**	Flexible Plastic
Tank Types:		**Pipe Mod Desc:**	Double-Walled
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:		**Pipe Type Desc:**	Pressurized
Date Closed:		**Pipe CLS Status:**	
Closure Stat Desc:		**Pipe LD:**	Continuous Interstitial Monitoring
Substance:	Multi-Compartment	**Alld Type:**	Mechanical
Installed Tank Dt:	2015-11-30 00:00:00	**Expr1:**	
Overfill Type:	Drop Tube Device	**Expr2:**	
Small Delivery:	False	**Owner Address:**	1100 Situs Court Ste 100
Compartment No:		**Owner City:**	Raleigh
Overfill Prevention:	Yes	**Owner State:**	NC
Spill Prevention:	Yes	**Owner Zip:**	27606
Tank LD:	Electronic Interstitial Monitoring	**Owner Phone:**	(919)566-1562
Latitude Degree:	34	**Facility Name:**	Circle K 2709318
Latitude Minutes:	57	**Loc Addr:**	4955 Goodman Road
Latitude Seconds:	43.3200	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	6.7200	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	2
Tank Index:	2	**Pipe Status Desc:**	Currently In Use
Tank Status:	Currently In Use	**Pipe Install Dt:**	2015-11-30 00:00:00
Tank Capacity:	20000	**Pipe Dt Last Used:**	
Tank Mat Desc:	Fiberglass Reinforced Plastic	**Pipe Date Closed:**	

Tank Mod Desc:	Double-Walled	**Pipe Mat Desc:**	Flexible Plastic
Tank Types:		**Pipe Mod Desc:**	Double-Walled
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:		**Pipe Type Desc:**	Pressurized
Date Closed:		**Pipe CLS Status:**	
Closure Stat Desc:		**Pipe LD:**	Continuous Interstitial Monitoring
Substance:	Multi-Compartment	**Alld Type:**	Mechanical
Installed Tank Dt:	2015-11-30 00:00:00	**Expr1:**	
Overfill Type:	Drop Tube Device	**Expr2:**	
Small Delivery:	False	**Owner Address:**	1100 Situs Court Ste 100
Compartment No:		**Owner City:**	Raleigh
Overfill Prevention:	Yes	**Owner State:**	NC
Spill Prevention:	Yes	**Owner Zip:**	27606
Tank LD:	Electronic Interstitial Monitoring	**Owner Phone:**	(919)566-1562
Latitude Degree:	34	**Facility Name:**	Circle K 2709318
Latitude Minutes:	57	**Loc Addr:**	4955 Goodman Road
Latitude Seconds:	43.3200	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	6.7200	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	4
Tank Index:	3	**Pipe Status Desc:**	Currently In Use
Tank Status:	Currently In Use	**Pipe Install Dt:**	2015-11-30 00:00:00
Tank Capacity:	20000	**Pipe Dt Last Used:**	
Tank Mat Desc:	Fiberglass Reinforced Plastic	**Pipe Date Closed:**	
Tank Mod Desc:	Double-Walled	**Pipe Mat Desc:**	Flexible Plastic
Tank Types:		**Pipe Mod Desc:**	Double-Walled
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:		**Pipe Type Desc:**	Pressurized
Date Closed:		**Pipe CLS Status:**	
Closure Stat Desc:		**Pipe LD:**	Continuous Interstitial Monitoring
Substance:	Multi-Compartment	**Alld Type:**	Mechanical
Installed Tank Dt:	2015-11-30 00:00:00	**Expr1:**	
Overfill Type:	Drop Tube Device	**Expr2:**	
Small Delivery:	False	**Owner Address:**	1100 Situs Court Ste 100
Compartment No:		**Owner City:**	Raleigh
Overfill Prevention:	Yes	**Owner State:**	NC
Spill Prevention:	Yes	**Owner Zip:**	27606
Tank LD:	Electronic Interstitial Monitoring	**Owner Phone:**	(919)566-1562
Latitude Degree:	34	**Facility Name:**	Circle K 2709318
Latitude Minutes:	57	**Loc Addr:**	4955 Goodman Road
Latitude Seconds:	43.3200	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	6.7200	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	5
Tank Index:	3	**Pipe Status Desc:**	Currently In Use
Tank Status:	Currently In Use	**Pipe Install Dt:**	2015-11-30 00:00:00
Tank Capacity:	20000	**Pipe Dt Last Used:**	
Tank Mat Desc:	Fiberglass Reinforced Plastic	**Pipe Date Closed:**	
Tank Mod Desc:	Double-Walled	**Pipe Mat Desc:**	Flexible Plastic
Tank Types:		**Pipe Mod Desc:**	Double-Walled
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:		**Pipe Type Desc:**	Pressurized
Date Closed:		**Pipe CLS Status:**	
Closure Stat Desc:		**Pipe LD:**	Continuous Interstitial Monitoring
Substance:	Multi-Compartment	**Alld Type:**	Mechanical
Installed Tank Dt:	2015-11-30 00:00:00	**Expr1:**	
Overfill Type:	Drop Tube Device	**Expr2:**	
Small Delivery:	False	**Owner Address:**	1100 Situs Court Ste 100
Compartment No:		**Owner City:**	Raleigh

Overfill Prevention:	Yes	***Owner State:***	NC
Spill Prevention:	Yes	***Owner Zip:***	27606
Tank LD:	Electronic Interstitial Monitoring	***Owner Phone:***	(919)566-1562
Latitude Degree:	34	***Facility Name:***	Circle K 2709318
Latitude Minutes:	57	***Loc Addr:***	4955 Goodman Road
Latitude Seconds:	43.3200	***Loc City:***	Olive Branch
Longitude Degree:	89	***Loc State:***	MS
Longitude Minutes:	54	***Loc Zip:***	38654
Longitude Seconds:	6.7200	***County:***	De Soto

Additional Details

Tank ID:		***Pipe Index:***	1
Tank Index:	1	***Pipe Status Desc:***	Currently In Use
Tank Status:	Currently In Use	***Pipe Install Dt:***	2015-11-30 00:00:00
Tank Capacity:	20000	***Pipe Dt Last Used:***	
Tank Mat Desc:	Fiberglass Reinforced Plastic	***Pipe Date Closed:***	
Tank Mod Desc:	Double-Walled	***Pipe Mat Desc:***	Flexible Plastic
Tank Types:		***Pipe Mod Desc:***	Double-Walled
Tank Emergency:	False	***Pipe Manufacturer:***	
Date Last Used:		***Pipe Type Desc:***	Pressurized
Date Closed:		***Pipe CLS Status:***	
Closure Stat Desc:		***Pipe LD:***	Continuous Interstitial Monitoring
Substance:	Gasoline	***Alld Type:***	Mechanical
Installed Tank Dt:	2015-11-30 00:00:00	***Expr1:***	
Overfill Type:	Drop Tube Device	***Expr2:***	
Small Delivery:	False	***Owner Address:***	1100 Situs Court Ste 100
Compartment No:		***Owner City:***	Raleigh
Overfill Prevention:	Yes	***Owner State:***	NC
Spill Prevention:	Yes	***Owner Zip:***	27606
Tank LD:	Electronic Interstitial Monitoring	***Owner Phone:***	(919)566-1562
Latitude Degree:	34	***Facility Name:***	Circle K 2709318
Latitude Minutes:	57	***Loc Addr:***	4955 Goodman Road
Latitude Seconds:	43.3200	***Loc City:***	Olive Branch
Longitude Degree:	89	***Loc State:***	MS
Longitude Minutes:	54	***Loc Zip:***	38654
Longitude Seconds:	6.7200	***County:***	De Soto

Owner More Than 5 Tanks

No. of Tanks:	241
Owner Address:	1100 Situs Court Ste 100
Owner City:	Raleigh
Owner State:	NC
Owner Zip:	27606
Phone No.:	(919)566-1562

Muster UST Info

Facility AI ID:	69152	***Tank ID:***	32193
AI ID Type:	Mechanical	***Tank Status:***	Currently In Use
Fac Status:	Active	***Tank Cp Type:***	
Fac type:	Gas Station	***Tank Types:***	
Loc Type:	MDEQ (100)	***Date Installed Tank:***	2015-11-30 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	***Tank Index:***	1
Tank Emergen:	False	***Tank Capacity:***	0
Spill Installed:	False	***Substance:***	
Overfill Installed:	False	***Date Last Used:***	
Overfill Type:	Drop Tube Device	***Date Closed:***	
Fac Phone:	(662)890-4466	***Closure Status Desc:***	
Fuel Brand:		***Tank Mat Desc:***	Fiberglass Reinforced Plastic
Expr1:		***Tank Mod Desc:***	Double-Walled
Small Delivery:	False	***Owner ID:***	2008213
Fac Name:	Circle K 2709318	***Owner Name:***	Circle K Stores Inc
Loc Addr:	4955 Goodman Road	***Own Addr:***	1100 Situs Court Ste 100

Loc City:	Olive Branch	**Own City:**	Raleigh
Loc State:	MS	**Own State:**	NC
Loc Zip:	38654	**Own Zip:**	27606
County:	De Soto	**Own Phone:**	(919)566-1562
Pipe ID:	33133		
Pipe Index:	1		
Pipe Status Desc:	Currently In Use		
Pipe Install Date:	2015-11-30 00:00:00		
Date Last Used 2:			
Date Closed 2:			
Pipe Mat Desc:	Flexible Plastic		
Pipe Mod Desc:	Double-Walled		
Pipe LD:	Continuous Interstitial Monitoring		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:	Pressurized		

Muster UST Info

Facility AI ID:	69152	**Tank ID:**	32194
AI ID Type:	Mechanical	**Tank Status:**	Currently In Use
Fac Status:	Active	**Tank Cp Type:**	
Fac type:	Gas Station	**Tank Types:**	
Loc Type:	MDEQ (100)	**Date Installed Tank:**	2015-11-30 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	**Tank Index:**	2
Tank Emergen:	False	**Tank Capacity:**	0
Spill Installed:	False	**Substance:**	
Overfill Installed:	False	**Date Last Used:**	
Overfill Type:	Drop Tube Device	**Date Closed:**	
Fac Phone:	(662)890-4466	**Closure Status Desc:**	
Fuel Brand:		**Tank Mat Desc:**	Fiberglass Reinforced Plastic
Expr1:		**Tank Mod Desc:**	Double-Walled
Small Delivery:	False	**Owner ID:**	2008213
Fac Name:	Circle K 2709318	**Owner Name:**	Circle K Stores Inc
Loc Addr:	4955 Goodman Road	**Own Addr:**	1100 Situs Court Ste 100
Loc City:	Olive Branch	**Own City:**	Raleigh
Loc State:	MS	**Own State:**	NC
Loc Zip:	38654	**Own Zip:**	27606
County:	De Soto	**Own Phone:**	(919)566-1562
Pipe ID:	33134		
Pipe Index:	2		
Pipe Status Desc:	Currently In Use		
Pipe Install Date:	2015-11-30 00:00:00		
Date Last Used 2:			
Date Closed 2:			
Pipe Mat Desc:	Flexible Plastic		
Pipe Mod Desc:	Double-Walled		
Pipe LD:	Continuous Interstitial Monitoring		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:	Pressurized		

Muster UST Info

Facility AI ID:	69152	**Tank ID:**	32195
AI ID Type:	Mechanical	**Tank Status:**	Currently In Use
Fac Status:	Active	**Tank Cp Type:**	
Fac type:	Gas Station	**Tank Types:**	
Loc Type:	MDEQ (100)	**Date Installed Tank:**	2015-11-30 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	**Tank Index:**	3
Tank Emergen:	False	**Tank Capacity:**	0
Spill Installed:	False	**Substance:**	
Overfill Installed:	False	**Date Last Used:**	
Overfill Type:	Drop Tube Device	**Date Closed:**	
Fac Phone:	(662)890-4466	**Closure Status Desc:**	
Fuel Brand:		**Tank Mat Desc:**	Fiberglass Reinforced Plastic
Expr1:		**Tank Mod Desc:**	Double-Walled

Small Delivery:	False	**Owner ID:**	2008213
Fac Name:	Circle K 2709318	**Owner Name:**	Circle K Stores Inc
Loc Addr:	4955 Goodman Road	**Own Addr:**	1100 Situs Court Ste 100
Loc City:	Olive Branch	**Own City:**	Raleigh
Loc State:	MS	**Own State:**	NC
Loc Zip:	38654	**Own Zip:**	27606
County:	De Soto	**Own Phone:**	(919)566-1562
Pipe ID:	33136		
Pipe Index:	4		
Pipe Status Desc:	Currently In Use		
Pipe Install Date:	2015-11-30 00:00:00		
Date Last Used 2:			
Date Closed 2:			
Pipe Mat Desc:	Flexible Plastic		
Pipe Mod Desc:	Double-Walled		
Pipe LD:	Continuous Interstitial Monitoring		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:	Pressurized		

Muster UST Info

Facility AI ID:	69152	**Tank ID:**	32194
AI ID Type:	Mechanical	**Tank Status:**	Currently In Use
Fac Status:	Active	**Tank Cp Type:**	
Fac type:	Gas Station	**Tank Types:**	
Loc Type:	MDEQ (100)	**Date Installed Tank:**	2015-11-30 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	**Tank Index:**	2
Tank Emergen:	False	**Tank Capacity:**	0
Spill Installed:	False	**Substance:**	
Overfill Installed:	False	**Date Last Used:**	
Overfill Type:	Drop Tube Device	**Date Closed:**	
Fac Phone:	(662)890-4466	**Closure Status Desc:**	
Fuel Brand:		**Tank Mat Desc:**	Fiberglass Reinforced Plastic
Expr1:		**Tank Mod Desc:**	Double-Walled
Small Delivery:	False	**Owner ID:**	2008213
Fac Name:	Circle K 2709318	**Owner Name:**	Circle K Stores Inc
Loc Addr:	4955 Goodman Road	**Own Addr:**	1100 Situs Court Ste 100
Loc City:	Olive Branch	**Own City:**	Raleigh
Loc State:	MS	**Own State:**	NC
Loc Zip:	38654	**Own Zip:**	27606
County:	De Soto	**Own Phone:**	(919)566-1562
Pipe ID:	33135		
Pipe Index:	3		
Pipe Status Desc:	Currently In Use		
Pipe Install Date:	2015-11-30 00:00:00		
Date Last Used 2:			
Date Closed 2:			
Pipe Mat Desc:	Flexible Plastic		
Pipe Mod Desc:	Double-Walled		
Pipe LD:	Continuous Interstitial Monitoring		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:	Pressurized		

Muster UST Info

Facility AI ID:	69152	**Tank ID:**	32195
AI ID Type:	Mechanical	**Tank Status:**	Currently In Use
Fac Status:	Active	**Tank Cp Type:**	
Fac type:	Gas Station	**Tank Types:**	
Loc Type:	MDEQ (100)	**Date Installed Tank:**	2015-11-30 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	**Tank Index:**	3
Tank Emergen:	False	**Tank Capacity:**	0
Spill Installed:	False	**Substance:**	
Overfill Installed:	False	**Date Last Used:**	
Overfill Type:	Drop Tube Device	**Date Closed:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Fac Phone: (662)890-4466
Fuel Brand:
Expr1:
Small Delivery: False
Fac Name: Circle K 2709318
Loc Addr: 4955 Goodman Road
Loc City: Olive Branch
Loc State: MS
Loc Zip: 38654
County: De Soto
Pipe ID: 33137
Pipe Index: 5
Pipe Status Desc: Currently In Use
Pipe Install Date: 2015-11-30 00:00:00
Date Last Used 2:
Date Closed 2:
Pipe Mat Desc: Flexible Plastic
Pipe Mod Desc: Double-Walled
Pipe LD: Continuous Interstitial Monitoring
Pipe Cp Type:
Pipe Manufacturer:
Pipe Type Desc: Pressurized

Closure Status Desc:
Tank Mat Desc: Fiberglass Reinforced Plastic
Tank Mod Desc: Double-Walled
Owner ID: 2008213
Owner Name: Circle K Stores Inc
Own Addr: 1100 Situs Court Ste 100
Own City: Raleigh
Own State: NC
Own Zip: 27606
Own Phone: (919)566-1562

1	2 of 2	N	0.00 / 0.00	369.70 / 34	Circle K # 2709318 4955 Goodman Rd Olive Branch MS 38654	UST MDAC

Bus ID: 20444
Tank Location: Under Ground
Active: Yes
Bus Type: Retail Outlet
County: Desoto
State: MS

Lat Degree: 34
Lat Minute: 57
Lat Second: 44
Long Degree: 89
Long Minute: 54
Long Second: 0

2	1 of 1	N	0.00 / 0.00	369.98 / 35	OLIVE BRANCH COMMONS HIGHWAY 302 AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654	FINDS/FRS

Registry ID: 110070201935
FIPS Code: MS033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 02-MAR-18
Update Date:
Interest Types: ICIS-NPDES NON-MAJOR
SIC Codes: 6512
SIC Code Descriptions: OPERATORS OF NONRESIDENTIAL BUILDINGS
NAICS Codes: 236210
NAICS Code Descriptions: INDUSTRIAL BUILDING CONSTRUCTION.
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110070201935
Program Acronyms:

NPDES:MSR106643

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 2	NNW	0.00 / 0.00	367.36 / 32	COOPERS MINI MART 4811 GOODMAN ROAD OLIVE BRANCH MS 38654	FINDS/FRS

Registry ID: 110044645621
FIPS Code: 28033
HUC Code: 08030204
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 5541
SIC Code Descriptions: GASOLINE SERVICE STATIONS
NAICS Codes:
NAICS Code Descriptions:
Conveyor: FRS-GEOCODE
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 01
Census Block Code: 280330705202066
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude: 34.96239
Longitude: -89.90469
Reference Point: CENTER OF A FACILITY OR STATION
Coord Collection Method: ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value: 30
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044645621
Program Acronyms:

MS-ENSITE:25809

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	2 of 2	NNW	0.00 / 0.00	367.36 / 32	Coopers Mini Mart 4811 Goodman Road Olive Branch MS 38654	UST

Facility ID: 4482
Facility Name (CAP):
Facility Address (CAP):
Facility City (CAP):
Facility Zip (CAP):
Facility State (CAP):
Owner Name (CAP):
Data Source(s): MDEQ UST Facilities & Owners Information (as of 4 Sep 2025); MDEQ Muster UST Facilities & Owners (as of 4 Sep 2025)

Additional Details

Tank ID:		**Pipe Index:**	2
Tank Index:	2	**Pipe Status Desc:**	Permanently Out of Use
Tank Status:	Permanently Out of Use	**Pipe Install Dt:**	1975-01-01 00:00:00
Tank Capacity:	8000	**Pipe Dt Last Used:**	2001-05-03 00:00:00
Tank Mat Desc:	Asphalt Coated or Bare Steel	**Pipe Date Closed:**	2005-06-06 00:00:00
Tank Mod Desc:	Cathodically Protected	**Pipe Mat Desc:**	Bare/Galvanized Steel
Tank Types:	Normal	**Pipe Mod Desc:**	Cathodically Protected
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:	2001-05-03 00:00:00	**Pipe Type Desc:**	Pressurized
Date Closed:	2005-06-06 00:00:00	**Pipe CLS Status:**	Removed from Ground
Closure Stat Desc:	Removed from Ground	**Pipe LD:**	Groundwater/Vapor Monitoring
Substance:	Gasoline	**Alld Type:**	Mechanical
Installed Tank Dt:	1975-01-01 00:00:00	**Expr1:**	
Overfill Type:		**Expr2:**	
Small Delivery:	False	**Owner Address:**	4811 Goodman Road
Compartment No:		**Owner City:**	Olive Branch
Overfill Prevention:	No	**Owner State:**	MS
Spill Prevention:	No	**Owner Zip:**	38654
Tank LD:	Groundwater/Vapor Monitoring	**Owner Phone:**	(662)893-2570
Latitude Degree:	34	**Facility Name:**	Coopers Mini Mart
Latitude Minutes:	57	**Loc Addr:**	4811 Goodman Road
Latitude Seconds:	43.7600	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	15.8800	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	1
Tank Index:	1	**Pipe Status Desc:**	Permanently Out of Use
Tank Status:	Permanently Out of Use	**Pipe Install Dt:**	1975-01-01 00:00:00
Tank Capacity:	8000	**Pipe Dt Last Used:**	2001-05-03 00:00:00
Tank Mat Desc:	Asphalt Coated or Bare Steel	**Pipe Date Closed:**	2005-06-06 00:00:00
Tank Mod Desc:	Cathodically Protected	**Pipe Mat Desc:**	Bare/Galvanized Steel
Tank Types:	Normal	**Pipe Mod Desc:**	Cathodically Protected
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:	2001-05-03 00:00:00	**Pipe Type Desc:**	Safe Suction
Date Closed:	2005-06-06 00:00:00	**Pipe CLS Status:**	Removed from Ground
Closure Stat Desc:	Removed from Ground	**Pipe LD:**	
Substance:	Gasoline	**Alld Type:**	
Installed Tank Dt:	1975-01-01 00:00:00	**Expr1:**	
Overfill Type:		**Expr2:**	
Small Delivery:	False	**Owner Address:**	4811 Goodman Road
Compartment No:		**Owner City:**	Olive Branch
Overfill Prevention:	No	**Owner State:**	MS
Spill Prevention:	No	**Owner Zip:**	38654
Tank LD:	Groundwater/Vapor Monitoring	**Owner Phone:**	(662)893-2570
Latitude Degree:	34	**Facility Name:**	Coopers Mini Mart
Latitude Minutes:	57	**Loc Addr:**	4811 Goodman Road
Latitude Seconds:	43.7600	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	15.8800	**County:**	De Soto

Muster UST Info

Facility AI ID:	25809	**Tank ID:**	11228
AI ID Type:		**Tank Status:**	Permanently Out of Use
Fac Status:	Closed	**Tank Cp Type:**	Impressed Current
Fac type:	Gas Station	**Tank Types:**	Normal
Loc Type:	MDEQ (100)	**Date Installed Tank:**	1975-01-01 00:00:00
Tank Ld:	Groundwater/Vapor Monitoring	**Tank Index:**	1
Tank Emergen:	False	**Tank Capacity:**	8000
Spill Installed:	True	**Substance:**	Gasoline
Overfill Installed:	True	**Date Last Used:**	2001-05-03 00:00:00
Overfill Type:		**Date Closed:**	2005-06-06 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Fac Phone:	(662) 893-2570	**Closure Status Desc:**	Removed from Ground
Fuel Brand:		**Tank Mat Desc:**	Asphalt Coated or Bare Steel
Expr1:	Removed from Ground	**Tank Mod Desc:**	Cathodically Protected
Small Delivery:	False	**Owner ID:**	1034826
Fac Name:	Coopers Mini Mart	**Owner Name:**	John D Cooper
Loc Addr:	4811 Goodman Road	**Own Addr:**	4811 Goodman Road
Loc City:	Olive Branch	**Own City:**	Olive Branch
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38654
County:	De Soto	**Own Phone:**	(662)893-2570
Pipe ID:	11228		
Pipe Index:	1		
Pipe Status Desc:	Permanently Out of Use		
Pipe Install Date:	1975-01-01 00:00:00		
Date Last Used 2:	2001-05-03 00:00:00		
Date Closed 2:	2005-06-06 00:00:00		
Pipe Mat Desc:	Bare/Galvanized Steel		
Pipe Mod Desc:	Cathodically Protected		
Pipe LD:			
Pipe Cp Type:	Impressed Current		
Pipe Manufacturer:			
Pipe Type Desc:	Safe Suction		

Muster UST Info

Facility AI ID:	25809	**Tank ID:**	11229
AI ID Type:	Mechanical	**Tank Status:**	Permanently Out of Use
Fac Status:	Closed	**Tank Cp Type:**	Impressed Current
Fac type:	Gas Station	**Tank Types:**	Normal
Loc Type:	MDEQ (100)	**Date Installed Tank:**	1975-01-01 00:00:00
Tank Ld:	Groundwater/Vapor Monitoring	**Tank Index:**	2
Tank Emergen:	False	**Tank Capacity:**	8000
Spill Installed:	True	**Substance:**	Gasoline
Overfill Installed:	True	**Date Last Used:**	2001-05-03 00:00:00
Overfill Type:		**Date Closed:**	2005-06-06 00:00:00
Fac Phone:	(662) 893-2570	**Closure Status Desc:**	Removed from Ground
Fuel Brand:		**Tank Mat Desc:**	Asphalt Coated or Bare Steel
Expr1:	Removed from Ground	**Tank Mod Desc:**	Cathodically Protected
Small Delivery:	False	**Owner ID:**	1034826
Fac Name:	Coopers Mini Mart	**Owner Name:**	John D Cooper
Loc Addr:	4811 Goodman Road	**Own Addr:**	4811 Goodman Road
Loc City:	Olive Branch	**Own City:**	Olive Branch
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38654
County:	De Soto	**Own Phone:**	(662)893-2570
Pipe ID:	11229		
Pipe Index:	2		
Pipe Status Desc:	Permanently Out of Use		
Pipe Install Date:	1975-01-01 00:00:00		
Date Last Used 2:	2001-05-03 00:00:00		
Date Closed 2:	2005-06-06 00:00:00		
Pipe Mat Desc:	Bare/Galvanized Steel		
Pipe Mod Desc:	Cathodically Protected		
Pipe LD:	Groundwater/Vapor Monitoring		
Pipe Cp Type:	Impressed Current		
Pipe Manufacturer:			
Pipe Type Desc:	Pressurized		

4	*1 of 3*	*NNE*	*0.00 / 0.00*	*379.26 / 44*	***WEDGEWOOD COMMONS 5150 GOODMAN ROAD OLIVE BRANCH MS 38654***	***FINDS/FRS***

Registry ID:	110038359264
FIPS Code:	28033
HUC Code:	08030204
Site Type Name:	STATIONARY
Location Description:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Supplemental Location:	
Create Date:	12-MAY-09
Update Date:	06-JAN-12
Interest Types:	STATE MASTER
SIC Codes:	1542
SIC Code Descriptions:	GENERAL CONTRACTORS-NONRESIDENTIAL BUILDINGS, OTHER THAN INDUSTRIAL BUILDINGS AND WAREHOUSES
NAICS Codes:	452112
NAICS Code Descriptions:	DISCOUNT DEPARTMENT STORES.
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	01
Census Block Code:	280330707101025
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	34.96237
Longitude:	-89.89753
Reference Point:	CENTER OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	30
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038359264
Program Acronyms:	

MS-ENSITE:36060

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	2 of 3	NNE	0.00 / 0.00	379.26 / 44	TARGET STORE T2442 5150 GOODMAN RD OLIVE BRANCH MS 38654	FINDS/FRS

Registry ID:	110045980818
FIPS Code:	28033
HUC Code:	08030204
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	15-JUN-12
Update Date:	29-JUL-13
Interest Types:	HAZARDOUS WASTE BIENNIAL REPORTER, SQG
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	455110
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	01
Census Block Code:	280330707101025
EPA Region Code:	04
County Name:	DE SOTO
US/Mexico Border Ind:	
Latitude:	34.96237
Longitude:	-89.89753
Reference Point:	CENTER OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	30
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110045980818

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Program Acronyms:

BR:MSR000104091, RCRAINFO:MSR000104091

4	3 of 3	NNE	0.00 / 0.00	379.26 / 44	TARGET STORE T2442 5150 GOODMAN RD OLIVE BRANCH MS 38654	RCRA SQG

Handler ID: MSR000104091
Generator Status: SQG
Recycler Activity?: YES
Recycler Activity Note: This facility has been identified as a Recycler Facility with indication of Reclamation and Recovery in the RCRA Biennial Report Module for Management Methods
H010 - Metals recovery including retorting, smelting, chemical, etc.
H011 - Mercury recovery (includes mercury retorting, bulb/lamp crushing and mercury vapor recovery, thermostat recovery, mercury from medical equipment recovery, mercury car switch recovery, etc.)
H015 - Deployment/deactivation of airbag waste followed by metals recovery
H020 - Solvents recovery
H039 - Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc.
H050 - Energy recovery at this site; used as fuel (includes on-site fuel blending before energy recovery)
H061 - Fuel blending prior to energy recovery at another site (waste generated on-site or received from off-site)

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Sep 2025.

Evaluation Details

Eval Start Date: 20240306
Eval Type Desc: COMPLIANCE EVALUATION INSPECTION
Viol Short Desc:
Actual Rtc Date:
Eval Agency: State

Eval Start Date: 20190130
Eval Type Desc: COMPLIANCE EVALUATION INSPECTION
Viol Short Desc:
Actual Rtc Date:
Eval Agency: State

Handler Summary

Importer:	No	***Used Oil Transpor:***	No
Mixed Waste Gen:	No	***Used Oil Trans Fac:***	No
Transporter:	No	***Used Oil Processor:***	No
Transfer Facility:	No	***Used Oil Refiner:***	No
Recycler:	No	***Used Oil Burner:***	No
Onsite Burner Exem:	No	***Commercial TSD:***	No
Furnace Exemption:	No	***Recycl Nonstorage:***	No
Underground Injec:	No		
Used Oil Market Burner:	No		
Used Oil Spec Marketer:	No		

Additional Handler Summary Details

Source Type:	B	***NAIC 1:***	455110
Seq No:	8	***NAIC 2:***	
Non Notifier:		***NAIC 3:***	
Receive Date:	20250204	***NAIC 4:***	
Active Site:	H----	***State:***	MS
Land Type:	P	***Location Latitude:***	34.96536

In Handler Univ:	Y	**Location Longitude:**	-89.898111
In A Universe:	Y	**Loc GIS Primary:**	N
Gen Status:	SQG	**Loc GIS Origin:**	AG
Report Cycle:	2024	**State District Owner:**	
Accessibility:		**State District:**	
Region:	04		

Fed Waste Gen Owner:	HQ
State Waste Generator Owner:	MS
State Waste Generator:	S
Short Term Generator:	N
Uni Waste:	N
Universal Waste Dest Facility:	N
Federal Universal Waste:	N
As Federally Regulated Tsdf:	------
As Converter Tsdf:	------
As State Regulated Tsdf:	------
As State Regulated Handler:	---
Federal Indicator:	---
Hsm:	N
Subpart K:	----
GPRA Permit:	N
GPRA Renewal:	N
Permit Renewal WrkId:	------
Permwrk ID:	------
Perm Prog:	------
PcwrkId:	------
CloswrkId:	------
GPRA Ca:	N
CawrkId:	N
Subjca Tsd Discretion:	N
NCAPS:	N
EC Indicator:	N
Ca725 Indicator:	N
Ca750 Indicator:	N
Operating Tsdf:	------
Full Enforcement:	------
Snc:	N
Unaddressed Snc:	N
Addressed Snc:	N
Snc With Comp Sched:	N
Fa Required:	-----
Hhandler Last Change:	20250218
Recognized Trader Importer:	N
Recognized Trader Exporter:	N
Slab Importer:	N
Slab Exporter:	N
Manifest Broker:	N
Subpart P:	H
Contact Language:	EN
Handler Name:	TARGET STORE T2442
Location Street No:	
Location Street1:	5150 GOODMAN RD
Location Street2:	
Location City:	OLIVE BRANCH
Location State:	MS
Location Zip:	38654
Location County Code:	MS033
Location County Name:	DE SOTO
Location Country:	US
Contact Name:	JUSTIN NELSON
Contact Street No:	
Contact Street1:	PO BOX 111
Contact Street2:	
Contact City:	MINNEAPOLIS
Contact State:	MN
Contact Zip:	55440
Contact Country:	US
Contact Phone & Ext:	800-587-2228
Contact Fax:	

Contact Email Address: POC@TARGET.COM
Contact Title: COMPLIANCE DIRECTOR
Owner Name: TARGET CORPORATION
Owner Type: P
Owner Seq: 1
Operator Name: TARGET CORPORATION
Operator Type: P
Operator Seq: 2
Public Notes:

Hazardous Waste Handler Details

Seq No: 100
Receive Date: 20080826
Handler Name: TARGET CORPORATION STORE NUMBER 2442
Fed Waste Generator: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Hazardous Waste Handler Details

Seq No: 1
Receive Date: 20120213
Handler Name: TARGET STORE #T2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D004
Waste Code Desc: ARSENIC

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code:	D010
Waste Code Desc:	SELENIUM
Waste Code:	D011
Waste Code Desc:	SILVER
Waste Code:	D016
Waste Code Desc:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D018
Waste Code Desc:	BENZENE
Waste Code:	D024
Waste Code Desc:	M-CRESOL
Waste Code:	D026
Waste Code Desc:	CRESOL
Waste Code:	D035
Waste Code Desc:	METHYL ETHYL KETONE
Waste Code:	P001
Waste Code Desc:	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Waste Code:	P012
Waste Code Desc:	ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE
Waste Code:	P046
Waste Code Desc:	ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-
Waste Code:	P075
Waste Code Desc:	NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS
Waste Code:	P081
Waste Code Desc:	1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)
Waste Code:	U002
Waste Code Desc:	2-PROPANONE (I) (OR) ACETONE (I)
Waste Code:	U034
Waste Code Desc:	ACETALDEHYDE, TRICHLORO- (OR) CHLORAL
Waste Code:	U035
Waste Code Desc:	BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL
Waste Code:	U044
Waste Code Desc:	CHLOROFORM (OR) METHANE, TRICHLORO-
Waste Code:	U058
Waste Code Desc:	2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE
Waste Code:	U072
Waste Code Desc:	BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE
Waste Code:	U122
Waste Code Desc:	FORMALDEHYDE
Waste Code:	U129
Waste Code Desc:	CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE
Waste Code:	U150
Waste Code Desc:	L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN
Waste Code:	U154

Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U200
Waste Code Desc: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL) OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

Waste Code: U201
Waste Code Desc: 1,3-BENZENEDIOL (OR) RESORCINOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 101
Receive Date: 20120213
Handler Name: TARGET STORE #T2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D004
Waste Code Desc: ARSENIC

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D024
Waste Code Desc: M-CRESOL

Waste Code: D026

Waste Code Desc:	CRESOL
Waste Code:	D035
Waste Code Desc:	METHYL ETHYL KETONE
Waste Code:	P001
Waste Code Desc:	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Waste Code:	P012
Waste Code Desc:	ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE
Waste Code:	P046
Waste Code Desc:	ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-
Waste Code:	P075
Waste Code Desc:	NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS
Waste Code:	P081
Waste Code Desc:	1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)
Waste Code:	U002
Waste Code Desc:	2-PROPANONE (I) (OR) ACETONE (I)
Waste Code:	U034
Waste Code Desc:	ACETALDEHYDE, TRICHLORO- (OR) CHLORAL
Waste Code:	U035
Waste Code Desc:	BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL
Waste Code:	U044
Waste Code Desc:	CHLOROFORM (OR) METHANE, TRICHLORO-
Waste Code:	U058
Waste Code Desc:	2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE
Waste Code:	U072
Waste Code Desc:	BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE
Waste Code:	U122
Waste Code Desc:	FORMALDEHYDE
Waste Code:	U129
Waste Code Desc:	CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE
Waste Code:	U150
Waste Code Desc:	L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN
Waste Code:	U154
Waste Code Desc:	METHANOL (I) (OR) METHYL ALCOHOL (I)
Waste Code:	U188
Waste Code Desc:	PHENOL
Waste Code:	U200
Waste Code Desc:	RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL) OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-
Waste Code:	U201
Waste Code Desc:	1,3-BENZENEDIOL (OR) RESORCINOL
Waste Code:	U279
Waste Code Desc:	CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 120
Receive Date: 20130410
Handler Name: TARGET STORE NUMBER 2442
Fed Waste Generator: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D004
Waste Code Desc: ARSENIC

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D024
Waste Code Desc: M-CRESOL

Waste Code: D026
Waste Code Desc: CRESOL

Waste Code: D034
Waste Code Desc: HEXACHLOROETHANE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: P001
Waste Code Desc: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: P012
Waste Code Desc: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

Waste Code: P046
Waste Code Desc: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

Waste Code: P075
Waste Code Desc: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: P081

Waste Code Desc: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U035
Waste Code Desc: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

Waste Code: U044
Waste Code Desc: CHLOROFORM (OR) METHANE, TRICHLORO-

Waste Code: U129
Waste Code Desc: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Waste Code: U150
Waste Code Desc: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U201
Waste Code Desc: 1,3-BENZENEDIOL (OR) RESORCINOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 121
Receive Date: 20170404
Handler Name: TARGET STORE NUMBER 2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D004
Waste Code Desc: ARSENIC

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018

Waste Code Desc:	BENZENE
Waste Code:	D024
Waste Code Desc:	M-CRESOL
Waste Code:	D026
Waste Code Desc:	CRESOL
Waste Code:	D034
Waste Code Desc:	HEXACHLOROETHANE
Waste Code:	D035
Waste Code Desc:	METHYL ETHYL KETONE
Waste Code:	P001
Waste Code Desc:	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Waste Code:	P012
Waste Code Desc:	ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE
Waste Code:	P046
Waste Code Desc:	ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-
Waste Code:	P075
Waste Code Desc:	NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS
Waste Code:	P081
Waste Code Desc:	1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)
Waste Code:	U002
Waste Code Desc:	2-PROPANONE (I) (OR) ACETONE (I)
Waste Code:	U035
Waste Code Desc:	BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL
Waste Code:	U044
Waste Code Desc:	CHLOROFORM (OR) METHANE, TRICHLORO-
Waste Code:	U129
Waste Code Desc:	CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE
Waste Code:	U150
Waste Code Desc:	L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN
Waste Code:	U154
Waste Code Desc:	METHANOL (I) (OR) METHYL ALCOHOL (I)
Waste Code:	U201
Waste Code Desc:	1,3-BENZENEDIOL (OR) RESORCINOL
Waste Code:	U279
Waste Code Desc:	CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No:	2
Receive Date:	20180214
Handler Name:	TARGET STORE T2442
Fed Waste Generator:	1
Generator Code Description:	Large Quantity Generator
Source Type:	Annual/Biennial Report update with Notification
TSD Activity:	N

Waste Code Details

Waste Code:	D001
Waste Code Desc:	IGNITABLE WASTE
Waste Code:	D002
Waste Code Desc:	CORROSIVE WASTE
Waste Code:	D004
Waste Code Desc:	ARSENIC
Waste Code:	D005
Waste Code Desc:	BARIUM
Waste Code:	D006
Waste Code Desc:	CADMIUM
Waste Code:	D007
Waste Code Desc:	CHROMIUM
Waste Code:	D008
Waste Code Desc:	LEAD
Waste Code:	D009
Waste Code Desc:	MERCURY
Waste Code:	D010
Waste Code Desc:	SELENIUM
Waste Code:	D011
Waste Code Desc:	SILVER
Waste Code:	D016
Waste Code Desc:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D018
Waste Code Desc:	BENZENE
Waste Code:	D024
Waste Code Desc:	M-CRESOL
Waste Code:	D026
Waste Code Desc:	CRESOL
Waste Code:	D027
Waste Code Desc:	1,4-DICHLOROBENZENE
Waste Code:	D035
Waste Code Desc:	METHYL ETHYL KETONE
Waste Code:	D039
Waste Code Desc:	TETRACHLOROETHYLENE
Waste Code:	P075
Waste Code Desc:	NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS
Waste Code:	U002
Waste Code Desc:	2-PROPANONE (I) (OR) ACETONE (I)
Waste Code:	U035
Waste Code Desc:	BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL
Waste Code:	U154
Waste Code Desc:	METHANOL (I) (OR) METHYL ALCOHOL (I)
Waste Code:	U188
Waste Code Desc:	PHENOL
Waste Code:	U279
Waste Code Desc:	CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 3
Receive Date: 20200207
Handler Name: TARGET STORE T2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D004
Waste Code Desc: ARSENIC

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D027
Waste Code Desc: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: D039
Waste Code Desc: TETRACHLOROETHYLENE

Waste Code: P075
Waste Code Desc: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U134
Waste Code Desc: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 4
Receive Date: 20210210
Handler Name: TARGET STORE T2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D003
Waste Code Desc: REACTIVE WASTE

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D027
Waste Code Desc: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: D039
Waste Code Desc: TETRACHLOROETHYLENE

Waste Code: P075

Waste Code Desc: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U134
Waste Code Desc: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 5
Receive Date: 20220211
Handler Name: TARGET STORE T2442
Fed Waste Generator: 1
Generator Code Description: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D003
Waste Code Desc: REACTIVE WASTE

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D027
Waste Code Desc: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: D039
Waste Code Desc: TETRACHLOROETHYLENE

Waste Code: P075
Waste Code Desc: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U134
Waste Code Desc: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 6
Receive Date: 20230221
Handler Name: TARGET STORE T2442
Fed Waste Generator: 2
Generator Code Description: Small Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D003
Waste Code Desc: REACTIVE WASTE

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009
Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D027
Waste Code Desc: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: D039
Waste Code Desc: TETRACHLOROETHYLENE

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U079
Waste Code Desc: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

Waste Code: U134
Waste Code Desc: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 7
Receive Date: 20240208
Handler Name: TARGET STORE T2442
Fed Waste Generator: 2
Generator Code Description: Small Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D003
Waste Code Desc: REACTIVE WASTE

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code: D008
Waste Code Desc: LEAD

Waste Code: D009

Waste Code Desc: MERCURY

Waste Code: D010
Waste Code Desc: SELENIUM

Waste Code: D011
Waste Code Desc: SILVER

Waste Code: D016
Waste Code Desc: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Code Desc: BENZENE

Waste Code: D027
Waste Code Desc: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Code Desc: METHYL ETHYL KETONE

Waste Code: D039
Waste Code Desc: TETRACHLOROETHYLENE

Waste Code: U002
Waste Code Desc: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U134
Waste Code Desc: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Code Desc: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Code Desc: PHENOL

Waste Code: U279
Waste Code Desc: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Hazardous Waste Handler Details

Seq No: 8
Receive Date: 20250204
Handler Name: TARGET STORE T2442
Fed Waste Generator: 2
Generator Code Description: Small Quantity Generator
Source Type: Annual/Biennial Report update with Notification
TSD Activity: N

Waste Code Details

Waste Code: D001
Waste Code Desc: IGNITABLE WASTE

Waste Code: D002
Waste Code Desc: CORROSIVE WASTE

Waste Code: D003
Waste Code Desc: REACTIVE WASTE

Waste Code: D005
Waste Code Desc: BARIUM

Waste Code: D006
Waste Code Desc: CADMIUM

Waste Code: D007
Waste Code Desc: CHROMIUM

Waste Code:	D008
Waste Code Desc:	LEAD
Waste Code:	D009
Waste Code Desc:	MERCURY
Waste Code:	D010
Waste Code Desc:	SELENIUM
Waste Code:	D011
Waste Code Desc:	SILVER
Waste Code:	D016
Waste Code Desc:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D018
Waste Code Desc:	BENZENE
Waste Code:	D027
Waste Code Desc:	1,4-DICHLOROBENZENE
Waste Code:	D035
Waste Code Desc:	METHYL ETHYL KETONE
Waste Code:	D039
Waste Code Desc:	TETRACHLOROETHYLENE
Waste Code:	U002
Waste Code Desc:	2-PROPANONE (I) (OR) ACETONE (I)
Waste Code:	U134
Waste Code Desc:	HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)
Waste Code:	U154
Waste Code Desc:	METHANOL (I) (OR) METHYL ALCOHOL (I)
Waste Code:	U188
Waste Code Desc:	PHENOL
Waste Code:	U279
Waste Code Desc:	CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080723	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	MN
Phone:	800-587-2228	***Country:***	US
Source Type:	Annual/Biennial Report update with Notification	***Zip:***	55440

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080727	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	WI
Phone:	800-587-2228	***Country:***	US
Source Type:	Notification	***Zip:***	55440-0111

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street1:***	
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080723	***City:***	
Dt Ended Current:		***State:***	
Phone:		***Country:***	
Source Type:	Notification	***Zip:***	

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080727	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	MN
Phone:	612-304-4417	***Country:***	US
Source Type:	Notification	***Zip:***	55440-1111

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080727	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	MN
Phone:	612-304-4417	***Country:***	US
Source Type:	Notification	***Zip:***	55440-1111

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080723	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	MN
Phone:	800-587-2228	***Country:***	US
Source Type:	Annual/Biennial Report update with Notification	***Zip:***	55440

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080727	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	WI
Phone:	800-587-2228	***Country:***	US
Source Type:	Notification	***Zip:***	55440-0111

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street1:***	PO BOX 111
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080723	***City:***	MINNEAPOLIS
Dt Ended Current:		***State:***	MN
Phone:	800-587-2228	***Country:***	US
Source Type:	Notification	***Zip:***	55440

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street1:***	
Name:	TARGET CORPORATION	***Street2:***	
Dt Became Current:	20080723	***City:***	
Dt Ended Current:		***State:***	
Phone:		***Country:***	
Source Type:	Annual/Biennial Report update with Notification	***Zip:***	

Historical Handler Details

Receive Dt:	20240208
Generator Code Description:	Small Quantity Generator
Handler Name:	TARGET STORE T2442

Receive Dt:	20230221
Generator Code Description:	Small Quantity Generator
Handler Name:	TARGET STORE T2442

Receive Dt:	20220211
Generator Code Description:	Large Quantity Generator
Handler Name:	TARGET STORE T2442

Receive Dt:	20210210
Generator Code Description:	Large Quantity Generator
Handler Name:	TARGET STORE T2442

Receive Dt: 20200207

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Generator Code Description: Large Quantity Generator
Handler Name: TARGET STORE T2442

Receive Dt: 20180214
Generator Code Description: Large Quantity Generator
Handler Name: TARGET STORE T2442

Receive Dt: 20170404
Generator Code Description: Large Quantity Generator
Handler Name: TARGET STORE NUMBER 2442

Receive Dt: 20130410
Generator Code Description: Small Quantity Generator
Handler Name: TARGET STORE NUMBER 2442

Receive Dt: 20120213
Generator Code Description: Large Quantity Generator
Handler Name: TARGET STORE #T2442

Receive Dt: 20120213
Generator Code Description: Large Quantity Generator
Handler Name: TARGET STORE #T2442

Receive Dt: 20080826
Generator Code Description: Small Quantity Generator
Handler Name: TARGET CORPORATION STORE NUMBER 2442

Biennial Report - Destruction or Treatment prior to Disposal Off-Site Details

Reporting Cycle Year: 2011
Management Method Code: H135
Management Category: WASTEWATER TREATMENT

5	1 of 2	N	0.00 / 0.00	381.90 / 47	KADDY SHACK 7031 PLEASANT HILL ROAD OLIVE BRANCH MS 38654	FINDS/FRS

Registry ID: 110044539470
FIPS Code: 28033
HUC Code: 08030204
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 5541
SIC Code Descriptions: GASOLINE SERVICE STATIONS
NAICS Codes:
NAICS Code Descriptions:
Conveyor: FRS-GEOCODE
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 01
Census Block Code: 280330705202066
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude: 34.963313
Longitude: -89.901281
Reference Point: ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method: ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value: 50
Datum: NAD83
Source:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044539470
Program Acronyms:

MS-ENSITE:31614

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	2 of 2	N	0.00 / 0.00	381.90 / 47	Kaddy Shack 7031 Pleasant Hill Road Olive Branch MS 38654	UST

Facility ID: 10850
Facility Name (CAP):
Facility Address (CAP):
Facility City (CAP):
Facility Zip (CAP):
Facility State (CAP):
Owner Name (CAP):
Data Source(s): MDEQ UST Facilities & Owners Information (as of 4 Sep 2025); MDEQ Muster UST Facilities & Owners (as of 4 Sep 2025)

Additional Details

Tank ID:		**Pipe Index:**	3
Tank Index:	3	**Pipe Status Desc:**	Permanently Out of Use
Tank Status:	Permanently Out of Use	**Pipe Install Dt:**	1990-01-01 00:00:00
Tank Capacity:	6000	**Pipe Dt Last Used:**	1993-05-04 00:00:00
Tank Mat Desc:	Epoxy Coated Steel	**Pipe Date Closed:**	1993-05-04 00:00:00
Tank Mod Desc:	Cathodically Protected	**Pipe Mat Desc:**	Coated/Wrapped Steel
Tank Types:	Normal	**Pipe Mod Desc:**	Cathodically Protected
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:	1993-05-04 00:00:00	**Pipe Type Desc:**	
Date Closed:	1993-05-04 00:00:00	**Pipe CLS Status:**	Pre 88
Closure Stat Desc:	Pre 88	**Pipe LD:**	Not Listed
Substance:	Gasoline	**Alld Type:**	
Installed Tank Dt:	1990-01-01 00:00:00	**Expr1:**	
Overfill Type:		**Expr2:**	
Small Delivery:	False	**Owner Address:**	PO Box 98
Compartment No:		**Owner City:**	Ripley
Overfill Prevention:	No	**Owner State:**	MS
Spill Prevention:	No	**Owner Zip:**	38663
Tank LD:		**Owner Phone:**	(662)837-9341
Latitude Degree:	34	**Facility Name:**	Kaddy Shack
Latitude Minutes:	57	**Loc Addr:**	7031 Pleasant Hill Road
Latitude Seconds:	46.4112	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	5.0616	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	2
Tank Index:	2	**Pipe Status Desc:**	Permanently Out of Use
Tank Status:	Permanently Out of Use	**Pipe Install Dt:**	1990-01-01 00:00:00
Tank Capacity:	8000	**Pipe Dt Last Used:**	1993-05-04 00:00:00
Tank Mat Desc:	Epoxy Coated Steel	**Pipe Date Closed:**	1993-05-04 00:00:00
Tank Mod Desc:	Cathodically Protected	**Pipe Mat Desc:**	Coated/Wrapped Steel
Tank Types:	Normal	**Pipe Mod Desc:**	Cathodically Protected
Tank Emergency:	False	**Pipe Manufacturer:**	
Date Last Used:	1993-05-04 00:00:00	**Pipe Type Desc:**	
Date Closed:	1993-05-04 00:00:00	**Pipe CLS Status:**	Pre 88
Closure Stat Desc:	Pre 88	**Pipe LD:**	Not Listed
Substance:	Gasoline	**Alld Type:**	
Installed Tank Dt:	1990-01-01 00:00:00	**Expr1:**	
Overfill Type:		**Expr2:**	
Small Delivery:	False	**Owner Address:**	PO Box 98

Compartment No:		***Owner City:***	Ripley
Overfill Prevention:	No	***Owner State:***	MS
Spill Prevention:	No	***Owner Zip:***	38663
Tank LD:		***Owner Phone:***	(662)837-9341
Latitude Degree:	34	***Facility Name:***	Kaddy Shack
Latitude Minutes:	57	***Loc Addr:***	7031 Pleasant Hill Road
Latitude Seconds:	46.4112	***Loc City:***	Olive Branch
Longitude Degree:	89	***Loc State:***	MS
Longitude Minutes:	54	***Loc Zip:***	38654
Longitude Seconds:	5.0616	***County:***	De Soto

Additional Details

Tank ID:		***Pipe Index:***	1
Tank Index:	1	***Pipe Status Desc:***	Permanently Out of Use
Tank Status:	Permanently Out of Use	***Pipe Install Dt:***	1990-01-01 00:00:00
Tank Capacity:	8000	***Pipe Dt Last Used:***	1993-05-04 00:00:00
Tank Mat Desc:	Epoxy Coated Steel	***Pipe Date Closed:***	1993-05-04 00:00:00
Tank Mod Desc:	Cathodically Protected	***Pipe Mat Desc:***	Coated/Wrapped Steel
Tank Types:	Normal	***Pipe Mod Desc:***	Cathodically Protected
Tank Emergency:	False	***Pipe Manufacturer:***	
Date Last Used:	1993-05-04 00:00:00	***Pipe Type Desc:***	
Date Closed:	1993-05-04 00:00:00	***Pipe CLS Status:***	Pre 88
Closure Stat Desc:	Pre 88	***Pipe LD:***	Not Listed
Substance:	Gasoline	***Alld Type:***	
Installed Tank Dt:	1990-01-01 00:00:00	***Expr1:***	
Overfill Type:		***Expr2:***	
Small Delivery:	False	***Owner Address:***	PO Box 98
Compartment No:		***Owner City:***	Ripley
Overfill Prevention:	No	***Owner State:***	MS
Spill Prevention:	No	***Owner Zip:***	38663
Tank LD:		***Owner Phone:***	(662)837-9341
Latitude Degree:	34	***Facility Name:***	Kaddy Shack
Latitude Minutes:	57	***Loc Addr:***	7031 Pleasant Hill Road
Latitude Seconds:	46.4112	***Loc City:***	Olive Branch
Longitude Degree:	89	***Loc State:***	MS
Longitude Minutes:	54	***Loc Zip:***	38654
Longitude Seconds:	5.0616	***County:***	De Soto

Owner More Than 5 Tanks

No. of Tanks:	9
Owner Address:	PO Box 98
Owner City:	Ripley
Owner State:	MS
Owner Zip:	38663
Phone No.:	(662)837-9341

Muster UST Info

Facility AI ID:	31614	***Tank ID:***	27510
AI ID Type:		***Tank Status:***	Permanently Out of Use
Fac Status:	Closed	***Tank Cp Type:***	
Fac type:	Not Listed	***Tank Types:***	Normal
Loc Type:		***Date Installed Tank:***	1990-01-01 00:00:00
Tank Ld:		***Tank Index:***	3
Tank Emergen:	False	***Tank Capacity:***	6000
Spill Installed:	False	***Substance:***	Gasoline
Overfill Installed:	False	***Date Last Used:***	1993-05-04 00:00:00
Overfill Type:		***Date Closed:***	1993-05-04 00:00:00
Fac Phone:		***Closure Status Desc:***	Pre 88
Fuel Brand:		***Tank Mat Desc:***	Epoxy Coated Steel
Expr1:	Pre 88	***Tank Mod Desc:***	Cathodically Protected
Small Delivery:	False	***Owner ID:***	1040038
Fac Name:	Kaddy Shack	***Owner Name:***	Dees Oil Company

Loc Addr:	7031 Pleasant Hill Road	**Own Addr:**	PO Box 98
Loc City:	Olive Branch	**Own City:**	Ripley
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38663
County:	De Soto	**Own Phone:**	(662)837-9341
Pipe ID:	27510		
Pipe Index:	3		
Pipe Status Desc:	Permanently Out of Use		
Pipe Install Date:	1990-01-01 00:00:00		
Date Last Used 2:	1993-05-04 00:00:00		
Date Closed 2:	1993-05-04 00:00:00		
Pipe Mat Desc:	Coated/Wrapped Steel		
Pipe Mod Desc:	Cathodically Protected		
Pipe LD:	Not Listed		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:			

Muster UST Info

Facility AI ID:	31614	**Tank ID:**	27509
AI ID Type:		**Tank Status:**	Permanently Out of Use
Fac Status:	Closed	**Tank Cp Type:**	
Fac type:	Not Listed	**Tank Types:**	Normal
Loc Type:		**Date Installed Tank:**	1990-01-01 00:00:00
Tank Ld:		**Tank Index:**	2
Tank Emergen:	False	**Tank Capacity:**	8000
Spill Installed:	False	**Substance:**	Gasoline
Overfill Installed:	False	**Date Last Used:**	1993-05-04 00:00:00
Overfill Type:		**Date Closed:**	1993-05-04 00:00:00
Fac Phone:		**Closure Status Desc:**	Pre 88
Fuel Brand:		**Tank Mat Desc:**	Epoxy Coated Steel
Expr1:	Pre 88	**Tank Mod Desc:**	Cathodically Protected
Small Delivery:	False	**Owner ID:**	1040038
Fac Name:	Kaddy Shack	**Owner Name:**	Dees Oil Company
Loc Addr:	7031 Pleasant Hill Road	**Own Addr:**	PO Box 98
Loc City:	Olive Branch	**Own City:**	Ripley
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38663
County:	De Soto	**Own Phone:**	(662)837-9341
Pipe ID:	27509		
Pipe Index:	2		
Pipe Status Desc:	Permanently Out of Use		
Pipe Install Date:	1990-01-01 00:00:00		
Date Last Used 2:	1993-05-04 00:00:00		
Date Closed 2:	1993-05-04 00:00:00		
Pipe Mat Desc:	Coated/Wrapped Steel		
Pipe Mod Desc:	Cathodically Protected		
Pipe LD:	Not Listed		
Pipe Cp Type:			
Pipe Manufacturer:			
Pipe Type Desc:			

Muster UST Info

Facility AI ID:	31614	**Tank ID:**	27508
AI ID Type:		**Tank Status:**	Permanently Out of Use
Fac Status:	Closed	**Tank Cp Type:**	
Fac type:	Not Listed	**Tank Types:**	Normal
Loc Type:		**Date Installed Tank:**	1990-01-01 00:00:00
Tank Ld:		**Tank Index:**	1
Tank Emergen:	False	**Tank Capacity:**	8000
Spill Installed:	False	**Substance:**	Gasoline
Overfill Installed:	False	**Date Last Used:**	1993-05-04 00:00:00
Overfill Type:		**Date Closed:**	1993-05-04 00:00:00
Fac Phone:		**Closure Status Desc:**	Pre 88
Fuel Brand:		**Tank Mat Desc:**	Epoxy Coated Steel

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Expr1:	Pre 88	**Tank Mod Desc:**	Cathodically Protected
Small Delivery:	False	**Owner ID:**	1040038
Fac Name:	Kaddy Shack	**Owner Name:**	Dees Oil Company
Loc Addr:	7031 Pleasant Hill Road	**Own Addr:**	PO Box 98
Loc City:	Olive Branch	**Own City:**	Ripley
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38663
County:	De Soto	**Own Phone:**	(662)837-9341

Pipe ID:	27508
Pipe Index:	1
Pipe Status Desc:	Permanently Out of Use
Pipe Install Date:	1990-01-01 00:00:00
Date Last Used 2:	1993-05-04 00:00:00
Date Closed 2:	1993-05-04 00:00:00
Pipe Mat Desc:	Coated/Wrapped Steel
Pipe Mod Desc:	Cathodically Protected
Pipe LD:	Not Listed
Pipe Cp Type:	
Pipe Manufacturer:	
Pipe Type Desc:	

6	1 of 1	S	0.00 / 0.00	379.44 / 44	MARGARETTE MANOR AT ROBINSON CROSSING CHURCH ROAD AND PLEASANT HILL ROAD OLIVE BRANCH MS 38654	FINDS/FRS

Registry ID:	110038353787
FIPS Code:	28033
HUC Code:	08030204
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	12-MAY-09
Update Date:	06-JAN-12
Interest Types:	ICIS-NPDES NON-MAJOR, STATE MASTER
SIC Codes:	1521
SIC Code Descriptions:	GENERAL CONTRACTORS-SINGLE-FAMILY HOUSES
NAICS Codes:	236115
NAICS Code Descriptions:	NEW SINGLE-FAMILY HOUSING CONSTRUCTION (EXCEPT OPERATIVE BUILDERS).
Conveyor:	ICIS
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	01
Census Block Code:	280330707211041
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	34.932778
Longitude:	-89.896389
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	GPS - UNSPECIFIED
Accuracy Value:	100
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038353787
Program Acronyms:	

MS-ENSITE:35153, NPDES:MSR104473

7	1 of 3	S	0.00 / 0.00	377.48 / 42	Pop's Express Ph 5005 Church Road Olive Branch MS 38654	LUST

Facility ID: 13110
Data Source(s): MDEQ Leaking UST Info (as of 4 Sep 2025); MDEQ Muster Leaking UST Info (Muster) (as of 4 Sep 2025)

Additional Details

Event Seq:	1	**Owner Name:**	Pop's PH Inc
Active USTs:	2	**Owner Address1:**	PO Box 931
Activity:	NFA	**Owner Address2:**	
Lust Rep Came:		**Owner City:**	Olive Branch
MGPTF Status:	EUD	**Owner State:**	MS
Priority:	0	**Owner Zip:**	38654
Event Started:	2018-06-01 00:00:00	**Owner Phone No:**	
Confirmed on:	2018-04-11 00:00:00	**Latitude Degree:**	34
PM:	Joseph Curro	**Latitude Minutes:**	55
Last LDR:		**Latitude Seconds:**	57.6000
Last GWS:		**Longitude Degree:**	89
Last PTT:		**Longitude Minutes:**	54
Start Date:	2019-09-16 00:00:00	**Longitude Seconds:**	4.1000
Closed Date:	2019-10-03 00:00:00	**Contr Comp Name:**	
Money Paid:	0.0000	**Contractor Engineer:**	
County:	De Soto	**Contractor Phone No:**	

Event Seq:	1	**Owner Name:**	Pop's PH Inc
Active USTs:	2	**Owner Address1:**	PO Box 931
Activity:	New Site	**Owner Address2:**	
Lust Rep Came:		**Owner City:**	Olive Branch
MGPTF Status:	EUD	**Owner State:**	MS
Priority:	0	**Owner Zip:**	38654
Event Started:	2018-06-01 00:00:00	**Owner Phone No:**	
Confirmed on:	2018-04-11 00:00:00	**Latitude Degree:**	34
PM:	Joseph Curro	**Latitude Minutes:**	55
Last LDR:		**Latitude Seconds:**	57.6000
Last GWS:		**Longitude Degree:**	89
Last PTT:		**Longitude Minutes:**	54
Start Date:	2018-06-01 00:00:00	**Longitude Seconds:**	4.1000
Closed Date:	2018-06-01 00:00:00	**Contr Comp Name:**	
Money Paid:	0.0000	**Contractor Engineer:**	
County:	De Soto	**Contractor Phone No:**	

Event Seq:	1	**Owner Name:**	Pop's PH Inc
Active USTs:	2	**Owner Address1:**	PO Box 931
Activity:	Monitoring LDR	**Owner Address2:**	
Lust Rep Came:		**Owner City:**	Olive Branch
MGPTF Status:	EUD	**Owner State:**	MS
Priority:	0	**Owner Zip:**	38654
Event Started:	2018-06-01 00:00:00	**Owner Phone No:**	
Confirmed on:	2018-04-11 00:00:00	**Latitude Degree:**	34
PM:	Joseph Curro	**Latitude Minutes:**	55
Last LDR:		**Latitude Seconds:**	57.6000
Last GWS:		**Longitude Degree:**	89
Last PTT:		**Longitude Minutes:**	54
Start Date:	2018-06-01 00:00:00	**Longitude Seconds:**	4.1000
Closed Date:	2018-09-27 00:00:00	**Contr Comp Name:**	
Money Paid:	0.0000	**Contractor Engineer:**	
County:	De Soto	**Contractor Phone No:**	

Muster Lust

Event No:	1	**Address:**	5005 Church Road
Nfa Date:	10/03/2019	**City:**	Olive Branch
Confirmed on Date:	2018-04-11 00:00:00	**State :**	MS
Lust Status:	Closed	**Zip:**	38654
Mgptf Status:	EUD	**Latitude Degree:**	34
Dt Reported Release:	2018-04-11 00:00:00	**Latitude Minutes:**	55
Datum:	581	**Latitude Seconds:**	57.6000
Owner:	San Patrick	**Longitude Degree:**	89

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	2 of 3	S	0.00 / 0.00	377.48 / 42	Pop's Express Ph 5005 Church Road Olive Branch MS 38654	UST

Project Manager: Joseph Curro
Facility Name: Pop's Express Ph
County: De Soto
Longitude Minutes: 54
Longitude Seconds: 4.1000

Facility ID: 13110
Facility Name (CAP):
Facility Address (CAP):
Facility City (CAP):
Facility Zip (CAP):
Facility State (CAP):
Owner Name (CAP):
Data Source(s): MDEQ UST Facilities & Owners Information (as of 4 Sep 2025); MDEQ Muster UST Facilities & Owners (as of 4 Sep 2025)

Additional Details

Tank ID:
Tank Index: 2
Tank Status: Currently In Use
Tank Capacity: 12000
Tank Mat Desc: Composite (Steel w/ FRP)
Tank Mod Desc: Double-Walled
Tank Types:
Tank Emergency: False
Date Last Used:
Date Closed:
Closure Stat Desc:
Substance: Multi-Compartment
Installed Tank Dt: 2016-05-11 00:00:00
Overfill Type: Drop Tube Device
Small Delivery: False
Compartment No:
Overfill Prevention: Yes
Spill Prevention: Yes
Tank LD: Electronic Interstitial Monitoring
Latitude Degree: 34
Latitude Minutes: 55
Latitude Seconds: 57.6000
Longitude Degree: 89
Longitude Minutes: 54
Longitude Seconds: 4.1000

Pipe Index: 2
Pipe Status Desc: Currently In Use
Pipe Install Dt: 2016-07-14 00:00:00
Pipe Dt Last Used:
Pipe Date Closed:
Pipe Mat Desc: Fiberglass Reinforced Plastic
Pipe Mod Desc: Double-Walled
Pipe Manufacturer: Ameron
Pipe Type Desc: Pressurized
Pipe CLS Status:
Pipe LD: Continuous Interstitial Monitoring
Alld Type: Mechanical
Expr1:
Expr2:
Owner Address: 5005 Church Road
Owner City: Olive Branch
Owner State: MS
Owner Zip: 38654
Owner Phone: (901)283-0005
Facility Name: Pop's Express Ph
Loc Addr: 5005 Church Road
Loc City: Olive Branch
Loc State: MS
Loc Zip: 38654
County: De Soto

Additional Details

Tank ID:
Tank Index: 2
Tank Status: Currently In Use
Tank Capacity: 12000
Tank Mat Desc: Composite (Steel w/ FRP)
Tank Mod Desc: Double-Walled
Tank Types:
Tank Emergency: False
Date Last Used:
Date Closed:
Closure Stat Desc:
Substance: Multi-Compartment
Installed Tank Dt: 2016-05-11 00:00:00
Overfill Type: Drop Tube Device
Small Delivery: False
Compartment No:
Overfill Prevention: Yes
Spill Prevention: Yes

Pipe Index: 3
Pipe Status Desc: Currently In Use
Pipe Install Dt: 2016-07-14 00:00:00
Pipe Dt Last Used:
Pipe Date Closed:
Pipe Mat Desc: Fiberglass Reinforced Plastic
Pipe Mod Desc: Double-Walled
Pipe Manufacturer: Ameron
Pipe Type Desc: Pressurized
Pipe CLS Status:
Pipe LD: Continuous Interstitial Monitoring
Alld Type: Mechanical
Expr1:
Expr2:
Owner Address: 5005 Church Road
Owner City: Olive Branch
Owner State: MS
Owner Zip: 38654

Tank LD:	Electronic Interstitial Monitoring	**Owner Phone:**	(901)283-0005
Latitude Degree:	34	**Facility Name:**	Pop's Express Ph
Latitude Minutes:	55	**Loc Addr:**	5005 Church Road
Latitude Seconds:	57.6000	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	4.1000	**County:**	De Soto

Additional Details

Tank ID:		**Pipe Index:**	1
Tank Index:	1	**Pipe Status Desc:**	Currently In Use
Tank Status:	Currently In Use	**Pipe Install Dt:**	2016-07-14 00:00:00
Tank Capacity:	20000	**Pipe Dt Last Used:**	
Tank Mat Desc:	Composite (Steel w/ FRP)	**Pipe Date Closed:**	
Tank Mod Desc:	Double-Walled	**Pipe Mat Desc:**	Fiberglass Reinforced Plastic
Tank Types:		**Pipe Mod Desc:**	Double-Walled
Tank Emergency:	False	**Pipe Manufacturer:**	Ameron
Date Last Used:		**Pipe Type Desc:**	Pressurized
Date Closed:		**Pipe CLS Status:**	
Closure Stat Desc:		**Pipe LD:**	Continuous Interstitial Monitoring
Substance:	Gasoline	**Alld Type:**	Mechanical
Installed Tank Dt:	2016-05-11 00:00:00	**Expr1:**	
Overfill Type:	Drop Tube Device	**Expr2:**	
Small Delivery:	False	**Owner Address:**	5005 Church Road
Compartment No:		**Owner City:**	Olive Branch
Overfill Prevention:	Yes	**Owner State:**	MS
Spill Prevention:	Yes	**Owner Zip:**	38654
Tank LD:	Electronic Interstitial Monitoring	**Owner Phone:**	(901)283-0005
Latitude Degree:	34	**Facility Name:**	Pop's Express Ph
Latitude Minutes:	55	**Loc Addr:**	5005 Church Road
Latitude Seconds:	57.6000	**Loc City:**	Olive Branch
Longitude Degree:	89	**Loc State:**	MS
Longitude Minutes:	54	**Loc Zip:**	38654
Longitude Seconds:	4.1000	**County:**	De Soto

Muster UST Info

Facility AI ID:	72536	**Tank ID:**	32298
AI ID Type:	Mechanical	**Tank Status:**	Currently In Use
Fac Status:	Closed Release	**Tank Cp Type:**	
Fac type:	Gas Station	**Tank Types:**	
Loc Type:	MDEQ (100)	**Date Installed Tank:**	2016-05-11 00:00:00
Tank Ld:	Electronic Interstitial Monitoring	**Tank Index:**	2
Tank Emergen:	False	**Tank Capacity:**	0
Spill Installed:	False	**Substance:**	
Overfill Installed:	False	**Date Last Used:**	
Overfill Type:	Drop Tube Device	**Date Closed:**	
Fac Phone:		**Closure Status Desc:**	
Fuel Brand:	shell	**Tank Mat Desc:**	Composite (Steel w/ FRP)
Expr1:		**Tank Mod Desc:**	Double-Walled
Small Delivery:	False	**Owner ID:**	2008818
Fac Name:	Pop's Express Ph	**Owner Name:**	San Patrick
Loc Addr:	5005 Church Road	**Own Addr:**	5005 Church Road
Loc City:	Olive Branch	**Own City:**	Olive Branch
Loc State:	MS	**Own State:**	MS
Loc Zip:	38654	**Own Zip:**	38654
County:	De Soto	**Own Phone:**	(901)283-0005
Pipe ID:	33316		
Pipe Index:	2		
Pipe Status Desc:	Currently In Use		
Pipe Install Date:	2016-07-14 00:00:00		
Date Last Used 2:			
Date Closed 2:			
Pipe Mat Desc:	Fiberglass Reinforced Plastic		
Pipe Mod Desc:	Double-Walled		
Pipe LD:	Continuous Interstitial Monitoring		

Pipe Cp Type:
Pipe Manufacturer: Ameron
Pipe Type Desc: Pressurized

Muster UST Info

Facility AI ID: 72536
AI ID Type: Mechanical
Fac Status: Closed Release
Fac type: Gas Station
Loc Type: MDEQ (100)
Tank Ld: Electronic Interstitial Monitoring
Tank Emergen: False
Spill Installed: False
Overfill Installed: False
Overfill Type: Drop Tube Device
Fac Phone:
Fuel Brand: shell
Expr1:
Small Delivery: False
Fac Name: Pop's Express Ph
Loc Addr: 5005 Church Road
Loc City: Olive Branch
Loc State: MS
Loc Zip: 38654
County: De Soto
Tank ID: 32297
Tank Status: Currently In Use
Tank Cp Type:
Tank Types:
Date Installed Tank: 2016-05-11 00:00:00
Tank Index: 1
Tank Capacity: 0
Substance:
Date Last Used:
Date Closed:
Closure Status Desc:
Tank Mat Desc: Composite (Steel w/ FRP)
Tank Mod Desc: Double-Walled
Owner ID: 2008818
Owner Name: San Patrick
Own Addr: 5005 Church Road
Own City: Olive Branch
Own State: MS
Own Zip: 38654
Own Phone: (901)283-0005
Pipe ID: 33315
Pipe Index: 1
Pipe Status Desc: Currently In Use
Pipe Install Date: 2016-07-14 00:00:00
Date Last Used 2:
Date Closed 2:
Pipe Mat Desc: Fiberglass Reinforced Plastic
Pipe Mod Desc: Double-Walled
Pipe LD: Continuous Interstitial Monitoring
Pipe Cp Type:
Pipe Manufacturer: Ameron
Pipe Type Desc: Pressurized

Muster UST Info

Facility AI ID: 72536
AI ID Type: Mechanical
Fac Status: Closed Release
Fac type: Gas Station
Loc Type: MDEQ (100)
Tank Ld: Electronic Interstitial Monitoring
Tank Emergen: False
Spill Installed: False
Overfill Installed: False
Overfill Type: Drop Tube Device
Fac Phone:
Fuel Brand: shell
Expr1:
Small Delivery: False
Fac Name: Pop's Express Ph
Loc Addr: 5005 Church Road
Loc City: Olive Branch
Loc State: MS
Loc Zip: 38654
County: De Soto
Tank ID: 32298
Tank Status: Currently In Use
Tank Cp Type:
Tank Types:
Date Installed Tank: 2016-05-11 00:00:00
Tank Index: 2
Tank Capacity: 0
Substance:
Date Last Used:
Date Closed:
Closure Status Desc:
Tank Mat Desc: Composite (Steel w/ FRP)
Tank Mod Desc: Double-Walled
Owner ID: 2008818
Owner Name: San Patrick
Own Addr: 5005 Church Road
Own City: Olive Branch
Own State: MS
Own Zip: 38654
Own Phone: (901)283-0005
Pipe ID: 33317
Pipe Index: 3
Pipe Status Desc: Currently In Use
Pipe Install Date: 2016-07-14 00:00:00
Date Last Used 2:
Date Closed 2:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Pipe Mat Desc: Fiberglass Reinforced Plastic
Pipe Mod Desc: Double-Walled
Pipe LD: Continuous Interstitial Monitoring
Pipe Cp Type:
Pipe Manufacturer: Ameron
Pipe Type Desc: Pressurized

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	3 of 3	S	0.00 / 0.00	377.48 / 42	Saint Monica Inc 5005 Church Rd Olive Branch MS 38654	UST MDAC

Bus ID: 21325
Tank Location: Under Ground
Active: Yes
Bus Type: Retail Outlet
County: Desoto
State: MS

Lat Degree: 34
Lat Minute: 55
Lat Second: 58
Long Degree: 89
Long Minute: 54
Long Second: 4

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	1 of1	NNW	0.10 / 524.76	359.34 / 24	SR EPC LLC, SR West Marshall PV 4745 Highway 302 Olive Branch MS 38654	ENSITE

Master AI ID: 86142
County: Desoto
Basin: North Independent Streams
Mailing Address: 222 Second Avenue
South suite 1900
Mailing City Zip Cd: Nashville, TN 37201
Facility Detail URL: http://opc.deq.state.ms.us/ai_info.aspx?ai=86142

Search Results

Permit No: MSR109246
Permit Type: General Permit - Construction

General Information

SIC: 4911
Branch: Stormwater 401
Start: 03/29/2024
End:
SIC Link: http://www.osha.gov/pls/imis/sicsearch.html?p_sic=4911

Permits and Alternative

Alt ID: MSR109246
Alt Name: SR EPC LLC, SR West Marshall PV
Alt Type: GP-Construction
Start Date: 08/22/2024
End Date: 01/31/2027

Office of Poll

Name: Barefoot, Carrie
Assignment: Office of Pollution Control Stormwater Permit Manager
Phone No: (601) 961-5249

Office of Poll

Name: Barefoot, Carrie

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Assignment: Office of Pollution Control Stormwater Permit Staff
Phone No: (601) 961-5249

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Staff
Phone No: (601) 961-5283

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Manager
Phone No: (601) 961-5283

Active Coverages Available Online

Permit No: MSR109246
Permit Type: General Permit - Construction Coverage
Issue Date: 08/22/2024
Permit Document: https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1735566

Current Status of General Permit Applications

Ai ID: 86142
Permit No: MSR109246
Permit Type: Construction Coverage
Program: General Permit
Status Desc: Administratively Complete NOI Reviewed by MDEQ Staff
Status Date: 08/22/2024
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1706846

9	1 of1	SSE	0.49 / 2,569.59	382.82 / 48	Pleasant Hill Storage LLC 5100 Sandidge Road Olive Branch MS 38654	ENSITE

Master AI ID: 72800
County: Desoto
Basin: Yazoo River
Mailing Address: 1805 Hawthorne Drive
Mailing City Zip Cd: Hernando, MS 38632
Facility Detail URL: http://opc.deq.state.ms.us/ai_info.aspx?ai=72800

Search Results

Permit No: MSR107579
Permit Type: General Permit - Construction

General Information

SIC: 4225
Branch: Stormwater 401
Start: 11/03/2017
End:
SIC Link: http://www.osha.gov/pls/imis/sicsearch.html?p_sic=4225

Permits and Alternative

Alt ID: MSR107579
Alt Name: Pleasant Hill Storage, LLC

Alt Type: GP-Construction
Start Date: 08/18/2022
End Date: 01/31/2027

Permits and Alternative

Alt ID: MSR107579
Alt Name: Funderburk Self Storage Facility
Alt Type: GP-Construction
Start Date: 12/18/2017
End Date: 12/31/2021

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Manager
Phone No: (601) 961-5283

Office of Poll

Name: Span, Cevion
Assignment: Office of Pollution Control Stormwater Permit Staff
Phone No: (601) 961-5267

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Staff
Phone No: (601) 961-5283

Office of Poll

Name: Bass, Florance
Assignment: Office of Pollution Control Stormwater Permit Manager
Phone No: (601) 961-5614

Active Coverages Available Online

Permit No: MSR107579
Permit Type: General Permit - Construction Recoverage
Issue Date: 08/18/2022
Permit Document: https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1593712

Current Status of General Permit Applications

Ai ID: 72800
Permit No: MSR107579
Permit Type: Construction Coverage
Program: General Permit
Status Desc: Coverage Terminated
Status Date: 08/18/2022
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1253289

10	1 of4	SSE	0.49 / 2,573.23	388.85 / 54	DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site 5255 Sandidge Road Olive Branch MS 38654	ENSITE

Master AI ID: 15227

County: Desoto
Basin: Yazoo River
Mailing Address: Desoto County Board of Supervisors
365 Losher Street
Suite 200
Mailing City Zip Cd: Hernando, MS 38632
Facility Detail URL: http://opc.deq.state.ms.us/ai_info.aspx?ai=15227

Search Results

Permit No: MSR002340
Permit Type: General Permit - Baseline

General Information

SIC: 4953
Branch: Solid Waste
Stormwater 401
Waste Tire
Start: 02/06/1991
End:
SIC Link: http://www.osha.gov/pls/imis/sicsearch.html?p_sic=4953

Permits and Alternative

Alt ID: MSR002340
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: GP-Baseline
Start Date: 08/27/2018
End Date: 10/31/2020

Permits and Alternative

Alt ID: R1006
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: SolidWaste-Rubbish Class I
Start Date: 03/17/1997
End Date: 07/13/2007

Permits and Alternative

Alt ID: R1006
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: SolidWaste-Rubbish Class I
Start Date: 07/13/2007
End Date: 12/31/2016

Permits and Alternative

Alt ID: MSR500120
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: GP-Land Disposal
Start Date: 09/10/2007
End Date:

Permits and Alternative

Alt ID: MSR002340
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: GP-Baseline
Start Date: 09/09/2021

End Date: 11/30/2025

Permits and Alternative

Alt ID: Authorized
Alt Name: Desoto County Board of Supervisors, Desoto County Waste Tire Collection Site at County Rubbish Site
Alt Type: SolidWaste-Tire Collection
Start Date: 03/17/1993
End Date:

Office of Poll

Name: Surrette, Zane
Assignment: Office of Pollution Control Solid Waste Compliance Staff
Phone No: (601) 961-5372

Office of Poll

Name: Rockingham, Charity
Assignment: Office of Pollution Control Solid Waste Permit Manager
Phone No: (601) 961-5722

Office of Poll

Name: Rockingham, Charity
Assignment: Office of Pollution Control Solid Waste Permit Staff
Phone No: (601) 961-5722

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Manager
Phone No: (601) 961-5283

Office of Poll

Name: Mayeu, Ethan
Assignment: Office of Pollution Control Solid Waste Compliance Manager
Phone No: (601) 961-5613

Office of Poll

Name: Schaub, Thomas
Assignment: Office of Pollution Control Stormwater Compliance Staff
Phone No: (601) 961-5035

Office of Poll

Name: Bass, Florance
Assignment: Office of Pollution Control Stormwater Permit Manager
Phone No: (601) 961-5614

Office of Poll

Name: Span, Cevion
Assignment: Office of Pollution Control Stormwater Permit Staff
Phone No: (601) 961-5267

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Current Status of Ind

Permit No: None Assigned
Permit Type: Rubbish Modification
Program: Solid Waste
Status Date: 08/18/2025
Status Desc: Permit Application Received

Active Coverages Available Online

Permit No: MSR002340
Permit Type: General Permit - Baseline Recoverage
Issue Date: 09/09/2021
Permit Document: https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1515238

Current Status of General Permit Applications

Ai ID: 15227
Permit No: MSR500120
Permit Type: Land Disposal Coverage
Program: General Permit
Status Desc: Coverage Issued
Status Date: 09/10/2007
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=416958

Current Status of General Permit Applications

Ai ID: 15227
Permit No: MSR002340
Permit Type: Baseline Coverage
Program: General Permit
Status Desc: Coverage Terminated
Status Date: 09/09/2021
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1283027

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	2 of4	SSE	0.49 / 2,573.23	388.85 / 54	DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site 5255 Sandidge Road Olive Branch MS 38654	SWF PERMIT

AI ID: 15227
County:
Basin:
Mailing Address: Desoto County Board of Supervisors
365 Losher Street
Suite 200
Mailing City ZIP: Hernando, MS 38632
URL: http://opc.deq.state.ms.us/ai_info.aspx?ai=15227

Permits and Alternative Details

Alt ID: Authorized
Alt Name: Desoto County Board of Supervisors, Desoto County Waste Tire Collection Site at County Rubbish Site
Alt Type: SolidWaste-Tire Collection
Start Date: 03/17/1993
End Date:

Permits and Alternative Details

Alt ID: R1006
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Alt Type: SolidWaste-Rubbish Class I
Start Date: 03/17/1997
End Date: 07/13/2007

Permits and Alternative Details

Alt ID: R1006
Alt Name: DeSoto County Board of Supervisors, DeSoto County Class I Rubbish Site
Alt Type: SolidWaste-Rubbish Class I
Start Date: 07/13/2007
End Date: 12/31/2016

Active Coverages Available Online

Permit No: MSR002340
Permit Type: General Permit - Baseline Recoverage
Issue Date: 09/09/2021
Permit Document: https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1515238

Current Status of General Permit Applications

Permit No: MSR002340
Permit Type: Baseline Coverage
Program: General Permit
Status Desc: Coverage Terminated
Status Date: 09/09/2021
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1283027

Current Status of General Permit Applications

Permit No: MSR500120
Permit Type: Land Disposal Coverage
Program: General Permit
Status Desc: Coverage Issued
Status Date: 09/10/2007
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=416958

10	3 of4	SSE	0.49 / 2,573.23	388.85 / 54	DeSoto Co Class I Rubbish Site 5255 Sandidge Road Olive Branch MS 38654	SWF/LF

Permit No:
Acres:
AI No: 15227
Waste Type:
Type :
Contact Title:
Contact Person: Ray Laughter, County Administrator
Phone No: 662-429-5593
County: De Soto
Owner Operator: DeSoto Co BOS
Materials:
Data Source: MDEQ List of Local Government Waste Tire Collection Sites
Note: Note: Please make contact with facility representatives prior to bringing waste tires to confirm drop-off hours and/or other drop-off limitations.

Latitude: 34.935944
Longitude: -89.892
Range 1:
Range 2:
Section1:
Section2:
Township 1:
Township 2:

10	4 of4	SSE	0.49 / 2,573.23	388.85 / 54	DeSoto County Rubbish Site 5255 West Sandidge Rd Olive Branch MS 38654	SWF/LF

Permit No: R1-006
Acres: 38

Latitude: 34.93594444
Longitude: -89.892

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

AI No:	15227	**Range 1:**	
Waste Type:		**Range 2:**	
Type :		**Section1:**	
Contact Title:	County Administrator	**Section2:**	
Contact Person:	Ray Laughter	**Township 1:**	
Phone No:	662-429-5593	**Township 2:**	
County:	De Soto		
Owner Operator:	DeSoto County Board of Supervisors		
Materials:			
Data Source:	MDEQ List of Commercial Class I Rubbish Disposal Facilities		
Note:			

11	1 of1	SE	0.53 / 2,779.45	382.24 / 47	BRIDGEFORTH PLANT DESOTO COUNTY OLIVE BRANCH MS 38654	MRDS

Dep ID:	10243464	**I1:**	24
Dev Status:	PLANT	**Latitude:**	34.937683
Code List:	SDG	**Longitude:**	-89.891785
Url:	http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10243464		

Commodity

I1:	34	**Line:**	1
Code:	SDG	**Inserted By:**	MAS migration
Commodity:	Sand and Gravel, Cons	**Insert Date:**	29-OCT-2002 09:00:24
Commodity Type:	Non-metallic	**Updated By:**	USGS
Commodity Group:	Sand and Gravel	**Update Date:**	29-OCT-2002 09:02:11
Importance:	Primary		

Names

I1:	44	**Inserted By:**	MAS migration
Status:	Current	**Insert Date:**	29-OCT-02
Site Name:	Bridgeforth Plant	**Updated By:**	USGS
Line:	1	**Update Date:**	29-OCT-02

Unplottable Summary

Total: 21 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
ENSITE	Grinder and Haizlip Construction Company Inc, Homer Skelton Hyundai and Genesis	Dealership North Goodman Road at Highway 302 Bypass	Olive Branch MS	38654	918602297
ENSITE	Mike Bailey Project	Goodman Road	Olive Branch MS	38654	893357931
FINDS/FRS	MALCO, OLIVE BRANCH	GOODMAN ROAD ***Registry ID:*** 110055652011	OLIVE BRANCH MS	38654	816748385
FINDS/FRS	BAILEY AND ROWSEY	GOODMAN ROAD PROJECT ***Registry ID:*** 110037507971	OLIVE BRANCH MS	38654	816747829
FINDS/FRS	MAGNOLIA TRACE SUBDIVISION	GOODMAN ROAD ***Registry ID:*** 110044485125	OLIVE BRANCH MS	38654	816747702
FINDS/FRS	MIKE BAILEY PROJECT	GOODMAN ROAD ***Registry ID:*** 110038361714	OLIVE BRANCH MS	38654	816778470
FINDS/FRS	MURPHY EXPRESS NUMBER 8530	HIGHWAY 302 GOODMAN ROAD ***Registry ID:*** 110044488998	OLIVE BRANCH MS	38654	816777144
FINDS/FRS	DOGWOOD PLANTATION	GOODMAN ROAD ***Registry ID:*** 110044586221	OLIVE BRANCH MS	38654	816772123
FINDS/FRS	OUTBACK STORAGE	GOODMAN ROAD ***Registry ID:*** 110024596800	OLIVE BRANCH MS	38654	816758205
FINDS/FRS	GOODMAN PLEASANT HILL COMMERCIAL SUBDIVISION	GOODMAN ROAD ***Registry ID:*** 110044611523	OLIVE BRANCH MS	38654	816758203
FINDS/FRS	GOODMAN ROAD PROJECT	GOODMAN ROAD ***Registry ID:*** 110044524253	OLIVE BRANCH MS	38654	816757515

FINDS/FRS	ALEXANDER CROSSING	GOODMAN ROAD ***Registry ID:*** 110024595847	OLIVE BRANCH MS	38654	816757513
FINDS/FRS	CITY CENTER	GOODMAN ROAD ***Registry ID:*** 110044563905	OLIVE BRANCH MS	38654	816757447
FINDS/FRS	DOVE RIDGE PHASE TWO	GOODMAN ROAD ***Registry ID:*** 110044622584	OLIVE BRANCH MS	38654	816755991
FINDS/FRS	ALVAN KELLY, STREAM RELOCATION	GOODMAN ROAD ***Registry ID:*** 110044703158	OLIVE BRANCH MS	38654	816755439
FINDS/FRS	WEDGEWOOD COMMERCIAL	GOODMAN ROAD ***Registry ID:*** 110038349864	OLIVE BRANCH MS	38654	816752589
FINDS/FRS	ANNANDALE GARDENS	GOODMAN ROAD ***Registry ID:*** 110044572263	OLIVE BRANCH MS	38654	816752555
FINDS/FRS	O B DEVELOPMENT COMPANY INC, FOX CREEK SUBDIVISION	GOODMAN ROAD ***Registry ID:*** 110009861453	OLIVE BRANCH MS	38654	816752002
FINDS/FRS	OLIVE RIDGE SUBDIVISION SECTION B	GOODMAN ROAD ***Registry ID:*** 110044431120	OLIVE BRANCH MS	38654	816751217
FINDS/FRS	SIMPSON COMMERCIAL SUBDIVISION	GOODMAN ROAD ***Registry ID:*** 110038350441	OLIVE BRANCH MS	38654	816748391
ICIS	BAILEY AND ROWSEY	GOODMAN ROAD PROJECT ***Registry ID:*** 110037507971	OLIVE BRANCH MS	38654	828307303

Unplottable Report

Site: ***Grinder and Haizlip Construction Company Inc, Homer Skelton Hyundai and Genesis Dealership North Goodman Road at Highway 302 Bypass Olive Branch MS 38654***

ENSITE

Master AI ID:	82794
County:	Desoto
Basin:	North Independent Streams
Mailing Address:	1746 Thomas Road
Mailing City Zip Cd:	Memphis, TN 38134
Facility Detail URL:	http://opc.deq.state.ms.us/ai_info.aspx?ai=82794

Search Results

Permit No:	MSR108851
Permit Type:	General Permit - Construction

General Information

SIC:	5511
Branch:	Stormwater 401
Start:	11/16/2022
End:	
SIC Link:	http://www.osha.gov/pls/imis/sicsearch.html?p_sic=5511

Permits and Alternative

Alt ID:	MSR108851
Alt Name:	Grinder and Haizlip Construction Company Inc, Homer Skelton Hyundai and Genesis Dealership
Alt Type:	GP-Construction
Start Date:	03/07/2023
End Date:	01/31/2027

Office of Poll

Name:	Barefoot, Carrie
Assignment:	Office of Pollution Control Stormwater Permit Manager
Phone No:	(601) 961-5249

Office of Poll

Name:	Beasley, Sara
Assignment:	Office of Pollution Control Stormwater Compliance Manager
Phone No:	(601) 961-5283

Office of Poll

Name:	Beasley, Sara
Assignment:	Office of Pollution Control Stormwater Compliance Staff
Phone No:	(601) 961-5283

Office of Poll

Name:	Barefoot, Carrie
Assignment:	Office of Pollution Control Stormwater Permit Staff
Phone No:	(601) 961-5249

Active Coverages Available Online

Permit No:	MSR108851
Permit Type:	General Permit - Construction Coverage
Issue Date:	03/07/2023
Permit Document:	https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1630354

Current Status of General Permit Applications

Ai ID:	82794
Permit No:	MSR108851
Permit Type:	Construction Coverage
Program:	General Permit
Status Desc:	Coverage Issued
Status Date:	03/07/2023
PDF:	https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1610665

Site: ***Mike Bailey Project***
Goodman Road Olive Branch MS 38654

ENSITE

Master AI ID:	36477
County:	Desoto
Basin:	Yazoo River
Mailing Address:	PO Box 867
Mailing City Zip Cd:	New Albany, MS 38652
Facility Detail URL:	http://opc.deq.state.ms.us/ai_info.aspx?ai=36477

Search Results

Permit No:	MSR104907
Permit Type:	General Permit - Construction

General Information

SIC:	1629
Branch:	Stormwater 401
Start:	11/16/2007
End:	
SIC Link:	http://www.osha.gov/pls/imis/sicsearch.html?p_sic=1629

Permits and Alternative

Alt ID:	MSR104907
Alt Name:	EBI, Mike Bailey Project
Alt Type:	GP-Construction
Start Date:	12/10/2007
End Date:	03/24/2011

Permits and Alternative

Alt ID:	MSR104907
Alt Name:	EBI, Mike Bailey Project
Alt Type:	GP-Construction
Start Date:	03/24/2011
End Date:	04/12/2017

Permits and Alternative

Alt ID:	MSR104907
Alt Name:	EBI, Inc., Mike Bailey Project
Alt Type:	GP-Construction
Start Date:	08/26/2022
End Date:	01/31/2027

Permits and Alternative

Alt ID: MSR104907
Alt Name: EBI, Inc., Mike Bailey Project
Alt Type: GP-Construction
Start Date: 04/12/2017
End Date: 12/31/2021

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Manager
Phone No: (601) 961-5283

Office of Poll

Name: Beasley, Sara
Assignment: Office of Pollution Control Stormwater Compliance Staff
Phone No: (601) 961-5283

Active Coverages Available Online

Permit No: MSR104907
Permit Type: General Permit - Construction Recoverage
Issue Date: 08/26/2022
Permit Document: https://opc.deq.state.ms.us/get_doc.aspx?dt=finalp&id=1594099

Current Status of General Permit Applications

Ai ID: 36477
Permit No: MSR104907
Permit Type: Construction Recoverage
Program: General Permit
Status Desc: Coverage Terminated
Status Date: 08/26/2022
PDF: https://opc.deq.state.ms.us/get_doc.aspx?dt=pdf&id=1207784

Site: ***MALCO, OLIVE BRANCH***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110055652011
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 13-SEP-13
Update Date:
Interest Types: STATE MASTER
SIC Codes: 7832
SIC Code Descriptions: MOTION PICTURE THEATERS, EXCEPT DRIVE-IN
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:

Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110055652011
Program Acronyms:

MS-ENSITE:62896

Site: ***BAILEY AND ROWSEY***
GOODMAN ROAD PROJECT OLIVE BRANCH MS 38654 FINDS/FRS

Registry ID: 110037507971
FIPS Code: MS145
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location: GOODMAN ROAD
Create Date: 18-DEC-08
Update Date: 05-JUL-16
Interest Types: ICIS-NPDES NON-MAJOR, STORM WATER CONSTRUCTION
SIC Codes: 1629
SIC Code Descriptions: HEAVY CONSTRUCTION, NOT ELSEWHERE CLASSIFIED
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: UNION
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110037507971
Program Acronyms:

NPDES:MSR103060

Site: ***MAGNOLIA TRACE SUBDIVISION***
GOODMAN ROAD OLIVE BRANCH MS 38654 FINDS/FRS

Registry ID: 110044485125
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1522
SIC Code Descriptions: GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:

Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044485125
Program Acronyms:

MS-ENSITE:5547

Site: ***MIKE BAILEY PROJECT***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110038361714
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 12-MAY-09
Update Date: 06-JAN-12
Interest Types: ICIS-NPDES NON-MAJOR, STATE MASTER
SIC Codes: 1629
SIC Code Descriptions: HEAVY CONSTRUCTION, NOT ELSEWHERE CLASSIFIED
NAICS Codes: 237990
NAICS Code Descriptions: OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION.
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038361714
Program Acronyms:

MS-ENSITE:36477, NPDES:MSR104907

Site: ***MURPHY EXPRESS NUMBER 8530***
HIGHWAY 302 GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044488998
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12

Update Date:
Interest Types: STATE MASTER
SIC Codes: 5541
SIC Code Descriptions: GASOLINE SERVICE STATIONS
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044488998
Program Acronyms:

MS-ENSITE:38380

Site: ***DOGWOOD PLANTATION***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044586221
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1522
SIC Code Descriptions: GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044586221
Program Acronyms:

MS-ENSITE:18312

Site: ***OUTBACK STORAGE***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID:	110024596800
FIPS Code:	28033
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	02-MAY-06
Update Date:	06-JAN-12
Interest Types:	STATE MASTER
SIC Codes:	1542
SIC Code Descriptions:	GENERAL CONTRACTORS-NONRESIDENTIAL BUILDINGS, OTHER THAN INDUSTRIAL BUILDINGS AND WAREHOUSES
NAICS Codes:	236220
NAICS Code Descriptions:	COMMERCIAL AND INSTITUTIONAL BUILDING CONSTRUCTION.
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	
Census Block Code:	
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	
Longitude:	
Reference Point:	
Coord Collection Method:	
Accuracy Value:	
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110024596800
Program Acronyms:	

MS-ENSITE:18494

Site: ***GOODMAN PLEASANT HILL COMMERCIAL SUBDIVISION***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID:	110044611523
FIPS Code:	28033
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	05-JAN-12
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	1541
SIC Code Descriptions:	GENERAL CONTRACTORS-INDUSTRIAL BUILDINGS AND WAREHOUSES
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	
Census Block Code:	
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	
Longitude:	
Reference Point:	

Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044611523
Program Acronyms:

MS-ENSITE:18925

Site: ***GOODMAN ROAD PROJECT***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044524253
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1629
SIC Code Descriptions: HEAVY CONSTRUCTION, NOT ELSEWHERE CLASSIFIED
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044524253
Program Acronyms:

MS-ENSITE:18946

Site: ***ALEXANDER CROSSING***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110024595847
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 02-MAY-06
Update Date: 06-JAN-12
Interest Types: STATE MASTER
SIC Codes: 1521
SIC Code Descriptions: GENERAL CONTRACTORS-SINGLE-FAMILY HOUSES
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:

Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110024595847
Program Acronyms:

MS-ENSITE:20097

Site: ***CITY CENTER***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044563905
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1542
SIC Code Descriptions: GENERAL CONTRACTORS-NONRESIDENTIAL BUILDINGS, OTHER THAN INDUSTRIAL BUILDINGS AND WAREHOUSES
NAICS Codes: 236220
NAICS Code Descriptions: COMMERCIAL AND INSTITUTIONAL BUILDING CONSTRUCTION.
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044563905
Program Acronyms:

MS-ENSITE:18685

Site: ***DOVE RIDGE PHASE TWO***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044622584
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:

Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1522
SIC Code Descriptions: GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044622584
Program Acronyms:

MS-ENSITE:5514

Site: ***ALVAN KELLY, STREAM RELOCATION***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044703158
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date: 29-MAR-12
Interest Types: STATE MASTER
SIC Codes:
SIC Code Descriptions:
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044703158
Program Acronyms:

MS-ENSITE:50297

Site: ***WEDGEWOOD COMMERCIAL***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID:	110038349864
FIPS Code:	28033
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	12-MAY-09
Update Date:	06-JAN-12
Interest Types:	STATE MASTER
SIC Codes:	1629
SIC Code Descriptions:	HEAVY CONSTRUCTION, NOT ELSEWHERE CLASSIFIED
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	
Census Block Code:	
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	
Longitude:	
Reference Point:	
Coord Collection Method:	
Accuracy Value:	
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038349864
Program Acronyms:	

MS-ENSITE:36203

Site: ***ANNANDALE GARDENS***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID:	110044572263
FIPS Code:	28033
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	05-JAN-12
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	1522
SIC Code Descriptions:	GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	
Census Block Code:	
EPA Region Code:	04
County Name:	DESOTO
US/Mexico Border Ind:	
Latitude:	

Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044572263
Program Acronyms:

MS-ENSITE:2251

Site: ***O B DEVELOPMENT COMPANY INC, FOX CREEK SUBDIVISION***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110009861453
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 01-MAR-00
Update Date: 06-SEP-13
Interest Types: STATE MASTER
SIC Codes: 1522
SIC Code Descriptions: GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110009861453
Program Acronyms:

MS-ENSITE:3367

Site: ***OLIVE RIDGE SUBDIVISION SECTION B***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110044431120
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 05-JAN-12
Update Date:
Interest Types: STATE MASTER
SIC Codes: 1522
SIC Code Descriptions: GENERAL CONTRACTORS-RESIDENTIAL BUILDINGS, OTHER THAN SINGLE-FAMILY
NAICS Codes:
NAICS Code Descriptions:
Conveyor:

Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110044431120
Program Acronyms:

MS-ENSITE:5535

Site: ***SIMPSON COMMERCIAL SUBDIVISION***
GOODMAN ROAD OLIVE BRANCH MS 38654

FINDS/FRS

Registry ID: 110038350441
FIPS Code: 28033
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 12-MAY-09
Update Date: 06-JAN-12
Interest Types: STATE MASTER
SIC Codes: 1542
SIC Code Descriptions: GENERAL CONTRACTORS-NONRESIDENTIAL BUILDINGS, OTHER THAN INDUSTRIAL BUILDINGS AND WAREHOUSES
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 04
County Name: DESOTO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038350441
Program Acronyms:

MS-ENSITE:35136

Site: ***BAILEY AND ROWSEY***
GOODMAN ROAD PROJECT OLIVE BRANCH MS 38654

ICIS

EPA Region: 04
Registry ID: 110037507971
Pgm Sys ID: MSR103060
Federal Fac ID:
Tribal Land Code:
County: Union

Pgm Sys Acrnm: NPDES
Permit Type: General Permit Covered Facility

Latitude 83:
Longitude 83:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

The U.S. Environmental Protection Agency (EPA)'s National Priorities List (NPL) includes the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program, based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. This data includes NPL sites represented as polygons, where available, that can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS), and is limited to those sites where the NPL Status reflects the site is 'Currently on the Final NPL (F)' and/or the 'Site is Part of NPL Site (A)'. These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. As site investigation and remediation progress, OUs may be added, modified or refined. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 6, 2025

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the U.S. Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites represented as polygons, where available, can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 6, 2025

Deleted NPL: DELETED NPL

Sites deleted from the U.S. Environmental Protection Agency (EPA)'s National Priorities List (NPL). The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites represented as polygons, where available, can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 6, 2025

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the EPA's Facility Registry Service map tool. This data may also include applicable sites represented as polygons sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS), and is limited to those sites where the NPL Status reflects the site is 'Not on the NPL (N)' , 'Removed from Proposed (R)', and/or 'Pre-Proposal Site (S)'. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Aug 27, 2025

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file. This data may also include applicable sites represented as polygons sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS), and is limited to those sites where the NPL Status reflects the site is 'Not on the NPL (N)' , 'Removed from Proposed (R)', and/or 'Pre-Proposal Site (S)'. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Aug 27, 2025

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Sep 1, 2025

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites that have indicated engagement in the treatment, storage, or disposal of hazardous waste which requires a RCRA hazardous waste permit.

Government Publication Date: Sep 1, 2025

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste. This list also includes RCRAInfo sites that have notified as LQGs that do not have a registered Site Manager or Certifier in RCRAInfo.

Government Publication Date: Sep 1, 2025

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month. This list also includes RCRAInfo sites that have notified as SQGs that do not have a registered Site Manager or Certifier in RCRAInfo.

Government Publication Date: Sep 1, 2025

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Sep 1, 2025

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Sep 1, 2025

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Sep 1, 2025

Federal Engineering Controls-ECs: FED ENG

List of Engineering controls (ECs) made availabe by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Sep 29, 2025

Federal Institutional Controls- ICs: FED INST

List of Institutional controls (ICs) made available by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Sep 29, 2025

Land Use Controls Information System: LUCIS

The Land Use Controls Information System (LUCIS) database is sourced from the U.S. Department of the Navy (DON). This data contains information for former Base Realignment and Closure (BRAC) properties across the United States. DON's BRAC office was tasked with tracking certain base closures while requiring the prevention of risks to human health and the environment of those properties with LUCs in place. Regarding currently available LUC Sites data, the sites listing is limited to centroid point locations for the overall installation property boundaries. Formerly obtained LUC Sites data may reflect site details that applied previously for a BRAC property.

Government Publication Date: Jun 13, 2024

Institutional Control Boundaries at NPL sites: NPL IC

These boundaries of Institutional Control areas at sites on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL), or as Proposed or Deleted, are sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). The EPA's NPL includes the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes.

Government Publication Date: Sep 6, 2025

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Sep 7, 2025

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Sep 8, 2025

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

This listing contains facilities that have submitted Facility Response Plans (FRPs) to the U.S. Environmental Protection Agency (EPA). Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit FRPs. Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments. The list includes FRP facilities sourced from the EPA FOIA office and from previously available Homeland Infrastructure Foundation-Level Data (HIFLD) file/s. Disclaimer: Per the EPA FOIA Office, the verification process for current requested FRP data is undergoing review and revision, and any similar reporting will be made public in Fiscal Year 2026. For this reason, the latest available FOIA file may be incomplete.

Government Publication Date: Jun 1, 2025

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Jun 1, 2025

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

This list of petroleum refineries is sourced from the U.S. Energy Information Administration (EIA), Refinery Capacity Report. The listing includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year. The geographic area the report covers is the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, and other U.S. possessions. Per the EIA, the facility location data represents the approximate location based on research of publicly available information from sources such as Federal agencies, company websites, and satellite images on public websites.

Government Publication Date: Oct 31, 2024

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

A list of petroleum product and crude oil rail terminals from the U.S. Energy Information Administration (EIA), as well as petroleum terminals sourced from Oak Ridge National Laboratory hosted by the Homeland Infrastructure Foundation-Level Database. Data includes operable bulk petroleum product terminals with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil with activity between 2017 and 2018. EIA petroleum product terminal data comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings.

Government Publication Date: Jun 5, 2025

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Aug 27, 2025

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: Oct 30, 2025

State

CERCLA/Uncontrolled Sites File List: SHWS

CERCLA/Uncontrolled Sites File List made available by Mississippi Department of Environmental Quality (MDEQ). This list contains sites in Mississippi where there is the presence or potential presence of a hazardous substance, pollutant, or contaminant. This database serves a purpose similar to that of the federal Superfund Enterprise Management System (SEMS), functioning as a state-level counterpart for tracking potential hazardous substance release sites.

Government Publication Date: Oct 2, 2025

Delisted CERCLA/Uncontrolled Sites File List: DELISTED SHWS

This database contains a list of closed hazardous substance, pollutant, or contaminant Sites that were removed from the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Oct 2, 2025

Solid Waste Management Facilities Listing: SWF/LF

This Solid Waste Facilities (SWF) listing is made available by the Mississippi Department of Environmental Quality (MDEQ). The list includes facilities engaged in the storage, treatment, processing, or disposal of nonhazardous solid waste. MDEQ Disclaimer: As land application activities at multiple locations are typically approved under a single permit, please contact MDEQ for inquiries regarding physical locations of approved land application sites.

Government Publication Date: Oct 3, 2025

Solid Waste Facility Permits: SWF PERMIT

A list of Solid Waste Facility Permits made available by the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Sep 8, 2025

Hurricane Katrina Debris Disposal Site Locations: DEBRIS

A list of sites for hurricane Katrina debris disposal, made available by Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: May 31, 2008

Leaking Underground Storage Tanks: LUST

A list of Leaking Underground Storage Tanks (LUSTs), made available by Mississippi Department of Environmental Quality (MDEQ). This list includes historical and current LUST incidents reported to MDEQ.

Government Publication Date: Sep 4, 2025

Delisted Leaking Storage Tanks: DELISTED LST

This database contains a list of closed leaking storage tank sites that were removed from the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Sep 4, 2025

Underground Storage Tanks: UST

A list of Underground Storage Tanks (USTs), made available by Mississippi Department of Environmental Quality (MDEQ). This listing includes USTs from the MDEQ'S Groundwater Assessment and Remediation Division UST Program data reports, which also includes facilities that currently do not have any actively registered tanks, as well as tanks prohibited to receive product delivery.

Government Publication Date: Sep 4, 2025

Underground Storage Tank Permits: UST PERMIT

A list of Underground Storage Tank Permits made available by the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Sep 8, 2025

Aboveground Storage Tanks: AST

A list of Aboveground Storage Tanks (ASTs) inspected by the Mississippi Department of Agriculture & Commerce (MDAC).

Government Publication Date: Nov 5, 2025

Underground Storage Tanks - Agriculture & Commerce: UST MDAC

A list of Underground storage Tanks inspected by the Mississippi Department of Agriculture & Commerce (MDAC).

Government Publication Date: Nov 5, 2025

Storage Tanks: TANK

A list of Unspecified Storage Tanks inspected by the Mississippi Department of Agriculture & Commerce (MDAC).

Government Publication Date: Nov 5, 2025

Delisted Storage Tanks: DTNK

This database contains a list of closed storage tank sites that were removed from the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Nov 5, 2025

Voluntary Evaluation Program Sites: VCP

A list of reported uncontrolled sites managed by Mississippi Department of Environmental Quality (MDEQ). An uncontrolled site is a site, facility, plant, or location where hazardous or toxic wastes have been released into the environment and there is no federal environmental program which can handle the problem.

Government Publication Date: Oct 2, 2025

Uncontrolled Sites List Brownfields: BROWNFIELDS

A list of brownfields, made available by Mississippi Department of Environmental Quality (MDEQ). This list contains sites in Mississippi where there is the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Government Publication Date: Oct 2, 2025

Sites with Engineering Controls: ENG

List of sites on the Uncontrolled Sites File list where engineering controls (ECs) have been implemented. The Uncontrolled Sites File list is made available by the Mississippi Department of Environmental Quality (MDEQ), and contains sites in Mississippi where there is the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Government Publication Date: Oct 2, 2025

Sites with Institutional Controls: INST

List of sites on the Uncontrolled Sites File list where institutional controls (ICs) have been implemented. The Uncontrolled Sites File list is made available by the Mississippi Department of Environmental Quality (MDEQ), and contains sites in Mississippi where there is the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Government Publication Date: Oct 2, 2025

Tribal

Leaking Underground Storage Tanks on Tribal/Indian Lands: INDIAN LUST

This list of leaking underground storage tanks (LUSTs) on Tribal/Indian Lands in Region 4, which includes Mississippi, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 21, 2025

Underground Storage Tanks on Tribal/Indian Lands: INDIAN UST

This list of underground storage tanks (USTs) on Tribal/Indian Lands in Region 4, which includes Mississippi, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 21, 2025

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST

Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: May 22, 2025

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST

Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: May 22, 2025

County

No County databases were selected to be included in the search.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Oct 10, 2025

Toxics Release Inventory (TRI) Program: TRIS

The U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of toxic chemicals from U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. There are currently 770 individually listed chemicals and 33 chemical categories covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual reporting forms for each chemical. Note that the TRI chemical list does not include all toxic chemicals used in the U.S. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment. This database includes TRI Reporting Data for calendar years 1987 through 2021 and Preliminary Data for 2022.

Government Publication Date: Sep 20, 2023

PFOA/PFOS Contaminated Sites: PFAS NPL

This list of Superfund Sites with Per- and Polyfluoroalkyl Substances (PFAS) detections is made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data, previously the list was obtained by EPA FOIA requests. EPA's Office of Land and Emergency Management and EPA Regional Offices maintain what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment. Limitations: Detections of PFAS at National Priorities List (NPL) sites do not mean that people are at risk from PFAS, are exposed to PFAS, or that the site is the source of the PFAS. The information in the Superfund NPL and Superfund Alternative Agreement (SAA) PFAS detection site list is years old and may not be accurate today. Site information such as site name, site ID, and location has been confirmed for accuracy; however, PFAS-related information such as media sampled, drinking water being above the health advisory, or mitigation efforts has not been verified. For Federal Facilities data, the other Federal agencies (OFA) are the lead agency for their data and provided them to EPA.

Government Publication Date: Sep 26, 2025

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the PFAS Project Lab, part of the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents. Locations for the Known PFAS Contamination Sites are sourced from the PFAS Sites and Community Resources Map by the PFAS-REACH team, credited to PFAS Project Lab, Silent Spring Institute, and PFAS Exchange. Disclaimer: The source conveys the data undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Access the following source link for the most current information: https://pfasproject.com/pfas-sites-and-community-resources/

Government Publication Date: Aug 1, 2025

National Response Center PFAS Spills: PFAS ERNS

This Per- and Poly-Fluoroalkyl Substances (PFAS) Spills dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The National Response Center (NRC), operated by the U.S. Coast Guard, is the designated federal point of contact for reporting all oil, chemical, and other discharges into the environment, for the United States and its territories. This dataset contains NRC spill information from 1990 to the present that is restricted to records associated with PFAS and PFAS-containing materials. Incidents are filtered to include only records with a "Material Involved" or "Incident Description" related to Aqueous Film Forming Foam (AFFF). The keywords used to filter the data included "AFFF," "Fire Fighting Foam," "Aqueous Film Forming Foam," "Fire Suppressant Foam, "PFAS," "PERFL," "PFOA," "PFOS," and "Genx." Limitations: The data from the NRC website contains initial incident data that has not been validated or investigated by a federal/state response agency. Keyword searches may misidentify some incident reports that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS spills/release incidents.

Government Publication Date: Sep 1, 2025

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: Dec 16, 2024

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a per- or polyfluoroalkyl (PFAS) substance included in the U.S. Environmental Protection Agency's (EPA) consolidated PFAS Master List of PFAS Substances. Encompasses Toxics Release Inventory records included in the EPA PFAS Analytic Tools. The EPA's TRI database currently tracks information on disposal or releases of 770 individually listed toxic chemicals and 33 chemical categories from thousands of U.S. facilities and details about how facilities manage those chemicals through recycling, energy recovery, and treatment. This listing includes TRI Reporting Data for calendar years 1987 through 2021 and Preliminary Data for 2022.

Government Publication Date: Sep 20, 2023

PFAS Water Quality Portal Sampling Data: PFAS WATER

This Per- and Poly-Fluoroalkyl Substances (PFAS) Environmental Media Sampling Data is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The Water Quality Portal (WQP), as a cooperative service sponsored by the United States Geological Survey, the EPA, and the National Water Quality Monitoring Council, is part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations, and individuals submit project details and sampling results to this public repository. Limitations: EPA did not carry out the sampling or testing of a majority of the data in the WQP PFAS dataset. EPA can only speak to the accuracy and completeness of the data from projects like the National Aquatic Resource Surveys for which EPA is the data owner/organization. Data may exist within the file on Quality Assurance Project Plans (QAPPs) and the approving agency of the QAPP, if a QAPP is entered.

Government Publication Date: Jul 21, 2025

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The U.S. Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. This list is specific only to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl (PFAS) substances. Data file is sourced from EPA's PFAS Analytic Tools TSCA dataset which includes CDR/Inventory Update Reporting data from 1998 up to 2020. Disclaimer: This data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jan 5, 2023

PFAS Waste Transfers from RCRA e-Manifest: PFAS E-MANIFEST

This Per- and Poly-Fluoroalkyl Substances (PFAS) Waste Transfers dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. Every shipment of hazardous waste in the U.S. must be accompanied by a shipment manifest, which is a critical component of the cradle-to-grave tracking of wastes mandated by the Resource Conservation and Recovery Act (RCRA). According to the EPA, currently no Federal Waste Code exists for any PFAS compounds. To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: • PFAS • PFOA • PFOS • PERFL • AFFF • GENX • GEN-X (plus the Vermont state-specific waste codes). Limitations: Amount or concentration of PFAS being transferred cannot be determined from the manifest information. Keyword searches may misidentify some manifest records that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS waste transfers.

Government Publication Date: Oct 4, 2025

Hazardous Materials Information Reporting System: HMIRS

The Hazardous Materials Incident Reporting System (HMIRS) database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

Government Publication Date: May 28, 2025

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Nov 30, 2023

Toxic Substances Control Act: TSCA

The U.S. Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule. The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI). EPA CDR collections occur approximately every four years and reporting requirements change per collection.

Government Publication Date: May 12, 2022

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).

Government Publication Date: Sep 29, 2025

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) database contains integrated enforcement and compliance information across most of U.S. Environmental Protection Agency's (EPA) programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained by the EPA Headquarters and at the Regional offices. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.

Government Publication Date: May 3, 2025

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. This EPA source file tracks facilities that possess NAICS and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Jul 19, 2025

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites which once appeared on - and have since been removed from - the list of drycleaner facilities included in Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. This EPA source file tracks facilities that possess NAICS and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Jul 19, 2025

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset which applies to the Fiscal Year 2021 FUDS Inventory.

Government Publication Date: May 15, 2023

FUDS Munitions Response Sites: FUDS MRS

Boundaries of Munitions Response Sites (MRS), published with the Formerly Used Defense Sites (FUDS) Annual Report to Congress (ARC) by the U.S. Army Corps of Engineers (USACE). An MRS is a discrete location within a Munitions response area (MRA) that is known to require a munitions response. An MRA means any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This data is compiled from the USACE's Geospatial MRS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) MRS dataset.

Government Publication Date: May 15, 2023

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

This list of flagged pipeline incidents is made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types. Accidents reported on hazardous liquid gravity lines (§195.13) and reporting-regulated-only hazardous liquid gathering lines (§195.15) and incidents reported on Type R gas gathering (§192.8(c)) are not included in the flagged incident file data.

Government Publication Date: Jul 10, 2025

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United States Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: Aug 8, 2025

Surface Mining Control and Reclamation Act Sites: SMCRA

This inventory of land and water impacted by past mining (primarily legacy coal mining operations) is maintained by the U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement (OSMRE), as it provides information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). This inventory contains information on the type and extent of Abandoned Mine Land (AML) Problems, as well as information on the cost associated with the reclamation of those problems. The data is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed. Disclaimer: Per the OSMRE, States and tribes who enter their data into e-AMLIS (AML Inventory System) may truncate their latitude and longitude so the precise location of usually dangerous AMLs is not revealed in an effort to protect the public from searching for these AMLs, most of which are on private property. If more precise location information is needed, please contact the applicable state/tribe of interest.

Government Publication Date: Oct 30, 2025

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). The intent of the site location is to provide a general reference point to the site on a national scale. The coordinates of each site point can be the location of a site monument, the centroid of the site boundary, or a general location of the site. This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: Nov 6, 2025

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG), and Renewable Diesel (R20 and above) fuel type locations.

Government Publication Date: Aug 1, 2025

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Cases filed since 2010 limited to the following: Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS); and applicable ENRD's Environmental Defense Section (EDS) CERCLA Cases with "Consent" in History Note. CMS may not reflect the latest developments in a case, nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Jun 26, 2024

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

This national list of active EPA-registered foreign and domestic pesticide and/or device-producing establishments is based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that each producing establishment must place its EPA establishment number on the label or immediate container of each pesticide, active ingredient or device produced. An EPA establishment number on a pesticide product label identifies the EPA registered location where the product was produced. The list of establishments is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Sep 26, 2025

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: May 23, 2024

State

Dry Cleaning Facilities: DRYCLEANERS

A listing of dry cleaning facilities registered with the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Feb 13, 2024

Delisted Drycleaners: DELISTED DRYCLEANERS

List of sites removed from the drycleaning facilities registered with the Mississippi Department of Environmental Quality (MDEQ).

Government Publication Date: Feb 13, 2024

Environmental Site Information System: ENSITE

List of sites found in the Mississippi Department of Environmental Quality (MDEQ) electronic environmental Site Information System (enSearch Online). Includes sites under the following regulatory programs: Surface Water National Pollutant Discharge Elimination System (NPDES) Program, Air Title V, Construction and Operating Programs, Solid and Hazardous Waste Programs, Geology Surface Mining and Reclamation Division, and the Waste Tire Program.

Government Publication Date: Sep 8, 2025

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Johnathan “Banks” Harland

Field Technician

PROFESSIONAL EXPERIENCE

Banks is a recent graduate of Auburn University. While in school he was involved with several projects as Field/Lab Research Technician. He is currently a field technician with Terracon.

PROJECT EXPERIENCE

Cahaba River Society – August 2023

Conservation Crew/Stewardship Intern:

• Restore native habitat in the Cahaba River watershed and its tributaries, streambank, and riparian areas with native flora.

• Protect streamside forests and reduce storm water runoff, erosion, and degradation, as well as provide strategies for invasive plant management.

• Assist on various programs and projects of CRS including CLEAN Environmental Education, Indigenous History of the Cahaba River Watershed, invasive and native plant fact sheets, ArcGIS and large-scale mapping, and vegetation monitoring and collection.

Auburn University Forest and Fire Ecology Lab– Summer 2023

Field/Lab Research Technician:

• Assisted in collecting data related to fire affected sites and ecological variables, such as plant species diversity, tree species diversity, soil composition, and post fire regeneration.

• Processed and analysis of field collected samples which included woody debris, herbaceous plants, leaf litter, and grasses.

• Collaborated with senior researchers in designing controlled experiments to control the effects of prescribed fires and wildfires.

Auburn University Civil & Environmental Engineering Storm Water Research – Spring 2023

Research Assistant:

• Assisted and collaborated with graduate students researching environmental regulators, designers, contractors, and inspectors in proper design, installation, and maintenance.

• Extracted and processed data with conducted field experiments.

• Assisted with Topics channel lining, hydro mulching, floating turbidity barriers, flocculants, sediment basins and outlets, silt fence installation, and stockpile management.

EDUCATION

Bachelor of Science; Auburn University School of Forestry Wildlife & Environment, 2023

REGISTRATIONS/ CERTIFICATIONS

NIOSH 582 Certified
DEQ Asbestos Inspector and Air Monitored Certified
Asbestos Supervisor Certified

Conner A. McCluer
Environmental Department Manager

PROFESSIONAL EXPERIENCE

Conner recently joined Terracon's Jackson, MS office as Environmental Department Manager. He has over eight years of project management experience, providing consulting services for assessments and remediation projects throughout the Southeast.

Conner has experience in multiple subsurface remedial methods, including soil excavation, dual-phase vacuum extraction, soil vapor extraction, ozone sparge, and surfactant/oxidant injections. For subsurface assessments, Conner supervises drilling crews, soil sampling, field logging of borings, monitoring well installation, groundwater sampling, and surveying. His work with remediation projects consists of operation and maintenance, conducting site reconnaissance and fieldwork for Phase I and II environmental assessments, and report preparation and quality assurance/quality control.

EDUCATION

Bachelor of Science, Geology, University of Mississippi, 2014

WORK HISTORY

Terracon Consultants, Inc., January 2023 – present

PPM Consultants, Inc. 2014-2022

PROFESSIONAL AFFILIATIONS

Mississippi Petroleum Marketers Association

Mississippi Geological Society

**Work performed prior to joining Terracon*

PROJECT EXPERIENCE

Kangaroo Gasoline Station - Madison, Mississippi*

Field Leader/Report Preparer for site remediation of the former Kangaroo gasoline station. MDOT acquired the site in 2012 to expand the I-55 North on-ramp. UST Closure Assessment, identified soil contamination beneath the western portion of the site, and an additional site assessment through the Mississippi Groundwater Protection Trust Fund was conducted to delineate the extent of the contamination. Following site remediation, Conner supervised excavation of approximately 1,100 tons of petroleum-impacted soil, the site received an NFA from the MDEQ in 2015, which helped to facilitate the timely completion of the MDOT on-ramp expansion project.

Emergency Response/Site Remediation - Helena, Arkansas*

Field Leader/Report Preparer for emergency response and site remediation of the Double Quick No. 97 gasoline station located in Helena, Arkansas. Conner conducted multiple subsurface investigations through the Arkansas Petroleum Storage Tank Trust Fund to assess site conditions. He also installed monitoring wells throughout the property to recover free-product gasoline and monitor groundwater beneath the subsurface. Additionally, sub-slab vapor monitoring points were installed to evaluate the presence/absence of detectable vapor concentrations (relative to petroleum hydrocarbons) in the shallow subsurface beneath the convenience store building foundation. Once the extent of the contamination was delineated, Conner coordinated with the Arkansas Department of Environmental Quality and subcontractors to implement site remediation by free product recovery events, including a series of 24-hour vacuuming events. The wells were plugged and abandoned, and an NFA from the ADEQ was issued.

Shop-A-Minit - Port Gibson, Mississippi*

Field Leader/Report Preparer for site remediation of the former Shop-A-Minit Jr. No. 2 gasoline station located at the intersection of Mississippi Highway 18 and U.S. Highway 61 in Port Gibson, Mississippi. An environmental assessment conducted by the MDOT in 2012 identified subsurface contamination beneath the site. Conner completed further site assessment through the Mississippi Groundwater Protection Trust Fund. As a result, a DPVE remediation system was installed in December 2014 to remediate the contamination. The system operated for 18 months, and after post-remediation groundwater monitoring events, the NFA was issued in 2016. Following the issuance of the NFA, MDOT could resume the Highway 18 expansion project.

EPA Brownfield Grants for Natchez, MS; Canton, MS; Louisville, MS*
EPA Brownfield Grant Manager for multiple EPA Brownfield Grants. Conner conducted Brownfield site investigations that aided in revitalization efforts. Tasks included Phase I Environmental Site Assessments (ESA) and Phase II ESA field work, data collection, and preparation of reports. Developed Generic Quality Assurance Project Plans (QAPPs) for Mississippi communities and Site-Specific QAPP Addendums for the sites.

Triangle Filling Station Property Phase I and II ESA, Natchez, MS *
Conner coordinated with City of Natchez officials and historical preservations members to develop assessment plans on an accelerated timetable for the redevelopment of the historic Triangle Filling Station property in downtown Natchez. Conducted a Phase I ESA and Phase II ESA on the property. The Phase II ESA consisted of soil and groundwater sampling, asbestos-containing materials sampling, and removal of multiple USTs on the property.

Steve E. Whitting, PG, CPG
Senior Geologist

PROFESSIONAL EXPERIENCE

Steve is a Senior Geologist and Authorized Project Reviewer in Terracon's Baton Rouge, LA, office. He has over 40 years of experience as a geologist with 30 years of experience in environmental consulting.

Steve's extensive experience includes agency interaction and planning, performing and managing Phase I and Phase II Environmental Site Assessments (ESA), Statewide Order 29-B and Risk-Elevation/Corrective Action Program (RECAP) site investigations, Remedial Investigation/Feasibility Studies, RCRA Facility Investigations, groundwater monitoring programs, soil, and groundwater remediation projects, and underground storage tank (UST) closures for governmental, commercial and industrial clients.

Steve has worked on multiple brownfield sites where he prepared Work Plans/Quality Assurance Project Plans (QAPPs) and was the Quality Assurance Manager (QAM) during plan implementation. As an Authorized Project Reviewer (APR), he is responsible for assuring compliance with Terracon's Project Quality Manual (PQM) requirements. The PQM defines Terracon's project quality management processes, consistent with our Quality Program Manual, for the processes, tasks, and deliverables associated with projects performed by the company.

In 2011, Steve was recognized by the Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ) for his role in the successful implementation of remedial activities at the Shell Chemical, LP Norco Plant that resulted in a "Ready for Re-use" determination for the 103-acre plant.

REPRESENTATIVE CHLORINATED SOLVENT SITE PROJECTS

Agracel, Inc. - Former Core's Cleaners, 1000 Highway 190 Business, Covington, LA – 4/2022 to present

As Senior Geologist and Project Manager, Steve prepared the Voluntary Remedial Investigation Application and Work Plan and has directed the ongoing site investigation of a former on-site dry cleaner. Following completion of a RECAP Evaluation, Steve will prepare a Voluntary Remedial Action Plan and assist the client in obtaining a Certificate of Completion for the site.

Multiple Clients - Former KFC/One Hour Martinizing, 702 Metairie Road, and Oakridge Place Shopping Center, 800 Metairie Road in Metairie, LA - 3/2014 to present

Prior to joining Terracon, Steve directed the remediation of chlorinated solvents utilizing sodium permanganate and persulfate injection coupled with multi-phased extraction at the former One Hour Martinizing dry cleaner site at 702 Metairie Road in Metairie, LA. Conducted post-remediation confirmatory sampling and additional delineation requested by LDEQ. Since 2022, Steve has served as a Senior Consultant to Stirling Properties, the owner of the adjoining Oakridge Place Shopping Center which was impacted by the chlorinated solvent plume. Steve provides technical and regulatory advice as the owners seek to obtain a Certificate of Completion under LDEQ's Voluntary Remediation Program.

EDUCATION

Bachelor of Science, Geology, University of Arkansas at Fayetteville, 1978

REGISTRATIONS

American Institute of Professional Geologists CPG No. 8561
Professional Geologist:
Louisiana No. 346
Tennessee No. TN1529
Arkansas No. 487
Mississippi RPG No. 0733

CERTIFICATIONS & TRAINING

EPA Region 6 QA Quality Project & Program Management Training

CPT-pro/SEISMIC-pro Software Training

EarthSoft EQuIS Database Training
ASTM E1903-11 Phase II ESA Assessor Training

ASTM E2600-10 Vapor Encroachment Screen Training

Principal Consultant for Remediation Design/Construction, PSI

Principal Consultant for Phase II/III ESAs, PSI

RECAP 101 and Advanced RECAP Workshops, LDEQ

Principal Consultant for Phase I ESAs, PSI

Project Manager Certification Program (PMCP)

Underground Storage Tank Rules and Regulations Training, LDEQ

Steve E. Whitting, PG, CPG (continued)

Victory Real Estate Investments – Katy's Cleaners, 4041 Williams Blvd, Kenner, LA – 2/2006 to 8/2006* and 6/2023 to present
Prior to joining Terracon, Steve provided technical correspondence to LDEQ regarding the Management Option 2 RECAP Evaluation. After becoming reinvolved with the site in 2023, Steve developed a corrective action approach utilizing anerobic bioremediation for targeted remediation of chlorinated solvents at an isolated "hot spot" that exceeded the site Limiting RECAP Standard. He also prepared a cost analysis showing the economic benefit of remediation verses indefinite-term monitoring.

McDonald's – 2220 S. Sherwood Forest Blvd, Baton Rouge, LA - 3/2014 to 12/2016*
Directed a Phase II ESA/RECAP Site Investigation and prepared a Corrective Action Plan for remediating chlorinated solvent contamination from an off-site dry cleaner utilizing a slurry wall at the property boundary and on-site oxidant injection at the McDonalds restaurant at 2220 S. Sherwood Forest Blvd. in Baton Rouge, LA.

REPRESENTATIVE OILFIELD SITE PROJECTS

Jones, Swanson, Huddell & Garrison, LLC – Hero Lands Company, LLC V. Chevron USA, Inc. | Plaquemines Parish, LA – 1/4/2022 to 5/26/2022
Reviewed consultant's reports for compliance with Statewide Order 29-B and RECAP sampling and reporting requirements and furnished expert opinions/recommendations and testimony concerning findings and path forward. Developed a Most Feasible Plan for remediation of petroleum hydrocarbons, metals, and chloride-impacted soil and groundwater utilizing excavation and a recovery trench system.

East Baton Rouge Parish School System – Proposed School Site | Baton Rouge Parish, LA – 1/7/2022 to 3/11/2022
Steve performed a Limited Site Investigation of the 33-acre site for the proposed school on South Reitz Avenue. An abandoned salt-water disposal well was located on the property, and a former oil and gas facility with a tank battery was on the south adjoining property. Directed soil and groundwater sampling and analysis for Statewide Order 29-B and RECAP parameters analysis and evaluated results.

Gold King Realty – Former Jennings Holdings, LLC Siegen Oil Field Location | Baton Rouge, LA – 3/30/2021 to present
Steve performed third-party oversight of the subsurface investigation of a former oil and gas facility located on the north side of Interstate 10, approximately 0.5 miles northwest of Siegen Lane in Baton Rouge, LA. He reviewed the consultant's reports for compliance with Statewide Order 29-B and RECAP sampling and reporting requirements and furnished expert opinions/recommendations concerning findings and the path forward.

'Confidential Client' – Office of Conservation Legacy Project | East Baton Rouge Parish, LA – 8/1/2019 to 9/27/21
Steve provided third-party oversight of the subsurface investigation of a former oil and gas facility in East Baton Rouge Parish. He reviewed the consultant's reports for compliance with Statewide Order 29-B and RECAP sampling and reporting requirements and furnished expert opinions/recommendations concerning findings and the path forward.

MSHA Certificate of Training for Surface, Non-metal Mining Operations

The Technique of Professional Geological Witnessing with Emphasis on Louisiana Oil and Gas Matters

Applied Geostatistics

Effective Supervisory Management Training

Underground Storage Tank Seminar, LDEQ

OSHA 29 CFR 1910.120

HAZWOPER, Supervisor

AFFILIATIONS
Baton Rouge Geological Society – Past Vice President, President, and Director

American Institute of Professional Geologists – Past President, Louisiana Section

WORK HISTORY
Terracon Consultants, Inc., Environmental Department Manager, 2019-Present

Professional Service Industries, Inc. (PSI), Regional Geologist, 2006-2019

URS, Senior Project Manager, 2001-2006

C-K Associates, Inc., Managing Partner/Senior Project Manager, 1990-2001

Southwestern Laboratories, Inc., Hydrogeologist/Laboratory Supervisor, 1984-1990

Cooper Consultants, Inc., Project Geololgist, 1980-1983

Woodward-Clyde Consultants, Geologic Technician, 1979-1980

* *Work performed prior to joining Terracon.*

REPRESENTATIVE BROWNFIELDS PROJECTS

City of Alexandria Generic QAPP for Brownfields Projects, Alexandria, LA – 1/2022
QA/QC Reviewer. Steve reviewed the plan and utilized the QAPP Review Checklist to ensure conformance with the requirements of EPA QA/R5. The QAPP was prepared to document the planning, implementation, and assessment procedures of and how specific QA and QC activities will be applied during the performance of Brownfields projects.

Jefferson Parish Department of Environmental Affairs Brownfields Program, Jefferson Parish, LA - 2/2012 to 9/2013*
Prepared a Work Plan/QAPP to acquire information necessary to support a RECAP Evaluation of the Former Davis Concrete Site and Lot C Jefferson Parish, LA. Served as the Quality Assurance Manager (QAM) and was responsible for the conformance of project activities with requirements to laboratory Standard Operating Procedures (SOPs), the QAPP, and applicable EPA Quality Control (QC) guidelines.

Jefferson Parish Department of Environmental Affairs Brownfields Program, Jefferson Parish, LA - 7/2012 to 7/2013*
Prepared a Work Plan/QAPP to acquire information necessary to support a Management Option 2 (MO-2) RECAP Evaluation of the Lowery Brothers Rigging Center, Jefferson Parish, LA. Served as QAM and was responsible for the conformance of project activities with requirements to laboratory SOPs, the QAPP, and applicable EPA Quality QC guidelines.

REPRESENTATIVE PHASE I & II ENVIRONMENTAL SITE ASSESSMENT / LIMITED SITE INVESTIGATION PROJECTS

Chase Bank – Multiple Locations in Louisiana, 3/2019 to present
As Environmental Professional, directs Phase I Environmental Site Assessments on multiple commercial sites in Louisiana. Provided technical consultation in the identification of RECs and development of recommendations.

East Baton Rouge Council on Aging – Suburb Gracie/Riddick, Baton Rouge, LA - 9/2019 to 1/2020
Directed a Limited Site Investigation (LSI) of two vacant lots to investigate on and off-site Recognized Environmental Conditions (RECs) associated with former on-site and off-site drycleaning operations.

Stantec Consulting Services, Inc., Baton Rouge, LA - 10/2017 to 5/2018*
Prepared Sampling and Analyses Plan and Quality Assurance Project Plan (QAPP) for the Phase II ESA of the 21.3-acre former Central Wastewater Treatment Plant located at 2443 River Road in Baton Rouge, LA. He directed the Phase II ESA, which included the advancement of multiple soil borings utilizing "direct-push" technology and collecting soil and groundwater samples for laboratory analyses. He provided consultation, technical assistance, and review of the Phase II report.

Sysco Corporation, Broussard, LA – 2/2016 to 4/2016*
He directed Phase II ESA of the 57-acre Doerle Food Services facility in Broussard, LA. Activities included a ground-penetrating radar survey to locate underground utilities, a camera study to determine what lines are connected to the oil-water separator (OWS) and potential OWS systems, and the advancement of multiple soil borings utilizing "direct-push" technology and collection of soil and groundwater samples for laboratory analyses and provided consultation, technical assistance, and review of the Phase II ESA report.

Jacobs-CSRS, New Orleans, LA - 3/2013 to 8/2015*
Directed Phase II Environmental Site Assessment services for lead in shallow soils, vertical and horizontal delineation of impacted soils, and preparation and implementation of a Corrective Action Plan for the redevelopment of the Avery Alexander School located at 5800 St. Roch Avenue, New Orleans, Louisiana.

REPRESENTATIVE RISK-BASED CORRECTIVE ACTION (RECAP) PROJECTS

Community School for Apprenticeship Learning – CSAL ChoctawFormer, Baton Rouge, LA - 5/2019 to 9/2019
Directed LSI of proposed CSAL Choctaw campus at former UST site/auto repair facility. Prepared RECAP-compliant Site Investigation Work Plan (SIWP) to address exceedances of RECAP Screening Standards and provided oversight during the implementation of the SIWP. Provided technical and regulatory guidance while preparing Management Option 1 (MO-1) RECAP Evaluation Submittal to LDEQ and obtained a No Further Action (NFA) status for the site.

Ascension Parish Government, Gonzales –, LA 12/2010 to 8/2011*
Directed Phase II ESA and RECAP Site Investigation and prepared MO-1 RECAP Evaluation of diesel fuel aboveground storage tank site for planned South Louisiana Fairgrounds expansion. The Phase II ESA and RECAP Site Investigation included the advancement of multiple soil borings utilizing "direct-push" technology and collecting soil and groundwater samples for laboratory analyses. The RECAP Evaluation established site-specific RECAP Standards (RS) that protected human health and the environment, resulting in a "No Further Action" determination by the LDEQ.

New Orleans BioInnovation Center, New Orleans, LA - 9/2008 to 7/2009*
Steve prepared MO-2 RECAP Evaluation and Corrective Action Plan for UST Closures. The RECAP Evaluation utilized data gathered during a Phase II ESA and RECAP Assessment to establish site-specific RECAP Standards that protected human health and the environment, resulting in a "No Further Action" determination by the LDEQ.

REPRESENTATIVE UNDERGROUND STORAGE TANK PROJECTS

Salco Construction, Inc. – Former Jeff Cobb Auto Works, Baton Rouge, LA - 9/2019 to 3/2020
Directed waste characterization sampling of stockpiled soils from a former UST tank hold and prepared RECAP-compliant Soil Reuse Plan for submittal to the LDEQ.

Boos Development, Super Discount Zone Former Jubilee #4811 - 2007 to 2009*
Prepared UST Closure Assessment for planned CVS pharmacy.

REPRESENTATIVE REMEDIATION PROJECT

Juban Land Holdings, LLC – Former Louisiana State Police Firing Range, Walker, LA - 9/2017 to 2/2022
Before joining Terracon, he directed the LDEQ-mandated Groundwater Characterization Study at 142-acre former Louisiana State Police Firing Range in Walker, LA. The study included the installation of multiple permanent groundwater monitoring wells in three Areas of Investigation; groundwater sampling and analyses for lead, semivolatiles, and explosives; potentiometric surface mapping; and development of Management Option 1 (MO-1) RECAP Standards and potential remedial options and costs. He prepared the Corrective Action Plan (CAP) for the remediation of lead-impacted soils. Since joining Terracon, provided remedial oversight and client/agency liaison during the implementation of the CAP and prepared the Corrective Action Report (CAR) for submittal to LDEQ. Based on the CAR, the site was granted No Further Action At This Time Status.

REPRESENTATIVE GROUNDWATER MONITORING PROJECTS

Plaquemine Remediation Service, LLC, Bayou Sorrel, LA - 2/2019 to present
Guides development and provides technical review of the Annual Groundwater Monitoring Report, which summarizes all groundwater activities for the preceding calendar year for 17 monitoring wells/piezometers. The report includes an evaluation of the monitoring strategy in relation to the direction of groundwater flow and locations of wells associated with the facilities." The report also documents sampling activities, quality assurance/quality control evaluation, explanation of data, potentiometric and isopleth maps, and presentation of analytical data summaries.

Motiva Enterprises/Shell Chemical, Norco, LA – 2006 to 2014*

Client Manager/Principal Consultant for all groundwater monitoring programs at the Norco, Louisiana refinery (2006-2014).

ChevronTexaco Pascagoula Refinery – 8/2004 to 5/2005*
Served as on-site Senior Geologist on multiple projects, including geotechnical investigations for planned expansions, new compliance monitoring wells installed, and plugging and abandonment of over 200 monitoring wells (August 2004 to May 2005).

MISCELLANEOUS

Jefferson Parish Department of Environmental Affairs, Jefferson Parish, LA – 8/2016 to 7/2018*
He developed a Remedial Action Plan to repair a Leachate Aeration Pond at the Jefferson Parish Sanitary Landfill. The scope of services included replacing the HDPE liner and underlying clay liner as necessary. He provided project management and technical support during repair activities.

ExxonMobil LNG Project FERC Permitting – 3/2004*
He prepared LDNR permit applications for multiple injection wells at two sites.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g., California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-21 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment

Description of Selected General Terms and Acronyms

Term/Acronym	Description
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-21 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/ TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
RCRA Non-CORRACTS/ TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-21 as 1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. A de minimis condition is not a recognized environmental condition.
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-21, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates "waters of the US," also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix J

Public Involvement Documentation

August 2024

PUBLIC MEETING SUMMARY

Pleasant Hill Road Improvements from South of the Intersection at Church Road
to South of State Highway 302 (Goodman Road)

EVENT: Pleasant Hill Road Improvements Public Meeting

PROJECT DESCRIPTION: The purpose of this project is to reduce congestion and improve pedestrian mobility on Pleasant Hill Road through additional travel lanes and new sidewalks in the project area, while minimizing potential impacts to the natural and human environments.

EVENT DATE & TIME: Wednesday, August 28, 2024, 5:00–7:00 p.m. CT

MEETING LOCATION: Olive Branch Senior Center
8800 College Street, Olive Branch, Mississippi 38654

ATTENDANCE: Given the nature of the project and the surrounding neighborhoods, attendance was planned for approximately 75 people. Registration was not required for attendees.

The meeting was held in an open-house format with a looping presentation displayed on a projector screen in the meeting space. City of Olive Branch staff, representatives from the Mississippi Department of Transportation (MDOT), and the HDR consultant team were stationed alongside project display boards and roll plots to address questions one-on-one with members of the public. There were also two tables in the space, one for right-of-way with an MDOT representative and another for the comment table. An information handout was provided upon sign-in.

PUBLIC MEETING: Public participation during the meeting on Thursday, August 28 totaled **55** participants, not including the project team and City of Olive Branch staff. There were **4** elected officials present including Mayor Ken Adams, and Board of Aldermen members Pat Hamilton and David Wallace. No local media were present.

24 comments were received from members of the public.

Most of the comments received expressed concern of a proposed multilane section of the project and request for 3-lanes to be considered instead. Other comments had questions about the impacts at Flynn Road, potential removal of trees near the Wedgewood Golf Course, sidewalks, and the median openings at Wedgewood Farms. There were also multiple questions related to the proposed right of way.
8 comments expressed support for Pleasant Hill Road widening improvements and the project overall.

VENUE TECHNOLOGY & LAYOUT:

The Olive Branch Senior Center was equipped with Wi-Fi, TV monitors, a projector, tables and chairs. The consultant project team provided easels, tablecloths and other meeting materials as needed.

An open-house layout was implemented in the event space at the Olive Branch Senior Center. The presentation was displayed on a projector and screen for attendees to view during the open house.

MEETING FORMAT:

The meeting operated as a traditional open house, where attendees arrived between 5:00 p.m. and 7:00 p.m. to view the presentation, project exhibits, speak with project team members and provide comments.

Staff members facilitated sign-in, provided handouts and directed attendees to the exhibit areas. Individual project boards were placed around the space where project team members were available for one-on-one dialogue. Staff at the in-person comment station engaged with attendees and encouraged them to submit comment forms during and after the meeting, by telephone, mail and/or email. No formal public comment period was held for the meeting.

NOTIFICATION MATERIALS:

- Elected/Appointed Officials Notification Letters and Handout
  - Mississippi Senator/Representative
  - State Public Officials
  - DeSoto County Board of Supervisors and staff
  - City of Olive Branch Mayor and Board of Aldermen
  - Local Public Officials

- Property Owner Notification Letters and Handout
  - Property owner and interested persons notification letters were mailed to all physical addresses and mailing addresses for all parcels within a 300-foot notification area from the Pleasant Hill Road right-of-way. Boundaries were adjusted, where appropriate, to include entire neighborhoods that may be outside the 300-foot notification area.

- Newspaper Ads
  - DeSoto Times-Tribune
    - Thursday, August 15, 2024
    - Thursday, August 22, 2024

- Press Release
- Website Updates: OBMS Calendar

STAFF ATTENDANCE:

- COOB (3)
- MDOT (3)
- HDR (4)

City of Olive Branch
Pleasant Hill Road Improvements

The purpose of the proposed project is to reduce traffic congestion and improve pedestrian mobility on Pleasant Hill Road from Church Road to SR 302 (Goodman Road).

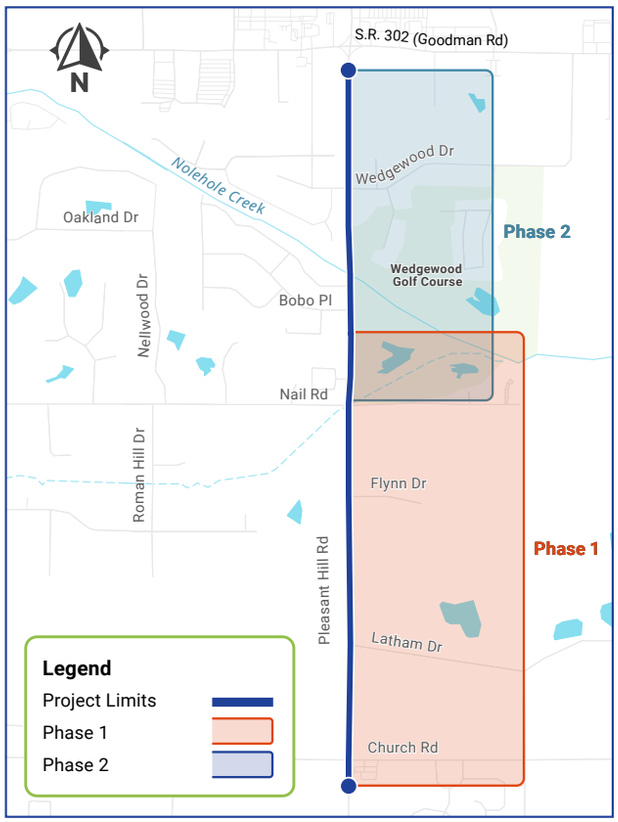
An environmental study is included in the scope of the project to determine and minimize potential environmental impacts as it meets the purpose and need for the build alternative as selected and approved for the project. The preliminary design and environmental studies for the build alternative are supported by field surveys, geotechnical investigations, drainage analysis, and a traffic signal analysis for the Nail Road intersection.

The build alternative consists of widening the existing 2-lane roadway to provide an additional through lane in each direction, constructing sidewalks on each side of the road throughout most of the project, constructing a storm sewer system to collect stormwater runoff, and adding a traffic signal at Nail Road.

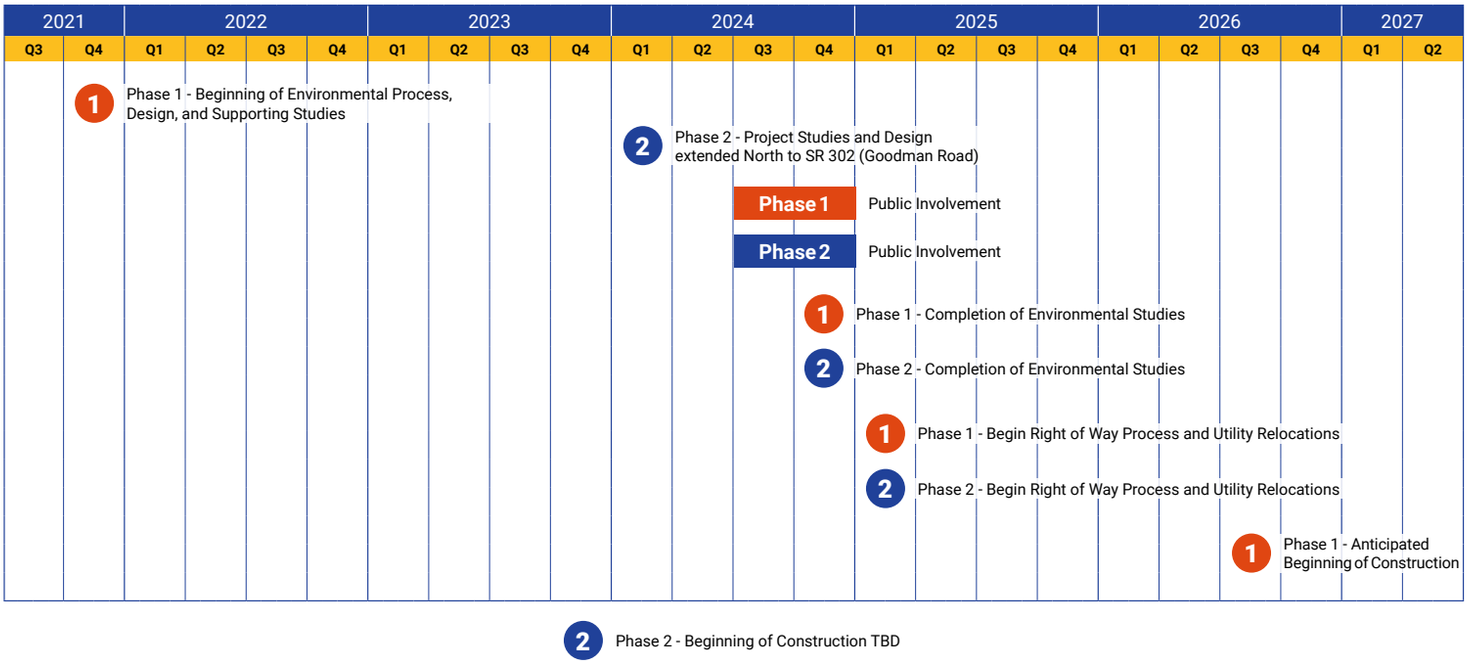
The project is proposed to be constructed in two phases as follows:

- Phase 1 – from Church Road to just north of Nail Road
- Phase 2 – from just north of Nail Road to just south of SR 302 (Goodman Road)

As shown in the schedule below, and pending approval of the build alternative, both phases will run concurrently through the right of way acquisition phase, EXCEPT for construction of Phase 2, which will follow construction of Phase 1 at a later date.



Proposed Schedule



Alternatives Evaluated

The project proposes the following improvements:

4-Lane Divided Roadways with a Raised Median in these locations:

- From Church Road to Approximately 400 Feet South of Flynn Drive
- Approximately 200 feet North of Flynn Drive to Nail Road
- Just North of New Beginnings Baptist Church to Wedgewood Drive

5-Lane Divided Roadway with a Continuous Center Turn Lane in these locations:

- Approximately 400 Feet South of Flynn Drive to Approximately 200 Feet North of Flynn Drive
- Just North of the Nail Road Intersection to New Beginnings Baptist Church
- Wedgewood Drive to Approximately 400 Feet South of SR 302 (Goodman Road)

Existing/No Build

5-Lane Divided with 2-Way Left Turn and Sidewalks

4-Lane Divided with Raised Median and Sidewalk on West Side Only

4-Lane Divided with Raised Median and Sidewalks

Your Feedback is Important

If you have any questions or comments about the project, please use the contact information below.

Andy Swims, P.E.
Director of Engineering, City of Olive Branch
9200 Pigeon Roost Road
Olive Branch, MS 38654

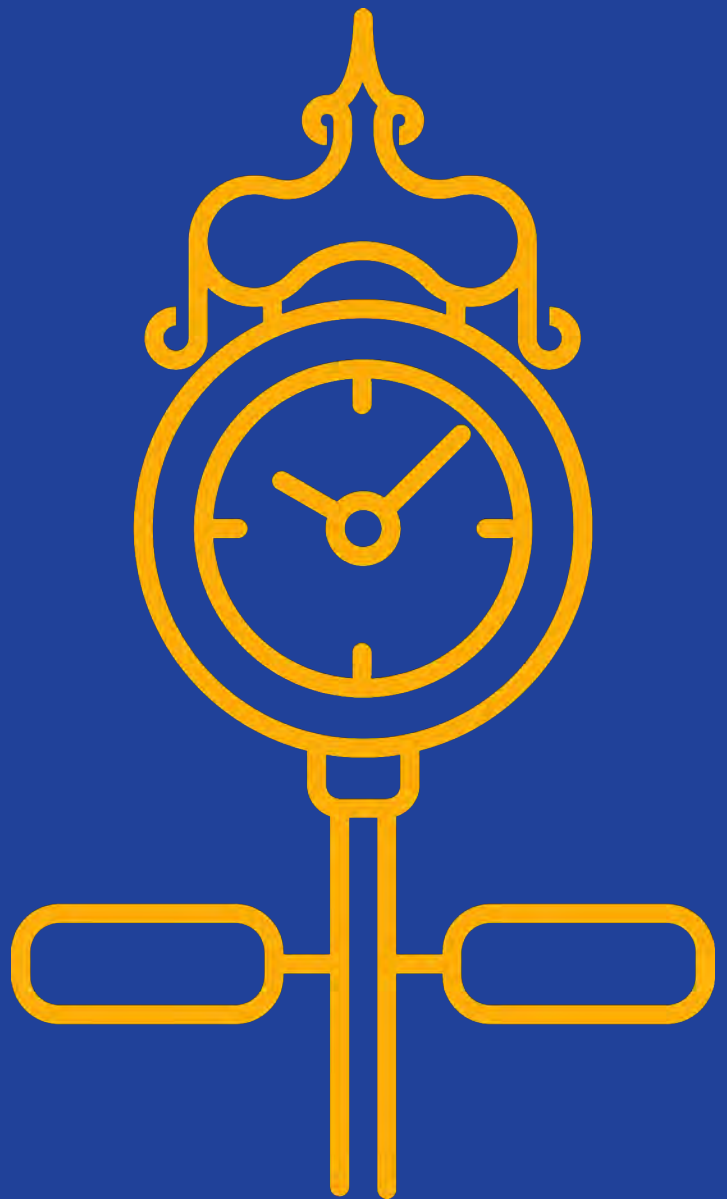
Andy.Swims@obms.us
(662) 892-9353

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Persons wishing to express concerns relative to compliance with Title VI may do so by contacting: Andrea Hendricks, MDOT Civil Rights Director, at (601) 359-7344.

City of Olive Branch
Pleasant Hill
Road Improvements

Public Meeting

Wednesday, August 28, 2024



Federal and State Requirements

This public hearing is being held in accordance with:

- Americans with Disabilities Act of 1990 (ADA)
- Title VI of the Civil Rights Act of 1964 and Other Nondiscrimination Laws
- 49 CFR Part 24, Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs
- ~~40 CFR Part 1506~~, Other Requirements of NEPA

Public Notice

City of Olive Branch website

Newspaper

Elected & Appointed officials

Property owner/tenant letters

Social media

Title VI Compliance

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Andrea Hendricks

MDOT Civil Rights Director

P.O. Box 1850 Jackson, MS 39215

601-359-7344

All inquiries will be handled in a prompt and courteous manner.

National Environmental Policy Act (NEPA)

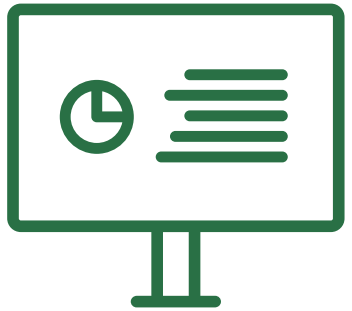
The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by MDOT.

Meeting Format

Four components to tonight's meeting:

Open House

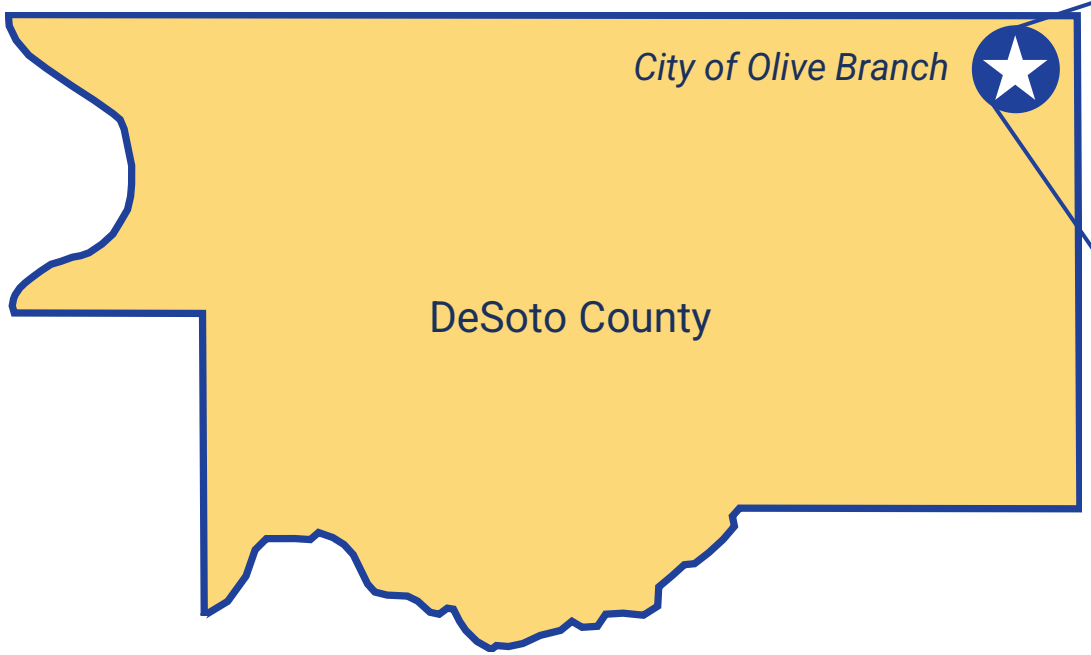
Interactive Stations with Project Staff

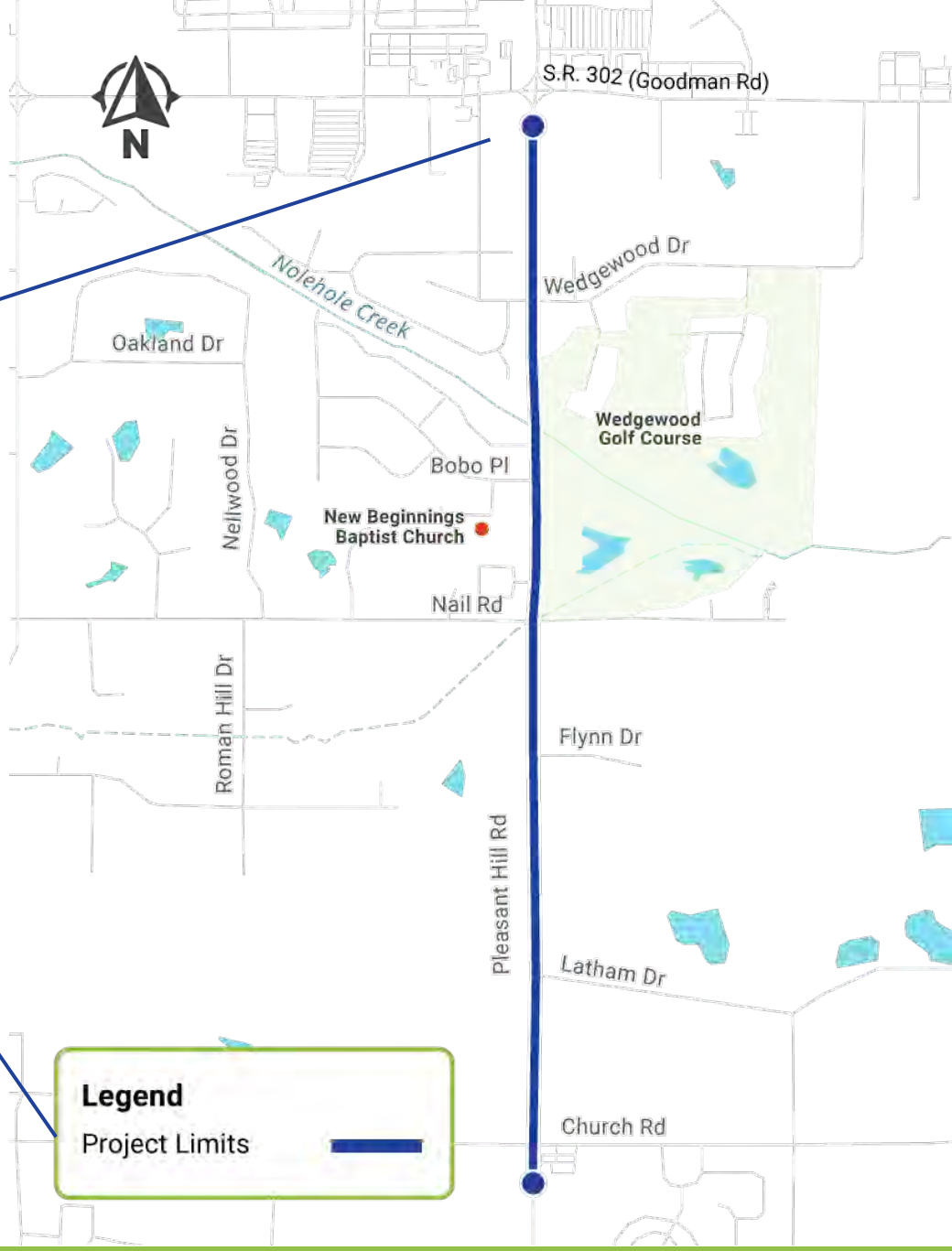


Looping Presentation

Comment Cards Available

Project Location





Project Location

Phase **2**

Phase 2 Elements:
- Design
- Right of Way Process
- Utility Relocations

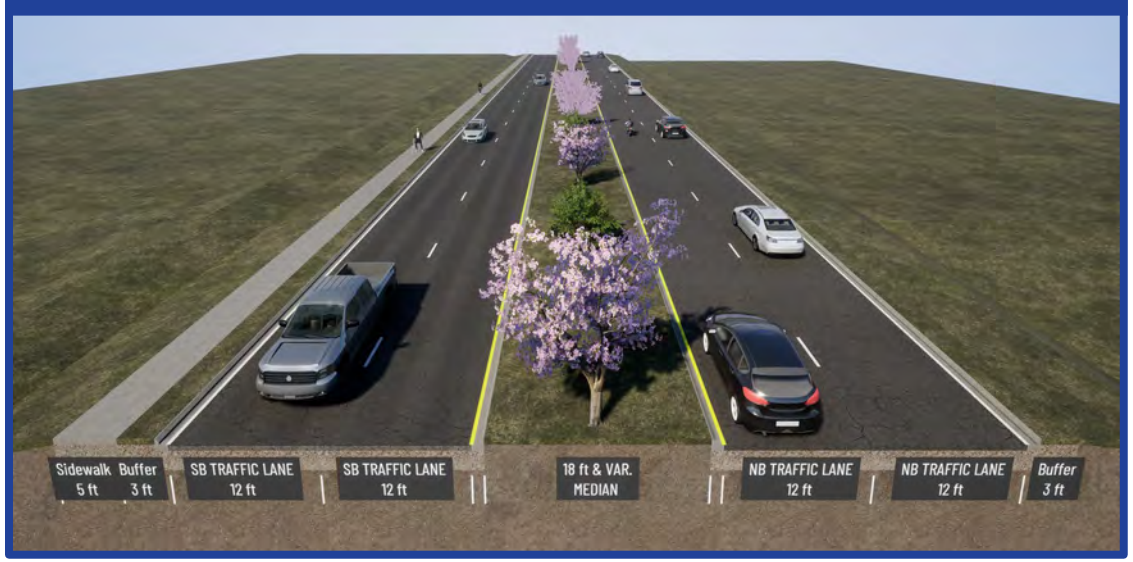
Phase **1**

Phase 1 Elements:
- Design
- Right of Way Process
- Utility Relocations
- Construction

Existing vs. Proposed Improvements

Existing

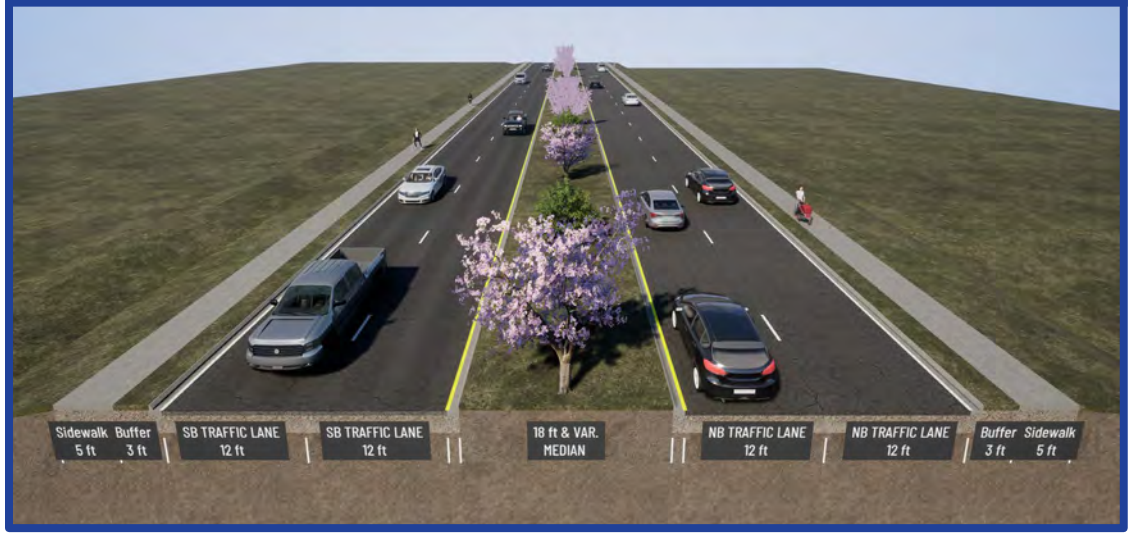
4-Lane Divided with Raised Median and Sidewalk on West Side Only



Existing vs. Proposed Improvements

Existing

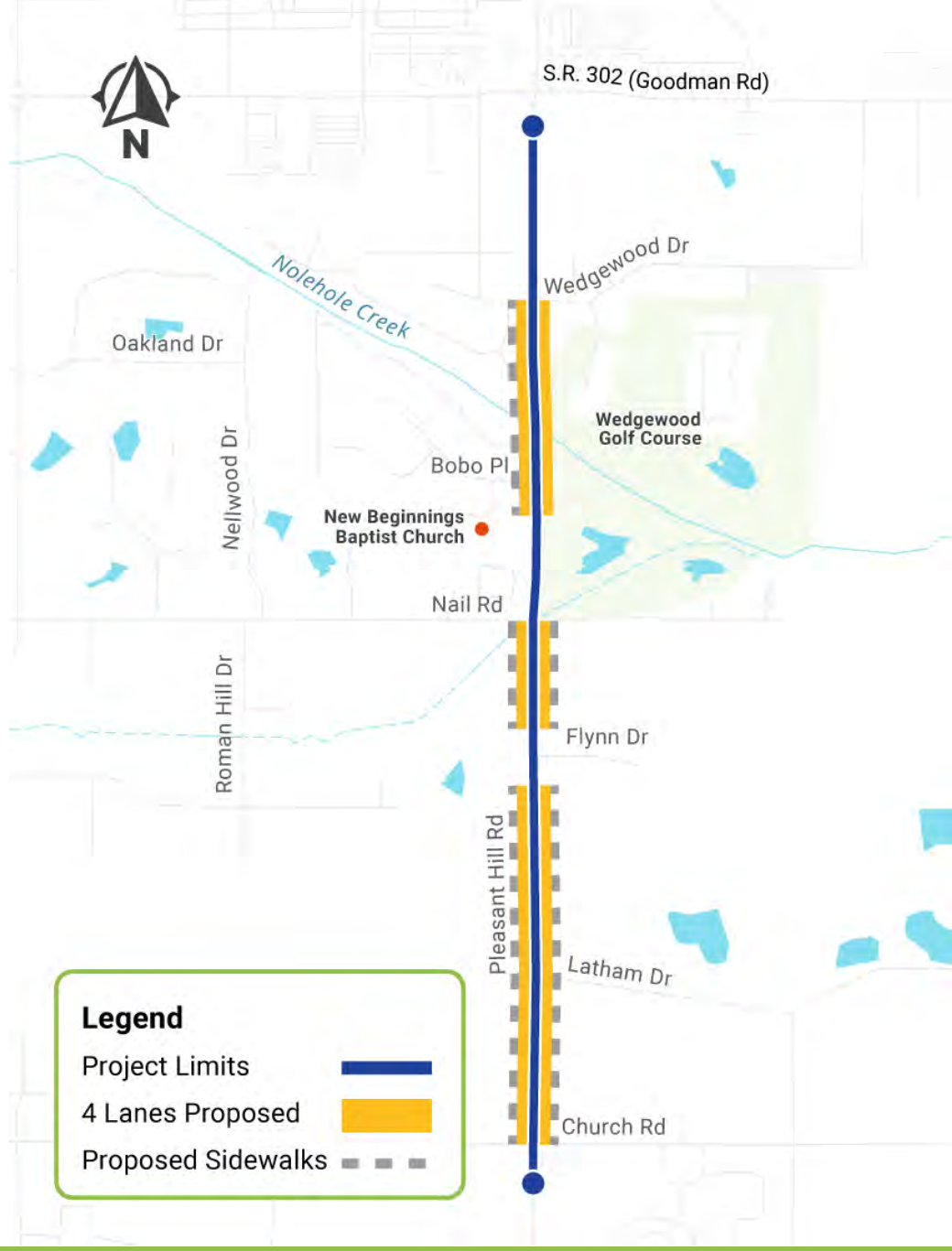
4-Lane Divided with Raised Median and Sidewalks



Proposed Improvements: 4 Lanes

4-Lane Divided Roadway with a Raised Median

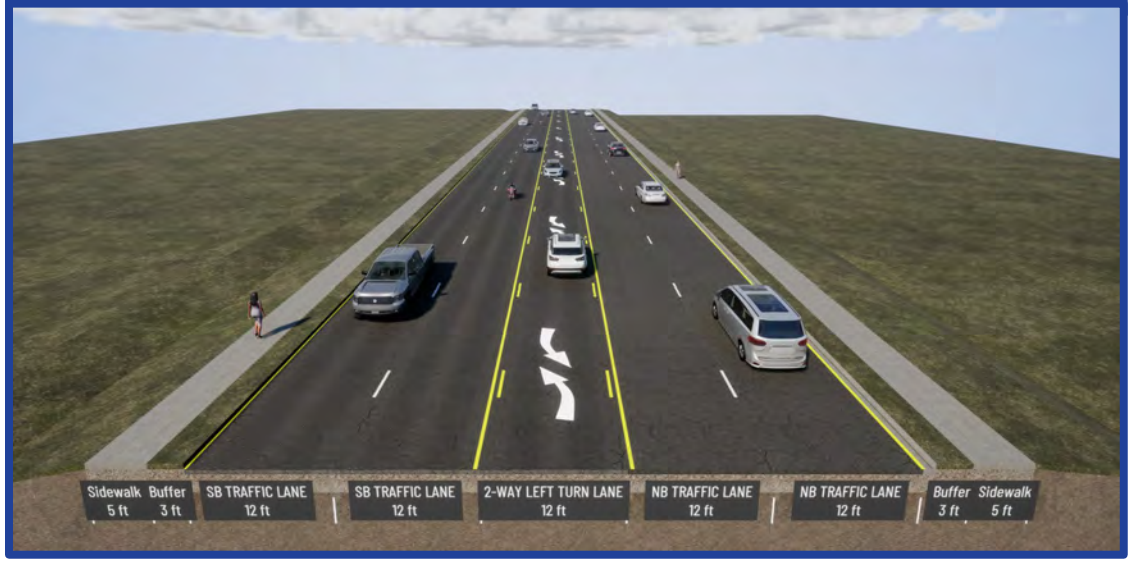
- Phase 1
  - Church Road to Approximately 400 Feet South of Flynn Drive
  - Approximately 200 feet North of Flynn Drive to Nail Road
- Phase 2
  - Just North of New Beginnings Baptist Church to Wedgewood Drive



Existing vs. Proposed Improvements

Existing

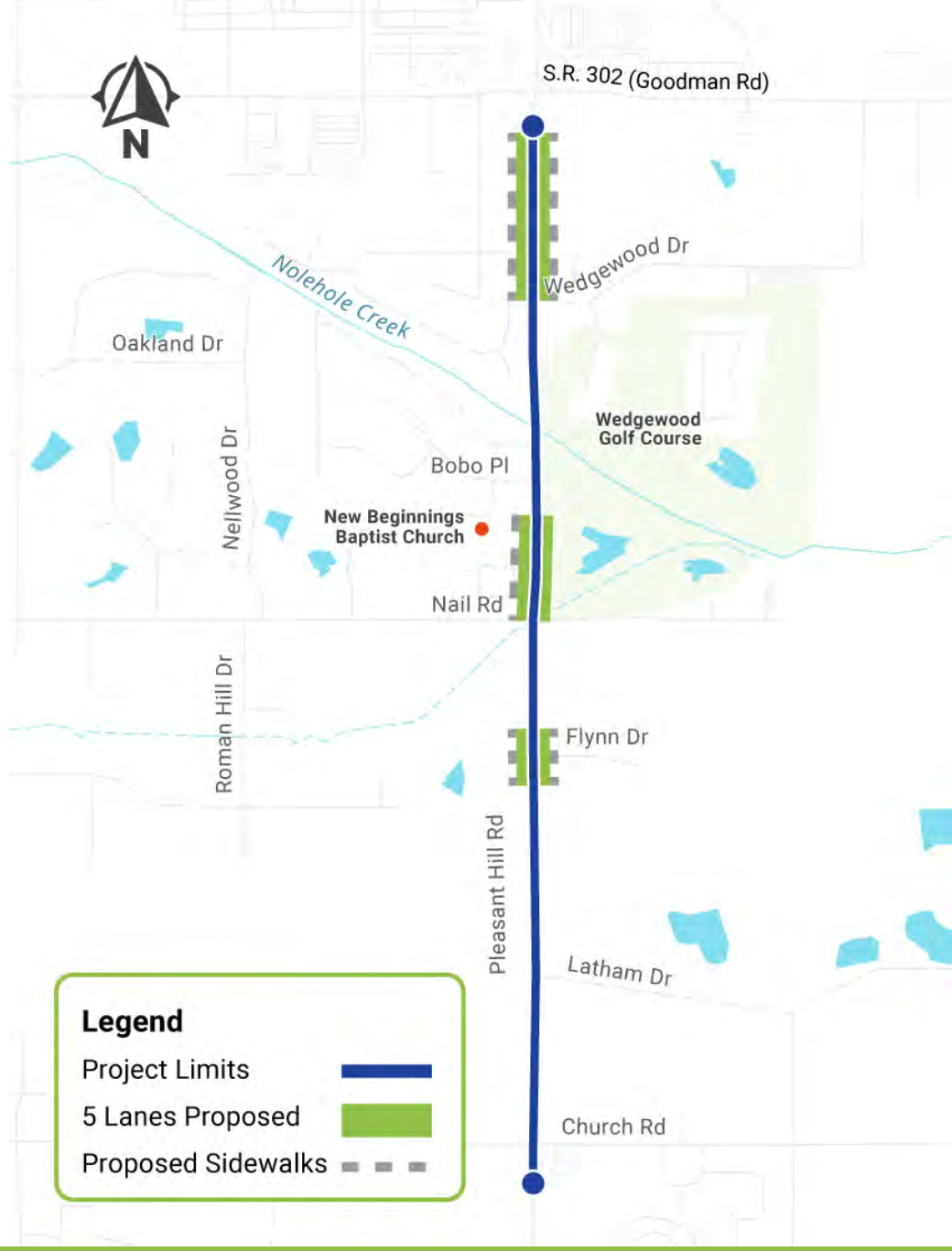
5-Lane Divided with 2-Way Left Turn and Sidewalks



Proposed Improvements: 5 Lanes

5-Lane Sections with Continuous Center Turn Lane

- Phase 1
  - Approximately 400 Feet South of Flynn Drive to Approximately 200 Feet North of Flynn Drive
- Phase 2
  - Just North of the Nail Road Intersection to New Beginnings Baptist Church
  - Wedgewood Drive to Approximately 400 Feet South of SR 302 (Goodman Road)



Need for Improvements

Travel Delays

Population Growth

Current ADT:
(average daily traffic)

approximately
1
vehicles per day

20-Year Projected ADT:

approximately
00
vehicles per day

Traffic Congestion

That's more than a
se
in vehicles on the road.

Environmental Considerations

Social

- Land Use
- Farmlands
- Visual
- Bike / Ped
- Economic
- Relocations
- ~~Environmental Justice~~

Cultural

- Preservation
- Archaeological sites
- Historic properties
- Recreation and Section 4(f) lands

Natural

- Wetlands & other surface waters
- Water quality
- Floodplains
- Wildlife, protected species
- Water bodies
- Permits

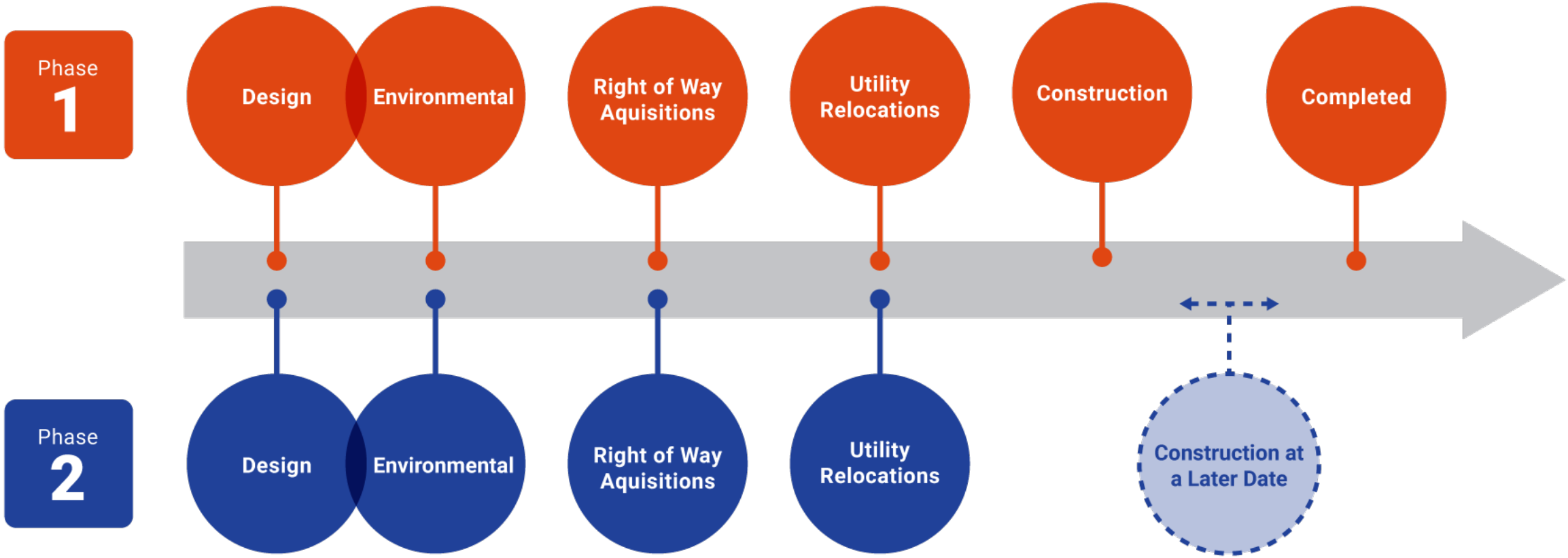
Physical

- Air quality
- Noise
- Contamination
- Construction
- Energy

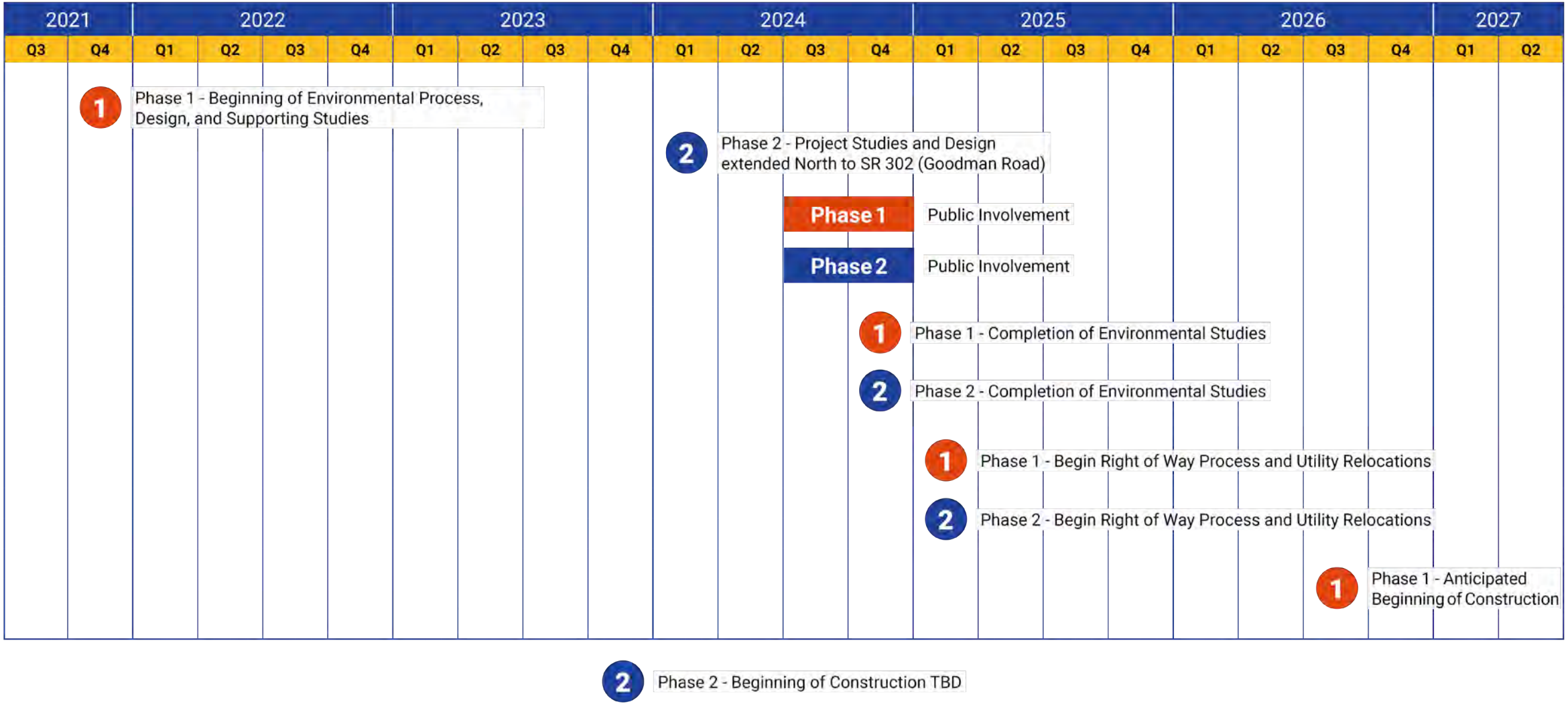
Right of Way

All right of way acquisition will be conducted in accordance with all applicable state and federal laws.

Transportation Development Process

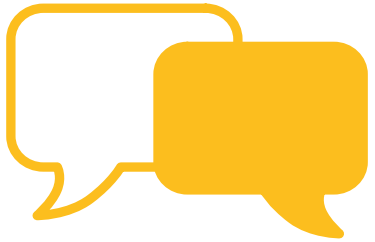


Proposed Schedule

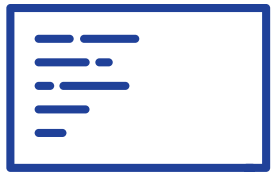


Ways to Submit Comments

In person



Speak with project team members



Submit a written comment for the meeting record

Stay Connected

Andy Swims

Director of Engineering,

City of Olive Branch

9200 Pigeon Roost Road

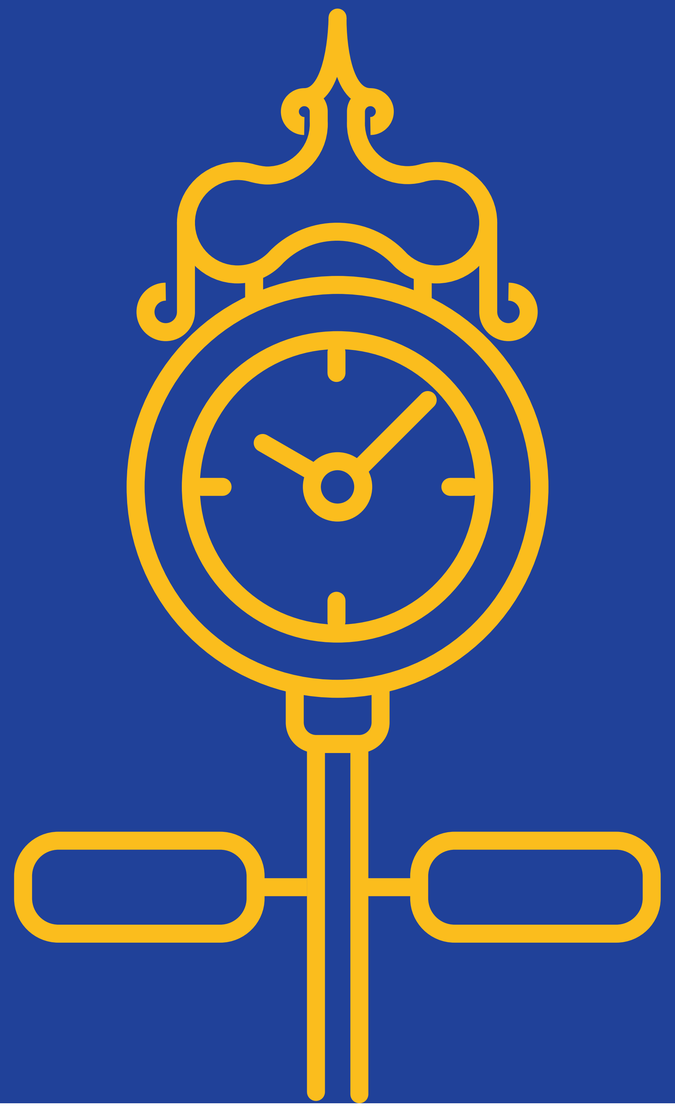
Olive Branch, MS 38654

Andy.Swims@obms.us or 662-892-9353

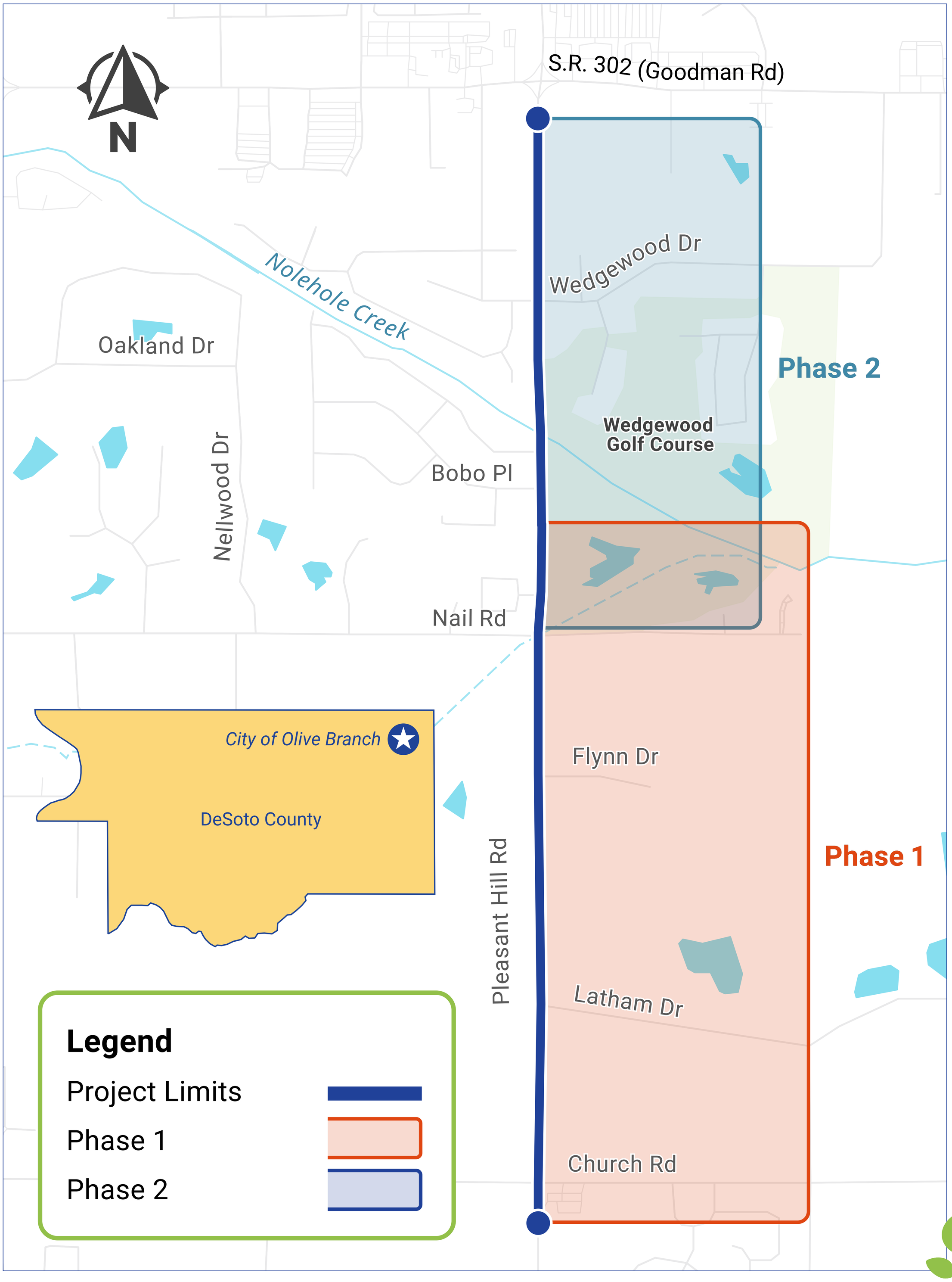
Visit www.obms.us to find the most up-to-date information for the City of Olive Branch.

Welcome

Pleasant Hill Road Improvements
Public Meeting



Project Limits



Transportation Development Process

Phase 1

- Design
- Environmental
- Right of Way Aquisitions
- Utility Relocations
- Construction
- Completed

Phase 2

- Design
- Environmental
- Right of Way Aquisitions
- Utility Relocations
- Construction at a Later Date

Proposed Schedule

2021		2022				2023				2024				2025				2026				2027	
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2

1 Phase 1 - Beginning of Environmental Process, Design, and Supporting Studies

2 Phase 2 - Project Studies and Design extended North to SR 302 (Goodman Road)

Phase 1 Public Involvement

Phase 2 Public Involvement

1 Phase 1 - Completion of Environmental Studies

2 Phase 2 - Completion of Environmental Studies

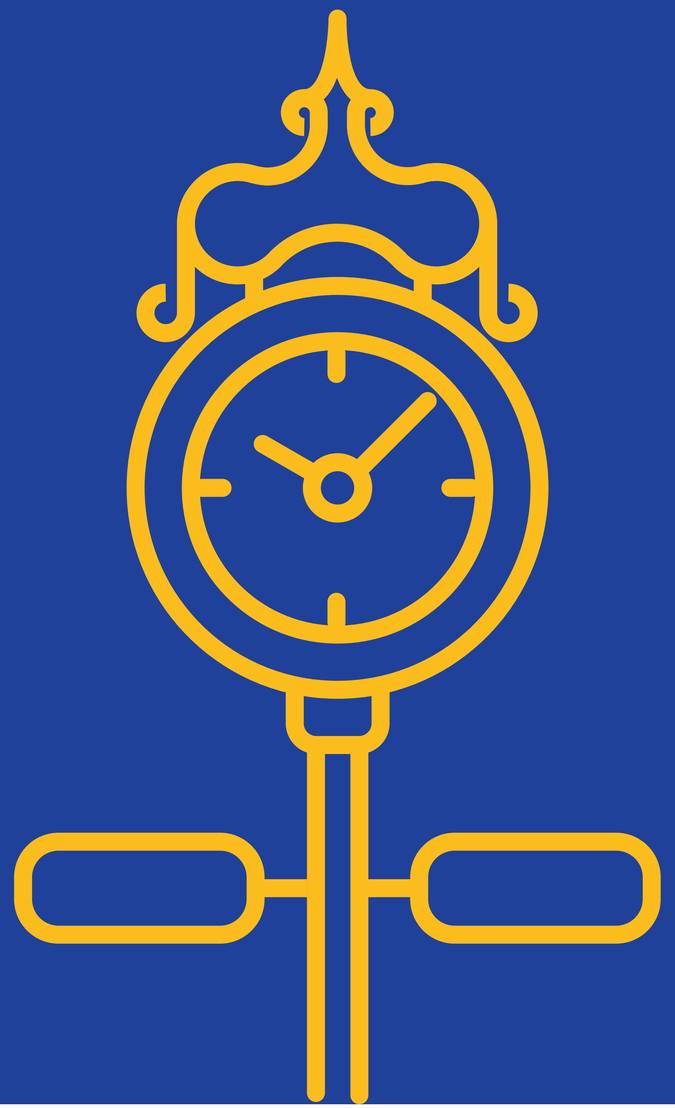
1 Phase 1 - Begin Right of Way Process and Utility Relocations

2 Phase 2 - Begin Right of Way Process and Utility Relocations

1 Phase 1 - Anticipated Beginning of Construction

2 Phase 2 - Beginning of Construction TBD

Thank you for attending



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Director of Engineering,
City of Olive Branch
9200 Pigeon Roost Road
Olive Branch, MS 38654
Andy.swims@obms.us or 662-892-9353

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Andrea Hendricks
MDOT Civil Rights Director
P.O. Box 1850 Jackson, MS 39215
601-359-7344

All inquiries will be handled in a prompt and courteous manner.

National Environmental Policy Act (NEPA)

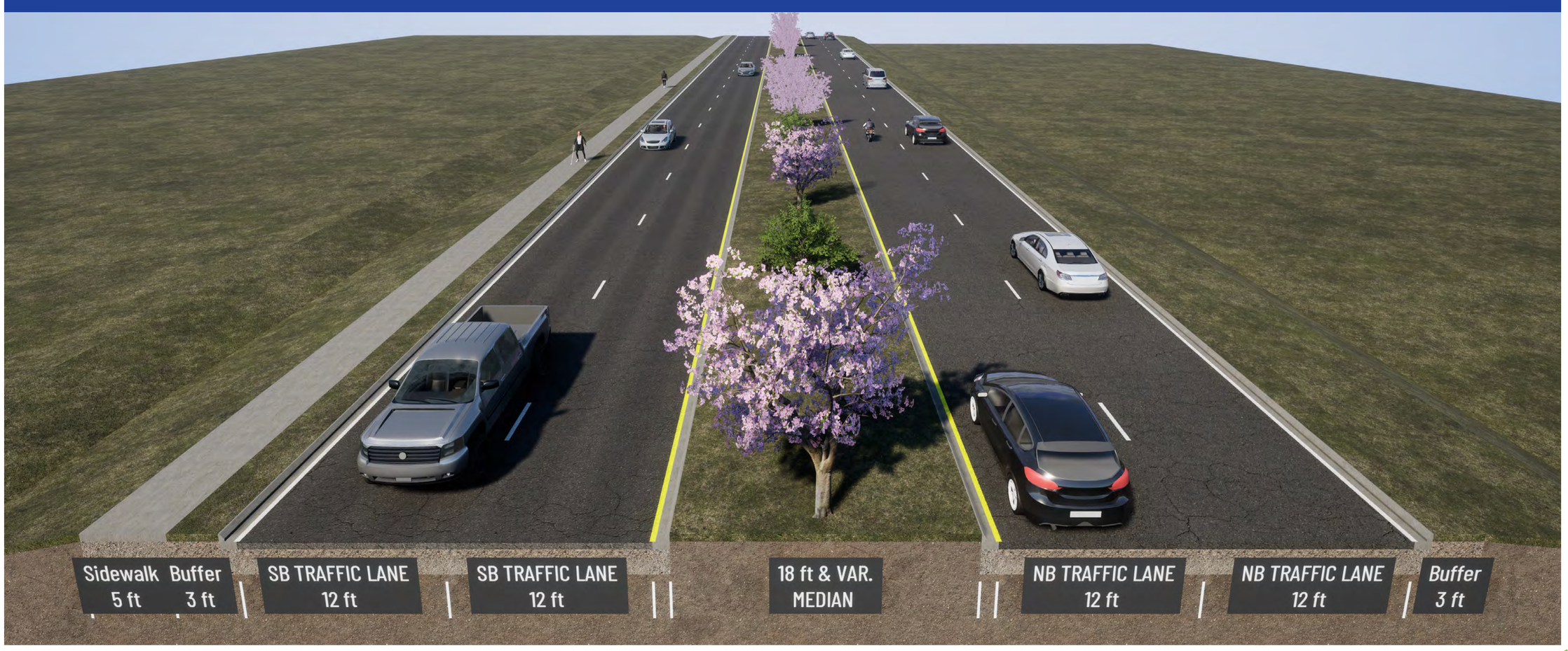
The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by MDOT.

Typical Sections

Four-Lane with One Sidewalk

Existing

4-Lane Divided with Raised Median and Sidewalk on West Side Only

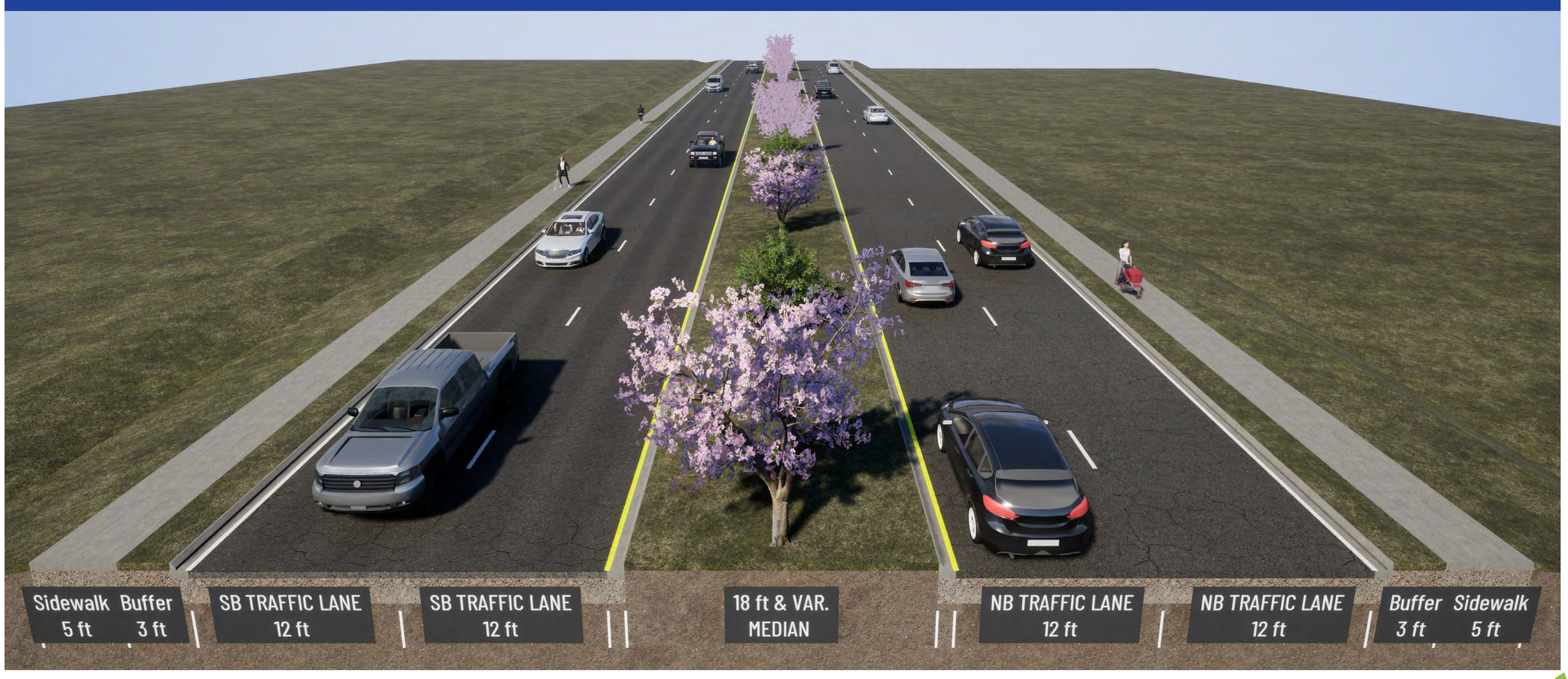


Typical Sections

Four-Lane with Two Sidewalks

Existing

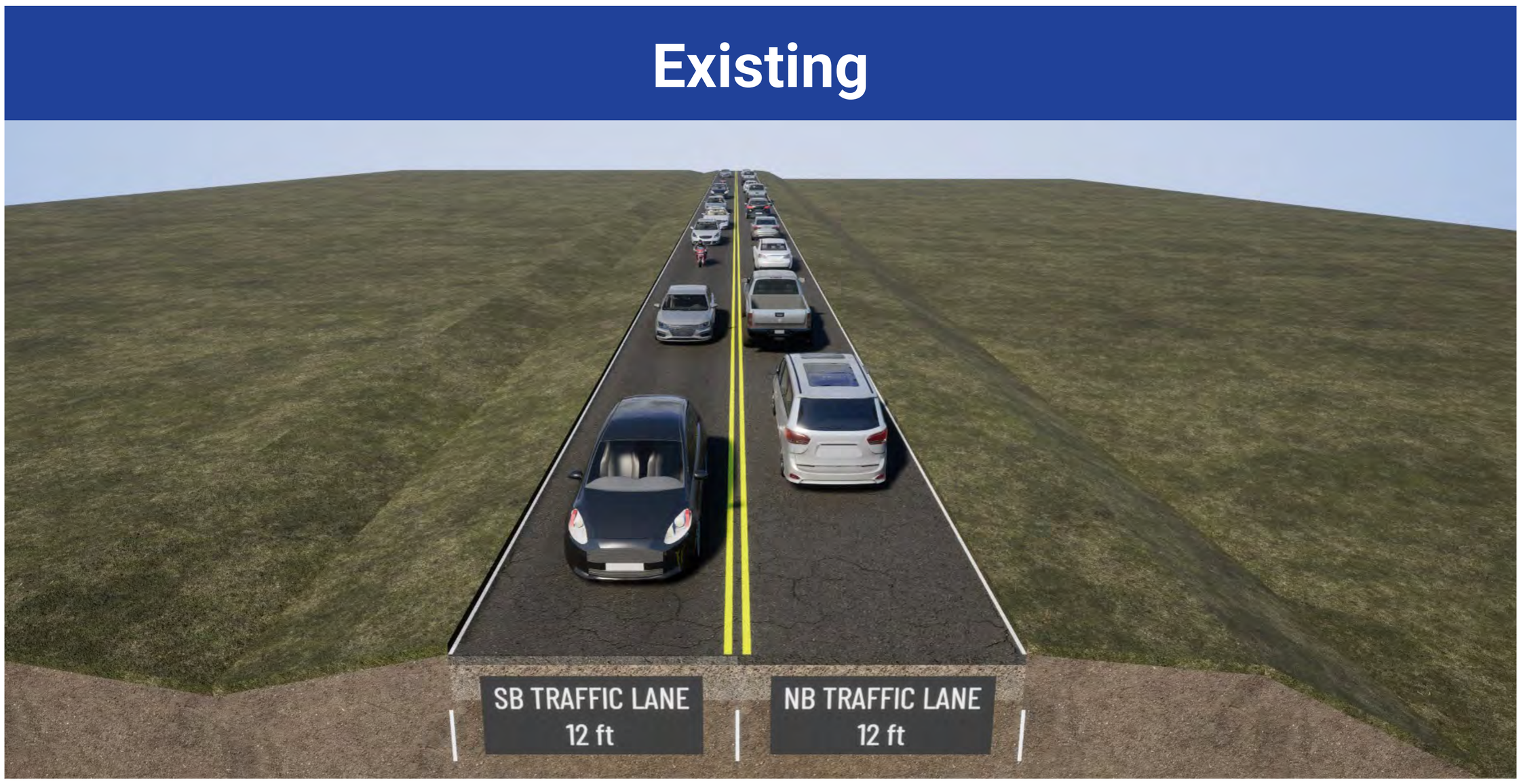
4-Lane Divided with Raised Median and Sidewalks



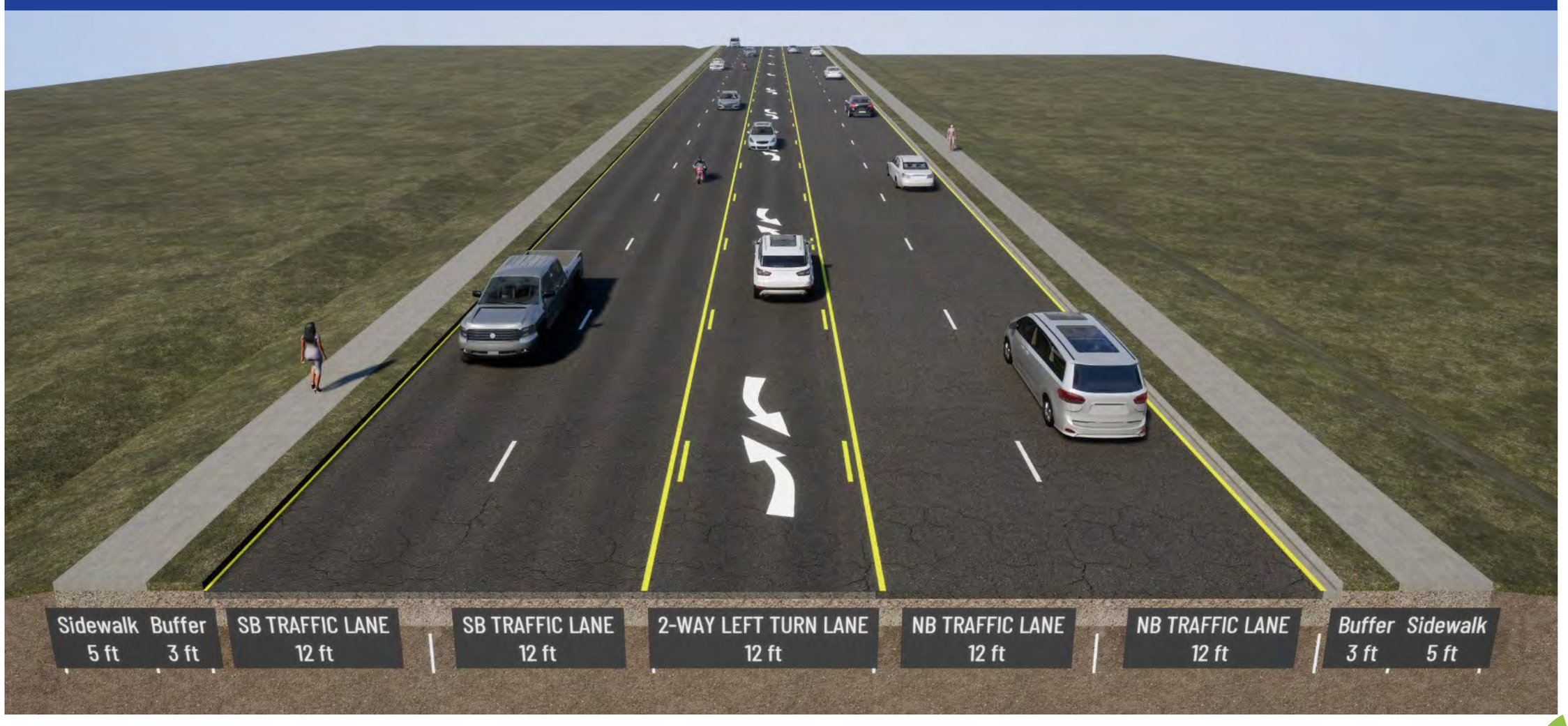
Typical Sections

Five-Lane with Two-Way Left Turn and Sidewalks

Existing



5-Lane Divided with 2-Way Left Turn and Sidewalks

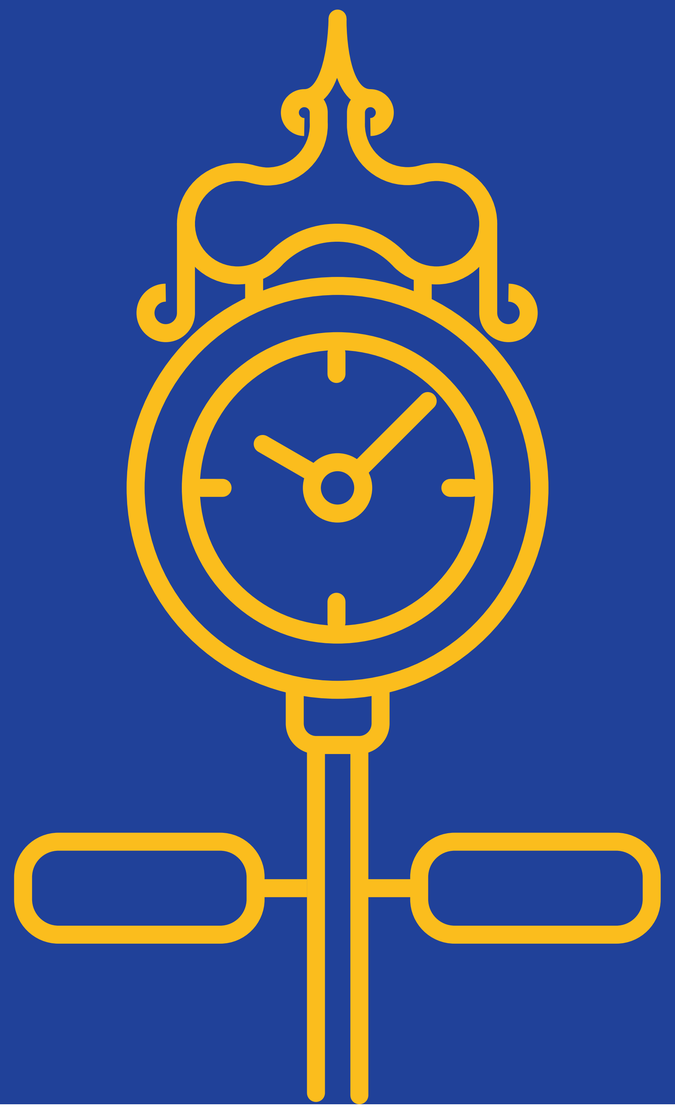


Pleasant Hill Road Improvements Public Meeting

OLIVE BRANCH MISSISSIPPI

Pleasant Hill Road Improvements Public Meeting

Right of Way Process



OLIVE BRANCH MISSISSIPPI

Pleasant Hill Road Improvements Public Meeting Sign-in Sheet

Wednesday, August 28, 2024

Name	Representing (Optional)	Address	Email	Check here to join mailing list ✓
James + Mary Anthony		6782 Pleasant Hill	Manthony.career@gmail.com	✓
TERRY MAXEY		4480 SUMMERS PLACE DRIVE, O.B. MS 38654	TERRYMAXEY@PROTONMAIL.COM	✓
Justin Keen		14277 Glynn Valley S, Byhalia, MS 38611	jkeen@lumse.ms.gov	
Demetria Scott (Pessie Herrington)		5050 Wedgewood Dr. OB, MS 38654	DCScott6400@icloud.com	✓
Mary Ryle		6700 Masters Dr. OB, MS 38654	merexcel@gmail.com	✓
Bob Smith		4986 Nail Rd. OB 38654	bobsmith@gmail.com	✓
R.D. Roy & Luke Taylor		6178 WATER DR OB	662-420-2649	
Bernice Blair		5037 Flynn Dr 38654	662 890 0495 bblair1710@g	
Monica Blair		5037 Flynn Dr 38654	monica blair 1968 @ gmail.	
Tom & Donna Roach		5185 Nail Rd Olive Branch 38654	t1152@aol.com	
Willie Jean Campbell		5750 flynn rd O.B 901 413 4463		
Allen Gressett		4906 Batterson Lp S	allengressett@gmail.com	
Mark + Stacye Moore		6351 Carson Dr., OB	stacye_moore@yahoo.com	
Brad Hodges	FHWA	1914 Stubbs Road Terry Ms 39170	bradhodges@dot.gov	
Lisa Morton or Alyce Santino		6092 Arnold Palmer Cv. OB 6053 Arnold Palmer Cv.	lisamorton9269@yahoo.com 901-451-3115	✓
Higgins Annette Diane + Tony Morton		5874 Pleasant Hill Rd. 4980 Bobo Place	aol-6236 8122 frm23@sbcglobal.net	
Alice Marie Johnson		5025 Wedgewood Drive	alicemariefree55@gmail.com	
Virginia Flynn Factor		5750 Flynn Rd OB	virginia.factor@yahoo.com	

Pleasant Hill Road Improvements Public Meeting Sign-in Sheet

Wednesday, August 28, 2024

Name	Representing (Optional)	Address	Email	Check here to join mailing list ✓
Warren Robinson		6535 PLAYER DR OB.	WWROBINSON952@GMAIL.COM	
Al Woods		6731 PLEASANT HILL RD OB	awoods4@memphis.edu	
Donald Harrison		5944 Spring Creek Dr. OB	DWharrison@901.com	
Archie Cathey Sr		5142 Flynn Dr OB	901-607-5376	
Freddie Cathey		5192 Flynn Dr OB	662-420-6258	
Dewitt Wright Jr		5872 Pleasant Hill Rd " " "	901-438-8709	
P. Wyatt			901-337-4795	
Chris Robinson		6535 Player DR OB	901-734-6383	Email
Kimberly Rivas		5240 Wedgewood DR OB	901-335-6821 Kimremala com	
Reginald Boyd		R144 Farmview Dr Bighaus	901 490-0659 mail com	
Robert Smith		5037 Flynn Rd.	901-406 3154	
A Clark		4803 Waterstone Dr.	219-306-5104	
Kristy Ulmer		5265 Wedgewood Dr. OB	Kristylutzulmer@gmail.com	
Carla Kelley	The Flynn Family		901-572-3625	
Ashleigh Parker		4889 Bobo Pl. OB	901-3380 pictureman230yahoo.com	
Aaron M Jones	Jones Family	5700 Pleasant Hill Rd. OB	AaronJJones1@yahoo.com	

Pleasant Hill Road Improvements Public Meeting Sign-in Sheet

Wednesday, August 28, 2024

Name	Representing (Optional)	Address	Email	Check here to join mailing list ✓
Delois Hall		6605 Arnold Palmer Cove	gdjchs3@yahoo.com	
Joseph C. Westervelt	Bowie Lane (Arbors of Wedgewood HOA	4945 Bowie Lane, OB 38654	chroe888@protonmail.com	✓
Theresa Bowman		4942 Graham Lake Dr. OB 38654	901-262-0125	
Tony Kelsey Sr		5181 Flynn Rd Olive Branch	901-647-7630	✓
Lokite Johnson		6515 Player Drive Olive Branch	lokitejj@gmail.com	
Noel Tuck	Wedgewood G.C.			
Marcia Rhodes	Wedgewood II	6495 Player Dr.	mrhodes526@yahoo.com	✓
Alexander Bibbs		6575 Masters Dr.	ajosephb3@yahoo.com	✓
Wanda Woods-Gary				
Brian Cope	Arbors of Wedgewood	4845 Waterstone Dr. Olive Branch	copebills@gmail.com	✓
Frederick Howard		9825 Dundee	kerryricky20@gmail)	
Chip Carruthers	Wedgewood Dr.	5152 Wedgewood		
Janet Wayne Williamson	Wedgewood	5225 Wedgewood Dr	wwwilliamson@comcast.net	
Meshaf Hall	Wedgewood	6064 Arnold Palmer Cv	Honest4ever@yahoo.com	

STAFF SIGN-IN

Pleasant Hill Road Improvements Public Meeting Sign-in Sheet

Wednesday, August 28, 2024

Name	Representing (Optional)	Address	Email	Check here to join mailing list ✓
April Fairley	MDOT	401 N. West street, Jackson, MS	afairley@mdot.ms.gov	
Sharen Willis Foster	MDOT-ROW		sfoster@mdot.ms.gov	
Danny Walker	HDR		danny.walker@hdrinc.com	
DeFord West	MDOT-ENV		dfwest@mdot.ms.gov	

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-24

Name: Bernice Blake Phone: 662-890-0995

Address: 5037 Flynn DR.

City: Olive Branch State: MS Zip: 38654

Email: bblake1110@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☑ Resident ☑
- Concerned ☐ Business ☐
- Other ____ Landowner ☐
- Other ____

What are the major issues?

- Relocations ☑ Traffic Volume ☑ Social ☐
- Wetlands ☐ Noise ☑ Economics ☐
- Wildlife ☐ Safety ☑
- Other ____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:

By not moving the fire dept. would mean a large portion of my front yard would be taken for this project. Also by creating an intersection at Flynn/Pleasant Hill would result in loss of land on the side of my house.

Issues and/or concerns about the project:

Loss of land, noise, traffic and safety
No yard for kids to play. Move the fire department back and take land on both sides

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

I think a 3 lane highway would help the flow of traffic and reduce the need of land.

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-24

Name: Monica Blair Phone: 901 340 5530

Address: 5037 Flynn Dr

City: Olive Branch State: MS Zip: 38654

Email: monicablair1968@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☑ Resident ☑
- Concerned ☐ Business ☐
- Other _____ Landowner ☐
- Other _____

What are the major issues?

- Relocations ☑ Traffic Volume ☑ Social ☐
- Wetlands ☐ Noise ☑ Economics ☐
- Wildlife ☐ Safety ☑
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:

5 lane Rd with sidewalks would result in the loss of land.

Issues and/or concerns about the project:

Loss of land, Noise, traffic and safety

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

I think a 3 lane highway would help the flow of traffic and reduce the need of land.

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 1-28-24

Name: Theresa Bowman Phone: 901-262-0125

Address: 4942 Graham Lake Drive

City: Olive Branch State: MS Zip: 38654

Email: _____

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

Affected	☒	Resident	☒
Concerned	☐	Business	☐
Other	_____	Landowner	☒
		Other	_____

What are the major issues?

Relocations	☐	Traffic Volume	☒	Social	☐
Wetlands	☐	Noise	☒	Economics	☒
Wildlife	☒	Safety	☒		
Other	_____				

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

_____

_____

_____

_____

_____

Issues and/or concerns about the project:

Why was a proposal for two lanes with a turning lane not shown.
Are you going to put street lights?
Have to sleep with fan on my room to sleep because of noise level off of Pleasant Hill

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Would like two lanes & turning lane.

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-24

Name: Freddie L. Cathey Phone: 662-420-6258

Address: 5132 Flynn DR

City: Olive Branch State: MS. Zip: 38654

Email:

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other ____
- Resident ☐
- Business ☐
- Landowner ☐
- Other ____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☐
- Noise ☐
- Safety ☐
- Social ☐
- Economics ☐
- Other ____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:

The Change of my Propect

Issues and/or concerns about the project:

Chang of the Street on Flynn

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: August 28, 2024

Name: Brian Cope Phone: 662 481 2673

Address: 4845 Waterstone Drive

City: Olive Branch State: MS Zip: 38654

Email: Copebills@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?			
Affected	☒	Resident	☒
Concerned	☐	Business	☐
Other		Landowner	☐
		Other	

What are the major issues?					
Relocations	☐	Traffic Volume	☒	Social	☐
Wetlands	☐	Noise	☒	Economics	☐
Wildlife	☐	Safety	☒		
Other					

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

Phase 2 impact to Arbors of Wedgewood entrance and right of way. Proposed right of way will encroach on properties and potentially call for the elimination of our frontage green space and fence.

Issues and/or concerns about the project:

Also, need a dedicated turn lane at the northside entrance to ~~Bobo~~ Graham Lake Dr. Without a dedicated turn lane, traffic will need to do U-turns or cut through neighborhood off of Bobo Pl. Will cause bottleneck/backup to turn into Graham Lake Dr. coming northbound on Pleasant Hill.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

TIE ANY SIDEWALKS IN TO CONNECT. NO MORE SIDEWALKS TO NO WHERE!!

Additional thoughts or comments:

NO GAS STATIONS!

NO BANKS!

NO CAR WASHES!

NO FAST FOOD RESTAURANTS! (Especially chicken + BBQ)

WE HAVE ENOUGH OF ALL OF THESE BUSINESSES IN O.B.!!

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/24

Name: Virginia Flynn Factor Daughter of Gladys Flynn Phone: 901-859-5088

Address: 5750 Flynn Rd

City: Olive Branch State: MS Zip: 38654

Email: virginia.factor.yahoo.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☑
- Concerned ☑
- Other _____
- Resident ☑
- Business ☐
- Landowner ☑
- Other _____

What are the major issues?

- Relocations ☑
- Traffic Volume ☑
- Social ☑
- Wetlands ☐
- Noise ☑
- Economics ☑
- Wildlife ☐
- Safety ☑
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☐

Which changes and why:

The changes that my family and I are not in favor of are the following: relinquishing of property, unfair confiscation of the property on the east side of Flynn Road. When Flynn Road was initially established my family provided Easement and/or right of usage a portion of our personal property with no compensation. Due to the fact that my family granted their personal property this helped to establish the southside of Flynn Road

Issues and/or concerns about the project:

The major concern that my family and I have at this time is the seizure of the remaining 00.83 +/- acre of property and home. This project is not only harmful but it would also take away the legacy that my family has established since 1961. It would also displace the family that is currently living in said property

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Property owners on both sides of Flynn Road and Pleasant Hill Road give equal shares of land for this project. During the process or completion of this project the Flynn family desires that there will be enough property at 5750 Flynn Road for rebuilding a new domicile for said continuous legacy of our childhood home.

Additional thoughts or comments:

If the above conditions are unable to be met it is the Flynn family desire to have a new domicile to be constructed at a site not deemed yet within one mile of the original property of 5750 Flynn Road.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-2024

Name: Donald Harrison Phone: 901-832-4108

Address: 5977 Spring Creek Dr.

City: Olive Branch State: MS Zip: 38654

Email: Dwharrison@aol.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

Affected ☐ Resident ☒
Concerned ☐ Business ☐
Other ____ Landowner ☐
Other ____

What are the major issues?

Relocations ☐ Traffic Volume ☒ Social ☐
Wetlands ☐ Noise ☐ Economics ☐
Wildlife ☐ Safety ☐
Other Improve walk area

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☒ Undecided ☐

Which changes and why:

The section of Pleasant Hill Rd. between Goodman Rd. and Church Rd. should be a residential thoroughfare (meaning residential and not commercial area) as opposed to a primary thoroughfare. Considering that Pleasant Hill South of Church is very curvy and will be difficult to widen. Focus should be on expanding Craft Rd. as a primary thoroughfare.

Issues and/or concerns about the project:

My preference is to widen Pleasant Hill Rd. to three lanes as it is in front of the Wedgewood Subdivision. To enhance the residential area of this section of Pleasant Hill a wide sidewalk/bike ~~area~~ area should be on the west side of Pleasant Hill Rd.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-24

Name: TERRY MAXEY Phone: 662-509-2422

Address: 4480 SUMMERS PLACE DRIVE

City: OLIVE BRANCH State: MS Zip: 38654

Email: TERRYMAXEY@PROTONMAIL.COM

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?					
Affected	☒	Resident	☒		
Concerned	☒	Business	☐		
Other		Landowner	☐		
		Other			

What are the major issues?					
Relocations	☐	Traffic Volume	☒	Social	☐
Wetlands	☐	Noise	☐	Economics	☐
Wildlife	☐	Safety	☒		
Other					

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☒ No ☐ Undecided ☐

Which changes and why:

THIS IS A HEAVYLY TRAVELED ROAD AND MORE PEOPLE ARE MOVING IN THE AREA DAILY. NEW SUBDIVISIONS ARE BEING BUILT ON THE SOUTH END OF THIS SECTION OF PLEASANT HILL ROAD. LAND IS IN THE PROCESS OF BEING DEVELOPED ON BOTH SIDES OF THIS SECTION OF PLEASANT HILL ROAD. I TRUST THAT THE ROAD (NEW ROAD) WILL BE DEVELOPED ON SCHEDULED WITH NO DELAYS.

Issues and/or concerns about the project:

THE SOONER THIS ROAD IS CONSTRUCTED THE LESSER THE COST SHOULD BE & THE SAFER THE ROAD WILL BE. I AM THANKFUL THIS IS BE DONE.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

HAVE NO DELAYS

Additional thoughts or comments:

THE SOONER THIS PROJECT CAN BE COMPLETED THE BETTER

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/24

Name: Mark Moore - Stacye Moore Phone: 901 208 9827

Address: 6351 Carson

City: O.B. State: MS Zip: 38654

Email: ACEMOORE @ YAHOO. COM

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?					
Affected	☑	Resident	☑		
Concerned	☐	Business	☐		
Other		Landowner	☐		
		Other			

What are the major issues?					
Relocations	☐	Traffic Volume	☑	Social	☐
Wetlands	☐	Noise	☐	Economics	☐
Wildlife	☐	Safety	☐		
Other					

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☑ No ☐ Undecided ☐

Which changes and why:

DIVIDED FIVE LANE WITH LANDSCAPED MEDIANS

Issues and/or concerns about the project:

GRAHAM LAKES DOES NOT HAVE CUT THROUGH MEDIAN.

PROPOSE THAT GRAHAM LAKES AND BOBO HAVE ONE LARGE CUT THROUGH THE MEDIAN.

IT WOULD RESEMBLE NEW CONSTRUCTION ON GETWELL. GETWELL HAS SEVERAL

SUBSTANTIAL BREAKS IN MEDIAN TO ACCOMODATE MULTIPLE STREETS AND PARKING

LOT ENTRANCE/EXITS.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

See issues section:

Propose Graham Lakes and Bobo have one large cut through the median. It would resemble new construction on Getwell which has several large median cut throughs.

Additional thoughts or comments:

Graham Lakes has the dominant share of homes in Wedgewood Farms. We are concerned for the increase in traffic on Bobo. A large median cut to allow turns from To South and North should be included in final design.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/24

Name: Lisa Morton Phone: 228-238-3200

Address: 6092 Arnold Palmer Cove

City: OB State: MS Zip: 38654

Email: lisamorton926@yahoo.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☒
- Concerned ☐
- Other _____
- Resident ☒
- Business ☐
- Landowner ☒
- Other _____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☒
- Noise ☒
- Safety ☒
- Social ☐
- Economics ☐
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☒ No ☐ Undecided ☐

Which changes and why:

Need it to handle traffic — Need desperately a traffic light NOW at Nail & Pleasant Hill — is very dangerous

Issues and/or concerns about the project:

being killed trying to get out at 3 PM

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Need light now!

Additional thoughts or comments:

Need light now at Nail & Pleasant Hill.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/24

Name: Ashleigh & David Parker Phone: 901 573 9760 901 338 9624

Address: 4889 Bobo Pl.

City: Olive Branch, MS State: MS Zip: 38654

Email: dparker@senate.ms.gov picturemom23@yahoo.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☒
- Concerned ☐
- Other _____
- Resident ☒
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☒
- Traffic Volume ☐
- Social ☐
- Wetlands ☐
- Noise ☐
- Economics ☐
- Wildlife ☐
- Safety ☒
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☒ No ☐ Undecided ☐

Which changes and why:

Issues and/or concerns about the project:

Biggest concern is access in & out of Wedgewood Farms, Graham Lake AND Bobo Place BOTH need to be able to be accessed from Pleasant Hill (North & South)

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 9-1-24

Name: Brian Plunkett Phone: 662-9967277

Address: 6252 Carson Drive

City: Olive Branch, MS 38654 State: _____ Zip: _____

Email: PlunkettBrianc@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

Affected	☒	Resident	☒
Concerned	☒	Business	☐
Other	_____	Landowner	☐
		Other	_____

What are the major issues?

Relocations	☒	Traffic Volume	☒	Social	☐
Wetlands	☐	Noise	☐	Economics	☐
Wildlife	☐	Safety	☒		
Other	_____				

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

I am infavor of medians. I like the idea, I think Olive Branch is in desperate need of this city wide. But I have major concerns...

Issues and/or concerns about the project:

Major concern is access in and out of Wedgewood Farms. Bobo Place AND Graham Lake must be able to be accessible from Pleasant Hill going north AND south.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

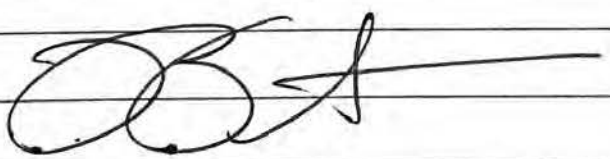
~~Recommendations~~ for the project:

furthermore, why is there a left turn lane going south on Pleasant Hill at the intersection of Bobo. Honestly, I can't believe an engineer designed this without thought. ; how this will cause all traffic flow to go on Bobo because of no access to Graham Lake Drive.

Additional thoughts or comments:

this is concerning for traffic flow, residential tax-payers having access to their neighborhood, AND most importantly Emergency response into / out of Graham Lake Drive.

I object to the current design plan.



Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: Aug. 28, 2024

Name: Marcia Rhodes Phone: 901 336-2719

Address: 6495 Player Dr.

City: Olive Branch State: MS Zip: 38654

Email: mrhodes526@yahoo.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other _____
- Resident ☒
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Traffic Volume ☐
- Social ☐
- Wetlands ☐
- Noise ☐
- Economics ☐
- Wildlife ☐
- Safety ☐
- Other Widening street

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

Widening the road in front of Wedgewood. How will this affect the golf course

Issues and/or concerns about the project:

The golf course closing. How this will affect our neighborhood.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8.28.24

Name: Donna Roach Phone: 901-233-4911

Address: 9185 Nail Rd

City: Olive Branch State: MS Zip: 38654

Email: t1152@aol.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other _____
- Resident ☒
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Traffic Volume ☒
- Social ☐
- Wetlands ☐
- Noise ☐
- Economics ☐
- Wildlife ☐
- Safety ☐
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☒ No ☐ Undecided ☐

Which changes and why:

Praise God for a traffic light at Nail Rd.

Issues and/or concerns about the project:

Construction is construction. We will get through it. Just grateful what is being done.

I am your cheerleader in this.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/24

Name: Mary Rye Phone: 901-826-5149

Address: 6700 Masters Dr.

City: OB State: MS Zip: _____

Email: merexcel@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other _____
- Resident ☑
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☐
- Noise ☐
- Safety ☐
- Social ☐
- Economics ☐
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

- affects on Wedgewood Golf Course that would directly hurt my property value

Issues and/or concerns about the project:

- Is 5 lane necessary or could improvement be obtained w/ 3 lanes

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: _____

Name: Alyce SARTINO Phone: 901-451-3115

Address: 6053 ARNOLD PALMER CV

City: Olive Branch, MS. 38654 State: _____ Zip: 38654

Email: AlyceSARTINO3@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

Affected ☐ Resident ☑
Concerned ☐ Business ☐
Other _____ Landowner ☐
Other _____

What are the major issues?

Relocations ☐ Traffic Volume ☑ Social ☐
Wetlands ☐ Noise ☑ Economics ☐
Wildlife ☐ Safety ☐
Other People Speeding Causing Wrecks

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☐

Which changes and why:

I'm using this page to bring attention to E. Nail Rd. instead. To start with the road is to narrow & up near the Golf Maintenance, trees & bushes have taken over one lane. Also, we have people parking over the sidewalks for hrs. or more. (Golf) & a truck + trailer at another house, only one car can get by at a time.

Issues and/or concerns about the project:

We do have concerns about being able to get out on Pleasant Hill + someone getting hurt or worse. Even if it's a 4-way stop Please take note & try helping before construction even.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

I've been told Anyone parking over a sidewalk has 48 hrs To Remove The Vehical - Some ARE parking work vehicles ALSO.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 28 AUG 24

Name: Joseph C. Westervelt (Crow) Phone: 901 481 0056

Address: 4945 Bowie Lane, Olive Branch MS 38654

City: _____ State: _____ Zip: _____

Email: chroe88@protonmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☑
- Concerned ☐
- Other _____
- Resident ☑
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☑
- Noise ☐
- Safety ☑
- Social ☐
- Economics ☑
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:

I am against the JUMP from 2 lanes to 5. Although I understand the need to prepare for the future, 5 lanes today is too much. 3 lanes (one each direction with a middle turn lane) is more appropriate. Its too big, too fast. Make a small change now and then expand later.

Issues and/or concerns about the project:

Olive Branch took YEARS to fix Pleasant hill AS IS. We finally got it resurfaced last year. If 2 lanes can't be maintained, it's outrageous to believe that 5 lanes would be. Look at Craft Rd. Between Goodman & Church. FALLING APART. All because the same decision was made on Craft and now the outermost lanes are in ruin.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

I understand that the City would like to only have to buy land, move utilities, etc one time. For that reason, It is my recommendation that this plan be implemented in 2035, with planning beginning now. Buy up the property and prep the space for an eventual expansion. However, from now until 2035, settle for 3 lanes (middle turn) and sidewalk on ONE side (no waste for expansion). THEN, in 8 years when the ASPHALT is a wreck, you can tear it up and begin project 2035!

Additional thoughts or comments:

The area is NOT ready for this. Its too much of a jump. Please consider a more moderate improvement. Think economically and logically. Asphalt doesn't last 25 years, so please don't lean on a 25 year plan as the motive.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: ~~September~~ Aug 28, 2024

Name: Demetria Scott Phone: 770-842-6426

Address: 5050 Wedgewood Dr.

City: Olive Branch State: MS Zip: 38654

Email: DScott6400@icloud.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☑ Resident ☐
- Concerned ☐ Business ☐
- Other _____ Landowner ☑
- Other _____

What are the major issues?

- Relocations ☐ Traffic Volume ☐ Social ☐
- Wetlands ☐ Noise ☑ Economics ☐
- Wildlife ☐ Safety ☐
- Other Infringement (Reducing property ownership)

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:

the volume of traffic on this route is not heavy enough to warrant expansion.

Issues and/or concerns about the project:

If volume increases the city should erect a noise barrier - traffic at current volume is noisy, an increase will become disruptive without noise protection. Also there will need to be protective; retaining wall to prevent erosion of the hill.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

The right of way space should not take more property away from some owners than from others. The line needs to be pushed back from the properties on Wedgewood Drive and Pleasant Hill because it slants in too far. Make the space and line even ~~off~~ moving the line further away ~~from~~ the houses on the corner lots.

Additional thoughts or comments:

The city needs to put a retaining (barrier) wall in place to eliminate the soil shift/erosion of dirt on the hill that will be impacted by the project.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 9/6/2024

Name: Bob Smira Phone: 601-455-3007

Address: 4986 NAIL RD.

City: Olive Branch State: MS Zip: 38654

Email:

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☑
- Other ____
- Resident ☐
- Business ☐
- Landowner ☐
- Other ____

What are the major issues?

- Relocations ☐
- Traffic Volume ☐
- Social ☐
- Wetlands ☐
- Noise ☐
- Economics ☐
- Wildlife ☐
- Safety ☐
- Other Storm water

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☑ No ☐ Undecided ☐

Which changes and why:

The completion of the Project is necessary to allieve traffic congestion

Issues and/or concerns about the project:

My concern is the storm water coming down Nail Road into the intersection of Pleasant Hill & Nail. During heavy rains, the westbound lane of Nail Road is inundated and becomes a hazard. The water needs to be diverted to the south side of Nail Road.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Since my frontage on Mail Road is the point where storm water reaches the road, A box culvert at some point could be beneficial in moving the runoff.

Additional thoughts or comments:

This change could and should be done apart from the traffic project.

I would like to meet with the engineers to see what can be done in the near future

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8-28-2024

Name: Kristy Ulmer Phone: 662-420-9528

Address: 5265 Wedgewood Drive

City: Olive Branch State: MS Zip: 38654

Email: Kristylutzulmer@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

Affected	☒	Resident	☐
Concerned	☒	Business	☐
Other		Landowner	☒
		Other	

What are the major issues?

Relocations	☐	Traffic Volume	☐	Social	☐
Wetlands	☐	Noise	☐	Economics	☒
Wildlife	☐	Safety	☒		
Other					

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☐ Undecided ☒

Which changes and why:

Expansion of Pleasant Hill Road

Issues and/or concerns about the project:

I am very concerned about how the golf course will be impacted by the road expansion. My home is on the golf course and my property value could drastically decrease if the golf course shuts down. I'm also concerned the golf course owner might sell the course to a developer who could put in apartments or lower priced homes or even shops.

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

#1 To ensure existing homeowners' property values remain intact, (and to ensure your property taxes remain intact as well), do whatever it takes to make the golf course whole.

#2 The landscaped median starting at Wedgewood + extending south to Nail - please start median a little further south + add a middle lane so drivers exiting Wedgewood + turning left on PH have somewhere "to go" in case southbound lane is busy.

Additional thoughts or comments:

The "proposed" line on the design drawings showed the expansion extending past the entrance of my neighborhood (Wedgewood), including the landscaping and 2 brick walls. If this occurs, who is responsible for paying for a new entrance? I don't want my HOA on the hook for this expense as it was quite expensive the 1st time.

I'm also concerned about the removal of the large trees along the golf course as many golfers hit shots that go (and are stopped by) into these trees. What will stop these fast moving golf balls from hitting drivers' windshields on PH?

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/2024

Name: Courtney Young Phone: 901.496.1174

Address: 2410 Cumberland Drive

City: Southaven State: MS Zip: 38672

Email: courtney.w.young@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other _____
- Resident ☑
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☑
- Noise ☐
- Safety ☑
- Social ☐
- Economics ☐
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☑ No ☐ Undecided ☐

Which changes and why:

Issues and/or concerns about the project:

Please complete this form and place it in the Comments box.

Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

Additional thoughts or comments:

From: Young, Scott
To: Pittman, Richard
Cc: Howard, Jonette; Ondra, Todd
Subject: FW: Pleasant Hill Road improvement in regards to the meeting on Wednesday, August 28. (Wollak)
Date: Tuesday, August 20, 2024 9:09:20 AM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Richard - Please read and file with the public response / input for the project.

From: Istvan Wollak <iwollak@hotmail.com>
Sent: Monday, August 19, 2024 5:49 PM
To: Swims, Andy <andy.swims@obms.us>; Young, Scott <scott.young@obms.us>
Subject: Pleasant Hill Road improvement in regards to the meeting on Wednesday, August 28.

hello,
My name is Istvan Wollak, MD, resident at the Arbor of Wedgewood subdivision next to Pleasant Hill.
I am writing you in regards to the above mentioned project.
My opinion below is shared by my wife, children, and several neighbors.
We have lived in this neighborhood for 18 years.
I read that the purpose of the project is to reduce congestion and improve pedestrian mobility on Pleasant Hill.
In short, we believe that this project is simply unnecessary, would be costly, would create a lot of problems for local residents, including turning onto Pleasant Hill. There is concern for reduced home values, etc.
In detail:
I have been traveling on Pleasant Hill at different times of the day and night for 18 years. No significant congestion occurs on the road except for the junctions leading from Pleasant Hill to Goodman and Pleasant Hill to Church Road at the very end of the road during rush-hour only. This mild congestion was effectively reduced by the widening of the last section of Pleasant Hill leading into Goodman Road that was completed a couple of years ago. This effects probably 50 yards of Pleasant Hill just before Goodman Road. A similar project for about 50 yards of Goodman Road leading into Church Road to allow drivers to turn left, right or continue straight should be more than enough in my opinion.
The local subdivisions allow residents to walk around without being exposed to traffic. No significant pedestrian traffic occurs along Pleasant Hill Road.
Turning onto Pleasant Hill Road from the local subdivisions could be problematic and made even worse when one needs to cross a 2 x 2 road.

Additionally, residents are concerned of decreasing home values due to the increased traffic.
We have already lost some of the secluded appeal for this neighborhood by all the businesses going up on Goodman Road.
There are no new subdivisions or businesses on Pleasant Hill and for that reason, no increase traffic is anticipated.
Our family, and our neighbors strongly oppose the proposed project.
Please consider this as our written statement as we won't be able to make it in person to the meeting.
Sincerely,
Istvan Wollak, MD

Get Outlook for iOS

Swims, Andy

From: Alton Woods Jr (awoods4) <awoods4@memphis.edu>
Sent: Sunday, September 8, 2024 12:47 PM
To: Swims, Andy
Cc: Hamilton, Pat; Adams, Ken
Subject: Pleasant Hill Road Improvements

I have included a photo of my comment card regarding the Pleasant Hill Road expansion. I did attend the public meeting. The set-up of the pictures on the tables was a good way to present. However, it was not very descriptive. From the talk of those around the table, many had a hard time locating their property or understanding what exactly was existing & what was being added. Addresses & property lines would have helped many in attendance. There was no explanation of utility work to be done as well. The potential movement of sewer, water, gas & electrical lines is a huge phase of any project & should have been described.

I have lived at my current residence since May of 2001. I am not favor of the proposed project as presented on August 28. However, I do think an expansion of Pleasant Hill Road is needed but taking a 2-lane road to 5-lanes is extreme. Being a resident on the northern end of Pleasant Hill, we are the only homes that have road frontage on this project. I do realize this project affects the Arbors of Wedgewood, Wedgewood Golf & others, but none of the homes in those subdivisions front doors face Pleasant Hill Road. The proposed plan will put a lot of pressure on our homes, increased noise, traffic, trash, pedestrians & safety. All these items should be taken into consideration prior to making these drastic proposed improvements.

I hope that all residents' comments are taken seriously. I was in attendance for roughly 50 minutes & was only addressed by Pat Hamilton. My conversation with Mrs. Hamilton was only a few seconds long at best. Mr. Adams & Mrs. Hamilton, you were elected to represent all residents equally. I anticipate this will be the case moving forward!

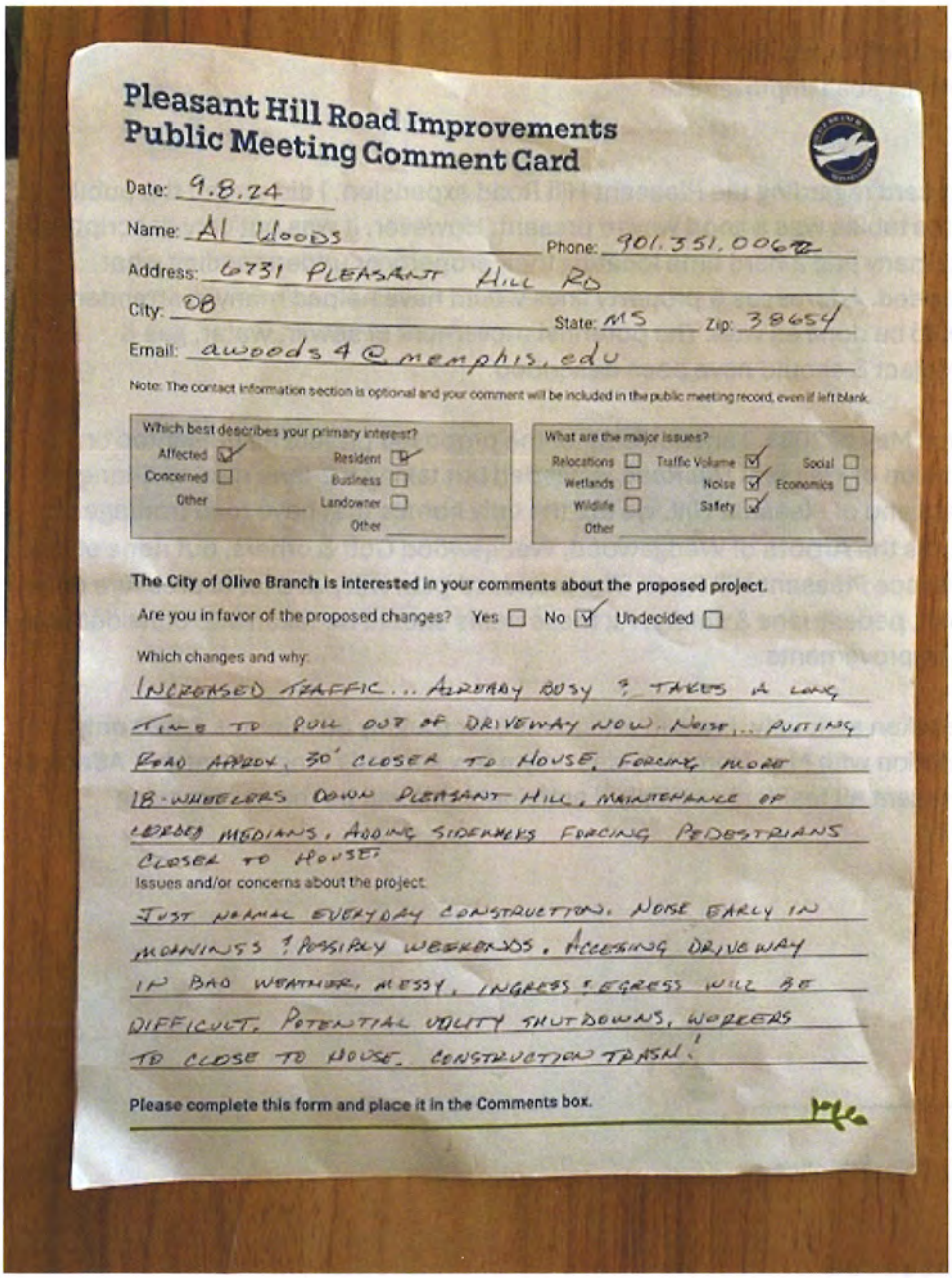
Thank you in advance for your time.

Al Woods
Director of Baseball Operations |
Director of Olympic Sports Equipment

The University of Memphis Athletics
570 Normal St
Memphis, TN 38152
901.351.0062 | **gotigersgo.com**

From: Alton Woods Jr (awoods4) <awoods4@memphis.edu>
Date: Sunday, September 8, 2024 at 11:14 AM

To: Alton Woods Jr (awoods4) <awoods4@memphis.edu>
Subject: P Hill



Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 9.8.24

Name: Al Woods Phone: 901.351.0062

Address: 6731 PLEASANT HILL RD

City: OB State: MS Zip: 38654

Email: awoods4@memphis.edu

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?
Affected ☑ Resident ☑
Concerned ☐ Business ☐
Other ____ Landowner ☐
Other ____

What are the major issues?
Relocations ☐ Traffic Volume ☑ Social ☐
Wetlands ☐ Noise ☑ Economics ☐
Wildlife ☐ Safety ☑
Other ____

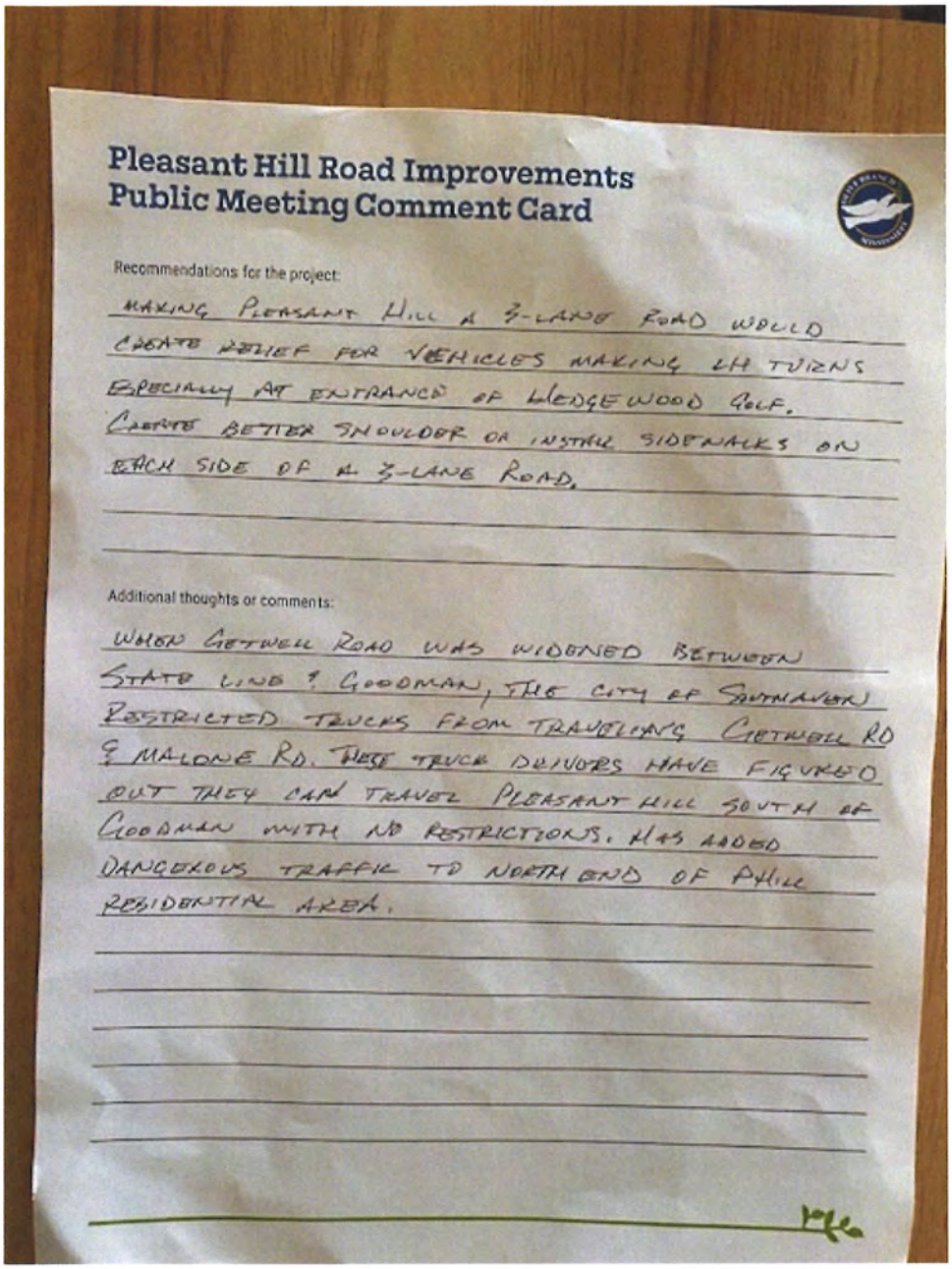
The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☐ No ☑ Undecided ☐

Which changes and why:
INCREASED TRAFFIC... ALREADY BUSY & TAKES A LONG TIME TO PULL OUT OF DRIVEWAY NOW. NOISE... PUTTING ROAD APPROX. 30' CLOSER TO HOUSE. FORCING MORE 18-WHEELERS DOWN PLEASANT HILL, MAINTENANCE OF LEDGED MEDIANS, ADDING SIDEWALKS FORCING PEDESTRIANS CLOSER TO HOUSE.

Issues and/or concerns about the project:
JUST NORMAL EVERYDAY CONSTRUCTION. NOISE EARLY IN MORNINGS & POSSIBLY WEEKENDS. ACCESSING DRIVEWAY IN BAD WEATHER, MESSY. INGRESS & EGRESS WILL BE DIFFICULT. POTENTIAL UTILITY SHUTDOWNS, WORKERS TO CLOSE TO HOUSE. CONSTRUCTION TRASH!

Please complete this form and place it in the Comments box.



Pleasant Hill Road Improvements
Public Meeting Comment Card

Recommendations for the project:

MAKING PLEASANT HILL A 3-LANE ROAD WOULD CREATE RELIEF FOR VEHICLES MAKING LH TURNS ESPECIALLY AT ENTRANCE OF WEDGEWOOD GOLF. CREATE BETTER SHOULDER OR INSTALL SIDEWALKS ON EACH SIDE OF A 3-LANE ROAD.

Additional thoughts or comments:

WHEN GETWELL ROAD WAS WIDENED BETWEEN STATE LINE & GOODMAN, THE CITY OF SOUTHAVEN RESTRICTED TRUCKS FROM TRAVELING GETWELL RD & MALONE RD. THESE TRUCK DRIVERS HAVE FIGURED OUT THEY CAN TRAVEL PLEASANT HILL SOUTH OF GOODMAN WITH NO RESTRICTIONS. HAS ADDED DANGEROUS TRAFFIC TO NORTH END OF PHILL RESIDENTIAL AREA.

Sent from my iPhone

Pleasant Hill Road Improvements
Public Meeting Comment Card

Date: 8/28/2024

Name: Courtney Young Phone: 901.496.1174

Address: 2410 Cumberland Drive

City: Southaven State: MS Zip: 38672

Email: Courtney.W.Young@gmail.com

Note: The contact information section is optional and your comment will be included in the public meeting record, even if left blank.

Which best describes your primary interest?

- Affected ☐
- Concerned ☐
- Other _____
- Resident ☑
- Business ☐
- Landowner ☐
- Other _____

What are the major issues?

- Relocations ☐
- Wetlands ☐
- Wildlife ☐
- Traffic Volume ☑
- Noise ☐
- Safety ☑
- Social ☐
- Economics ☐
- Other _____

The City of Olive Branch is interested in your comments about the proposed project.

Are you in favor of the proposed changes? Yes ☑ No ☐ Undecided ☐

Which changes and why:

Issues and/or concerns about the project:

Please complete this form and place it in the Comments box.

Pleasant Hill Widening Project

August 29, 2024 @ 9:00a.m. Utility Company Meeting

SIGN IN SHEET

PLEASE PROVIDE US WITH YOUR CURRENT CONTACT INFORMATION IN ORDER TO KEEP OUR RECORDS UP TO DATE THANKS!

Name/Title	Company Representing	Address	Contact Number	Email
Andy Swims	City of Olive Branch	9200 Pigeon Roost Rd, OB MS	901-489-0429	andy.swims@obms.us
Scott Young	City of Olive Branch	9200 Pigeon Roost Rd, OB MS	662.-892-9353	scott.young@#obms.us
Richard Pittman	HDR	1905 Community Bank Way Suite 100 Flowood, MS 39232	601-214-7414	richard.pittman@hdrinc.com
Bryant McDuffie	Atmos Energy	4155 Industrial Dr Jackson MS 39209	601-791-2512	bryant.mcduffie@atmosenergy.com
Chris Pond	Cspire		662-404-0466	cpond@cspire.com
Jon McLeod	Pickering(DCRUA)		601-382-1636	jmcleod@pickeringfirm.com
Ross Horton	Waggoner (DCRUA)		662-587-1429	ross.horton@waggonereng.com
Bruce Harris	Brightspeed		901-562-3026	Alas.Harris@Brightspeed.Co
Cody Cotner	Atmos Energy	5249 Pepperchase Drive Southaven	662-404-1835	Cody.Cotner@atmosenergy.com
Kyle Frazier	Atmos Energy	" "	601-540-8807	Kyle.frazier@atmosenergy.com
Bill Welch	Brightspeed	7045 Cockrum Olive Branch	901-371-6751	Willis.Welch@Brightspeed.com
Donald Campbell	Cspire		662-246-9620	dhcampbell@gmail.com
Jim Boettcher	C SPIRE	3167 Hunter Ln	662-404-3176	jboettcher@cspire.com
Wayne Spell	DCRUA		901-604-8841	wspell@digitdesoto.com

Pleasant Hill Widening Project

August 29, 2024 @ 9:00a.m. Utility Company Meeting

SIGN IN SHEET

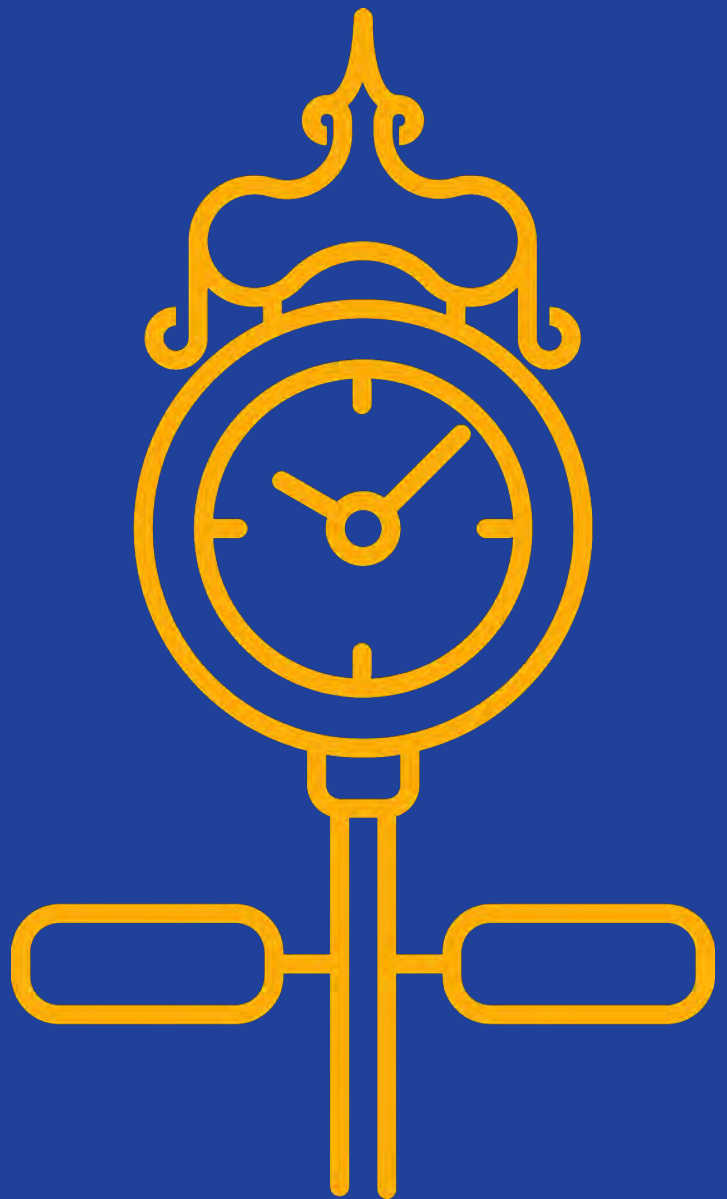
PLEASE PROVIDE US WITH YOUR CURRENT CONTACT INFORMATION IN ORDER TO KEEP OUR RECORDS UP TO DATE THANKS!

Name/Title	Company Representing	Address	Contact Number	Email
Andy Swims	City of Olive Branch	9200 Pigeon Roost Rd, OB MS	901-489-0429	andy.swims@obms.us
Scott Young	City of Olive Branch	9200 Pigeon Roost Rd, OB MS	662.-892-9353	scott.young@#obms.us
Richard Pittman	HDR	1905 Community Bank Way Suite 100 Flowood, MS 39232	601-214-7414	richard.pittman@hdrinc.com
Colé Fesmire	City of Olive Branch		901-270-1883	Cfesmire@obms.us
Justin Noel	City of Olive Branch		901-461-3773	justin.noel@obms.us
David Von Boeckman	Northcentral Electric Cooperative		901-833-0501	dvonboeckman@northcentralelectric.com

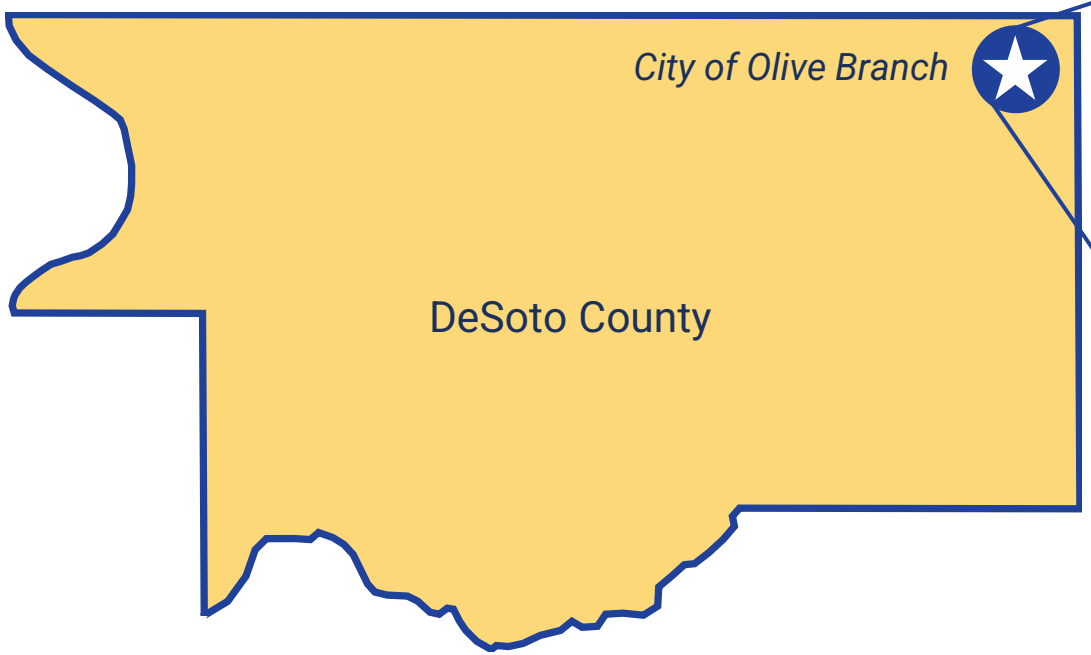
City of Olive Branch Pleasant Hill Road Improvements

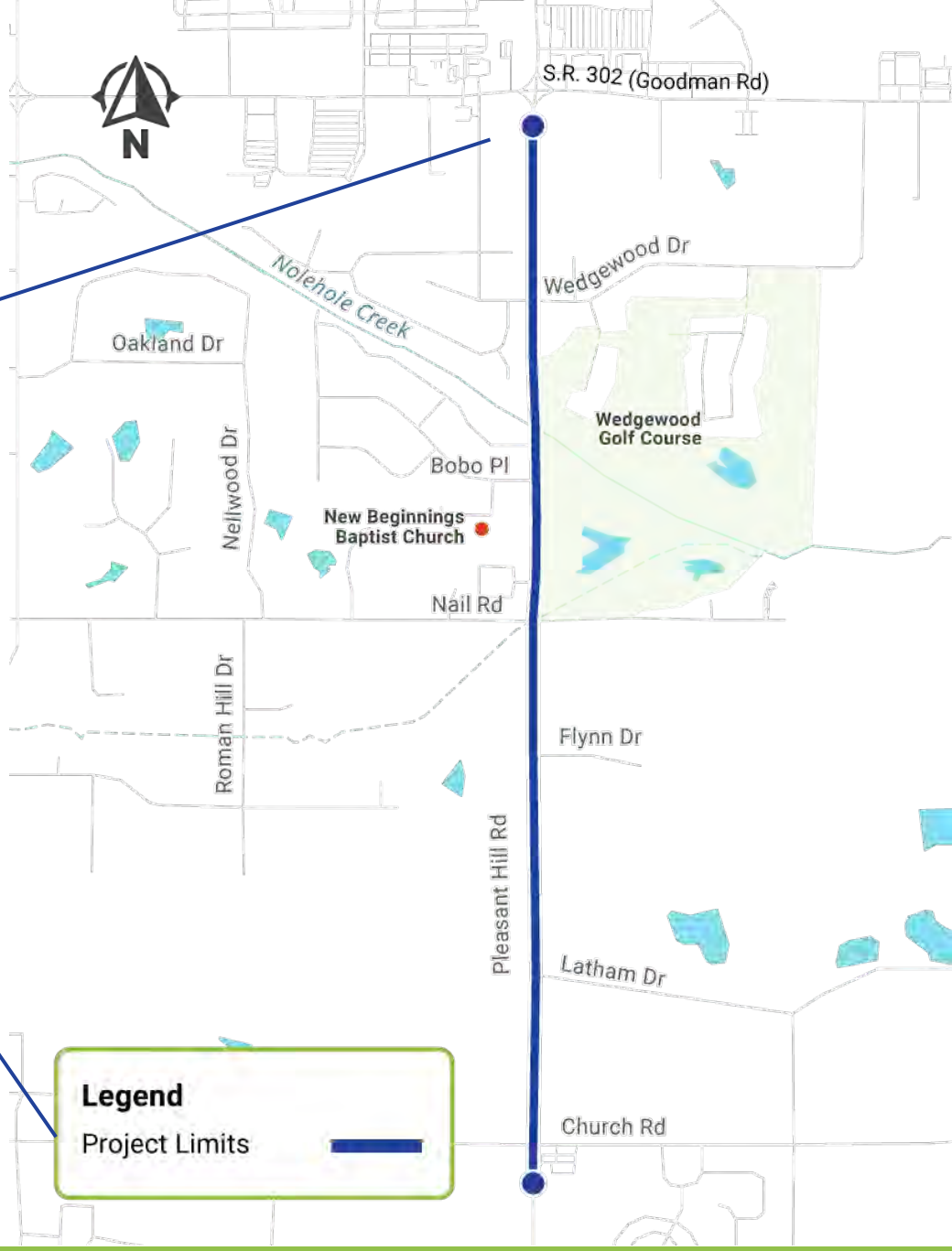
Stakeholder Meeting

Wednesday, August 28, 2024



Project Location





Project Location

Phase **2**

Phase 2 Elements:
- Design
- Right of Way Process
- Utility Relocations

Phase **1**

Phase 1 Elements:
- Design
- Right of Way Process
- Utility Relocations
- Construction

Existing vs. Proposed Improvements

Existing

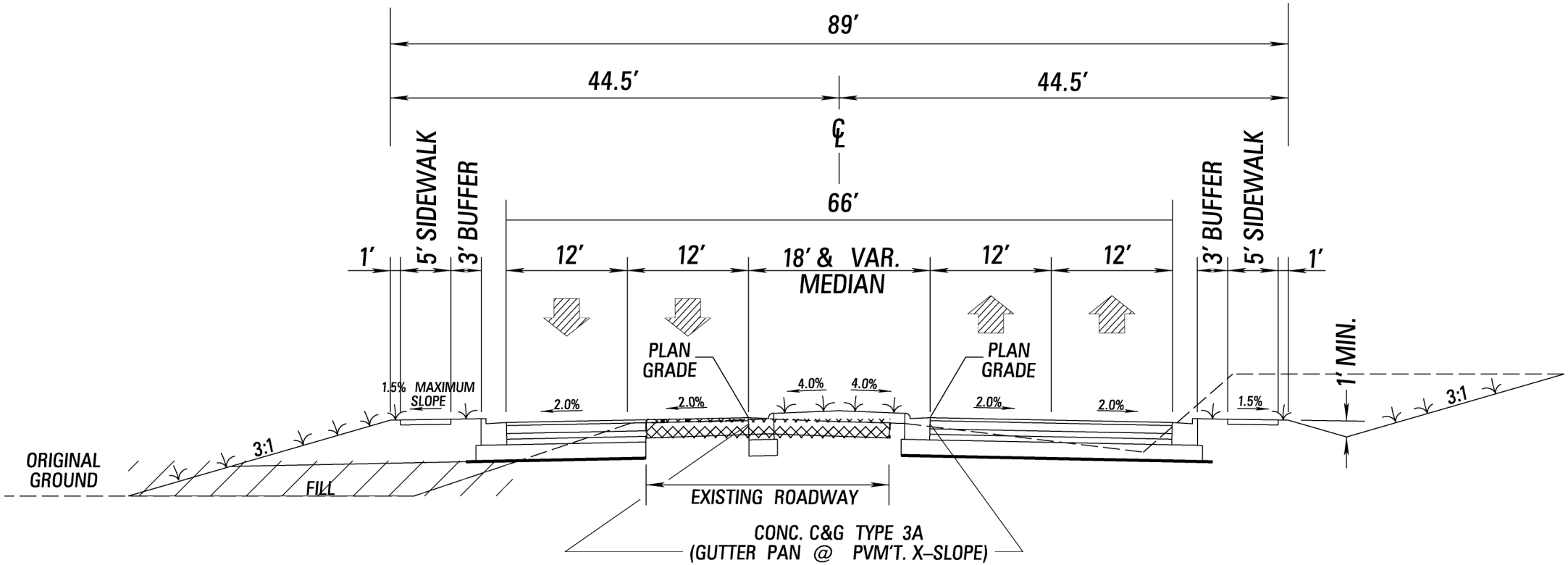
4-Lane Divided with Raised Median and Sidewalk on West Side Only

Existing vs. Proposed Improvements

Existing

4-Lane Divided with Raised Median and Sidewalks

4-Lane Typical Cross Section

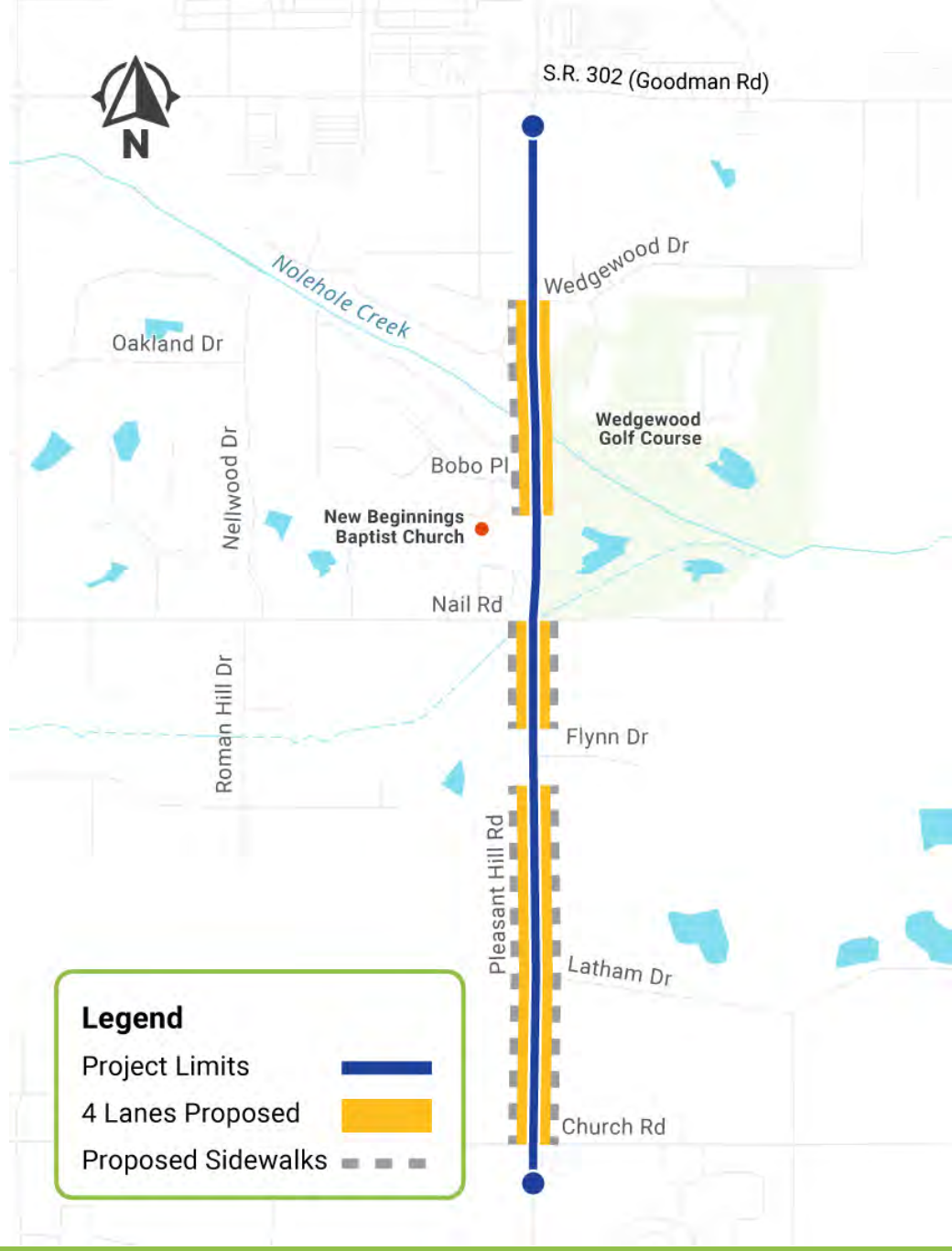


TYPICAL SECTION
4–LANE DIVIDED WITH RAISED MEDIAN
82 + 00.00 TO 115 + 50.51

Proposed Improvements: 4 Lanes

4-Lane Divided Roadway with a Raised Median

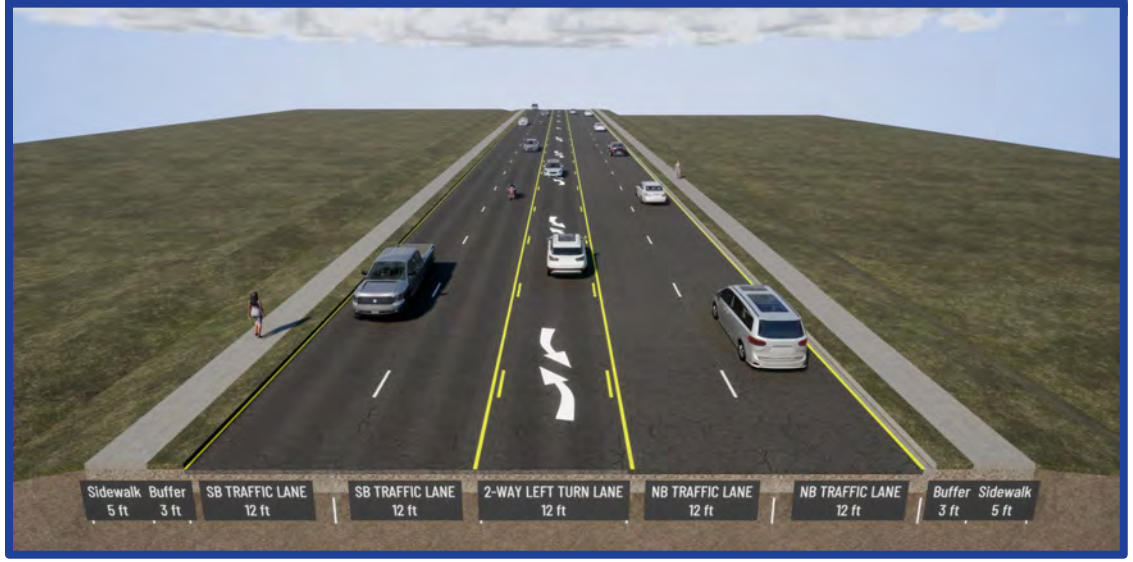
- Phase 1
  - Church Road to Approximately 400 Feet South of Flynn Drive
  - Approximately 200 feet North of Flynn Drive to Nail Road
- Phase 2
  - Just North of New Beginnings Baptist Church to Wedgewood Drive



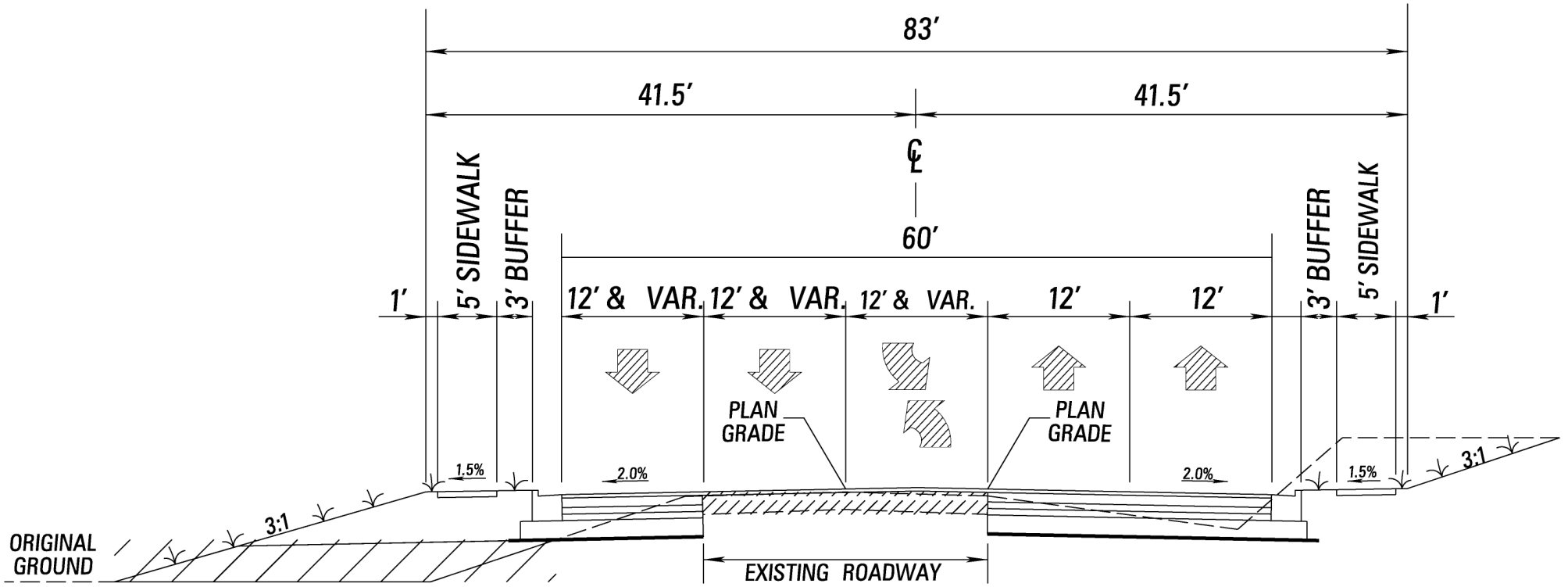
Existing vs. Proposed Improvements

Existing

5-Lane Divided with 2-Way Left Turn and Sidewalks

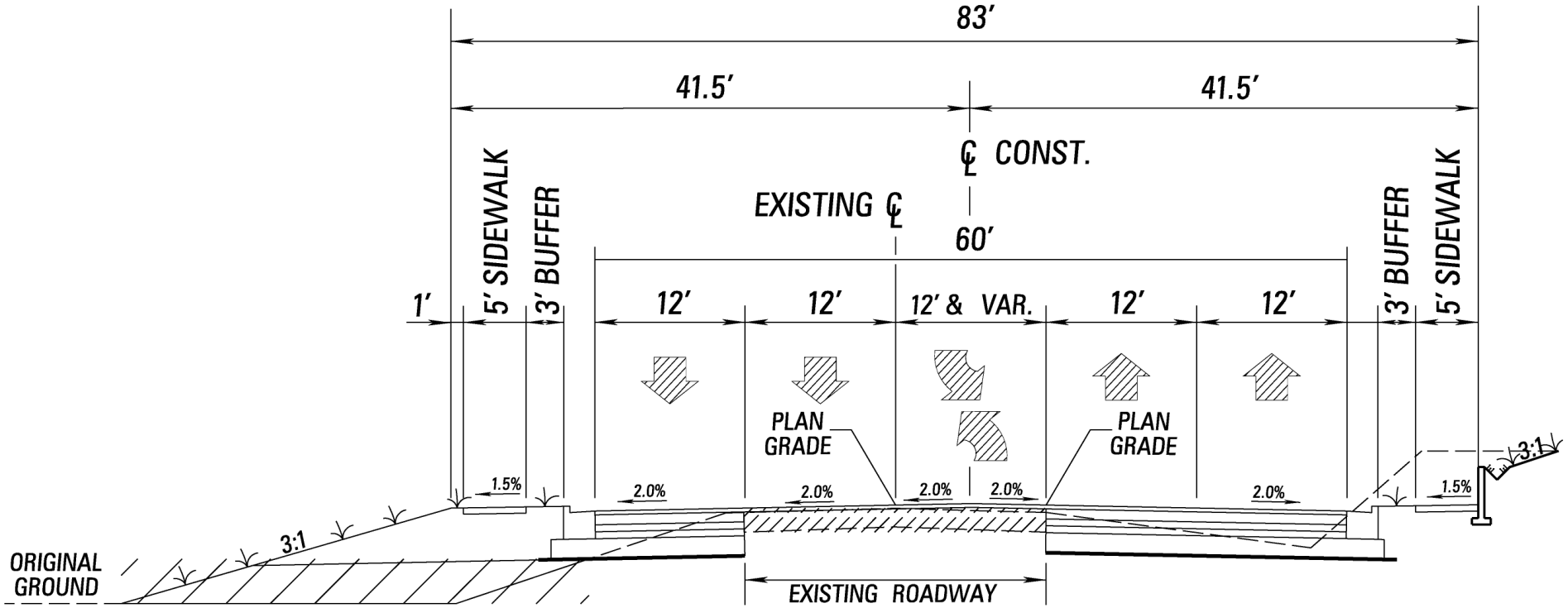


5-Lane Typical Cross Section



TYPICAL SECTION
5–LANE
115 + 50.51 TO 117 + 72.50
118 + 50.00 TO 123 + 50.00

5-Lane with Wall Typical Cross Section

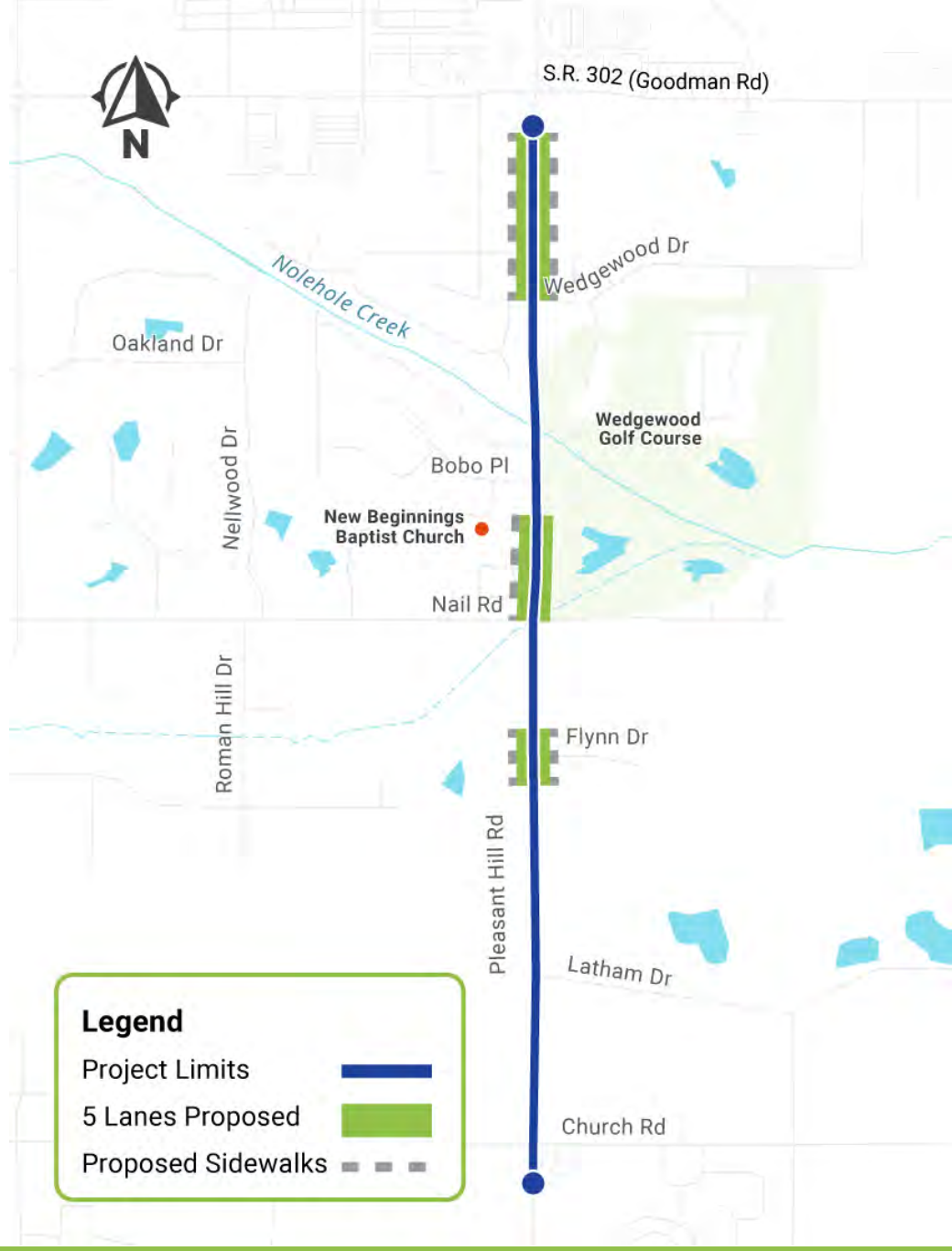


TYPICAL SECTION
5–LANE WITH WALL
117 + 73 TO 118 + 50

Proposed Improvements: 5 Lanes

5-Lane Sections with Continuous Center Turn Lane

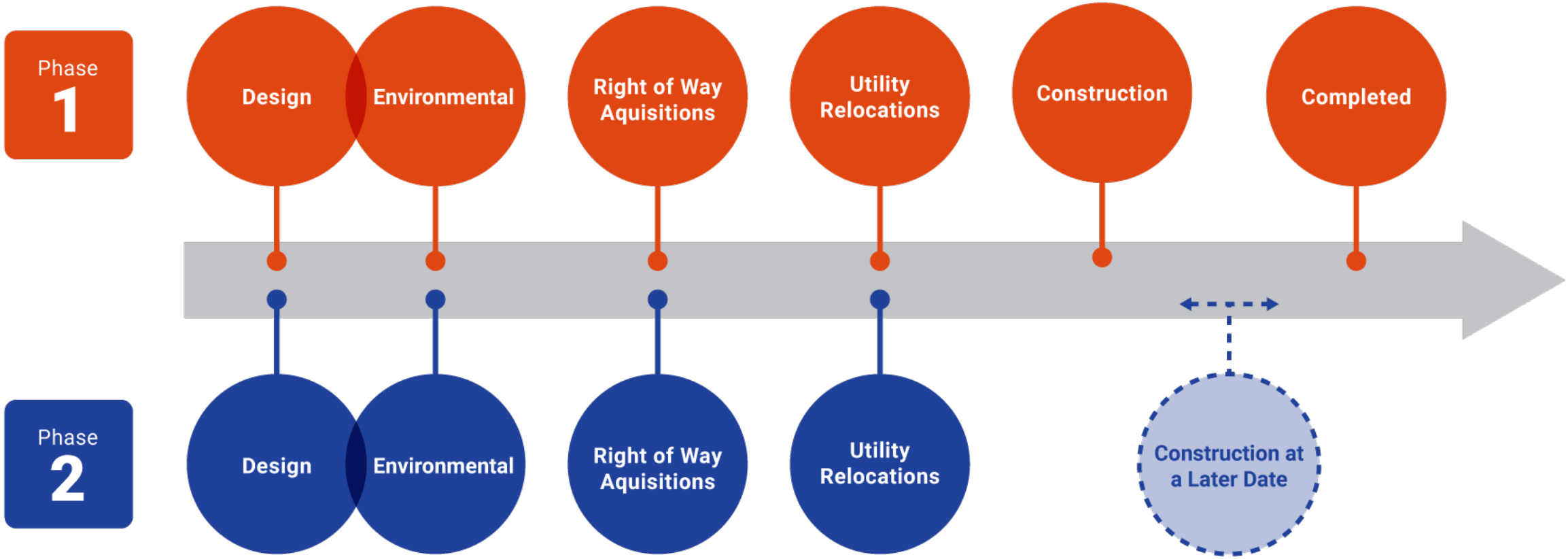
- Phase 1
  - Approximately 400 Feet South of Flynn Drive to Approximately 200 Feet North of Flynn Drive
- Phase 2
  - Just North of the Nail Road Intersection to New Beginnings Baptist Church
  - Wedgewood Drive to Approximately 400 Feet South of SR 302 (Goodman Road)



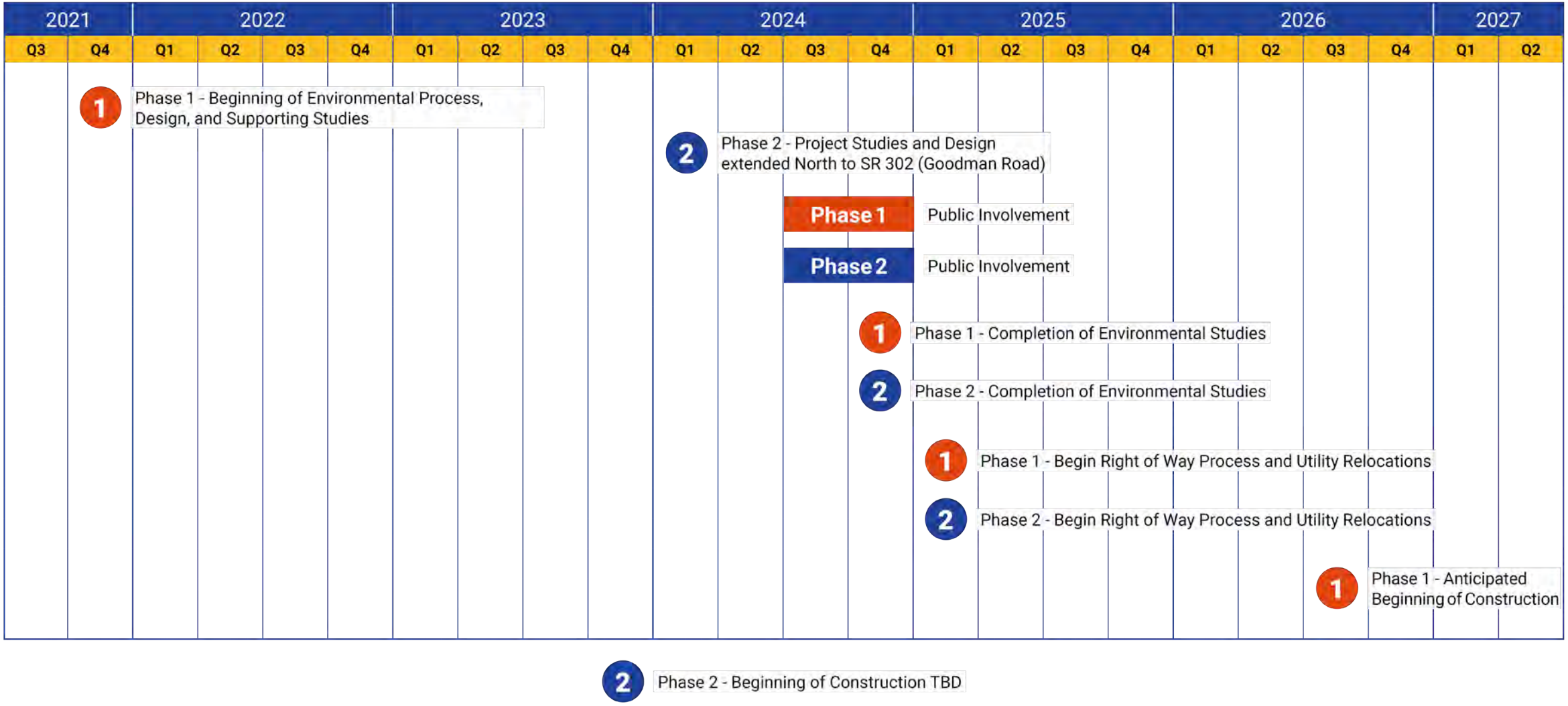
Right of Way

All right of way acquisition will be conducted in accordance with all applicable state and federal laws.

Transportation Development Process



Proposed Schedule

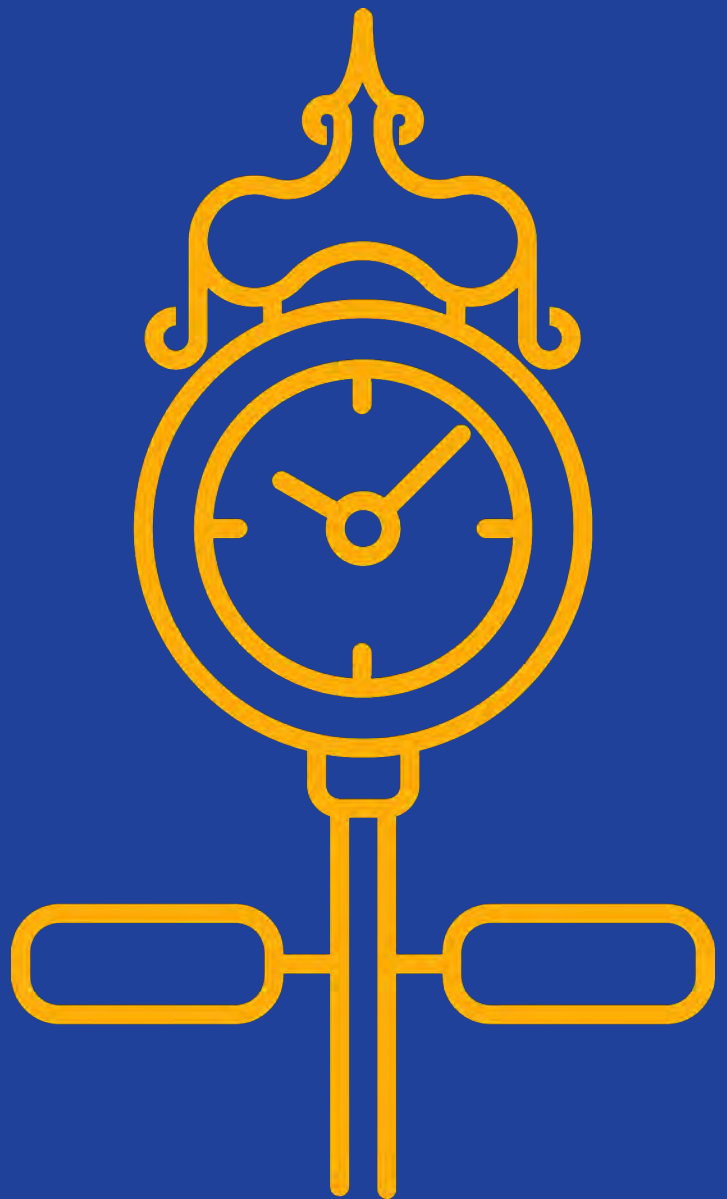


Questions?

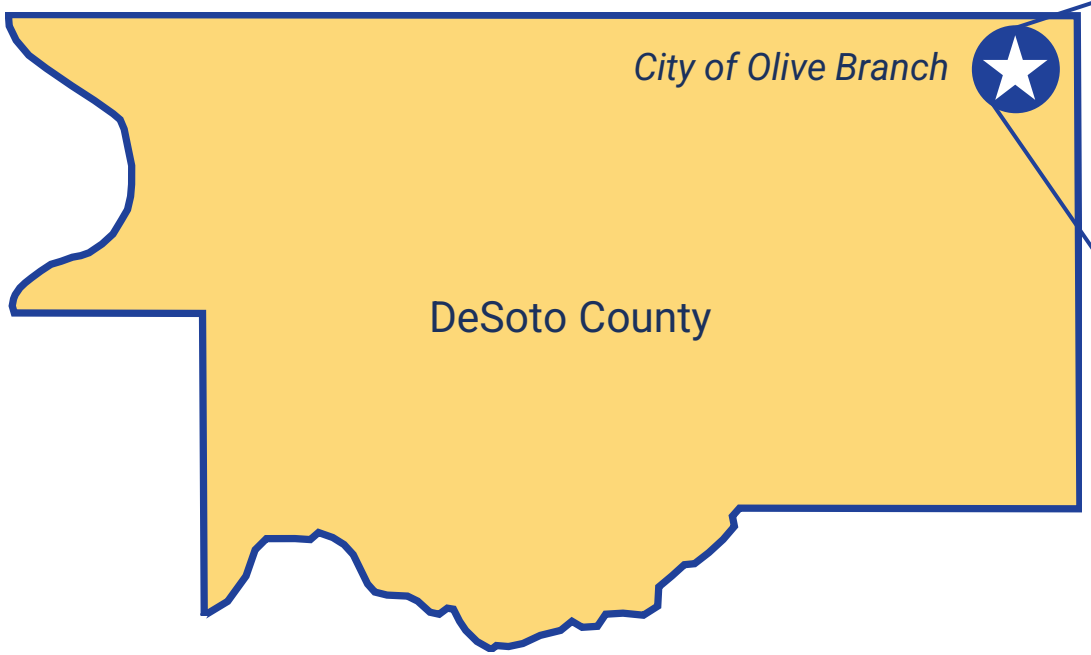
City of Olive Branch Pleasant Hill Road Improvements

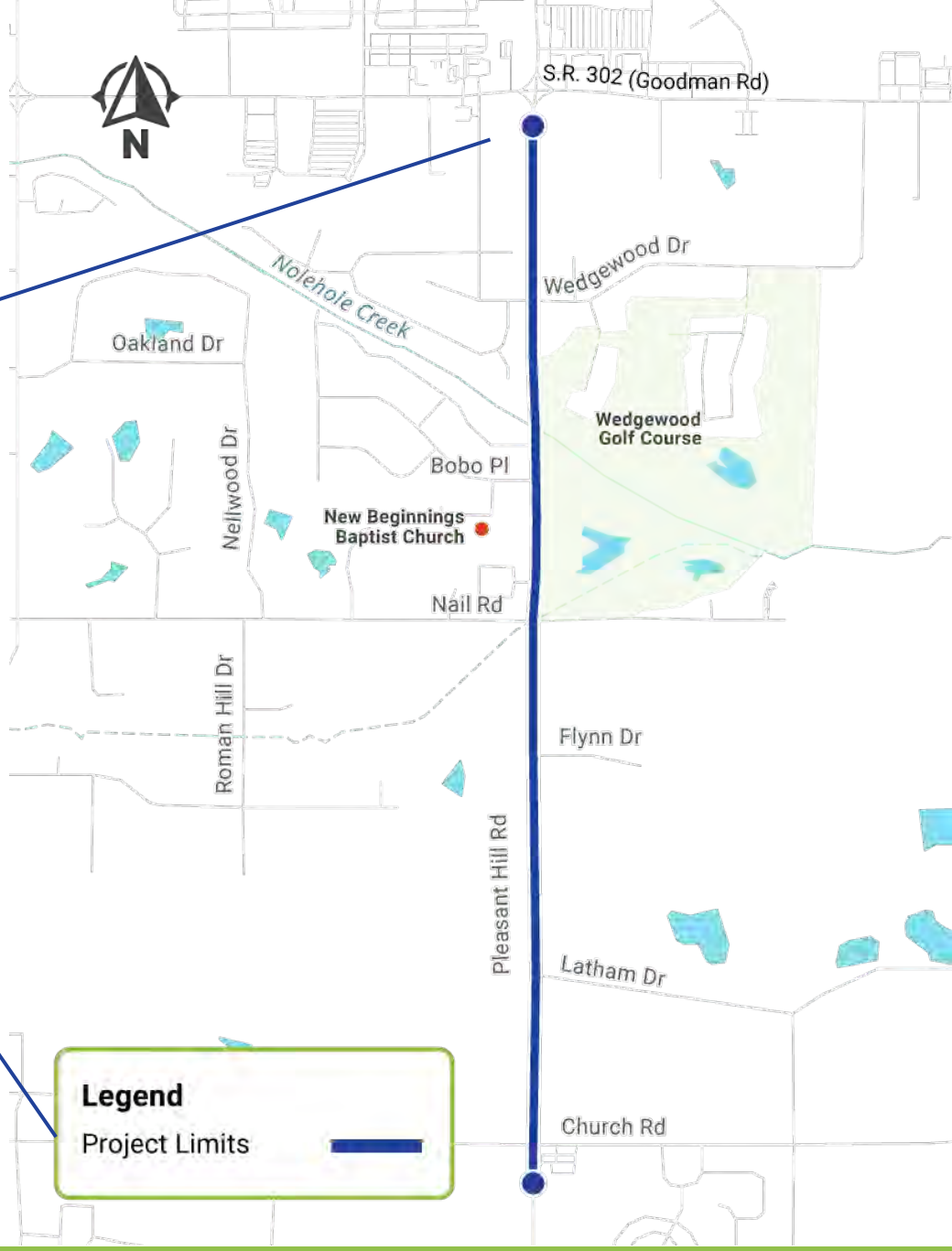
Stakeholder Meeting

Wednesday, August 28, 2024



Project Location





Project Location

Phase **2**

Phase 2 Elements:
- Design
- Right of Way Process
- Utility Relocations

Phase **1**

Phase 1 Elements:
- Design
- Right of Way Process
- Utility Relocations
- Construction

Existing vs. Proposed Improvements

Existing

4-Lane Divided with Raised Median and Sidewalk on West Side Only

Existing vs. Proposed Improvements

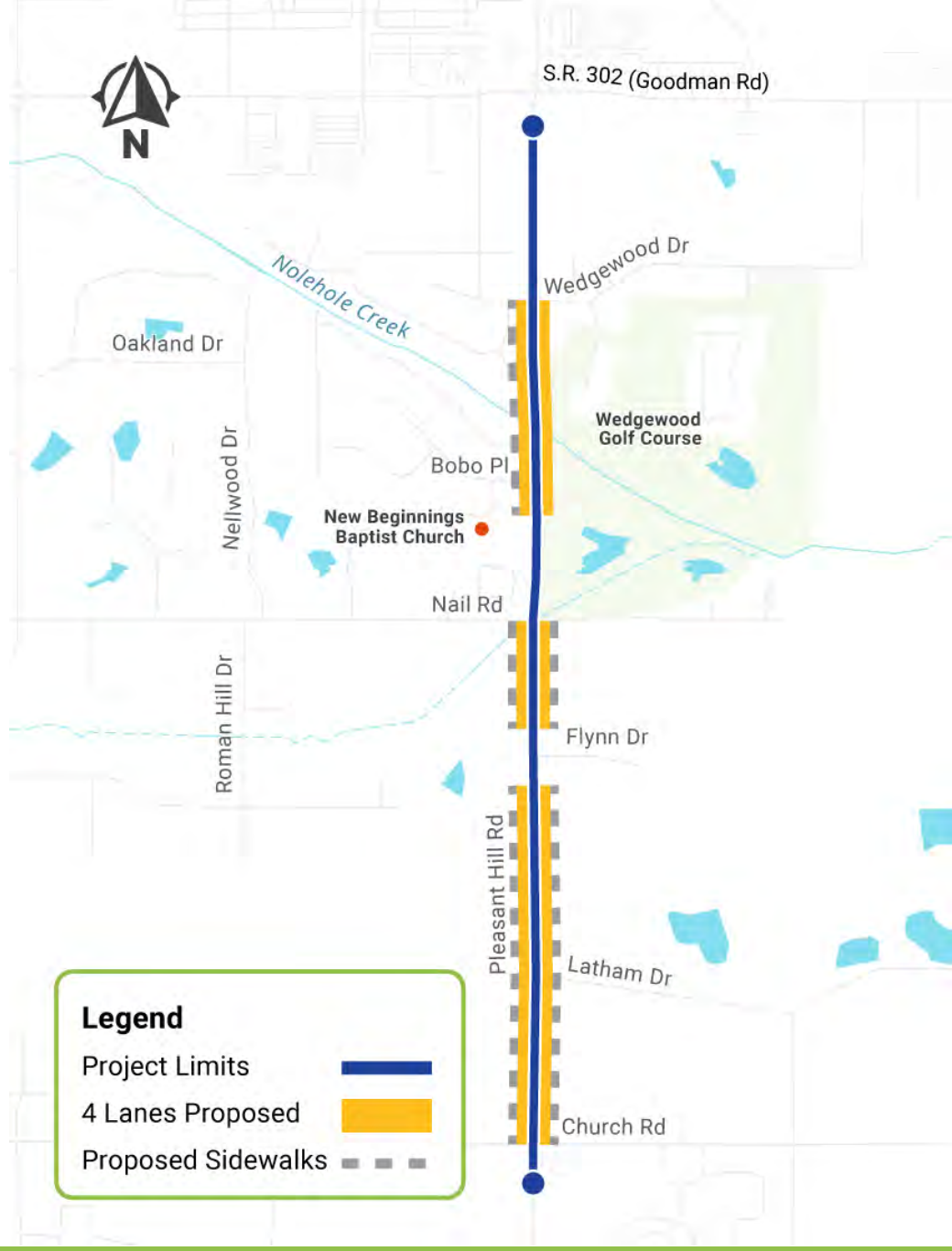
Existing

4-Lane Divided with Raised Median and Sidewalks

Proposed Improvements: 4 Lanes

4-Lane Divided Roadway with a Raised Median

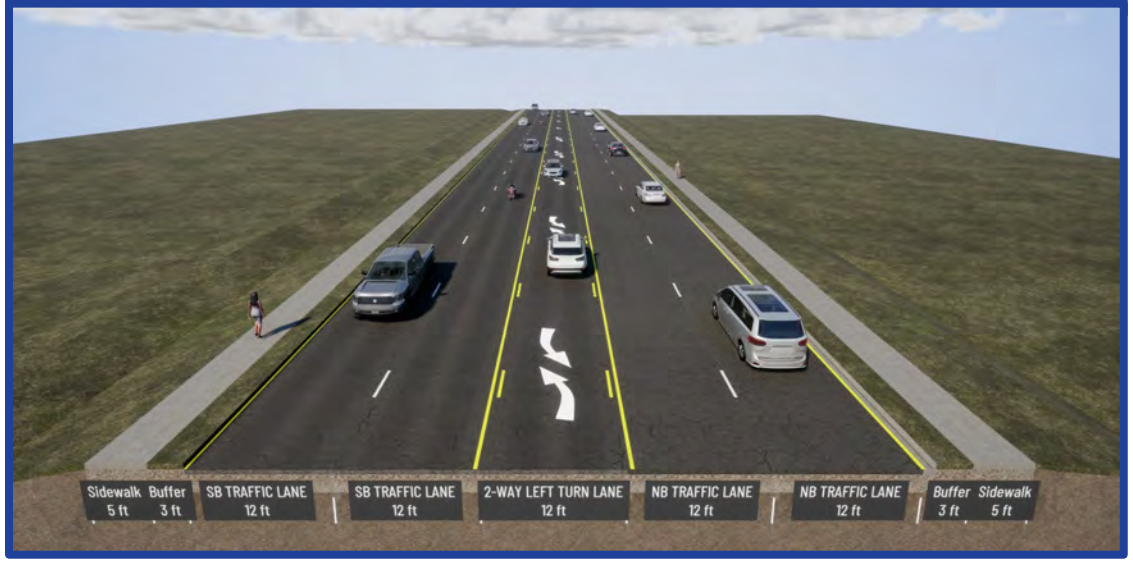
- Phase 1
  - Church Road to Approximately 400 Feet South of Flynn Drive
  - Approximately 200 feet North of Flynn Drive to Nail Road
- Phase 2
  - Just North of New Beginnings Baptist Church to Wedgewood Drive



Existing vs. Proposed Improvements

Existing

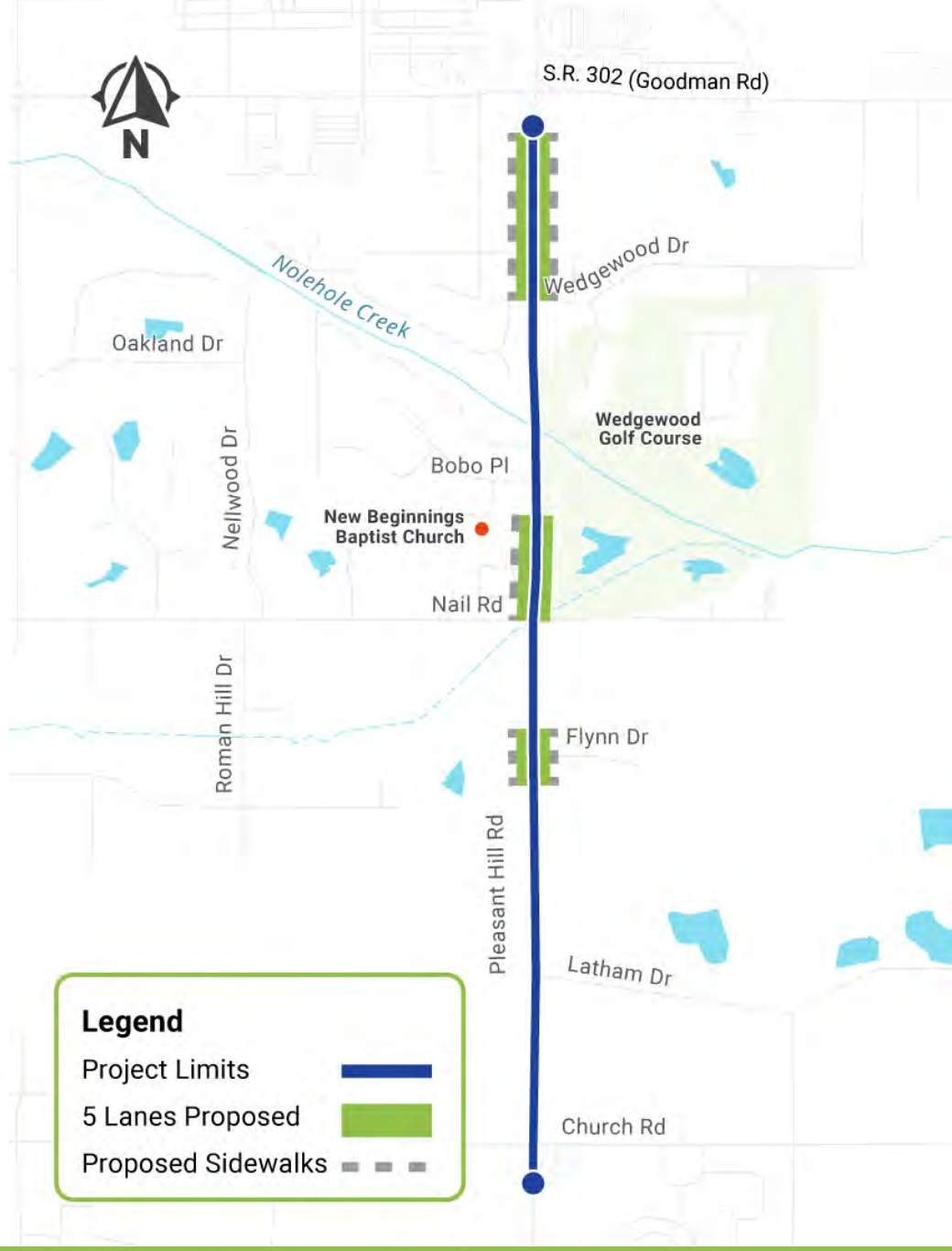
5-Lane Divided with 2-Way Left Turn and Sidewalks



Proposed Improvements: 5 Lanes

5-Lane Sections with Continuous Center Turn Lane

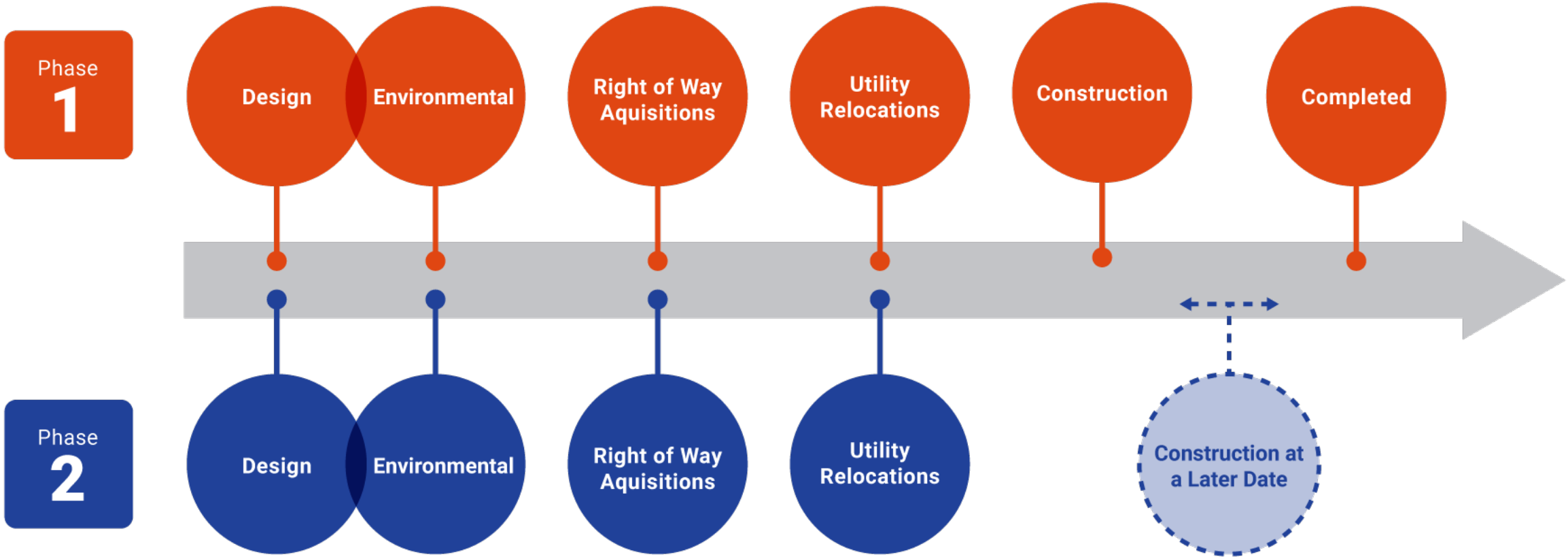
- Phase 1
  - Approximately 400 Feet South of Flynn Drive to Approximately 200 Feet North of Flynn Drive
- Phase 2
  - Just North of the Nail Road Intersection to New Beginnings Baptist Church
  - Wedgewood Drive to Approximately 400 Feet South of SR 302 (Goodman Road)



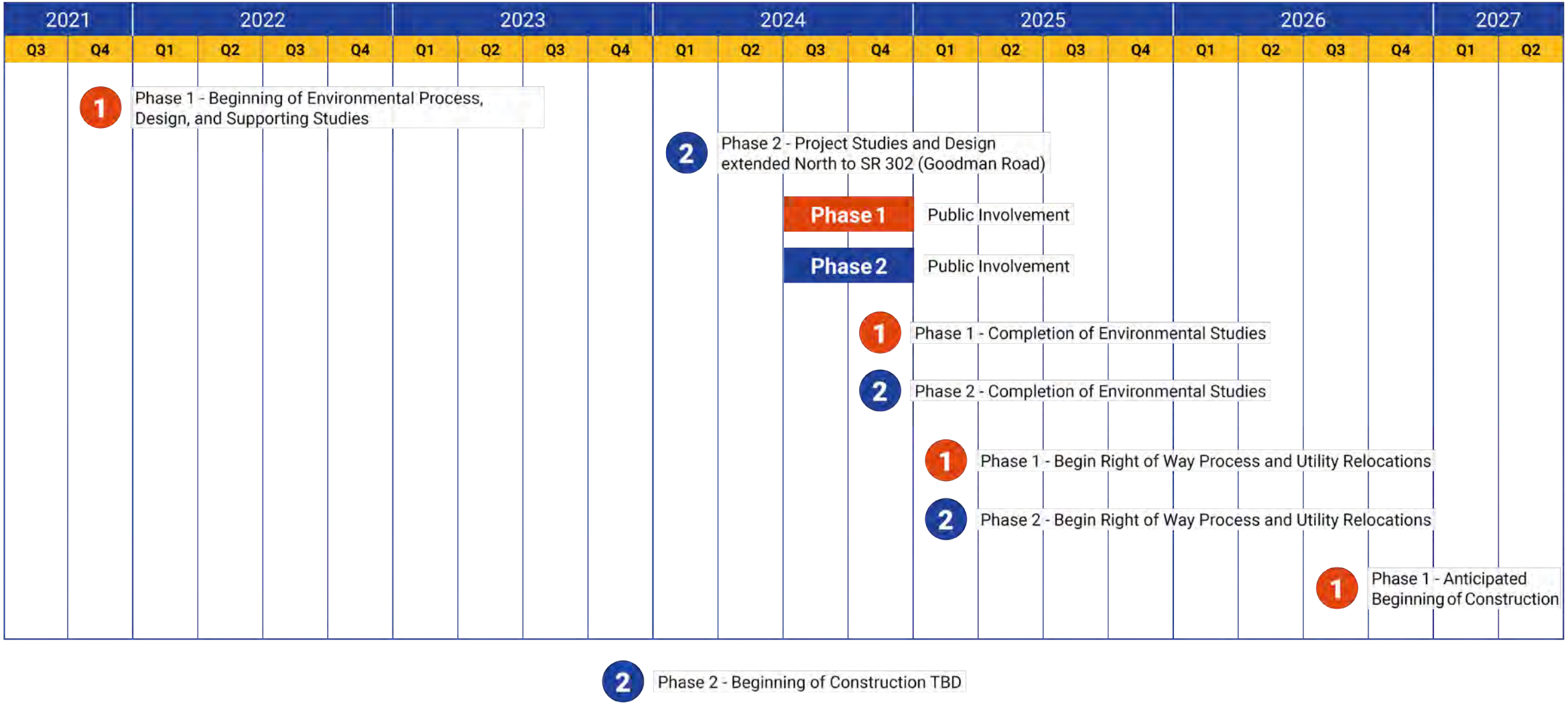
Right of Way

All right of way acquisition will be conducted in accordance with all applicable state and federal laws.

Transportation Development Process



Proposed Schedule



Questions?