Quality Assurance Review

Project Information

Route: Interstate 40

Termini: Truck Parking and Bridges Replacement over the Caney Fork River

County: Multiple Counties (Smith and Putnam)

PIN: 131552.01

Preparer: Trent Deason

Certification

By signing below, you certify that this document has been reviewed for compliance with all applicable environmental laws, regulations and procedures. The document has been evaluated for quality, accuracy, and completeness, and that all source material has been verified, compiled and included in the attachments and technical appendices.

Reviewer:	Erick Hunt-Hawkins	**Signature:**	Erick Hunt-Hawkins Digitally signed by Erick Hunt-Hawkins Date: 2025.07.30 13:31:52 -05'00'
Title:	TDOT NEPA Team Lead	**Comment:**	Comments Provided on 4/3/2025.
Reviewer:	Jessica Schlagenhaft	**Signature:**	Jessica Schlagenhaft Digitally signed by Jessica Schlagenhaft Date: 2025.07.30 13:28:53 -05'00'
Title:	TDOT NEPA Planner	**Comment:**	Comments Provided on 4/3/2025.
Reviewer:	Trent Deason	**Signature:**	Trent Deason Digitally signed by Trent Deason Date: 2025.04.24 13:43:15 -05'00'
Title:	Project Planner I	**Comment:**	Revised to Address Comments
Reviewer:	Jessica Schlagenhaft	**Signature:**	Jessica Schlagenhaft Digitally signed by Jessica Schlagenhaft Date: 2025.05.24 09:45:59 -05'00'
Title:	TDOT NEPA Planner	**Comment:**	Comments Made.
Reviewer:	Trent Deason	**Signature:**	Trent Deason Digitally signed by Trent Deason Date: 2025.07.29 10:19:34 -05'00'
Title:	Project Planner I	**Comment:**	Revised to Address Comments

C-List Categorical Exclusion

Does the action described in this "c-list" Categorical Exclusion (CE) exceed one or more of the thresholds described in the PCE Agreement, thereby requiring review and approval by the Federal Highway Administration (FHWA)? No

Interstate 40

Truck Parking and Bridges Replacement over the Caney Fork River

Smith and Putnam Counties

PIN 131552.01

Submitted Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4332(2)

Document Approval

By signing below, the authorized signatory concurs that this document is in compliance with all applicable environmental laws, regulations and procedures. The authorized signatory has reviewed and verified the document's quality, accuracy, and completeness and that all source material has been compiled and included in the technical appendices.

Erick Hunt-Hawkins

Digitally signed by Erick Hunt-Hawkins
Date: 2025.07.30 15:14:52 -05'00'

Tennessee Department of Transportation

TN TDOT Department of Transportation

U.S. Department of Transportation Federal Highway Administration

Environmental Commitments

Owner	Commitment
Ecology	In accordance with the Programmatic Consultation for Addressing Cliff Swallows and Barn Swallows on Transportation Projects dated 9/16/2020, cliff swallow and barn swallow nests, eggs, or birds (young and adults) will not be disturbed between April 15 and July 31. From August 1 to April 14, nests may be removed or destroyed, and measures may be implemented to prevent future nest building at the site (e.g., closing off area using netting).
Ecology	Due to the presence of multiple state listed fish species, in stream work is prohibited from April 1 to June 30.
Ecology	Haul road(s) shall not extend beyond one-third the stream [Caney Fork River (STR-1)] width to avoid disturbing flow.

Project Information

General Information

Route: Interstate 40

Termini: Truck Parking and Bridges Replacement over the Caney Fork River

County: Smith and Putnam Counties

PIN: 131552.01

Plans: ETSA and Concept Layouts

Date of Plans: 04/24/2024

Type of Work Bridge Replacement and Rest Area Improvements

Project Funding

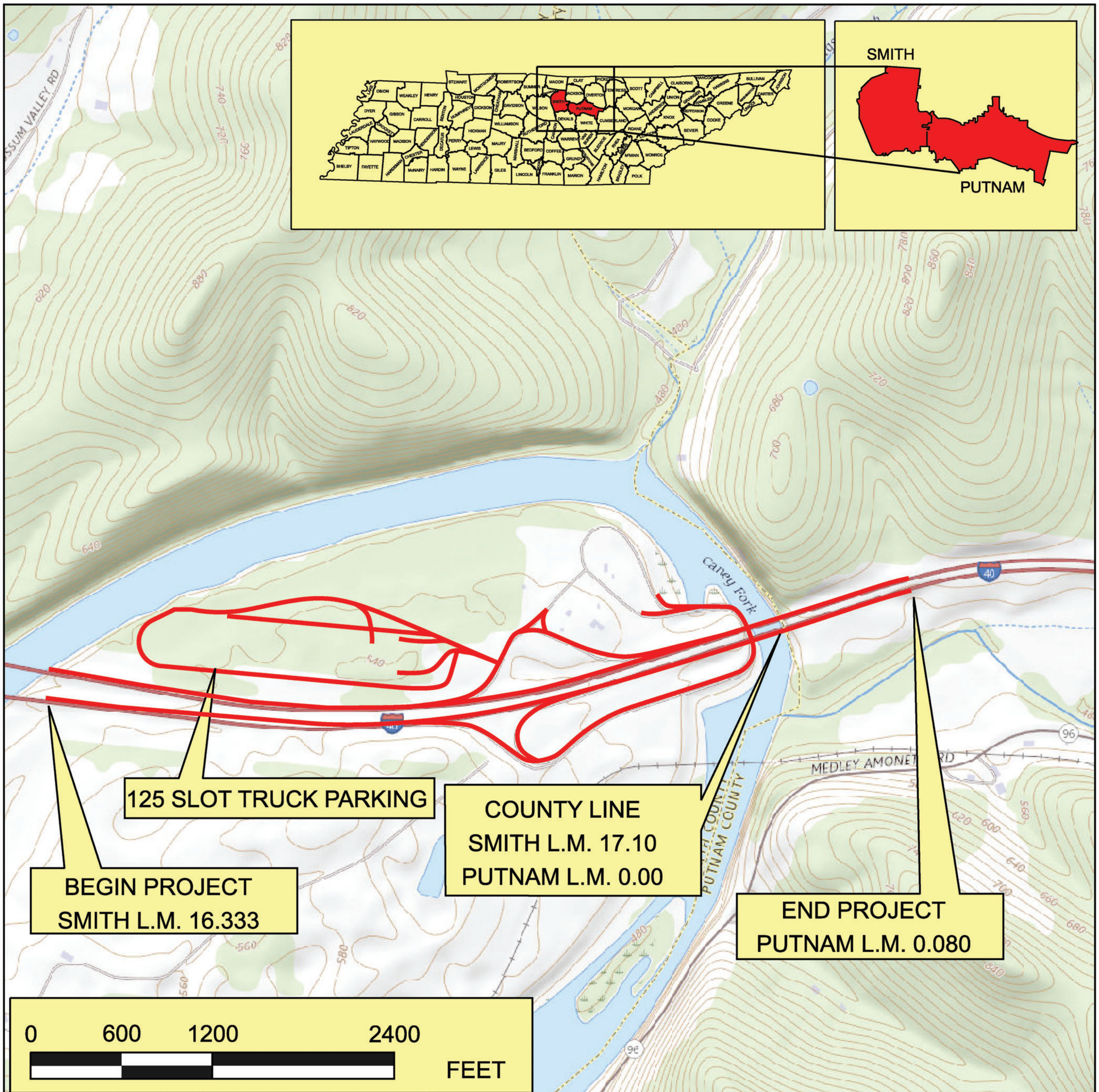
Planning Area: Dale Hollow Rural Planning Organization (RPO) and Center Hill RPO

STIP/TIP: STIP ID 23801040050 (Fiscal Year 2023-2026)

Funding Source	Preliminary Engineering	Right-of-Way	Construction
Federal	NH-I-40-5(161)	NH-I-40-5(161)	NH-I-40-5(161)
State	PE-N: 80I040-F0-009 PE-D: 80I040-F1-009; 80I040-S1-006	80I040-F2-009	80I040-F3-009

Project Location

Figure 1. Project Location Map



N

AREA MAP

INTERSTATE 40

FROM L.M.16.333

IN SMITH COUNTY

TO L.M. 0.080

IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation

Project Overview

Introduction

The Tennessee Department of Transportation (TDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to construct a 125-bay truck parking expansion at the Interstate (I) 40 Welcome Center and replacement of the I-40 twin bridges over the Caney Fork River (Bridge Numbers 80I00400035 and 80I00400036) without added capacity, in Smith and Putnam Counties, Tennessee. The project also proposes to extend acceleration and deceleration lane lengths for the existing I-40 entrance and exit ramps for the Welcome Center. The proposed project limits are along I-40 beginning in Smith County at Log Mile (LM) 16.333 and continuing east into Putnam County to LM 0.080. The proposed project area is shown in Figure 1.

The proposed federal-aid highway project has been determined to be a "C-List" Categorical Exclusion (CE) pursuant to the conditions of the following CEs: Title 23 of the Code of Federal Regulations (CFR) 771.117(c)(12), "Improvements to existing rest areas and truck weigh stations."; 23 CFR 771.117(c)(26), “Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e) of this section.”; and 23 CFR 771.117(c)(28), "Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in paragraph (e) of this section." The proposed project does meet the constraints of 23 CFR 771.117(e).

Background

In 2022, TDOT submitted a proposal for rest area improvements (truck parking expansion, ramp improvements, and bridge replacements) for potential funding through the Infrastructure for Rebuilding America (INFRA) grant. INFRA grants are awarded through the U.S. Department of Transportation (USDOT) for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas.

The USDOT INFRA grant was awarded to TDOT and preliminary design activities started in 2023. Federal funding is anticipated to be utilized in the construction of the proposed project.

Every two years, TDOT performs a comprehensive inspection and subsequent evaluation of all public bridges across the state in order to determine the status of their working condition and operating limits to ensure that they are in accordance with the FHWA National Bridge Inspection Standards (NBIS). These inspections are recorded and published in the National Bridge Inventory (NBI) Tennessee Inventory and Appraisal Report. There are three components of the evaluation: (1) sufficiency rating, (2) condition rating, and (3) appraisal rating, described below.

A sufficiency rating is calculated for each individual bridge that is used to carry vehicular traffic. Ratings are measured on a scale of 0 to 100. A rating of 100 corresponds to a bridge that qualifies as an "entirely sufficient bridge," while a rating of 0 denotes a bridge that is "entirely deficient."

Condition ratings are used to describe the existing, in-place bridge as compared to the as-built condition. The physical condition of the deck, superstructure and substructure components of a bridge are evaluated for a condition rating. Condition ratings are assigned codes ranging from 0 to 9, with 0 being failed condition and 9 being excellent condition. As shown in Table 1, the lowest condition rating for both bridges was for the superstructure, which received a rating of 6 (satisfactory condition - structural elements show some minor deterioration).

Appraisal ratings are used to evaluate a bridge in relation to the level of service it provides. The structure is compared to a new structure built to current standards for the particular type of road. Components evaluated and given an appraisal rating include the structural evaluation, deck geometry, the underclearance rating, waterway adequacy and the approach roadway alignment. Appraisal ratings are assigned codes ranging from 0 to 9, with 0 being a closed bridge and 9 being superior to present desirable criteria. As shown in Table 1, the lowest appraisal rating for both bridges was for underclearance which received a rating of 4 (meets minimum tolerable limits to be left in place as is).

The results of the NBI Tennessee Inventory and Appraisal Reports for the I-40 twin bridges (Bridge Numbers 80I00400035 and 80I00400036) that are included in the proposed scope of work are summarized in Table 1. The inspection ratings for Bridge Numbers 80I00400035 and 80I00400036 vary only in the sufficiency rating, where Bridge 80I00400035 received a rating of 90.0 and Bridge 80I00400036 received a rating of 91.0. All condition and appraisal ratings were the same for both bridges.

Table 1. Bridge Geometric Data and Inspection Results

	Bridge Number 80I00400035	**Bridge Number 80I00400036**
Sufficiency Rating	90.0	91.0
Geometric Data		
Max Span Length	89.9 feet	89.9 feet
Total Bridge Length	319.9 feet	319.9 feet
Bridge Curb to Curb Width	42 feet	42 feet
Bridge Out to Out Width	44 feet	44 feet
Min Vertical Clearance	14.9 feet *	14.9 feet *
Condition Rating		
Deck	7	7
Superstructure	6	6
Substructure	7	7
Stream channel and channel protection	7	7
Appraisal Rating		
Structural Evaluation	6	6
Deck Geometry	8	8
Underclearance	4	4
Waterway Adequacy	6	6
Approach Roadway Alignment	8	8

Source: NBI Tennessee Inventory and Appraisal Report published 03/11/2024
**Vertical clearance does not meet current TDOT Structural Design Guidelines of 16.5 feet*

While the underclearance appraisal received a rating of 4, as noted above, the existing vertical clearance of Bridge Numbers 80I00400035 and 80I00400036 is 14.9 feet which does not meet the current TDOT structural design standard of 16.5 feet and the bridges are therefore proposed for replacement.

Finally, both bridges are approaching the end of their service life (fewer than 10 years remaining) and would be scheduled for replacement in the coming years due to age. Therefore, replacing both bridges as part of this single project, rather than as separate projects separated by only a few years, would reduce impacts by requiring only one round of road closures and traffic interruptions to users of both I-40 and the Welcome Center.

An Environmental Studies Request (ESR) initiating review of the Concept Layouts dated 04/24/2024, which included an Environmental Technical Study Area (ETSA), was distributed to TDOT Environmental Division Technical Sections as well as the TDOT Multimodal Transportation Resources Division Office of Active Transportation on 07/16/2024.

The ETSA and Concept Layouts dated 04/24/2024, which are included in the Technical Appendices, will serve as the focus of this evaluation.

Project Development

Need

The proposed improvements are needed to address truck parking overflow and reduce illegal parking on the off and on ramp shoulders generated as a result of the high volume of truck traffic observed utilizing the Welcome Center. A traffic analysis was performed for the proposed project which shows that trucks make up 38 percent of eastbound volume and 41 percent of westbound volume through the Welcome Center. This high volume of truck traffic through the Welcome Center causes an overflow in truck parking that results in illegal parking on the off/on ramp shoulders. The traffic analysis is included in the ETSA and Concept Layouts.

Additionally, the existing deceleration and acceleration lanes providing access to and from I-40 and the Welcome Center do not comply with the current design standards outlined in the current AASHTO A Policy on Geometric Design of Highways and Streets ("The Green Book"). The existing westbound and eastbound deceleration lanes are approximately 450 feet and 135 feet long, respectively, and the existing westbound and eastbound acceleration lanes are approximately 610 feet and 660 feet long, respectively. Based on the ramp design speed of 30 MPH, as shown on the supplementary plaques, deceleration and acceleration lanes would need to be 520 feet and 1,350 feet, respectively, to comply with Green Book standards. The proposed project is needed to address the design deficiencies.

Lastly, the proposed replacement of the I-40 twin bridges (Bridge Numbers 80I00400035 and 80I00400036) over the Caney Fork River are needed to increase the vertical clearance to comply with current TDOT structural design guidelines, and to address the superstructure condition and underclearance appraisal elements that show signs of deficiency based on the 2024 NBI reports, rated 6 and 4 respectively. Additionally, due to both bridges nearing the end of their service lives, both would need to be replaced within the next few years to extend their service lives.

Purpose

The purpose of the proposed project is to the provide additional commercial parking capacity at the I-40 Welcome Center and update acceleration and deceleration lanes to comply with the most recent Green Book design standards. The purpose of the proposed project is also to provide a structurally sufficient crossing for I-40 over the Caney Fork River that would achieve improved sufficiency, condition, and appraisal ratings, and increase vertical clearance to meet current TDOT structural design guidelines.

Range of Alternatives

Other than the selected design, were any alternative build designs developed for this project? No

No-Build	In the development of design solutions that address the needs outlined above and achieve the purpose of the project, TDOT evaluated the potential consequences should the project not be implemented. This option, known as the No-Build alternative, assumed the continuation of current conditions and set the baseline from which the impacts of the selected design were compared. The No-Build Alternative was not selected, as it would not meet the purpose and need of the proposed project.

Public Involvement

Has there been any public involvement for the project? No

Project Design

Existing Conditions and Layout

The section of existing I-40 in the project area is a full access-controlled, four (4) lane divided interstate with two (2) 12-foot-wide lanes in each direction and 10-foot-wide outside and 4-foot-wide inside shoulders. The proposed project length is approximately 0.86 miles.

The crossing of I-40 over the Caney Fork River consists of two (2) bridges (Bridge Numbers 80I00400035 and 80I00400036), each with two (2) 12-foot-wide travel lanes and 10-foot-wide outside and 4-foot-wide inside shoulders. The existing bridges are four (4) span prestressed concrete box beam structures built in 1971 and rehabilitated in 1991. The existing bridge structures are approximately 320 feet in length with out-to-out widths of 44 feet.

The proposed truck parking expansion area is located at the I-40 Welcome Center, adjacent to the Caney Fork River in the Smith County portion of the project area. The Welcome Center is accessible from I-40 in both directions and has two (2) passenger vehicle parking areas and two (2) commercial/truck parking areas. There is also a dedicated parking area for anglers with an unimproved footpath for access to the Caney Fork River. The footpath is not a designated trail and is not maintained by TDOT. The Welcome Center has multiple buildings and facilities, which include the main welcome center building, several small detached vending buildings, covered and uncovered picnic table areas, and paved side walks and walking paths. There is also a small cemetery, a drip field septic system, and an existing water treatment facility on the Welcome Center property. The proposed truck parking area would avoid impacts to the cemetery and septic system.

The immediate area surrounding the proposed project is primarily rural and forested with agricultural, transportation, and residential land uses. The area around the Welcome Center is primarily open space with individual and small groupings of trees; however forested areas occur to the west of the Welcome Center, in the area of the proposed truck parking area, and along the banks of the Caney Fork River and on both sides of I-40.

Proposed Project Description

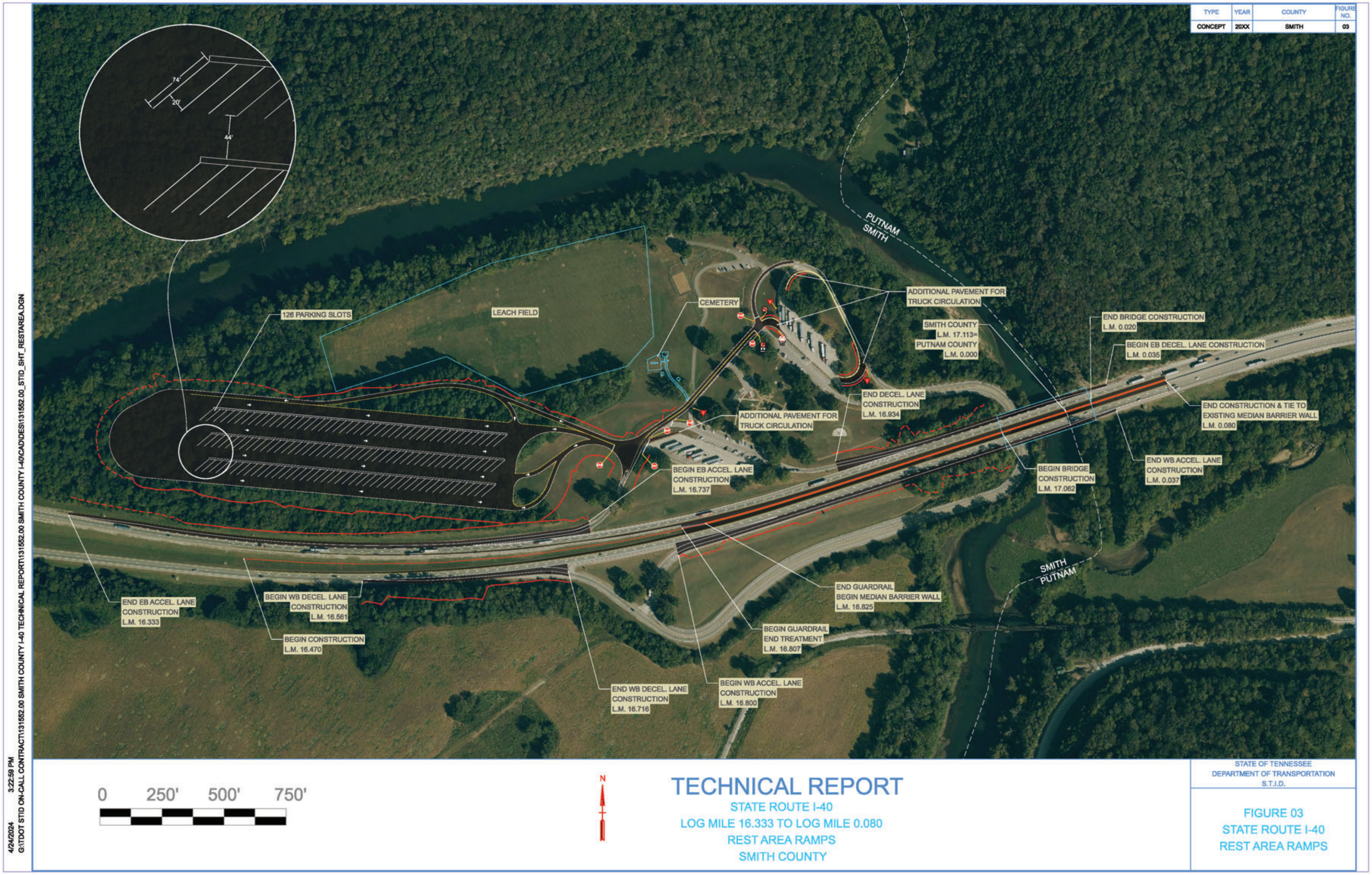
The proposed project would utilize three (3) conceptual typical sections for I-40: a four (4) lane freeway with a non-bifurcated median (two-way road with traffic flowing in both directions without a physical divider), a four (4) lane freeway with depressed median, and a six (6) lane freeway with median barrier for the proposed bridge.

The bridge replacement portion of the proposed project would replace the twin bridges (Bridge Numbers 80I00400035 and 80I00400036) that carry I-40 over the Caney Fork River with a single six (6) lane, barrier divided structure. The proposed project would lengthen the existing acceleration and deceleration lanes that provide ingress and egress to the Welcome Center. The replacement bridge would not increase capacity but would be wider than under existing conditions to accommodate a portion of the extended eastbound deceleration and westbound acceleration lanes across the Caney Fork River and would provide additional vertical clearance for the Welcome Center access road that crosses under the bridges. Activities associated with the bridge replacement would include removal of the existing bridges and a retaining wall.

The activities associated with the truck parking expansion at the Welcome Center would consist of an additional 125-bay truck parking area, to be located in the forested area to the west of the existing truck parking area. Improvements would also include additional pavement to improve truck circulation, repaving, and signing.

Figure 2 depicts the proposed improvements. Refer to the Concept Report included in the Technical Appendices for additional details on the proposed project.

Figure 2. Concept Level Plans for Proposed Improvements



Proposed Typical Section

The non-bifurcated typical section of I-40 would include two (2) 12-foot-wide travel lanes, variable width acceleration/ deceleration lanes, and 12-foot-wide outside (10-foot paved) and 16-foot-wide inside shoulders. The depressed median typical section of I-40 would include the same number of travel lanes and widths but with four-foot-wide inside shoulders in each direction, and a variable width depressed median.

The typical section of the replacement bridge would include a six (6) lane bridge deck with a median barrier. Each lane would be 12-feet-wide and consist of four (4) travel lanes (two [2] in each direction) and two (2) acceleration/ deceleration lanes (one [1] in each direction). The proposed bridge typical section would include 12-foot-wide outside shoulders and variable width inside shoulders.

The typical section of the Welcome Center access collector road would include two (2) 12-foot-wide lanes and six-foot-wide shoulders (four-foot paved) in each direction.

Refer to Figures 3 through 6 for the detailed typical section drawings for the proposed project.

Figure 3: Typical Section for Bridge Over Caney Fork River (Median Barrier 6-Lane Bridge Deck)

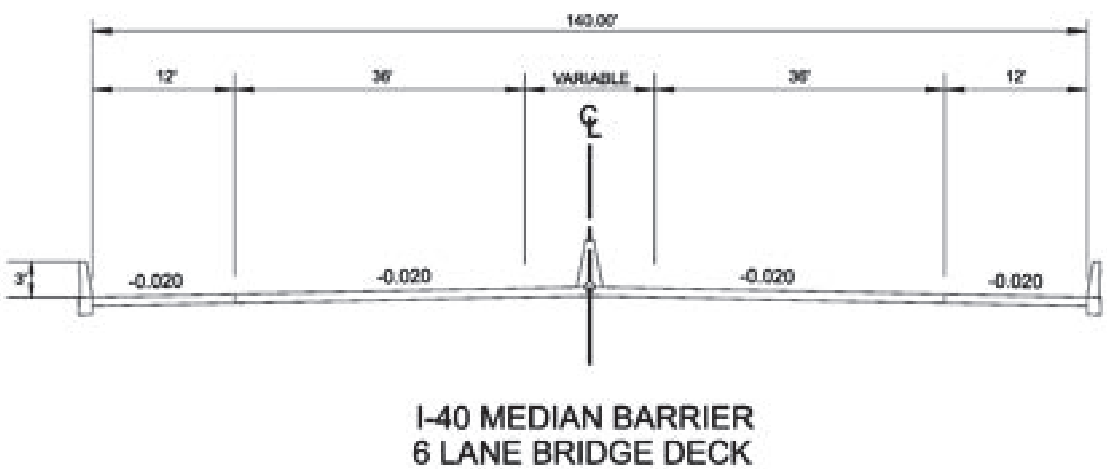


Figure 4: Non-Bifurcated Typical Section I-40 Freeway 4 Lane

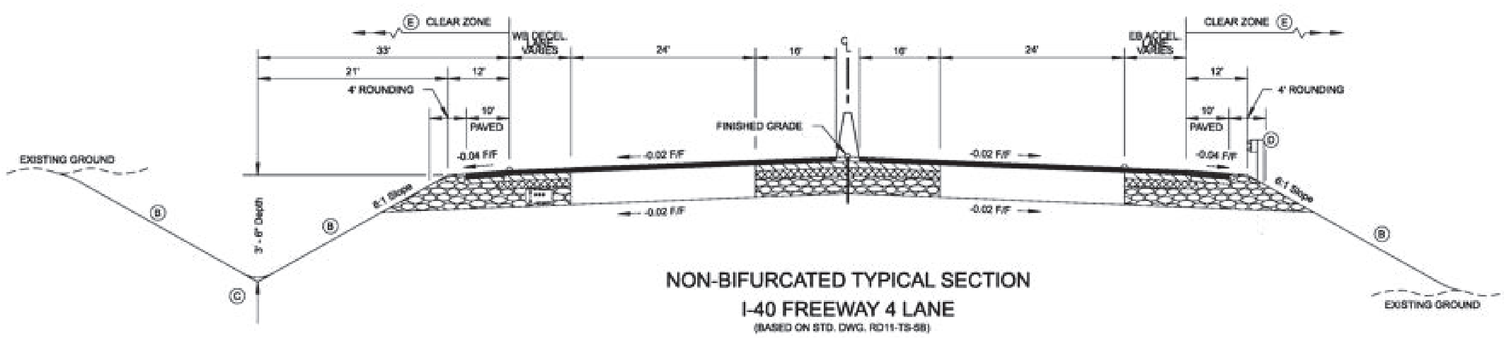


Figure 5: Depressed Median Typical Section I-40 Freeway 4 Lane

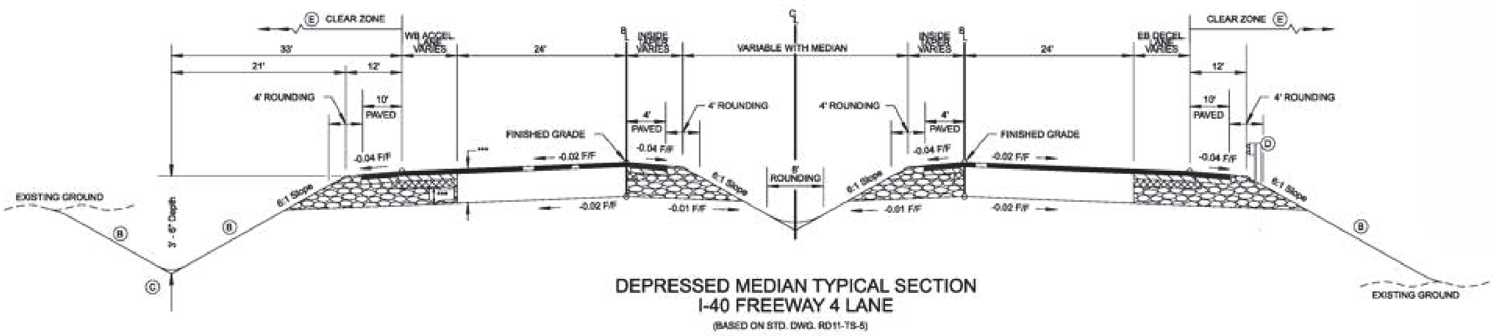
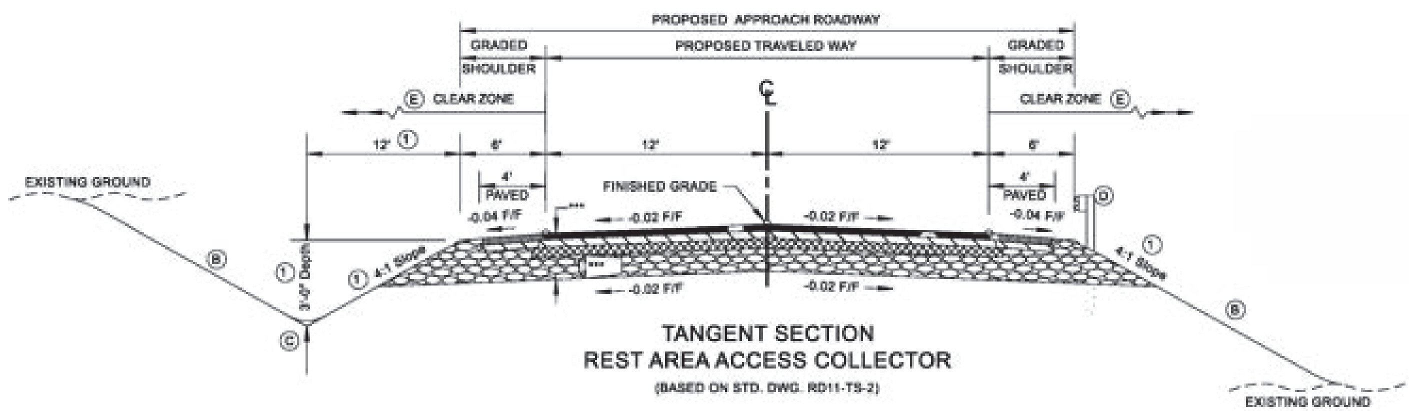


Figure 6: Typical Tangent Section Rest Area (Welcome Center) Access Collector



Right-of-Way

Does this project require the acquisition of right-of-way or easements?	**No**

Relocations

Will this project result in residential, business or non-profit relocations?	**No**

Changes in Access Control

Will changes in access control permanently impact the functional utility of any adjacent parcels?	**No**

Traffic Control Measures

At this time, are traffic control measures and temporary access information available?	**No**

As Traffic Control information is made available, it will be included in future reevaluation efforts.

Water Resources

Are there any water resources impacted within the project area? | **Yes**

Coordination with the TDOT Ecology Section was completed on 09/26/2024. The TDOT Ecology Section prepared an Environmental Boundaries Report (EBR) dated 09/26/2024 that documented two (2) streams (686 linear feet/4.09 acres) and four (4) wet weather conveyances (1,463 linear feet/0.53 acres) within the ETSA boundary for the proposed project (Table 2 below). According to the EBR dated 09/26/2024, no wetlands or other features were identified in the ETSA boundary. The EBR is included in the Technical Appendices.

Table 2. Water Resources Table for NEPA Documentation

Project Name: Smith/Putnam I-40 Truck Parking and Bridge Replacement over the Caney Fork River **PIN:** 131552.01

Water Resource Table for NEPA Documentation

Based on: ETSA

Date: 12/14/2023

Table Amounts are based on (choose only one): Estimated extent of resource within ETSA

Water Resources (Non-Wetland)							
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**Quality**	**Amount (Linear Feet)**	**Amount (Acres)**
STR-1	Perennial Stream	36.141983	-85.810155	Cumberland River	ETW/Impaired (303(d))	686	4.09
STR-2	Perennial Stream	36.138627	-85.801272	Caney Fork River	Fully Supporting	0	0
WWC-1	Wet Weather Conveyance	36.138589	-85.818901	Caney Fork River	Unassessed	492	0.37
WWC-2	Wet Weather Conveyance	36.141784	-85.810451	Caney Fork River	Unassessed	168	0.03
WWC-3	Wet Weather Conveyance	36.139532	-85.800223	Caney Fork River	Unassessed	145	0.01
WWC-4	Wet Weather Conveyance	36.1141392	-85.799378	Caney Fork River	Unassessed	658	0.12
					Total:	2,149	5

**For the purposes of the NEPA document, Amount is assumed to be Permanent Loss.

Note- Features and estimated amounts referenced in this table are based on information available and may change as the project is further refined througout project development.

Throughout the design process, TDOT will endeavor to minimize impacts to streams, wetlands, or any other jurisdictional water features through avoidance and minimization. Where impacts cannot be avoided or sufficiently minimized, compensatory mitigation for permanent stream impacts would be accomplished either through permittee responsible mitigation, mitigation banks, or In-Lieu Fee mitigation to satisfy statutory requirements.

TDOT Ecology Section Coordination:

Coordination with the TDOT Ecology Section was completed on 09/26/2024. In their signed ESR response, the TDOT Ecology Section stated:

"Based on the information provided, an environmental boundaries report dated September 26, 2024, has been completed. Species coordination was completed with TWRA, TDEC DNA, and USFWS for the project, and the coordination documents are included within the EBR. Species coordination for this project is based on current understanding of the project scope, any changes to which could lead to additional coordination being required."

The results of the state and federal agency coordination are summarized below. Refer to the Technical Appendices for the TDOT Ecology Section's signed ESR response dated 09/26/2024, as well as coordination with USFWS, TWRA, and TDEC DNA.

Species Coordination

U.S. Fish and Wildlife Service (USFWS):

In their signed ESR response dated 09/26/2024, the TDOT Ecology Section stated that species coordination was completed with USFWS for the project and coordination, dated 06/06/2024, is included in the EBR.

The USFWS determined that no federally listed or proposed species or critical habitat would be impacted by the proposed project.

The USFWS determination concluded that the requirements of the Endangered Species Act (ESA) are fulfilled for all species that currently receive protection under the ESA. Obligations under Section 7 of the ESA should be reconsidered if: (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

The USFWS added that standard construction best management practices (BMPs) would be necessary to ensure instream work is separated from flowing waters, project-related pollutants, including petroleum-based pollutants and concrete and cement dust, are kept out of the Caney Fork River and if necessary, instream haul road(s) should be limited to no greater than one-third of the stream width to avoid obstructing flow. The haul road restriction has been included in the Environmental Commitments Section.

Tennessee Wildlife Resources Agency (TWRA):

In their signed ESR response dated 09/26/2024, the TDOT Ecology Section stated that species coordination was completed with TWRA for the project and coordination, dated 06/14/2024, which is included in the EBR, determined that time of year restrictions for in-stream work will be required due to multiple state listed species.

TWRA concluded that to minimize impacts to the Lake Sturgeon (*Acipenser fulvescens;* State Endangered) and Blue Sucker (*Cycleptus elongatus*; State Threatened), no in-stream construction should occur during the combined species spawning season from April 1 through June 30. This time of year restriction has been included in the Environmental Commitments Section.

Tennessee Department of Environment and Conservation (TDEC):

In their signed ESR response dated 09/26/2024, the TDOT Ecology Section stated that species coordination was completed with TDEC Division of Natural Areas (DNA) for the project and coordination, dated 09/24/2024, which is included in the EBR, determined that no effects to state listed plant species are anticipated as a result of this project. The TDEC-DNA noted that a number of state listed species are in the vicinity of the project, so further coordination may be required if the project scope of work changes.

Floodplain Management

Flood Zone: Zone A - No Base Flood Elevations Determined

Portions of this project are located in or near a Federal Emergency Management Agency (FEMA) defined floodplain; however, there is no detailed study. The project is located on Flood Insurance Rate Maps (FIRM) in Smith County, Panels 240 and 245 of 305, Map numbers 47159C0240D and 47159C0245D, and in Putnam County, Panel 75 of 400, Map number 4714C0075D.

The design of the roadway system will be consistent with the Memorandum of Understanding (MOU) between Federal Highway Administration (FHWA) and FEMA and with the floodplain management criteria set forth in the National Flood Insurance Regulations (NFIR) of Title 44 of the CFR. It will be consistent with the requirements of floodplain management guidelines for implementing Executive Order 11988 and FHWA guidelines 23 CFR 650A. Portions of the FEMA FIRM are included in the Technical Appendices.

Air Quality

Transportation Conformity:

Coordination with the TDOT Air Quality and Noise Section was completed on 07/25/2024. In their signed ESR response, the TDOT Air Quality and Noise Section stated the following:

"This project is in Smith and Putnam Counties which are in attainment for all regulated criteria pollutants. Therefore, conformity does not apply to this project."

Mobile Source Air Toxics (MSAT):

Additionally, the TDOT Air Quality and Noise Section stated the following:

"This project qualifies as a categorical exclusion under 23 CFR 771.117 and, therefore, does not require an evaluation of MSATs per FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" dated January 2023."

Refer to the Technical Appendices for a copy of the TDOT Air Quality and Noise Section's signed ESR response dated 07/25/2024.

Noise

In accordance with FHWA requirements and TDOT's Noise Policy this project is determined to be **Type I**

Did a screening analysis for this Type I project predict potential noise impacts? **No**

Coordination with the TDOT Air Quality and Noise Section was completed on 07/25/2024. In their signed ESR response, the TDOT Air Quality and Noise Section stated the following:

"As presented in this ETSA and draft concept report dated 04/24/2024, this project will add travel lanes in the bridge replacement and add parking capacity to the rest stop. Therefore, this project is a Type I in accordance with the FHWA noise regulation in 23 CFR 772 and TDOT's noise policy. However, there are no noise sensitive land uses adjacent to the project area, and a noise study is not needed.

Note that if the project termini are extended in subsequent plans in such a way that there are adjacent noise sensitive land uses within any part of the project area limits, those changes could trigger the need to conduct a required noise study."

Refer to the Technical Appendices for a copy of the TDOT Air Quality and Noise Section's signed ESR response dated 07/25/2024.

Farmland

Is this project exempt from the provisions of the Farmland Protection Policy Act (FPPA)? **Yes**

FPPA Exemption: Small Acreage (10 acres or less per linear mile)

Section 4(f)

Does this project involve the use of property protected by Section 4(f) (49 USC 303)? **No**

Section 6(f)

Does this project involve the use of property assisted by the L&WCF? **No**

Cultural Resources

Are any Agreements/Exemptions regarding Cultural Resources applicable to this project? **No**

Are NRHP listed or eligible cultural resources within the project Area of Potential Effect (APE)? **Yes**

Cultural Resources		
Type of Resource	Name of Resource	Determination of Effect
Historical/Architectural	Buffalo Valley Railway Bridge	No Adverse Effect
Archaeological	Site 40SM273	No Adverse Effect
Archaeological	Site 40PM184	No Adverse Effect

Historic/Architectural Concurrence:

Concurrence from the TN State Historic Preservation Office (TN-SHPO) was received on 08/05/2024.

The TDOT Cultural Resources Section conducted an architectural and historic resources survey within the APE of the proposed project. The survey identified three (3) properties within the APE and recommended one (1) property, the Buffalo Valley Railway Bridge, eligible for listing on the National Register of Historic Places (NRHP). The two (2) remaining properties were recommended not eligible. The TDOT Cultural Resources Section's architectural and historic resources survey report concluded with a recommendation that the proposed project would have no effect to the Buffalo Valley Railway Bridge.

The TN-SHPO concurred on 08/05/2024 that no architectural resources eligible for listing in the NRHP would be affected by this undertaking.

Refer to the Technical Appendices for a copy of the TDOT Cultural Resources Section's signed ESR response dated 08/05/2024 and TN-SHPO coordination materials.

Archaeology Concurrence:

Concurrence from the TN-SHPO was received on 07/21/2025.

The TDOT Cultural Resources Section conducted an archaeological resources survey within the APE of the proposed project. The survey identified three (3) properties within the APE and recommended Site 40SM273 potentially eligible for listing, Site 40PM184 eligible for listing, and Site 40SM274 not eligible for listing in the NRHP. As all eligible and potentially eligible sites would be avoided, the TDOT Cultural Resources Section's archaeological resources survey report concluded with a recommendation that the proposed project would have no adverse effect to Site 40SM273 and Site 40PM184.

The TN-SHPO concurred on 07/21/2025 that no archaeological resources listed, eligible, or potentially eligible for listing in the NRHP would be adversely affected by this undertaking.

Refer to the Technical Appendices for a copy of the TDOT Cultural Resources Section's signed ESR response dated 07/24/2025 and TN-SHPO coordination materials.

Native American Consultation

Does this project require Native American consultation? **Yes**

Native American Consultation was requested on 05/23/2024.

Native American Consultation					
Sent	Response		Sent	Response	
☒	☐	Absentee Shawnee Tribe of Indians in Oklahoma	☒	☐	Muscogee (Creek) Nation
☒	☒	Cherokee Nation	☐	☐	Poarch Band of Creeks
☐	☐	Chickasaw Nation	☐	☐	Quapaw Nation
☐	☐	Choctaw Nation of Oklahoma	☒	☒	Shawnee Tribe
☒	☐	Eastern Band of Cherokee Indians	☒	☐	Thlopthlocco Tribal Town
☒	☐	Eastern Shawnee Tribe of Oklahoma	☒	☐	United Keetoowah Band of Cherokee Indians in Oklahoma
☐	☐	Kialegee Tribal Town	☐	☐	Jena Band of Choctaw Indians
☐	☐	Other	☐	☐	Other

Cherokee Nation:

The response was received on 06/19/2024.

The Cherokee Nation responded with a finding of no impacts to Cherokee cultural resources. The Cherokee Nation requested to be contacted in the event of an inadvertent archaeological finding.

Shawnee Tribe:

The response was received on 07/25/2024.

The Shawnee Tribe responded and concurred that no known properties of significance will be negatively impacted by this project. The Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

TDOT Cultural Resources Native American Consultation (NAC) Coordination:

Coordination with the TDOT Cultural Resources Section was completed on 07/26/2024. In their signed ESR response, the TDOT Cultural Resources Section stated the following:

"An invitation to participate in the Section 106 process was sent on May 23, 2024 to all federally recognized Native American tribes with interests in the subject county: Absentee-Shawnee Tribe of Indians in Oklahoma, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, The Muscogee (Creek) Nation, Shawnee Tribe, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

To date, no other responses have been received. TDOT will re-initiate consultation if additional cultural resources studies are required or if archaeological materials or human remains are discovered during construction. All NAC correspondence is on file with TDOT Cultural Resources."

Refer to the Technical Appendices for a copy of the TDOT Cultural Resources Section's ESR response dated 07/26/2024.

Hazardous Materials

Does the project involve any hazardous material sites? **No**

Coordination with the TDOT Hazardous Materials Section was completed on 07/17/2024. In their signed ESR response, the TDOT Hazardous Materials Section stated the following:

"Based on the Environmental Technical Study Area figures no known hazardous materials sites affect this project as it is currently planned, and no additional hazardous material studies are recommended at this time. Bridge 80I00400036 was previously surveyed and no asbestos was detected. Bridge 80I00400035 has been scheduled for survey and the report is due in August 2024. In the event hazardous materials or wastes are encountered within the right-of-way, notification shall be made per TDOT Standard Specifications for Road and Bridge Construction (January 1, 2021) Section 107.08.C. Disposition of hazardous materials or wastes shall be subject to all applicable Federal, State, and local regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983, as amended. Databases reviewed include Google Earthmagery, EPA National Priorities List, EPA EnviroMapper (Envirofacts), TDEC Registered Underground Storage Tanks Public Data Viewer and Data and Reports, TDEC Division of Water Resources Public Data Viewer and Oil and Gas Wells database, TDEC Division of Remediation Sites Public Data Viewer, TDOT Integrated Bridge Information System, and others, as necessary."

Refer to the Technical Appendices for a copy of the TDOT Hazardous Materials Section's ESR response dated 07/17/2024.

Multimodal Transportation

Does this project include accommodations for bicycles and pedestrians? **Yes**

Coordination with the TDOT Multimodal Transportation Resources Division's Office of Active Transportation was completed on 08/22/2024. In their signed ESR response, the Office of Active Transportation stated the following:

"This project is to include sidewalks, crosswalks, curb-ramps & proper lighting to connect drivers to rest area facilities. See Multimodal Access Policy, VII. PROCEDURES, A. 1-7."

Refer to the Technical Appendices for a copy of the TDOT Office of Active Transportation ESR response, dated 08/22/2024, and a copy of the 2015 TDOT Multimodal Policy.

Environmental Commitments

Does this project involve any environmental commitments? **Yes**

Additional Environmental Issues

Are there any additional environmental concerns involved with this project? **No**

Conclusion

Review Determination

Determination: (c)(12), (c)(26), and (c)(28) - meets (e)

This proposed federal-aid highway project has been determined to be a "C-List" CE pursuant to the conditions of the following CEs: 23 CFR 771.117(c)(12), "Improvements to existing rest areas and truck weigh stations."; 23 CFR 771.117(c)(26), “Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e) of this section.”; and 23 CFR 771.117(c)(28), "Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in paragraph (e) of this section." The proposed project does meet the constraints of 23 CFR 771.117(e).

Reference Material

All source material used in support of the information and conclusions presented in this document are included in the technical appendices. The technical appendices are compiled as a separate document and include information on funding, agency concurrence, applicable agency agreements, special commitment support, project plans, technical reviews, reports and any other additional information.

Preparer Certification

By signing below, you certify that this document has been prepared in compliance with all applicable environmental laws, regulations and procedures. You can attest to the document's quality, accuracy, and completeness, and that all source material has been compiled and included in the technical appendices.

Trent A. Deason

Document Preparer

Acronyms

AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
BMP	Best Management Practice
CAA	Clean Air Act
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPH	Ephemeral Stream
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
IAC	Interagency Consultation
LWCF	Land and Water Conservation Fund
LOS	Level of Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PCE	Programmatic Categorical Exclusion
PIN	Project Identification Number
PM	Particulate Matter
PND	Pond
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROW	Right-of-Way
RPO	Rural Planning Organization
SIP	State Implementation Plan
SNK	Sinkhole
SR	State Route
STIP	State Transportation Improvement Program
STR	Stream
TDEC	TN Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TIP	Transportation Improvement Program
SHPO	State Historic Preservation Office
TPO	Transportation Planning Organization
TVA	Tennessee Valley Authority
TWRA	Tennessee Wildlife Resources Agency
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day
WWC	Wet Weather Conveyance

Technical Appendices

C-List Categorical Exclusion

Interstate 40

Truck Parking and Bridges Replacement over the

Caney Fork River

Smith and Putnam Counties

PIN 131552.01

TN TDOT Department of Transportation
U.S. Department of Transportation Federal Highway Administration
SEMS Statewide Environmental Management System

STIP Page

STIP Project Report
9/3/2024

STIP ID	PIN #	Length in Miles	Lead Agency
23801040050	131552.01	0.91	TDOT

State	County
TN	Smith, Putnam

State Route	Total Project Cost	TIP ID
I-40	$84,900,000	

Project Name

Termini

Truck Parking and Bridges Replacement over the Caney Fork River

Project Description

The I-40 Welcome Center Improvement project will add a 125 bay truck parking expansion adjacent to the Welcome Center, replace twin bridges on I-40 adjacent to the Welcome Center, and update ramp acceleration and deceleration lengths to current standards.

Long Range Plan #	Conformity Status
GP-1; GP-2; GP-3; GP-4	Not Applicable

FY	Phase	Funding	Programmed Funds	Fed Funds	State Fund	Local Funds
2025	PE-N	NHFP	$2,184,500	$1,966,050	$218,450	$0
2025	PE-D Prelim. Eng. - Design	NHFP	$2,526,750	$2,274,075	$252,675	$0
2025	PE-D Preliminary Eng. (Add.)	HIP	$2,526,750	$2,021,400	$505,350	$0
2025	Const Construction	NHFP	$20,968,740	$18,871,866	$2,096,874	$0
2025	Const Construction (Additional)	STA	$15,532,400	$0	$15,532,400	$0
2025	Const Bridge	HIP	$20,192,120	$16,153,696	$4,038,424	$0
2025	Const Construction (Rebudget)	INFRA	$20,968,740	$20,968,740	$0	$0
Total			**$84,900,000**	**$62,255,827**	**$22,644,173**	**$0**

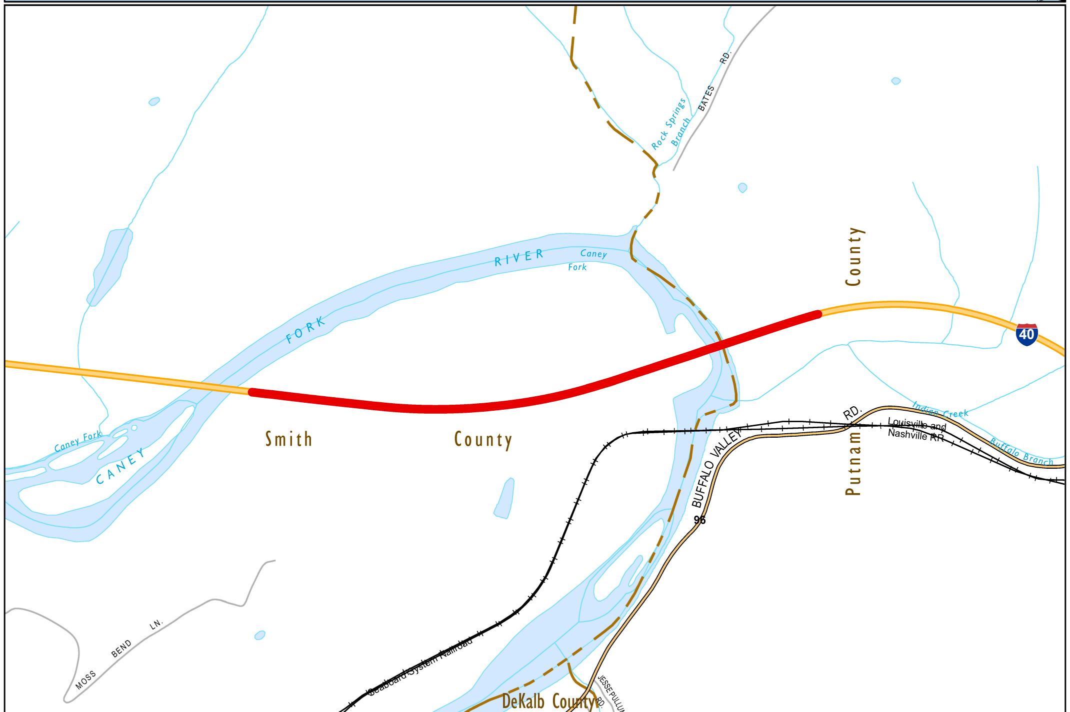
Comments:

- This project has received an INFRA grant and also uses NHFP, HIP, and State funds.

Program: LEGISLATIVE

PIN 131552.01

Route: I0040



PIN: 131552.01 Route ID: 71I0040001 Region: 3 County: Smith, Putnam

Termini: Truck Parking and Bridges Replacement over the Caney Fork River

Author: TDOT, Program Development and Administration Division

Project Design

Instructions are provided in red text. This form is designed to be completed in Adobe Acrobat and the red text will be replaced by black as the forms are filled. The red text including this note will not print as part of the document. When complete, print the form to PDF to remove this note and other instructions. Using other PDF editors such as Chrome or Edge will maintain the red text when printed.

Concept Report Form

The Concept Report Form develops an initial project vision, basis of design and report (e.g., the Concept Report) to transition into the subsequent design stages (Stages 1 through 4 in the Project Delivery Network [PDN]). This form summarizes all project components using information to complete the Concept Report.

General Project Information

<table>
<tr><th>Project Name</th><td colspan="9">Smith/Putnam Counties I-40 Bridges/Rest Area Technical Report</td></tr>
<tr><th>PIN</th><td colspan="9">131552.01</td></tr>
<tr><th rowspan="2">Route Information</th><th>Route</th><th>NHS (Y/N)</th><th colspan="2">Functional Class</th><th colspan="2">City</th><th colspan="3">County</th></tr>
<tr><td>I-40</td><td>Yes</td><td colspan="2">Interstate</td><td colspan="2">Gordonsville/Buffalo Vall</td><td colspan="3">Smith/Putnam</td></tr>
<tr><th rowspan="2">Project Information</th><th>Begin Log Mile</th><th>End Log Mile</th><th>AADT[1]</th><th>Design Hour Vol. (DHV)[1]</th><th>Truck %[1]</th><th>Design Speed (MPH)</th><th>Posted Speed (MPH)</th><th>Base Year</th><th>Design Year</th></tr>
<tr><td>16.33</td><td>0.08</td><td>61,650</td><td>5,183</td><td>27.00</td><td>70</td><td>70</td><td>2026</td><td>2046</td></tr>
<tr><th>Project Description & Standard Drawings Used</th><td colspan="8">The I-40 Interchange Improvement and Truck Parking project will add a 125 bay truck parking expansion adjacent to the Welcome Center, replace twin bridges 80I00400036 along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. The project will utilize two conceptual typical sections for I-40: 4 lane freeway with depressed median, and 6 lane freeway with median barrier for the proposed bridge. The project length is approximately 0.86 miles. The I-40 corridor is a full access controlled facility with an interchange to access the Welcome Center.

RD11-TS-5; RD11-TS-5B</td><td rowspan="4">Project Details</td></tr>
<tr><th>Important Project History or Related Projects</th><td colspan="8">2022: TDOT STID coordinated with Structures and Long-Range Planning to submit Rest Area Improvements (truck parking expansion, ramp improvements, and bridge replacements) for potential grant funding. STID developed site visit packet and presented alternatives to Structures, Region 3 Project Development & Operations, STID, and Region 3 Project Management. The Grant was awarded to TDOT and preliminary design activities started in 2023.</td></tr>
<tr><th>Project Purpose/Need</th><td colspan="8">The purpose of the project is to add a new commercial truck parking lot (approximately 125 bays) adjacent to the Welcome Center, replace the I-40 twin bridges adjacent to the Welcome Center interchange and extend the acceleration and deceleration ramps to meet current standards. Federal Funding is anticipated to be utilized in the construction of this project.</td></tr>
<tr><th>Major Environmental Considerations</th><td colspan="8">The bridges being replaced on I-40 cross the Caney Fork River and will require demolition and removal activities of the existing structures and a retaining wall. There is a drip field septic system and an existing treatment facility on site of the Welcome Center. At this time the new truck parking area is avoiding impacts to this septic system.</td></tr>
</table>

<table>
<tr><td>Multi-Modal Considerations</td><td colspan="3">There are no multi-modal considerations as this facility is a full control access facility, however TDOT Multi-Modal coordination will still be performed. This project is expected to utilize federal funding.</td><td rowspan="2"></td></tr>
<tr><td>Major Project Risks</td><td colspan="3">Project risks include impacts that would effect the SOP of the Welcome Center and additional permitting costs to change or update that SOP. This document is covered by 23 USC § 407 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 407.</td></tr>
<tr><td rowspan="4">Concept Estimate and Timeline</td><td>Total Current Project Cost</td><td></td><td>Construction Year Estimate</td><td rowspan="4">Preliminary Estimates</td></tr>
<tr><td>$ 83,000,000</td><td></td><td></td></tr>
<tr><td>Proposed Construction Year</td><td></td><td>Estimated Construction Duration</td></tr>
<tr><td></td><td></td><td>## months, # years</td></tr>
</table>

[1] Traffic numbers reflect identified design year

<u>Approvals</u>

Executed for approval of this Concept Report

STID Director — Date

The following individuals to execute if a bridge concept report:

Structures Director — Date

Regional Project Development Director — Date

Bureau Chief of Engineering — Date

Bureau Chief of Environment and Planning — Date

This checklist details actions for the STID Project Manager to complete when developing the Concept Report. These actions are organized/aligned with the PDN's activities but can generally be completed at any point in the Planning Stage. Depending on project type, not all actions listed in the checklist are necessary. When all actions are completed, save this Action Checklist to the project file. This note and checklist will not be printed for the final document.

Action Checklist			
0SD1 Initiate Concept Report and Request Funding			
Complete	**NA**		**Date Completed**
		Request and Finalize Safety Data	
		Request Project Number, PIN, and Task Profile Numbers	
		Coordinate with Long Range Planning	
		Request and Finalize Traffic Data	
		Request Preliminary Survey Data	
		Initiate Division Reviews	
		Schedule Site Review (with appropriate Divisions)	
0EN1 Conduct Environmental Desktop Review			
Complete	**NA**		**Date Completed**
		Confirm Environmental Desktop Review is Complete	
0MM1 Conduct Multimodal Review			
Complete	**NA**		**Date Completed**
		Confirm Multimodal Review is Complete	
		Review Multimodal Considerations & Recommendations	
0TO1 Conduct Initial Traffic Ops/TSMO Review *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
		Confirm Transportation Systems Management & Operations (TSMO) Alignment & Operations Review is Complete	
		Request Concept Report Review	
0ST1 Develop Structures Recommendations			
Complete	**NA**		**Date Completed**
		Confirm Recommended Structure Type for Concept Report is Complete	
		Confirm Hydraulic Recommendations for Concept Report is Complete	
0SY1 Provide Preliminary Survey Data			
Complete	**NA**		**Date Completed**
		Confirm Control Ground Survey Set	
		Review Preliminary Survey Data	
		Determine Time to Complete the Aerial Survey	
0GT1 Conduct Preliminary Geotechnical Assessment			
Complete	**NA**		**Date Completed**
		Confirm Geotechnical Division Review is Complete	
0RD1 Provide Roadway Desktop Review			
Complete	**NA**		**Date Completed**
		Confirm Roadway Division Review is Complete	

Action Checklist			
0SD2 Develop Draft Concept Report			
Complete	**NA**		**Date Completed**
		Conduct Intersection and Interchange Evaluation (IIE)	
		Complete Conceptual Signal Warrants	
		Develop Draft Conceptual Layouts/Crash Figures for Site Visit	
		Compile Initial Divisional Reviews for Site Visit	
		Prepare & Send Site Visit Packet	
		Lead Site Visit	
		Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable)	
		Develop, Compile, and Distribute the Draft Concept Report	
0TO2 Develop TSMO Scope Items *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
		Confirm Signal Warrants Analysis is Complete	
		Confirm Lighting Warrants Analysis is Complete	
		Review and Confirm TSMO & ITS Scope and Budget	
0RW1 Complete Preliminary Right-of-Way Estimates			
Complete	**NA**		**Date Completed**
		Review and Confirm Preliminary Right-of-Way Cost Estimates	
0UT1 Complete Utility Preliminary Estimates			
Complete	**NA**		**Date Completed**
		Review and Confirm Preliminary Utility Estimate	
		Review and Confirm Preliminary Railroad Cost Estimate	
0SD3 Finalize Concept Report			
Complete	**NA**		**Date Completed**
		Compile and Review Initial Risk Assessment	
		Finalize Conceptual Layouts	
		Develop Environmental Technical Study Area (ETSA)	
		Address Comments and Finalize Concept Report	
		Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)	
		Develop Roadway Safety Audit (RSA) No Plans Document	
		Submit the final Concept Report for Review and Signatures (as needed; see 0SD3 for additional information)	
		Finalize Document and Upload All Needed Electronic Files	
		Notify the Project Management Director or Assigned Project Manager to Set Up Project (1PM1)	

NA Justification

If any actions are marked NA, provide a short explanation on why these actions were not completed. (≈300 words max)

The following table of contents lists attachments the STID Project Manager completes or compiles the Concept Report for approval and publication. Depending on project type, not all attachments listed in the checklist are necessary (N/A) and additional documentation may be added. This note will not be printed for the final document.

Concept Report Table of Contents/Attachments		
	Included	NA
One-Page Summary (with project location map)	✔	
Conceptual Layout(s) and Cross Section	✔	
Environmental Technical Study Area (ETSA) Layout	✔	
Concept Cost Estimate (Construction Year Estimate)	✔	
TSMO & ITS Scope and Budget[1]		✔
ROW Form 44-A[1]		✔
Crash Packet[1]	✔	
Crash Prediction Analysis[1]		✔
Site Visit Attendee List	✔	
Environmental Desktop Review Form[1]	✔	
Multimodal Considerations & Recommendations[1]		✔
Existing Structure Summary[1]	✔	
Email or memo containing Structure Type Recommendations[1]	✔	
Email or memo containing Hydraulic Recommendations[1]	✔	
Hydraulic Data	✔	
Intersection and Interchange Evaluation (IIE) Analysis and Summary Form		✔
Traffic Analysis Summary/Tables	✔	
Forecasted Traffic Sheets[1]	✔	
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)[1]	✔	
Signal Warrant[1]		✔
Lighting Warrant[1]		✔
Initial Risk Assessment using the Risk Assessment Form		✔
Final Interstate Access Request (IAR) Document and Memo with Letter from STID Director		✔
Road Safety Audit (RSA) No Plans[1]		✔

NA Justification
If any attachments are marked NA, provide a short explanation on why these actions were not included.(≈190 words max)

[1] External document to STID

Project Summary & Location Maps
(4 pages)

Project Summary

Smith County – I-40 Bridge Replacement/Rest Area Truck Parking
Project Technical Report
(L.M. 16.333/ L.M. 0.080)
PIN 131552.01

Existing Route:

- Four Lane Divided (Depressed Median, Barrier Wall, Bifurcated) with 12’ lanes, 10’ outside and 4’ inside shoulders. 1 Total Bridge (Six Lane Divided Median, Barrier Wall) with 12’ lanes, 10’ outside and 4’ inside shoulders within Project Corridor.
- Speed Limit = 70 MPH
- Project Length = 0.86 Miles
- Crash History (10/31/2018 to 11/1/2021)

Crash Rates		
Type	I-40 Project Crash Rate	SW Average
Total	0.876	0.616
Fatal	0.000	0.007
Incapacitating Injury	0.000	0.028

- Traffic

Year	No Build				Build			
	I-40 EB Ramps		I-40 WB Ramps		I-40 EB Ramps		I-40 WB Ramps	
	AM	PM	AM	PM	AM	PM	AM	PM
2026 (45,710 AADT)	C / C	C / C	C / B	C / C	B / B	C / B	B / B	B / B
2046 (59,420 AADT)	D / C	D / D	D / C	D / C	C / C	D / C	C / C	C / C

Note: Off Ramp / On Ramp

Project History:

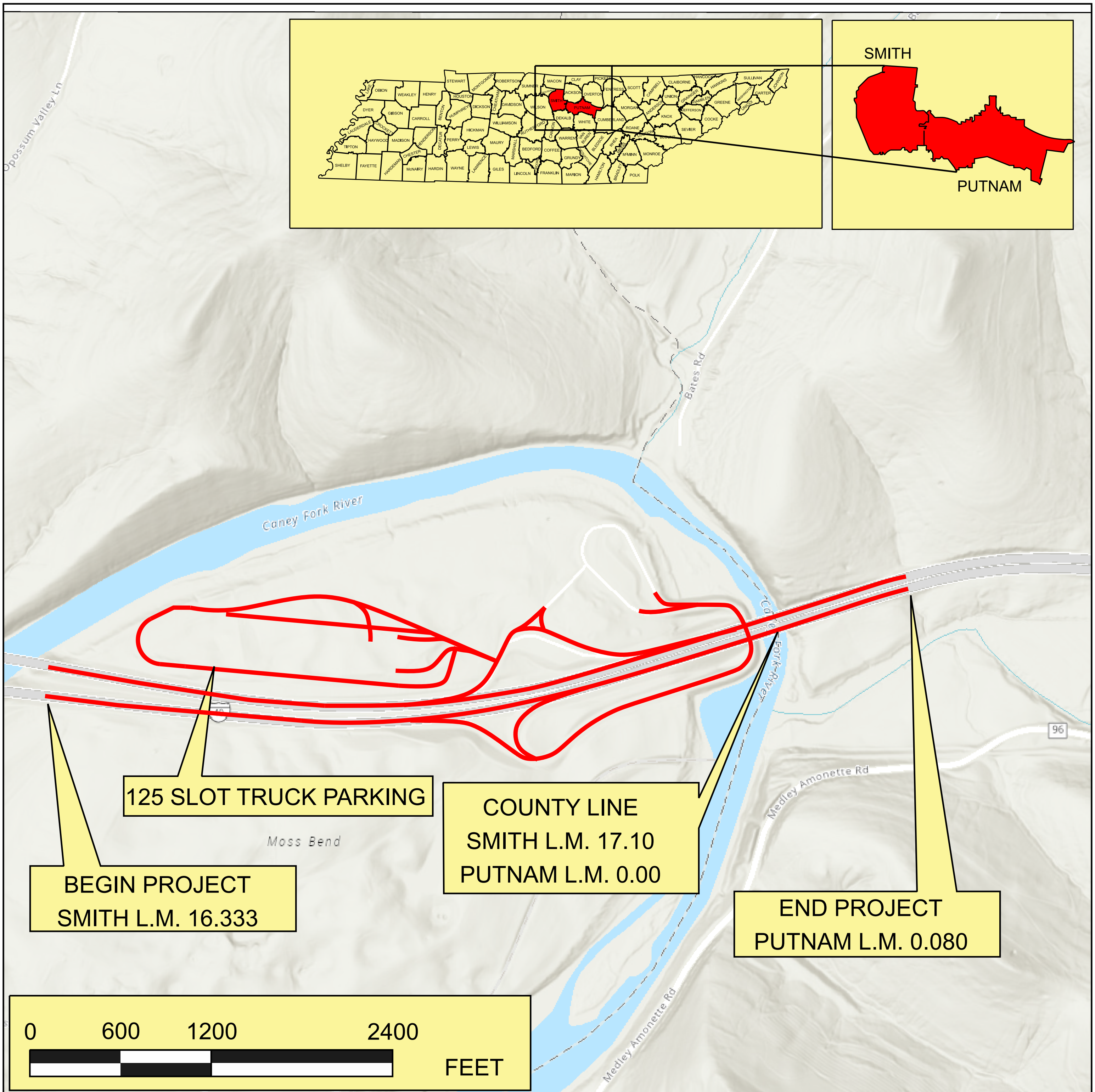
- 2022:
  - TDOT STID coordinated with Structures and Long-Range Planning to submit Rest Area Improvements (truck parking expansion, ramp improvements, and bridge replacements) for potential grant funding. STID developed site visit packet and presented alternatives to Structures, Region 3 Project Development & Operations, STID, and Region 3 Project Management. The Grant was awarded to TDOT and preliminary design activities started in 2023

Current Proposed Improvements:

Current proposed improvements include a new truck parking area (approximately 125 bays) at the I-40 Rest Area, improvements to local traffic circulation around welcome center property, acceleration and deceleration length to current standards and replacement of twin bridges 80100400036 along I-40 EB & WB in Smith & Putnam County.

Project Status:

- TDOT received INFRA grant award letter in Fall 2023.
- Draft concept report submitted 12/19/2023
- Draft concept report comments received 4/10/2024
- Updated draft concept report submitted 4/30/2024
- USDOT & TDOT expect project funding to be obligated by September 30, 2025



AREA MAP

INTERSTATE 40

FROM L.M.16.333

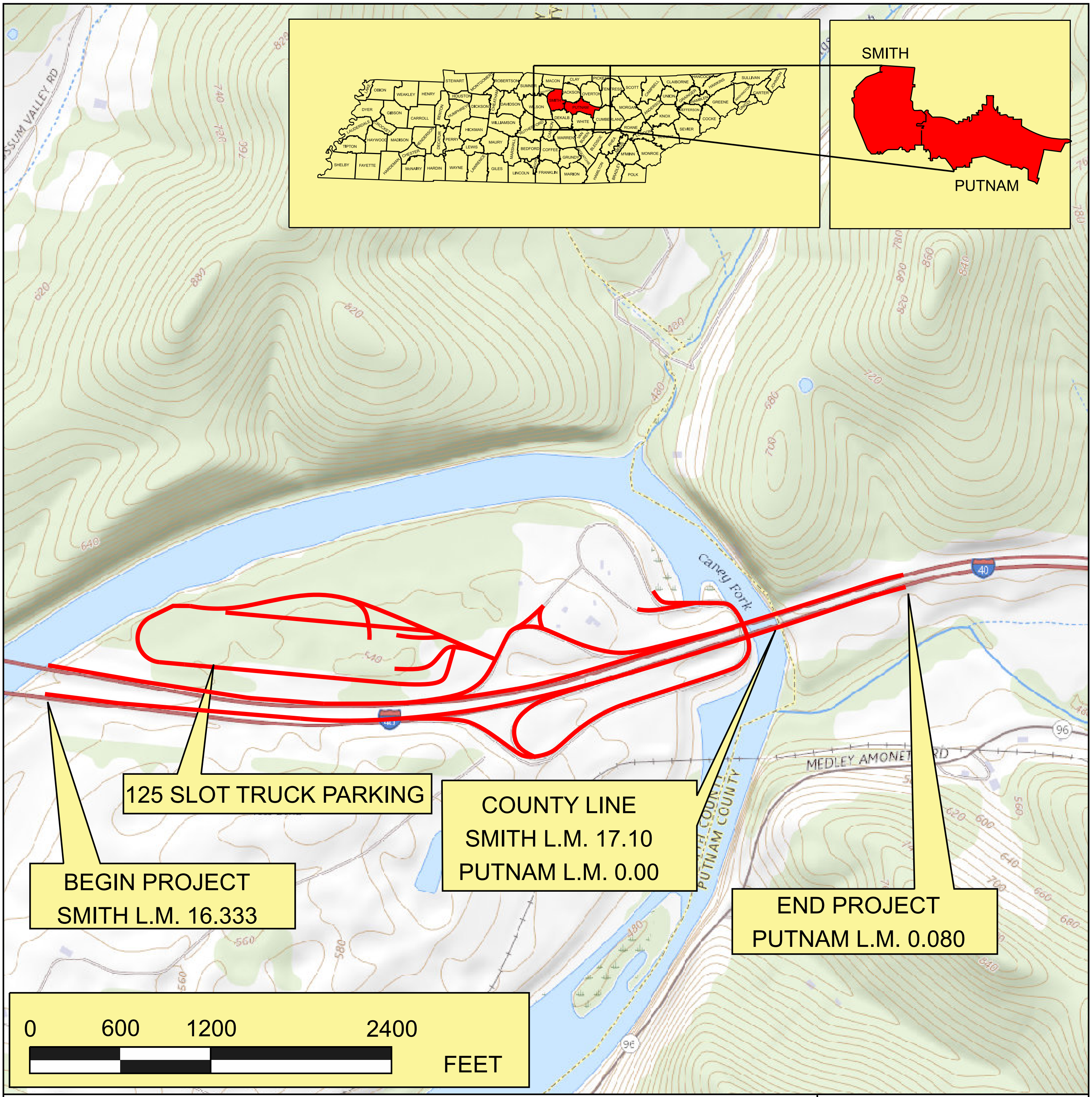
IN SMITH COUNTY

TO L.M. 0.080

IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation



AREA MAP

INTERSTATE 40

FROM L.M.16.333

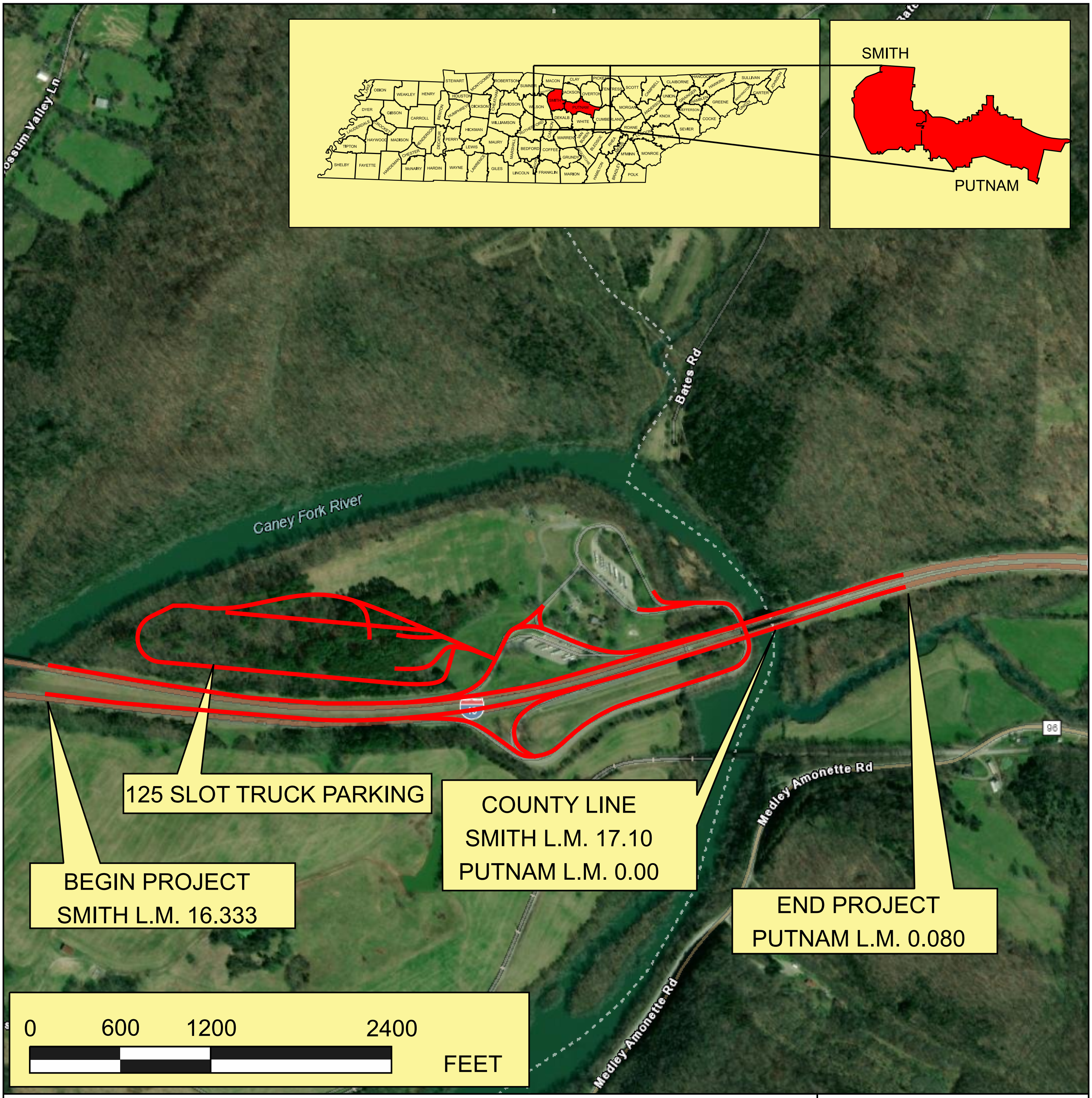
IN SMITH COUNTY

TO L.M. 0.080

IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation



AREA MAP

INTERSTATE 40
FROM L.M.16.333
IN SMITH COUNTY
TO L.M. 0.080
IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation

Conceptual Layout

Typical Sections and

Environmental Technical Study Area (ETSA) Layouts

(4 pages)

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	20XX	SMITH	03

0 250' 500' 750'

N

TECHNICAL REPORT

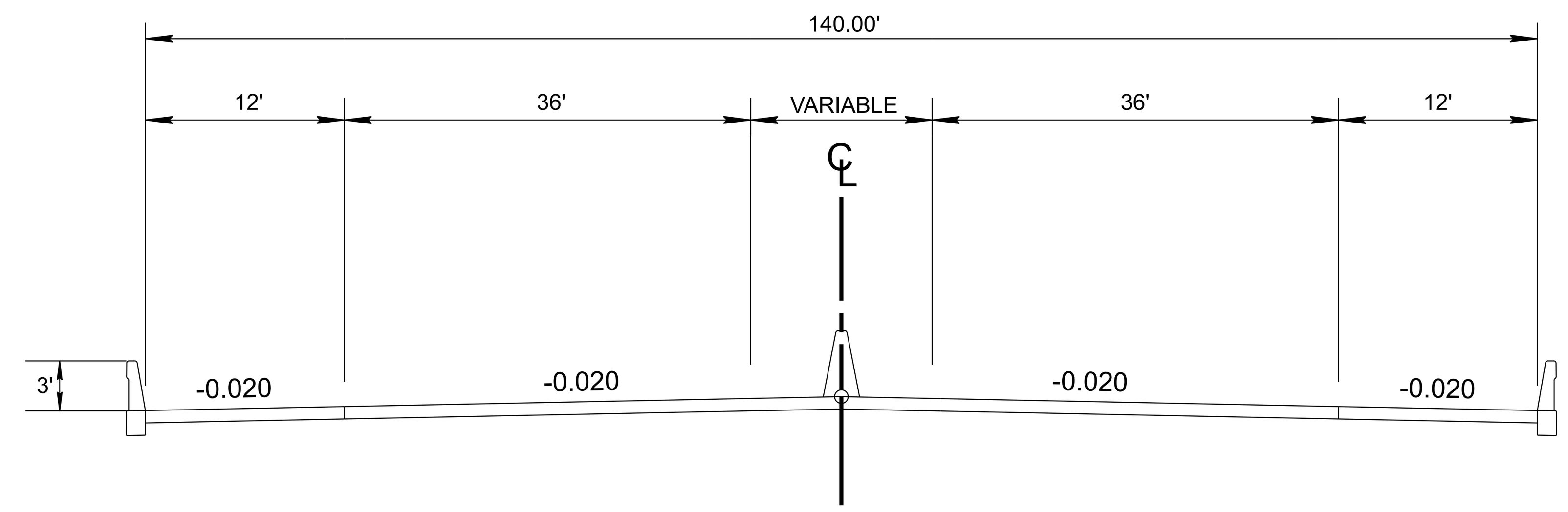
STATE ROUTE I-40
LOG MILE 16.333 TO LOG MILE 0.080
REST AREA RAMPS
SMITH COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

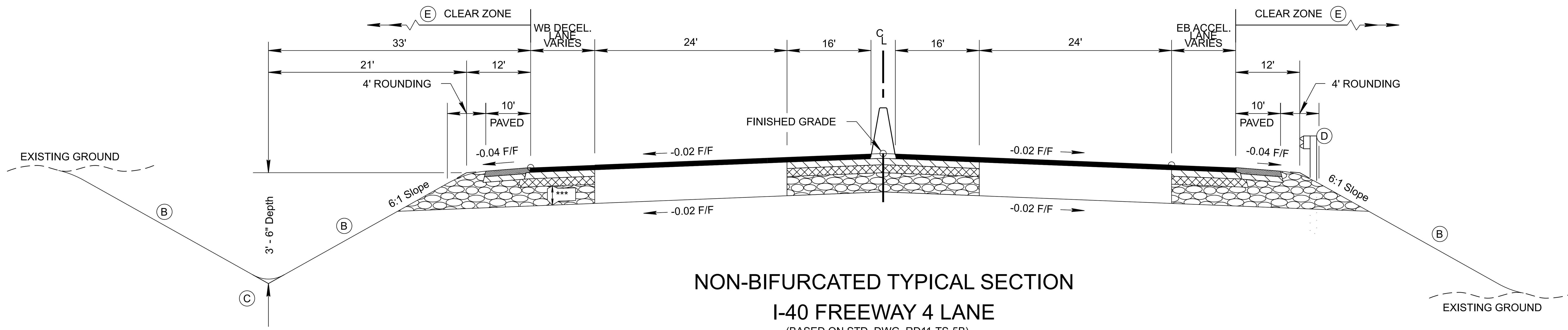
FIGURE 03
STATE ROUTE I-40
REST AREA RAMPS

4/24/2024 3:22:59 PM
G:\TDOT STID ON-CALL CONTRACT\131552.00 SMITH COUNTY I-40 TECHNICAL REPORT\131552.00 SMITH COUNTY I-40\CADD\ES\131552.00_STID_SHT_RESTAREA.DGN

TYPE	YEAR	COUNTY	SHEET NO.
CONCEPT	20XX	SMITH	2B5
			000
			000



I-40 MEDIAN BARRIER
6 LANE BRIDGE DECK



NON-BIFURCATED TYPICAL SECTION
I-40 FREEWAY 4 LANE
(BASED ON STD. DWG. RD11-TS-5B)

Ⓐ THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.

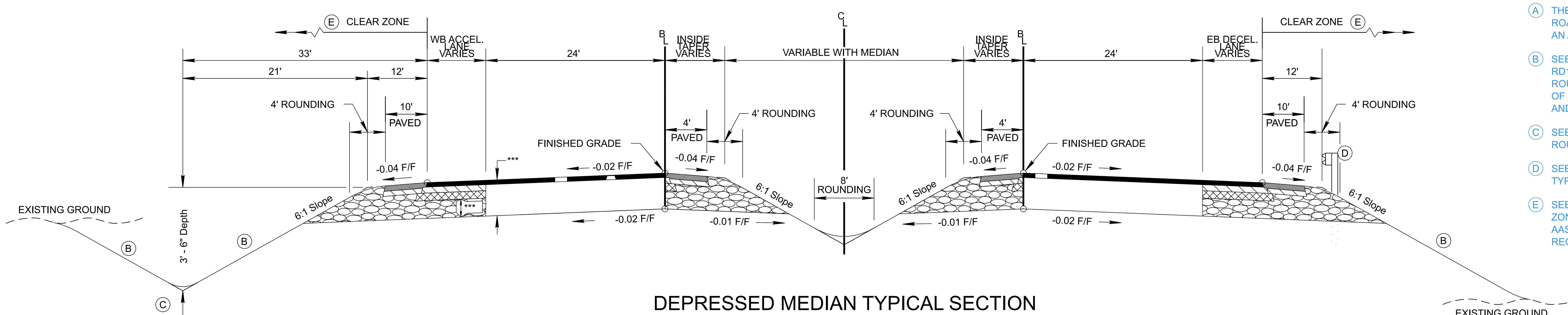
Ⓑ SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

Ⓒ SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

Ⓓ SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

Ⓔ SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE CRITERIA. SEE THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011, FOR FURTHER INFORMATION REGARDING CLEAR ZONES.

Ⓕ SEE STANDARD DRAWING NO. S-SSMB-2 FOR SINGLE SLOPE BARRIER WALL DETAILS.



DEPRESSED MEDIAN TYPICAL SECTION
I-40 FREEWAY 4 LANE
(BASED ON STD. DWG. RD11-TS-5)

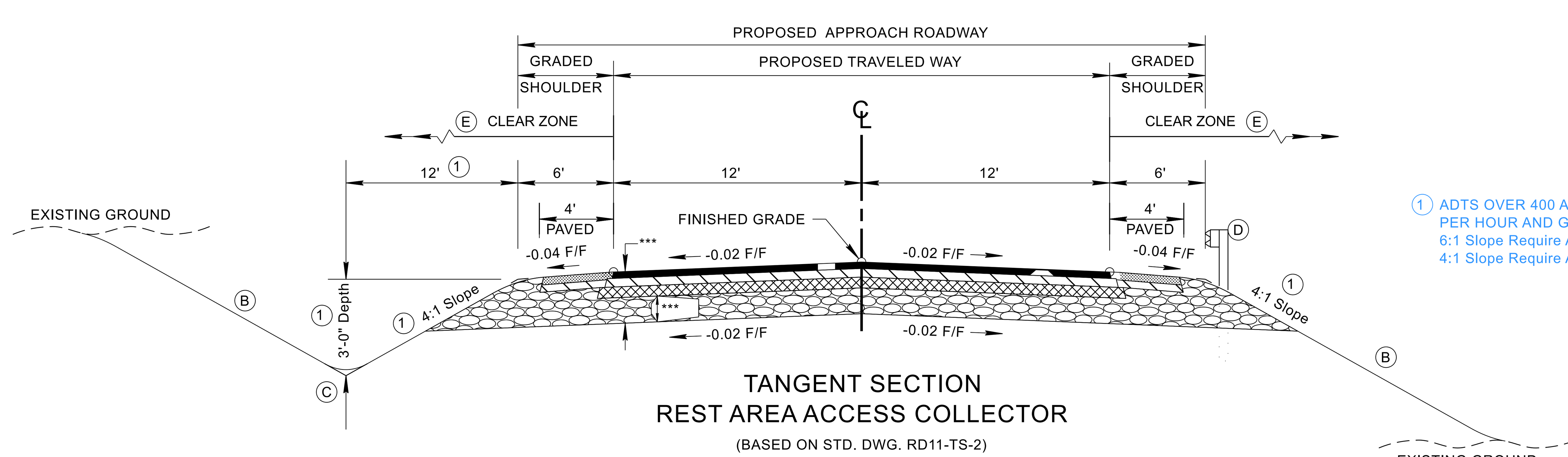
Ⓐ THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.

Ⓑ SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

Ⓒ SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

Ⓓ SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

Ⓔ SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE CRITERIA. SEE THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011, FOR FURTHER INFORMATION REGARDING CLEAR ZONES.



TANGENT SECTION
REST AREA ACCESS COLLECTOR
(BASED ON STD. DWG. RD11-TS-2)

① ADTS OVER 400 AND DESIGN SPEEDS OF 50 MILES PER HOUR AND GREATER SHALL REQUIRE 6:1 SLOPES.
6:1 Slope Require A 21' Ditch Width And A Depth of 3'-6".
4:1 Slope Require A 12' Ditch Width And A Depth of 3'-0".

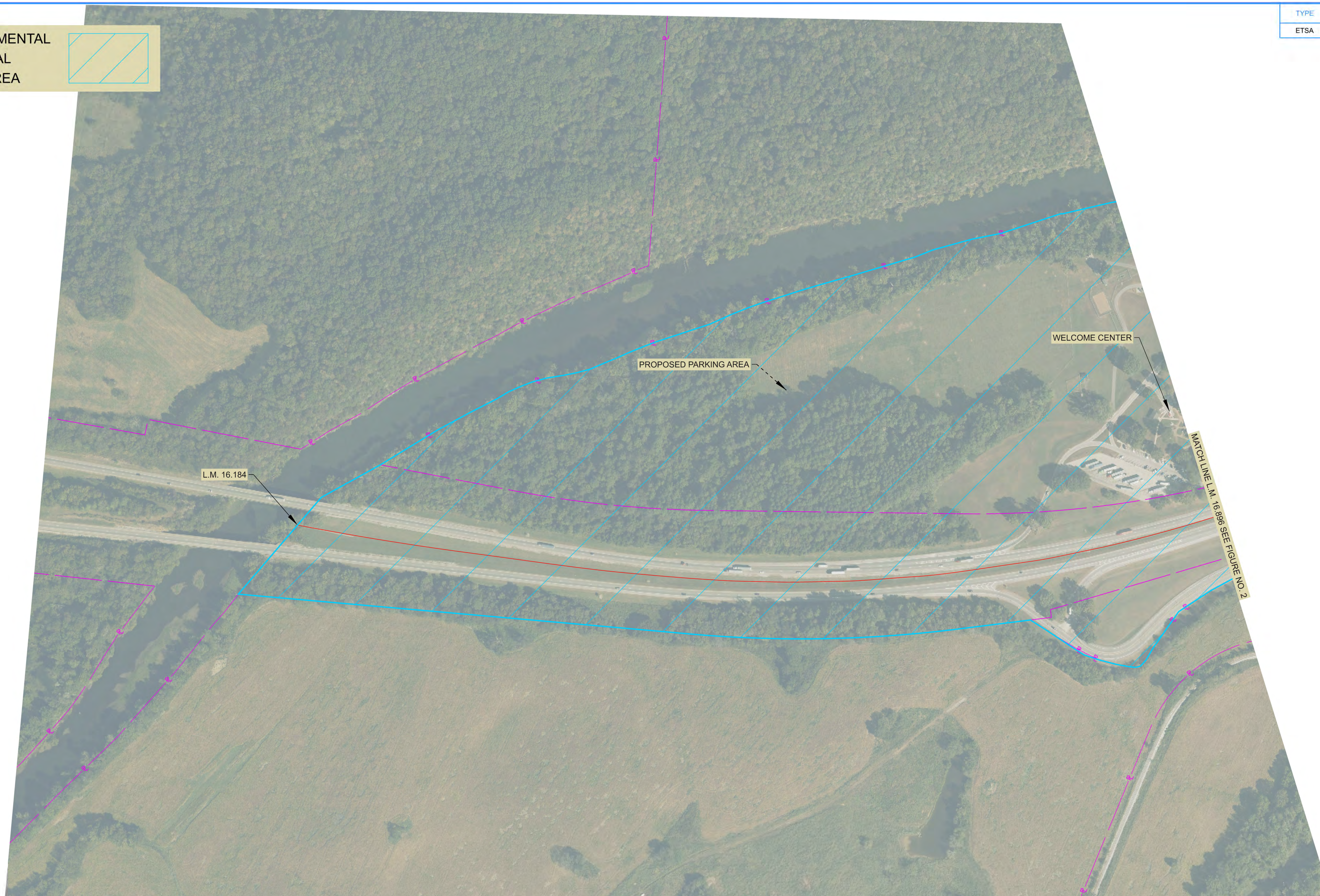
SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

4/29/2024 10:18:51 AM
G:\TDOT STID ON-CALL CONTRACT\131552.01 SMITH COUNTY I-40 TECHNICAL REPORT\131552.01 SMITH COUNTY I-40\CADD\DES\131552.01-STID-TYPICAL SECTIONS.DGN

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2023	SMITH-PUTNAM	1



0 400' 800' 1200'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

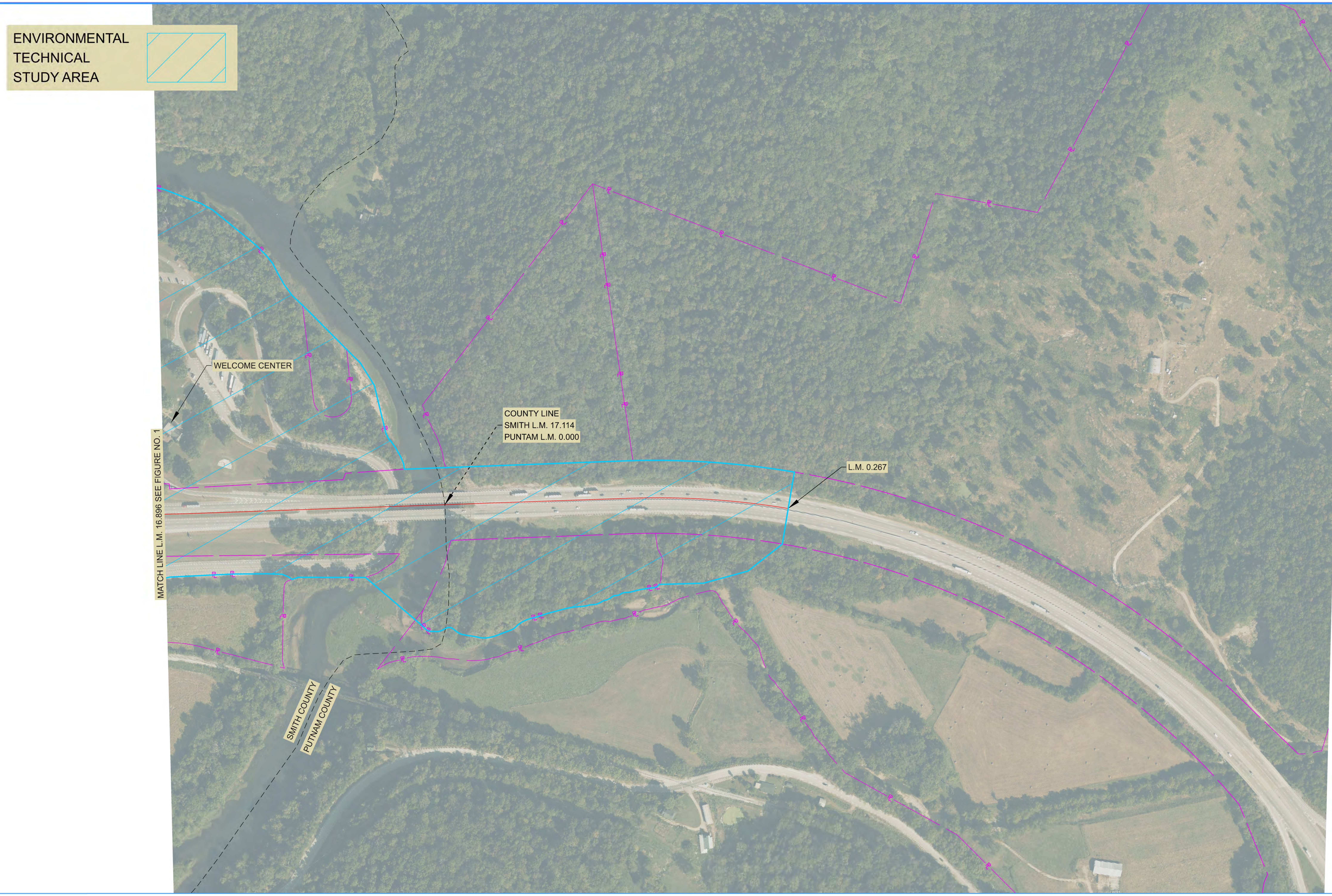
INTERSTATE 40
LOG MILE 16.184 TO LOG MILE 16.896
SMITH-PUTNAM COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

FIGURE 1
INTERSTATE 40
LOG MILE 16.184
TO
LOG MILE 16.896

12/14/2023 11:17:34 AM
G:\TDOT STID ON-CALL CONTRACT\131552.00 SMITH COUNTY I-40 TECHNICAL REPORT\131552.00 SMITH COUNTY I-40\CAD\REST AREA\131552.00-STID-RESTAREAETSA.DGN

TYPE	YEAR	COUNTY	FIGURE NO.
ETSA	2023	SMITH-PUNTAM	2



0 400' 800' 1200'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

INTERSTATE 40
LOG MILE 16.896 TO LOG MILE 0.267
SMITH-PUTNAM COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

FIGURE 2
INTERSTATE 40
LOG MILE 16.896
TO
LOG MILE 0.267

12/14/2023 11:20:39 AM
G:\TDOT STID ON-CALL CONTRACT\131552.00 SMITH COUNTY I-40 TECHNICAL REPORT\131552.00 SMITH COUNTY I-40\CAD\REST AREA\131552.00-STID-RESTAREAETSA.DGN

Cost Estimates

(2 pages)

COST ESTIMATE SUMMARY

COST ESTIMATE SUMMARY

Route:	I-40
Termini:	L.M. 16.333 - L.M. 0.080
Scope of Work:	Bridge Replacement, Accel./Decel. Lane Improvements
Project Type of Work:	Bridge Replacement
County:	Smith
Length:	0.86 Miles
Date:	April 24, 2024
Estimate Type:	Design-Build
Years Inflated:	0

Estimate Developed By
Initial/Organization

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$267,000
Asphalt Paving		$0	$0	$0	$2,850,000
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$954,000
Appurtenances		$0	$0	$0	$423,000
Structures & Contingency		$0	$0	$0	$16,700,000
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$1,330,000
Clearing and Grubbing		$0	$0	$0	$0
Seeding & Sodding		$0	$0	$0	$113,000
Rip-Rap or Slope Protection		$0	$0	$0	$47,100
Guardrail		$0	$0	$0	$105,000
Signing		$0	$0	$0	$22,800
Pavement Markings		$0	$0	$0	$77,400
Maintenance of Traffic		$0	$0	$0	$266,000
Construction Lines and Stakes		$0	$0	$0	$391,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES					
Mobilization	10%	$0	$0	$0	$2,320,000
Additional Items	20%	$0	$0	$0	$4,630,000
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$4,020,000
Const. Eng. & Inspec.	15%	$0	$0	$0	$5,120,000
Construction Estimate - DBB & DB		$0	$0	$0	$39,600,000
Right-of-Way & Utilties		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$0
Preliminary Engineering		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Prelim. Eng. (Design-Build)	10.0%	$0	$0	$0	$3,960,000
Design-Build Project Cost		$0	$0	$0	$ 43,600,000

ESTIMATE REVIEW TEAM		
Review Process Applies to Bridge, Legislative, and Economic Development Projects		
ROLE	NAME/ORGANIZATION	DATE COMPLETED
Primary Cost Estimate (Before Draft Report):		
Independent Cost Estimate:		
Manager Review:		
QA/QC peformed by:		

COST ESTIMATE SUMMARY

COST ESTIMATE SUMMARY

Route:	I-40 Rest Area
Termini:	L.M. 16.333 - L.M. 0.080
Scope of Work:	Rest Area New Construction
Project Type of Work:	Construction-New
County:	Smith
Length:	1.19 Miles
Date:	April 24, 2024
Estimate Type:	Design-Build
Years Inflated:	0

Estimate Developed By
Initial/Organization

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$88,100
Asphalt Paving		$0	$0	$0	$852,000
Concrete Pavement		$0	$0	$0	$13,200,000
Drainage		$0	$0	$0	$434,000
Appurtenances		$0	$0	$0	$0
Structures & Contingency		$0	$0	$0	$0
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$59,800
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$2,990,000
Clearing and Grubbing		$0	$0	$0	$74,700
Seeding & Sodding		$0	$0	$0	$42,800
Rip-Rap or Slope Protection		$0	$0	$0	$0
Guardrail		$0	$0	$0	$60,700
Signing		$0	$0	$0	$17,800
Pavement Markings		$0	$0	$0	$203,000
Maintenance of Traffic		$0	$0	$0	$216,000
Construction Lines and Stakes		$0	$0	$0	$350,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES					
Mobilization	10%	$0	$0	$0	$1,820,000
Additional Items	20%	$0	$0	$0	$3,650,000
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$7,110,000
Const. Eng. & Inspec.	15%	$0	$0	$0	$4,620,000
Construction Estimate - DBB & DB		$0	$0	$0	$35,800,000
Right-of-Way & Utilties		**LOCAL**	**STATE**	**FEDERAL**	**TOTAL**
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$0
Preliminary Engineering		**LOCAL**	**STATE**	**FEDERAL**	**TOTAL**
		0%	0%	0%	
Prelim. Eng. (Design-Build)	10.0%	$0	$0	$0	$3,580,000
Design-Build Project Cost		$0	$0	$0	$ 39,400,000

ESTIMATE REVIEW TEAM		
Review Process Applies to Bridge, Legislative, and Economic Development Projects		
ROLE	NAME/ORGANIZATION	DATE COMPLETED
Primary Cost Estimate (Before Draft Report):		
Independent Cost Estimate:		
Manager Review:		
QA/QC peformed by:		

Crash Packet

Crash Prediction Analysis

(4 pages)

TENNESSEE DEPARTMENT OF TRANSPORTATION

COUNTY = SMITH   Date: 4/26/2024
Route = I-40
Location = MM 16.333 - MM 0.080

Highway Type = Freeway
FUNCTIONAL CLASS= RURAL INTERSTATE
DATA YEARS = OCT 31 2018- NOV 1 2021
ADT YEARS USED= 2020 ETRIMS (GROWN FROM 2019)
COMMENTS =

ANALYZED BY = HMB

SECTION = MORE THAN 0.10 MILE / SPOT= LESS THAN OR EQUAL TO 0.10 MILE

BLM	ELM	Length	Average AADT	VMT
16.333	17.113	0.780	41,207	32,141
17.113	17.193	0.080	41,207	3,297
0.000	0.000	0.000		0
0.000	0.000	0.000		0
0.000	0.000	0.000		0
0.000	0.000	0.000		0
0.000	0.000	0.000		0
		0.860	41,207	35,438

INTERSECTION
Log Mile =

Leg		Traffic AADT
North	=	
East	=	
South	=	
West	=	
Entering AADT =		0

2020 Etrims (Grown From 2019)

PRODUCED PURSUANT TO
PUBLIC RECORDS REQUEST
This document is covered by 23 USC §409
and its production pursuant to a public
document records request does not
waive the provisions of §409

Freeway
Oct 31 2018- Nov 1 2021

		Total	Fatal	Incap. Injury	*Severe Crashes	Other Injury
No. of Crashes	=	34	0	0	0	2
No. of Years	=	3				
SW avg. rate	=	0.616	0.007	0.028	0.035	0.104
17-19 S/W Rates						
Exposure (E)	=	38.8046				
Crash Rate (A)	=	0.876	0.000	0.000	0.000	0.052
Critical Rate (C)	=	0.922				
Severity Index (SI)	=	0.0588				
Actual Rate/SW Average	=	1.42	0.00	0.00	0.00	0.50
Ratio of A/C	=	0.95				

* Severe Crashes are the sum of fatal and incapacitating injury crashes

Revised 11/3/2009

T.D.O.T. STRTAEGIC TRANSPORTATION INVESTMENTS DIVISION (SAFETY DATA SECTION) Hmb

Crash Summary Report

County: PUTNAM **Route:** I0040 **Spcl Cse:** 0-NONE **Cnty Seq:** 1

Log Miles: 0.000 to 0.080 - Crash Dates: 10/31/2018 to 11/1/2021
Vehicle Filter: None - Other Factors Filter: None

Statistics

Fatal Crashes:	0
Total Killed:	0
Suspected Serious Injury Crashes:	0
Total Suspected Serious Injuries:	0
Other Injury Crashes:	1
Total Other Injuries:	1
Prop Damage Crashes:	4
Total Crashes:	**5**

Crashes Involving

Pedestrians:	0
Hazardous Cargo:	0
Work / Constr Zones:	0
Fixed Objects:	0
Single Unit Trucks	0
Tractor - Trailer Trucks:	0
Bicycles:	0
Motorcycles:	0
Lane Departures:	0
Distracted Drivers:	0

First Harmful Event

Pedestrian:	0
Pedalcycle:	0
Railway Train:	0
Deer (Animal):	0
Other Animal:	0
Motor Vehicle in Transport:	4
Motor Vehicle in Transport in Other Roadway:	0
Parked Motor Vehicle:	0
Other Type Non-Motorist:	0
Fixed Object:	0
Other Object (Not Fixed):	0
Non Collision:	1
Overturn:	0
Jackknife:	0
Cross Median:	0
Ran Off Road:	0

Crash Location

Along Roadway:	5
At Intersection:	0
Railroad Crossing:	0
Bridge:	0
Underpass:	0
Ramp:	0
Private Property:	0
Other:	0

Road Conditions

Ice:	0
Snow or Slush:	0
Sand, Mud, Dirt or Oil:	0
Wet:	1
Dry:	4

Manner of Collision

Rear End:	3
Head On:	0
Rear-to-Side / Rear:	0
Angle:	1
Sideswipe Same Dir:	0
Sideswipe Opp Dir:	0
Unknown:	0

Light Conditions

Dawn:	0
Daylight:	3
Dusk:	1
Dark / Lighted:	1
Dark / Not Lighted:	0
Not Indicated:	0

Weather Conditions

No Adverse Conditions:	4
Rain:	1
Sleet and Hail:	0
Snow:	0
Foggy:	0
Smog, Smoke:	0
Crosswind:	0

Fixed Objects

Boulder:	0	Other Barrier:	0	Ditch:	0
Building:	0	Highway Traffic Sign Post	0	Embankment:	0
Impact Attenuator:	0	Overhead Sign Support:	0	Fence:	0
Overhead Structure:	0	Luminaire/Light Support:	0	Wall:	0
Bridge Pier/Abutment/End:	0	Traffic Signal Support:	0	Mail Box:	0
Bridge Rail:	0	Utility Pole:	0	Shrubbery:	0
Guardrail:	0	Other Post, Pole Supports:	0	Tree:	0
Cable Barrier:	0	Culvert:	0	Fire Hydrant:	0
		Curb:	0	Other Fixed Object:	0

This report was generated by E-TRIMS

Crash Reduction Factors								
Source	Treatment	Star Rating	Crash Type	Crash Severity	Area Type	CMF	CRF	Std. Error
CMF Clearinghouse CMF ID: 474	Extend Acceleration Lane by Approx. 98 ft	3/5	All	All	Not Specified	0.89	11%	0.050
CMF Clearinghouse CMF ID: 475	Extend Deceleration Lane by Approx. 100 ft	3/5	All	All	Not Specified	0.93	7%	0.060
CMF Clearinghouse CMF ID: 5215	Lengthen Acceleration Lane from X Miles to Y Miles	NA	All	All	Not Specified	Formula (0.63 to 0.73)	Formula (27% to 37%)	NA

Other CMFs were not not used to due having low star ratings which indicate poor quality and confidence in the results producing the CMFs.
CMF ID 5215 has no star rating because it was in the original HSM and did not have a standard error.

Formulas for CMF 5215	Existing Length		Proposed Length			
	Ft	Miles	Ft	Miles	CMF	CRF
Rest Area to I-40 WB	1200	0.227272727	2150	0.40719697	0.63	0.37
Rest Area to I-40 EB	1200	0.227272727	1850	0.350378788	0.73	0.27

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2024	SMITH	CD-1

CRASH LEGEND

- Vehicle Path (Direction of Travel)
- Backing Vehicle
- Rear End
- Head On
- Side Swipe (Same Direction)
- Side Swipe (Opposite Direction)
- Right Angle
- Left Turn
- Overturn
- Out of Control
- Pedestrian/Bicycle Pedestrian/Motorcycle (Specify Road User)
- Heavy Truck / Bus

CONDITION CODES LEGEND

X - X - X - # ← NUMBER OF VEHICLES

WEATHER	ROAD SURFACE	LIGHTING
C=Clear	D=Dry	D=Daylight
R=Rain	W=Wet	DKN=Dark Not Lighted
CLD=Cloudy	I=Icy	DKL=Dark Lighted
F=Fog	O=Other	DN=Dawn
S=Snow	U=Uknown	DS=Dusk
U=Uknown		U=Unknown

TYPE OF CRASH

NUMBER OF FATALITIES OR INJURIES
- # FATAL CRASH
- # INCAPACITATING/SUSPECT SERIOUS INJURY CRASH

NUMBER OF CRASHES
- # NON-INCAPCAITATING/SUSPECTED MINOR INJURY CRASH
- # PROPERTY DAMAGE CRASH

Time: A=AM P=PM

☒ Parked Vehicle

☒ Object (Specify)

0 250' 500' 750'

TECHNICAL REPORT

STATE ROUTE I-40
LOG MILE 16.333 TO LOG MILE 0.080
CRASH DIAGRAM
SMITH COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

STATE ROUTE I-40
CRASH DIAGRAM

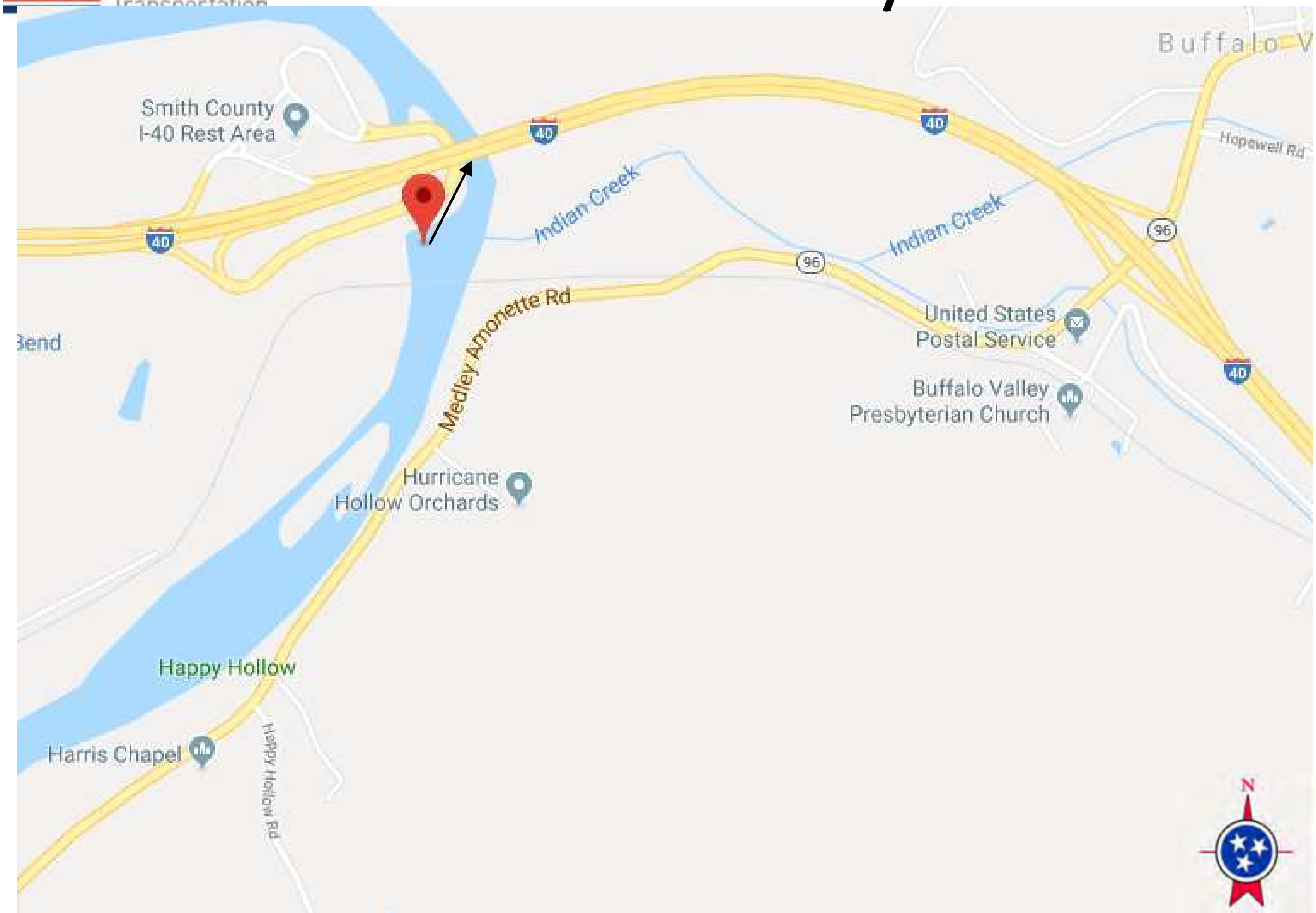
4/26/2024 10:46:08 AM
G:\TDOT STID ON-CALL CONTRACT\131552.00 SMITH COUNTY I-40 TECHNICAL REPORT\2023 CONCEPT REPORT\BREAKOUT PROJECT (REST AREA)\PIECES\131552.00-STID-PROPOSED - COPY.DGN

Existing Structure Summaries

Hydraulic Data

(14 pages)

Smith County



Regular Inspection Report

Location: 80 - I0040 - 17.16RT

Federal ID: 80I00400035

Owner: STATE OF TENNESSEE

Description:

4 Span Bridge

I40 / CANEY FORK RIVER & NFA A43

G.P.S.

N 36° 08.3868’ W 85° 48.1680’

BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department of Transportation

COUNTY: SMITH
LOCATION: 80-I0040-17.16-R
CO. SEQ.: 1 SPEC. CASE: 0
MILEPOST: 267.18

CROSSING: CANEY FORK RIV & NFA A43
FED. BRIDGE NO.: 80I00400035
MAINT. DIST.: 80

REPAIR LIST NO.: N
DATE ADDED:
REVISED: 07/24/2019

FACILITY CARRIED:	I40	NUMBER OF MAIN SPANS:	4
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	41 FT 11 IN	BRIDGE LENGTH (FT):	320
BRIDGE WIDTH (OUT TO OUT):	43 FT 11 IN	MAXIMUM SPAN LENGTH (FT):	90
APPROACH ROADWAY (W/SHOULDERS):	38 FT 0 IN	SKEW ANGLE (DEGREES):	90

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - MULTIPLE
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	07/27/2021	GENERAL CONDITION:	FAIR
EVALUATION DATE:	09/03/2019	STRUCTURALLY DEFICIENT:	NO
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	90.9

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS
CLEAN AND SEAL JOINTS
APPR. RAIL AND BRIDGE RAILS ARE SUBSTANDARD

GENERAL COMMENTS:

TDOT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 07/27/2021

County:	80
Route:	I0040
Special Case:	0
County Sequence:	1
Log Mile:	17.16

Bridge Number: (Includes Item 5A) 80I004000351

Feature Intersected: CANEY FORK RIV & NFA A43

Evaluation Status: OTHER ITEM(S) HAVE BEEN CHANGED

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	LAST INSPECTION DATE	07/27/2021
	EARLIEST DATE OF NEXT REGULAR INSPECTION	05/28/2023 ___/___/___
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. / ___ FT. ___ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. / ___ FT. ___ IN.
36	TRAFFIC SAFETY FEATURES	
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	6
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	7
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	6
72	APPROACH RDWY ALIGNMENT	8
521	OVERALL CONDITION	FAIR

Item 36 – Traffic Safety Features:

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT
1	0	0	0	70

16 LATITUDE N 36° 8.3868′

17 LONGITUDE W 85° 48.1680′

Digitally signed by Eric R. Edd
DN: cn=Eric R. Edd, o=TDOT Structures, ou=Reg 3 Bridge Insp. 3021, email=eric.edd@tn.gov, c=US
Date: 2021.08.18 10:29:34 -05'00'

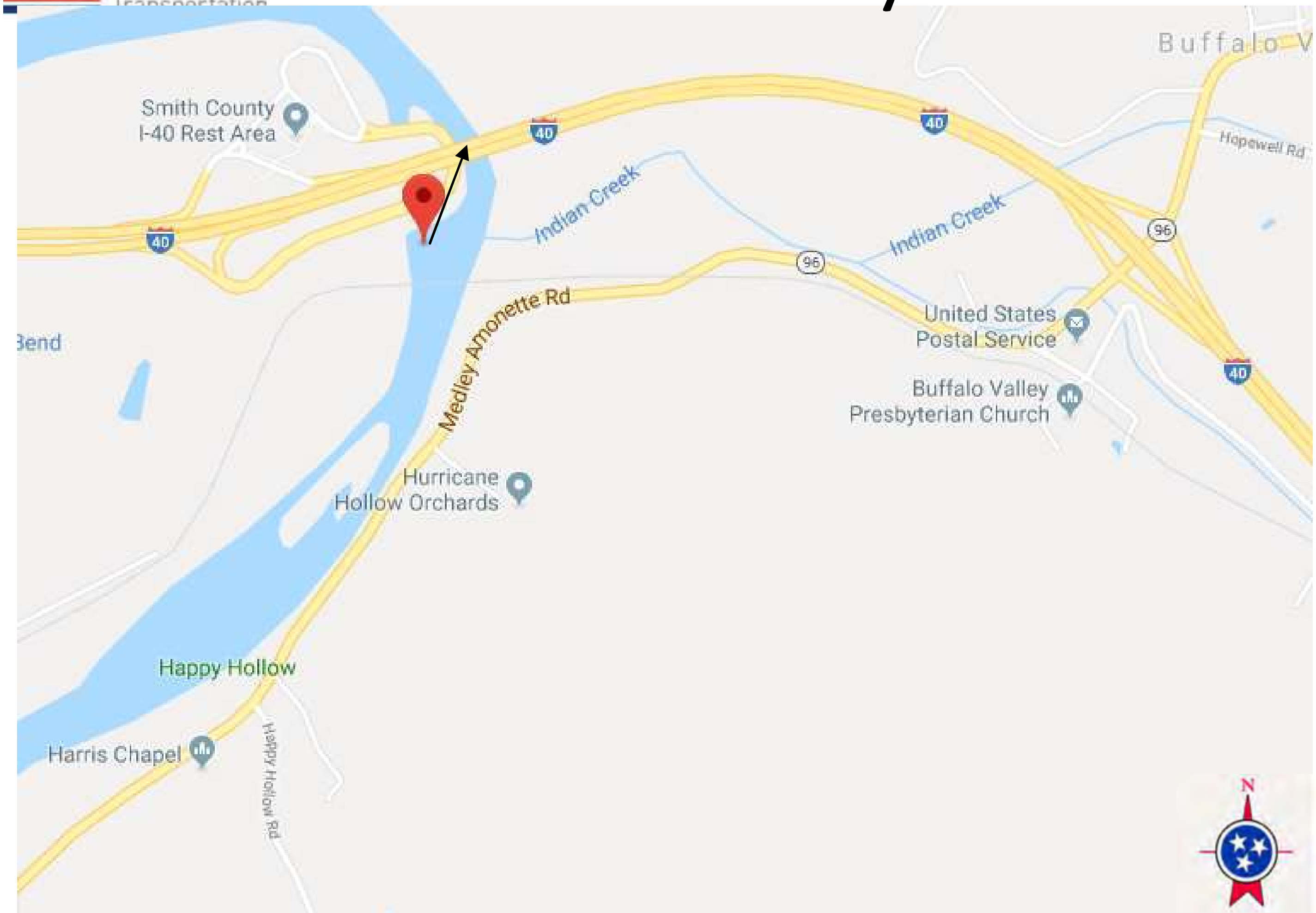
TEAM LEADER SIGNATURE

REVIEW DATE ___/___/___

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- 1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

Smith County



Regular Inspection Report

Location: 80 - I0040 - 17.16LT

Federal ID: 80I00400036

Owner: STATE OF TENNESSEE

Description:

4 Span Bridge

I40 / CANEY FORK RIVER & NFA A43

G.P.S.

N 36° 08.3998' W 85° 48.1795'

BRIDGE MAINTENANCE RECOMMENDATIONS

COUNTY: SMITH
LOCATION: 80-I0040-17.16-L
CO. SEQ.: 1 SPEC. CASE: 0
MILEPOST: 267.18

Tennessee Department of Transportation

CROSSING: CANEY FORK RIV & NFA A43
FED. BRIDGE NO.: 80I00400036
MAINT. DIST.: 80

REPAIR LIST NO.: N
DATE ADDED:
REVISED: 07/24/2019

FACILITY CARRIED:	I40	NUMBER OF MAIN SPANS:	4
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	41 FT 11 IN	BRIDGE LENGTH (FT):	320
BRIDGE WIDTH (OUT TO OUT):	43 FT 11 IN	MAXIMUM SPAN LENGTH (FT):	90
APPROACH ROADWAY (W/SHOULDERS):	38 FT 0 IN	SKEW ANGLE (DEGREES):	90

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - MULTIPLE
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	07/28/2021	GENERAL CONDITION:	FAIR
EVALUATION DATE:	09/03/2019	STRUCTURALLY DEFICIENT:	NO
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	91.9

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR RETAINING WALL AT THE BASE OF SLOPE PAVEMENT AT ABUT 1		

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS
CLEAN AND SEAL JOINTS
APPR RAILS ARE SUBSTANDARD

GENERAL COMMENTS:

TDOT
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 07/28/2021

Bridge Number: (Includes Item 5A) 80I004000361

Feature Intersected: CANEY FORK RIV & NFA A43

Evaluation Status: OTHER ITEM(S) HAVE BEEN CHANGED

County: 80
Route: I0040
Special Case: 0
County Sequence: 1
Log Mile: 17.16

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	LAST INSPECTION DATE	07/28/2021
	EARLIEST DATE OF NEXT REGULAR INSPECTION	05/29/2023
		/ /
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.
		___ FT. ___ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.
		___ FT. ___ IN.

36	TRAFFIC SAFETY FEATURES				
	Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT
	1	0	0	1	70

ITEM #	DESCRIPTION	VALUE
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	6
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	7
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	6
72	APPROACH RDWY ALIGNMENT	8
521	OVERALL CONDITION	FAIR

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- 1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

16 LATITUDE N 36° 8.3998′ 17 LONGITUDE W 85° 48.1795′

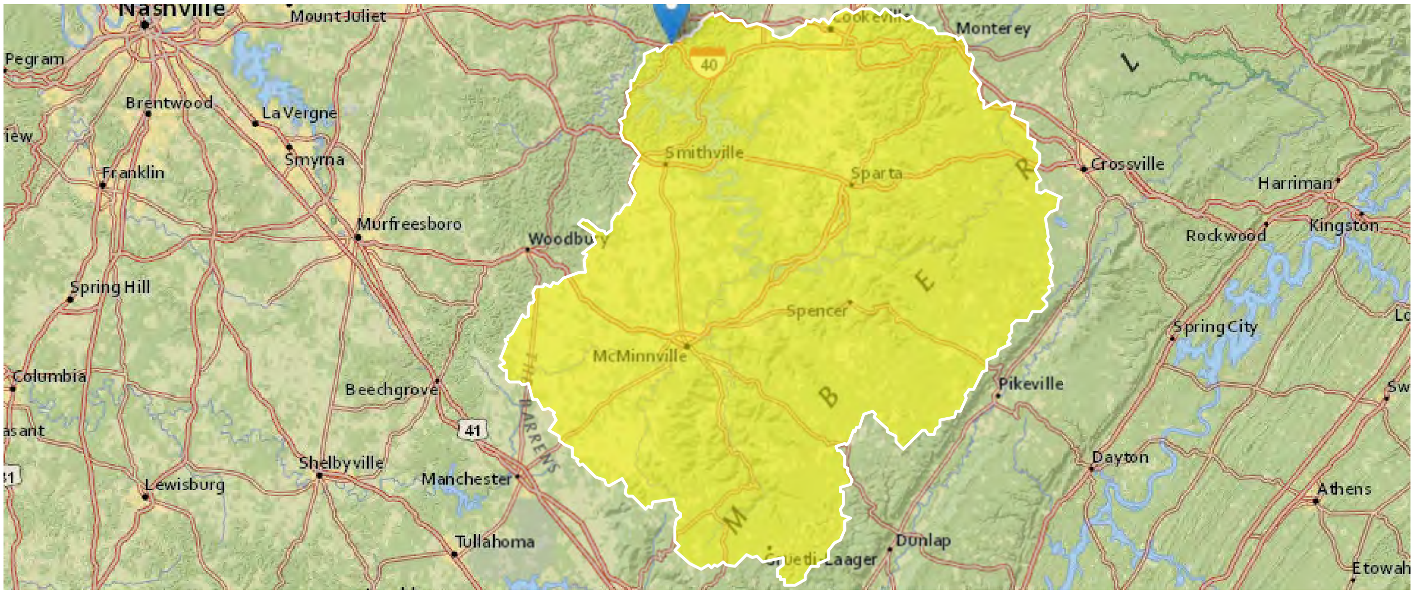
Digitally signed by Eric R. Edd
DN: cn=Eric R. Edd, o=TDOT Structures, ou=Reg 3 Bridge Insp. 3021, email=eric.edd@tn.gov, c=US
Date: 2021.08.23 11:50:35 -05'00'

TEAM LEADER SIGNATURE

/ /
REVIEW DATE

StreamStats Report

Region ID: TN
Workspace ID: TN20231214214749094000
Clicked Point (Latitude, Longitude): 36.13994, -85.80234
Time: 2023-12-14 15:48:14 -0600



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CLIMFAC2YR	Two-year climate factor from Lichy and Karlinger (1990)	2.291	dimensionless
CONTDA	Area that contributes flow to a point on a stream	2223.03	square miles
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	3.51	feet per mi
DRNAREA	Area that drains to a point on a stream	2223.03	square miles
PERMGTE2IN	Percent of area underlain by soils with permeability greater than or equal to 2 inches per hour	48.199	percent
RECESS	Number of days required for streamflow to recede one order of magnitude when hydrograph is plotted on logarithmic scale	69	days per log cycle
SOILPERM	Average Soil Permeability	2.362	inches per hour

General Disclaimers

The delineation point is in an exclusion area. REGULATED: STREAMFLOW ESTIMATES CONSIDERED NOT VALID

Peak-Flow Statistics

Peak-Flow Statistics Parameters [36.4 Percent (809 square miles) MultiVariable Area 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	2223.03	square miles	0.2	9000
CSL10_85	Stream Slope 10 and 85 Method	3.51	feet per mi	3.29	950
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.291	dimensionless	2.06	2.32

Peak-Flow Statistics Parameters [58.8 Percent (1310 square miles) MultiVariable Area 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	2223.03	square miles	0.47	2557
CSL10_85	Stream Slope 10 and 85 Method	3.51	feet per mi	1.9	343

Peak-Flow Statistics Parameters [4.8 Percent (107 square miles) MultiVariable Area 3 CDA GT 30.2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	2223.03	square miles	30.21	2048
CSL10_85	Stream Slope 10 and 85 Method	3.51	feet per mi	2.12	132

Peak-Flow Statistics Flow Report [36.4 Percent (809 square miles) MultiVariable Area 1]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp	Equiv. Yrs.
50-percent AEP flood	41400	ft^3/s	22200	77300	39.2	1.7
20-percent AEP flood	59500	ft^3/s	32000	111000	38.2	2.6
10-percent AEP flood	71800	ft^3/s	37900	136000	40.1	3.4
4-percent AEP flood	87500	ft^3/s	44500	172000	42.7	4.3
2-percent AEP flood	99200	ft^3/s	48700	202000	45.2	4.9
1-percent AEP flood	112000	ft^3/s	52900	237000	47.9	5.3
0.2-percent AEP flood	141000	ft^3/s	60200	330000	55.2	5.8

Peak-Flow Statistics Flow Report [58.8 Percent (1310 square miles) MultiVariable Area 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp	Equiv. Yrs.
50-percent AEP flood	55200	ft^3/s	33600	90600	30.5	3.4
20-percent AEP flood	83900	ft^3/s	52800	133000	28.5	5.3
10-percent AEP flood	105000	ft^3/s	65100	169000	29.4	6.6
4-percent AEP flood	134000	ft^3/s	80000	224000	31.8	7.9
2-percent AEP flood	156000	ft^3/s	89900	271000	34.1	8.5
1-percent AEP flood	177000	ft^3/s	98100	319000	36.7	8.8
0.2-percent AEP flood	233000	ft^3/s	117000	462000	43.1	9

Peak-Flow Statistics Disclaimers [4.8 Percent (107 square miles) MultiVariable Area 3 CDA GT 30.2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [4.8 Percent (107 square miles) MultiVariable Area 3 CDA GT 30.2]

Statistic	Value	Unit
50-percent AEP flood	41900	ft^3/s
20-percent AEP flood	61000	ft^3/s
10-percent AEP flood	75000	ft^3/s
4-percent AEP flood	94200	ft^3/s
2-percent AEP flood	109000	ft^3/s
1-percent AEP flood	124000	ft^3/s
0.2-percent AEP flood	165000	ft^3/s

Peak-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
50-percent AEP flood	49500	ft^3/s
20-percent AEP flood	73900	ft^3/s
10-percent AEP flood	91500	ft^3/s
4-percent AEP flood	115000	ft^3/s
2-percent AEP flood	133000	ft^3/s
1-percent AEP flood	151000	ft^3/s
0.2-percent AEP flood	196000	ft^3/s

Peak-Flow Statistics Citations

Law, G.S., and Tasker G.D.,2003, Flood-Frequency Prediction Methods for Unregulated Streams of Tennessee, 2000: U.S. Geological Survey Water-Resources Investigations Report 03-4176, 79p. (http://pubs.usgs.gov/wri/wri034176/)

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	1.3	14441
RECESS	Recession Index	69	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.291	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	2.362	inches per hour	0.45	9.72
PERMGTE2IN	Percent permeability gte 2 in per hr	48.199	percent	2	100

Low-Flow Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
7 Day 10 Year Low Flow	185	ft^3/s	89
30 Day 5 Year Low Flow	291	ft^3/s	70.2

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	1.3	14441
RECESS	Recession Index	69	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.291	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	2.362	inches per hour	0.45	9.72
PERMGTE2IN	Percent permeability gte 2 in per hr	48.199	percent	2	100

Flow-Duration Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
99.5 Percent Duration	180	ft^3/s	86.4
99 Percent Duration	209	ft^3/s	78
98 Percent Duration	248	ft^3/s	72.2
95 Percent Duration	330	ft^3/s	66.3
90 Percent Duration	450	ft^3/s	60.2
80 Percent Duration	692	ft^3/s	54
70 Percent Duration	992	ft^3/s	50.7
60 Percent Duration	1390	ft^3/s	48.7
50 Percent Duration	1980	ft^3/s	42.9
40 Percent Duration	2770	ft^3/s	36.1
30 Percent Duration	3780	ft^3/s	28.3
20 Percent Duration	5210	ft^3/s	23.3
10 Percent Duration	8440	ft^3/s	20.8

Flow-Duration Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Annual Flow Statistics

Annual Flow Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	1.3	14441
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.291	dimensionless	2.056	2.46

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
SOILPERM	Average Soil Permeability	2.362	inches per hour	0.45	9.72

Annual Flow Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
Mean Annual Flow	3960	ft^3/s	25.6

Annual Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Seasonal Flow Statistics

Seasonal Flow Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	1.3	14441
RECESS	Recession Index	69	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.291	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	2.362	inches per hour	0.45	9.72

Seasonal Flow Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
Summer Mean Flow	1960	ft^3/s	43.1

Seasonal Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Bankfull Statistics

Bankfull Statistics Parameters [36.9 Percent (820 square miles) Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.07722	940.1535

Bankfull Statistics Parameters [36.9 Percent (820 square miles) Appalachian Plateaus P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.081081	536.995602

Bankfull Statistics Parameters [63.1 Percent (1400 square miles) Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [63.1 Percent (1400 square miles) Interior Low Plateau P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.250965	386.999613

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [36.9 Percent (820 square miles) Appalachian Highlands D Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [36.9 Percent (820 square miles) Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	372	ft
Bieger_D_channel_depth	10.2	ft
Bieger_D_channel_cross_sectional_area	3920	ft^2

Bankfull Statistics Disclaimers [36.9 Percent (820 square miles) Appalachian Plateaus P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [36.9 Percent (820 square miles) Appalachian Plateaus P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	432	ft
Bieger_P_channel_depth	10.5	ft
Bieger_P_channel_cross_sectional_area	4500	ft^2

Bankfull Statistics Flow Report [63.1 Percent (1400 square miles) Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	175	ft
Bieger_D_channel_depth	6.52	ft
Bieger_D_channel_cross_sectional_area	820	ft^2

Bankfull Statistics Disclaimers [63.1 Percent (1400 square miles) Interior Low Plateau P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [63.1 Percent (1400 square miles) Interior Low Plateau P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	334	ft

Statistic	Value	Unit
Bieger_P_channel_depth	22.4	ft
Bieger_P_channel_cross_sectional_area	8110	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	187	ft
Bieger_USA_channel_depth	6.22	ft
Bieger_USA_channel_cross_sectional_area	1100	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bieger_D_channel_width	248	ft
Bieger_D_channel_depth	7.88	ft
Bieger_D_channel_cross_sectional_area	1960	ft^2
Bieger_P_channel_width	370	ft
Bieger_P_channel_depth	18	ft
Bieger_P_channel_cross_sectional_area	6780	ft^2
Bieger_USA_channel_width	187	ft
Bieger_USA_channel_depth	6.22	ft
Bieger_USA_channel_cross_sectional_area	1100	ft^2

Bankfull Statistics Citations

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages)

Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [29.2 Percent (650 square miles) Crippen Bue Region 5]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.1	10000

Maximum Probable Flood Statistics Parameters [70.8 Percent (1570 square miles) Crippen Bue Region 7]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2223.03	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [29.2 Percent (650 square miles) Crippen Bue Region 5]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	365000	ft^3/s

Maximum Probable Flood Statistics Flow Report [70.8 Percent (1570 square miles) Crippen Bue Region 7]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	211000	ft^3/s

Maximum Probable Flood Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	256000	ft^3/s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)

Application Version: 4.19.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.3.2

Traffic Analysis and Summary Tables

Forecasted Traffic Sheets

HCS Outputs

(37 pages)

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 80I040-S0-002 ROUTE: I-40
COUNTY: SMITH CITY:
PROJECT PIN NUMBER: 131552.00
PROJECT DESCRIPTION: WELCOME CENTER @ [EXIT 267].

[1] I-40 AVERAGE TRAFFIC DATA THRU WELCOME CENTER

DIVISION REQUESTING:

		PAVEMENT DESIGN	☐
MAINTENANCE	☐	STRUCTURES	☐
S.T.I.D.	☒	SURVEY & ROADWAY DESIGN	☐
PROG. DEVELOPMENT & ADM.	☐	TRAFFIC SIGNAL DESIGN	☐
PUBLIC TRANS. & AERO.	☐	OTHER ______	☐

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION:
PROJECTED LETTING DATE:

TRAFFIC ASSIGNMENT:

	BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
	AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
[1]	45,710	2026	59,420	5,024	8	2046	52-48	18	27		

REQUESTED BY: NAME MICHAEL GILBERT DATE 11/17/23
DIVISION S.T.I.D.
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: RANDY BOGUSKIE *Randy Boguskie* DATE 12/19/2023
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: TONY ARMSTRONG *Tony Armstrong* DATE 12/19/2023
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

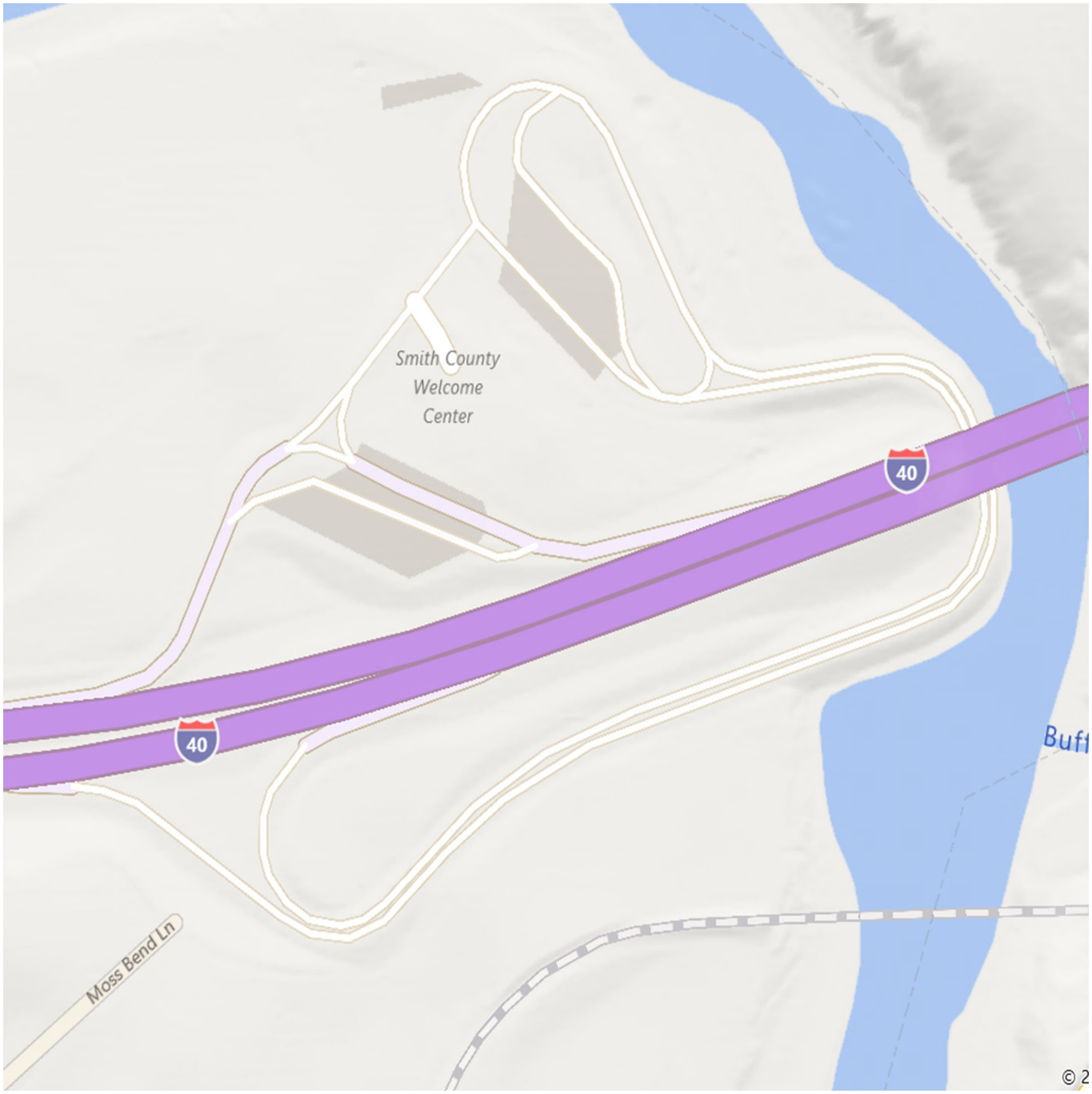
COMMENTS:

FURNISH THE 2026-2046 TRAFFIC DATA.

THIS TRAFFIC IS BASED ON A 2022 ATR COUNT STATION AND [4] 24-HOUR CLASSIFICATION COUNTS [DEC. 2023]. THE DESIGN YEAR TRAFFIC IS BASED ON THE TN-TIMES LINEAR REGRESSION TOOL. AADT's AND ADL's ARE INCLUDED.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

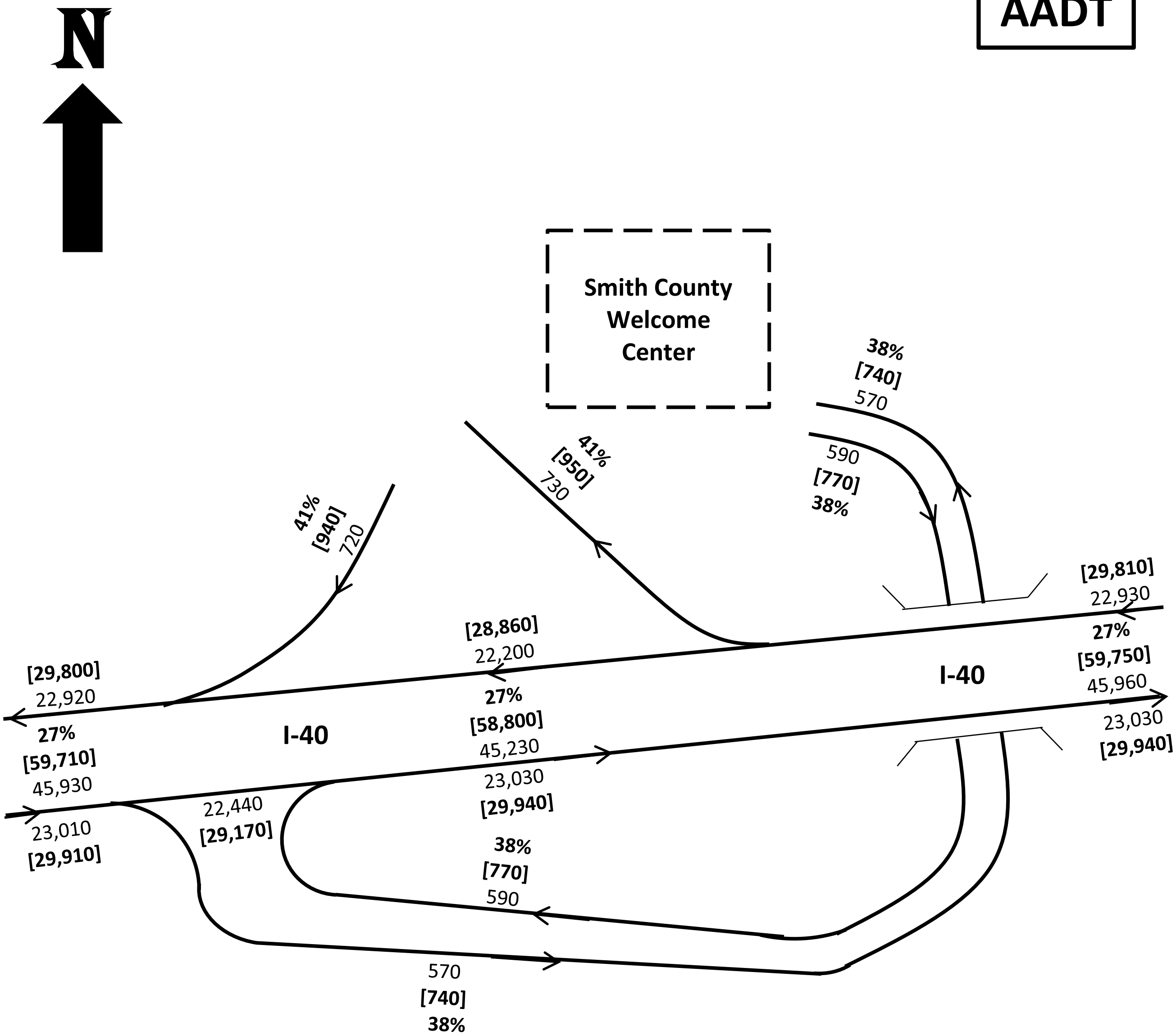
NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 6/9/21)



Smith County

I-40 @ Welcome Center @ Exit 267

AADT



Smith County
I-40 Interchange
@ Welcome Center

Legend:

2026 AADT - 000

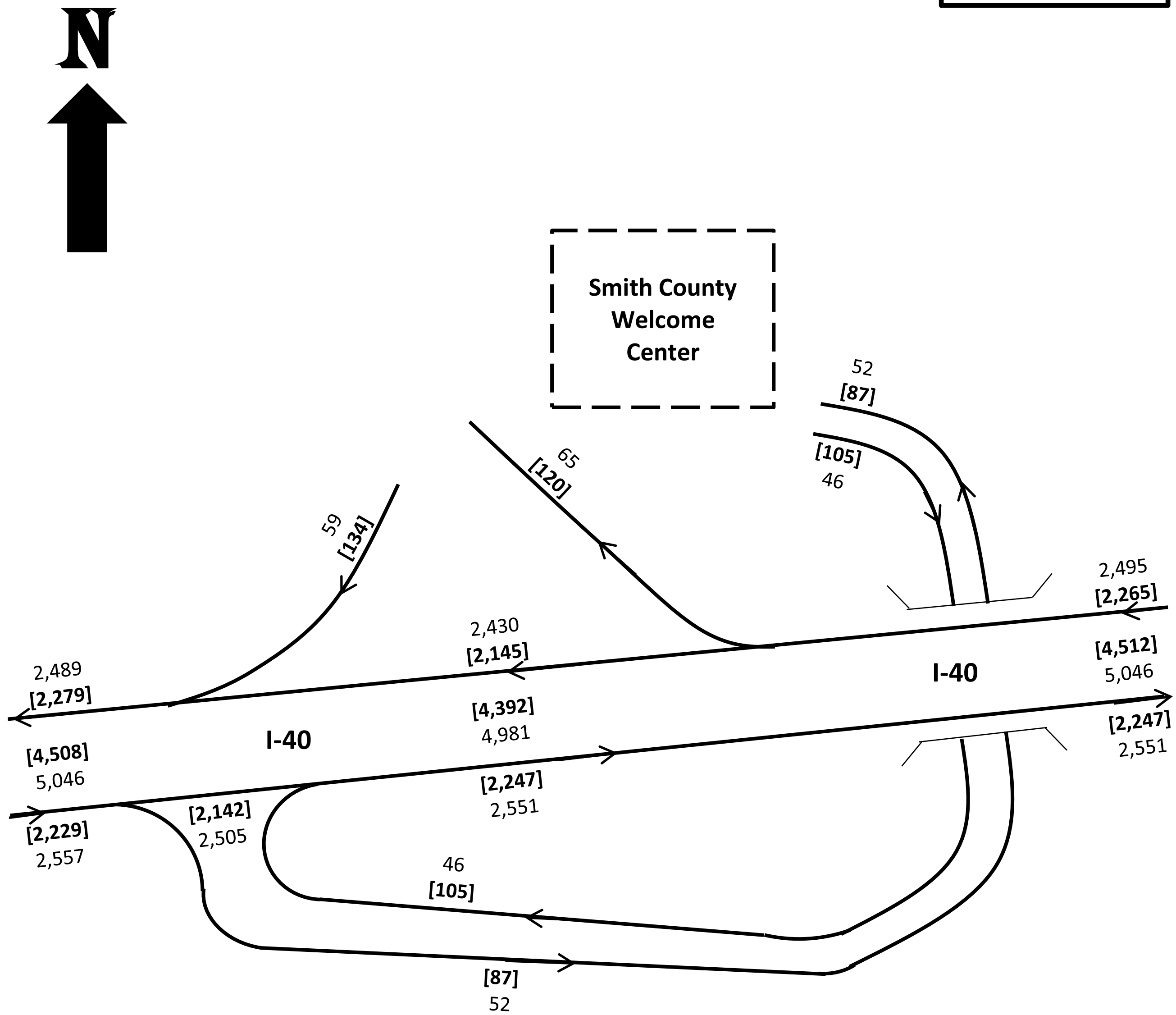
2046 AADT - [000]

AADT Truck % - **0%**

Date: December 19, 2023

TA

2046 DHV



Smith County
I-40 Interchange @
Welcome Center

2046 DHV
PM
[AM]

Date: December 19, 2023
TA

Year	No Build				Build			
	I-40 EB Ramps		I-40 WB Ramps		I-40 EB Ramps		I-40 WB Ramps	
	AM	PM	AM	PM	AM	PM	AM	PM
2026 (45,710 AADT)	C / C	C / C	C / B	C / C	B / B	C / B	B / B	B / B
2046 (59,420 AADT)	D / C	D / D	D / C	D / C	C / C	D / C	C / C	C / C

*Off Ramp / On Ramp

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2482	4646	0.53	72.7	17.1	B

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	2482	107	4646	1742	0.53	0.06	53.4	53.4	23.2	22.3	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2385	4646	0.51	70.8	16.3	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	2514	129	4646	1742	0.54	0.07	62.8	62.8	20.0	20.4	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2503	4646	0.54	72.7	17.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	828	778	1.08	27.06	67.1	18.5	13.6	1.60	C

Facility Overall Results			
Space Mean Speed, mi/h	67.1	Average Density, veh/mi/ln	13.6
Average Travel Time, min	1.60	Average Density, pc/mi/ln	18.5
Total VMT, veh-mi/AP	828	Total VHD, veh-h	1.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	27.06

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2847	4646	0.61	71.2	20.0	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	2847	53	4646	1742	0.61	0.03	53.5	53.5	26.6	25.4	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2789	4646	0.60	70.8	19.5	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	2836	47	4646	1742	0.61	0.03	62.2	62.2	22.8	22.9	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2840	4646	0.61	71.2	19.9	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	946	889	1.41	35.36	66.2	21.4	15.7	1.60	C

Facility Overall Results

Space Mean Speed, mi/h	66.2	Average Density, veh/mi/ln	15.7
Average Travel Time, min	1.60	Average Density, pc/mi/ln	21.4
Total VMT, veh-mi/AP	946	Total VHD, veh-h	1.41
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	35.36

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2521	4646	0.54	72.6	17.4	B

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2521	151	4646	1742	0.54	0.09	53.2	53.2	23.7	22.5	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2388	4646	0.51	72.3	16.4	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2557	169	4646	1742	0.55	0.10	62.9	62.9	20.3	19.6	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2537	4646	0.55	72.6	17.5	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	872	818	1.10	27.52	67.3	18.6	13.7	1.70	C

Facility Overall Results

Space Mean Speed, mi/h	67.3	Average Density, veh/mi/ln	13.7
Average Travel Time, min	1.70	Average Density, pc/mi/ln	18.6
Total VMT, veh-mi/AP	872	Total VHD, veh-h	1.10
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	27.52

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2778	4646	0.60	71.6	19.4	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2778	82	4646	1742	0.60	0.05	53.4	53.4	26.0	24.7	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2705	4646	0.58	71.9	18.8	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2779	74	4646	1742	0.60	0.04	62.5	62.5	22.2	21.4	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2770	4646	0.60	71.6	19.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	961	903	1.32	33.03	66.8	20.7	15.2	1.70	C

Facility Overall Results

Space Mean Speed, mi/h	66.8	Average Density, veh/mi/ln	15.2
Average Travel Time, min	1.70	Average Density, pc/mi/ln	20.7
Total VMT, veh-mi/AP	961	Total VHD, veh-h	1.32
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	33.03

HCS Freeway Facilities Report

Project Information			
Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3226	4646	0.69	68.7	23.5	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	3226	139	4646	1742	0.69	0.08	53.3	53.3	30.3	28.7	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3100	4646	0.67	69.7	22.2	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	3267	167	4646	1742	0.70	0.10	61.1	61.1	26.7	26.3	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3252	4646	0.70	68.5	23.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1076	1011	2.03	50.75	64.6	25.0	18.4	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	64.6	Average Density, veh/mi/ln	18.4
Average Travel Time, min	1.70	Average Density, pc/mi/ln	25.0
Total VMT, veh-mi/AP	1076	Total VHD, veh-h	2.03
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	50.75

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3701	4646	0.80	64.4	28.7	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	3701	69	4646	1742	0.80	0.04	53.5	53.5	34.6	32.8	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3626	4646	0.78	65.2	27.8	D

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	3687	61	4646	1742	0.79	0.04	59.4	59.4	31.0	29.6	D

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3692	4646	0.79	64.5	28.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1230	1156	3.20	79.89	61.7	29.9	21.9	1.80	E

Facility Overall Results

Space Mean Speed, mi/h	61.7	Average Density, veh/mi/ln	21.9
Average Travel Time, min	1.80	Average Density, pc/mi/ln	29.9
Total VMT, veh-mi/AP	1230	Total VHD, veh-h	3.20
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	79.89

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3278	4646	0.71	68.3	24.0	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3278	197	4646	1742	0.71	0.11	53.1	53.1	30.9	29.0	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3105	4646	0.67	69.6	22.3	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3325	220	4646	1742	0.72	0.13	61.1	61.1	27.2	25.6	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3299	4646	0.71	68.2	24.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1133	1064	2.14	53.47	64.6	25.2	18.6	1.80	D

Facility Overall Results

Space Mean Speed, mi/h	64.6	Average Density, veh/mi/ln	18.6
Average Travel Time, min	1.80	Average Density, pc/mi/ln	25.2
Total VMT, veh-mi/AP	1133	Total VHD, veh-h	2.14
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	53.47

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 No Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3611	4646	0.78	65.3	27.7	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3611	107	4646	1742	0.78	0.06	53.4	53.4	33.8	31.9	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3517	4646	0.76	66.3	26.5	D

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3614	97	4646	1742	0.78	0.06	60.0	60.0	30.1	27.9	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3603	4646	0.78	65.4	27.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1249	1174	2.97	74.19	62.6	28.7	21.1	1.80	D

Facility Overall Results

Space Mean Speed, mi/h	62.6	Average Density, veh/mi/ln	21.1
Average Travel Time, min	1.80	Average Density, pc/mi/ln	28.7
Total VMT, veh-mi/AP	1249	Total VHD, veh-h	2.97
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	74.19

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2482	4646	0.53	72.7	17.1	B

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	2482	107	4646	1742	0.53	0.06	53.4	53.4	23.2	19.3	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2385	4646	0.51	70.8	16.3	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	2514	129	4646	1742	0.54	0.07	63.6	63.6	19.8	16.0	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2503	4646	0.54	72.7	17.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	828	778	1.06	26.41	67.2	18.4	13.6	1.60	C

Facility Overall Results			
Space Mean Speed, mi/h	67.2	Average Density, veh/mi/ln	13.6
Average Travel Time, min	1.60	Average Density, pc/mi/ln	18.4
Total VMT, veh-mi/AP	828	Total VHD, veh-h	1.06
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.41

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2847	4646	0.61	71.2	20.0	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	2847	53	4646	1742	0.61	0.03	53.5	53.5	26.6	22.4	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2789	4646	0.60	70.8	19.5	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	2836	47	4646	1742	0.61	0.03	63.1	63.1	22.5	18.6	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2840	4646	0.61	71.2	19.9	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	946	889	1.38	34.51	66.4	21.4	15.7	1.60	C

Facility Overall Results

Space Mean Speed, mi/h	66.4	Average Density, veh/mi/ln	15.7
Average Travel Time, min	1.60	Average Density, pc/mi/ln	21.4
Total VMT, veh-mi/AP	946	Total VHD, veh-h	1.38
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	34.51

HCS Freeway Facilities Report

Project Information			
Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2521	4646	0.54	72.6	17.4	B

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2521	151	4646	1742	0.54	0.09	53.2	53.2	23.7	16.9	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2388	4646	0.51	72.3	16.4	B

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2557	169	4646	1742	0.55	0.10	63.6	63.6	20.1	16.3	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2537	4646	0.55	72.6	17.5	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	872	818	1.08	26.94	67.4	18.6	13.7	1.70	C

Facility Overall Results			
Space Mean Speed, mi/h	67.4	Average Density, veh/mi/ln	13.7
Average Travel Time, min	1.70	Average Density, pc/mi/ln	18.6
Total VMT, veh-mi/AP	872	Total VHD, veh-h	1.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.94

HCS Freeway Facilities Report

Project Information			
Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2026 Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2778	4646	0.60	71.6	19.4	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2778	82	4646	1742	0.60	0.05	53.4	53.4	26.0	19.1	B

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2705	4646	0.58	71.9	18.8	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	2779	74	4646	1742	0.60	0.04	63.2	63.2	22.0	18.1	B

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	2770	4646	0.60	71.6	19.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	961	903	1.30	32.39	66.9	20.6	15.2	1.70	C

Facility Overall Results

Space Mean Speed, mi/h	66.9	Average Density, veh/mi/ln	15.2
Average Travel Time, min	1.70	Average Density, pc/mi/ln	20.6
Total VMT, veh-mi/AP	961	Total VHD, veh-h	1.30
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	32.39

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3226	4646	0.69	68.2	23.7	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	3226	139	4646	1742	0.69	0.08	53.3	53.3	30.3	25.7	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3100	4646	0.67	69.7	22.2	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.667	3267	167	4646	1742	0.70	0.10	61.9	61.9	26.4	21.9	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3252	4646	0.70	68.5	23.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1076	1011	1.95	48.84	64.6	25.0	18.4	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	64.6	Average Density, veh/mi/ln	18.4
Average Travel Time, min	1.70	Average Density, pc/mi/ln	25.0
Total VMT, veh-mi/AP	1076	Total VHD, veh-h	1.95
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	48.84

HCS Freeway Facilities Report

Project Information			
Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Eastbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.81		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Eastbound	3000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Eastbound	980	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Eastbound	2600	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3701	4646	0.80	64.4	28.7	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	3701	69	4646	1742	0.80	0.04	53.5	53.5	34.6	29.8	D

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3626	4646	0.78	65.2	27.8	D

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.800	3687	61	4646	1742	0.79	0.04	60.3	60.3	30.6	25.2	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3692	4646	0.79	64.5	28.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1230	1156	3.15	78.68	61.9	29.8	21.9	1.80	E

Facility Overall Results

Space Mean Speed, mi/h	61.9	Average Density, veh/mi/ln	21.9
Average Travel Time, min	1.80	Average Density, pc/mi/ln	29.8
Total VMT, veh-mi/AP	1230	Total VHD, veh-h	3.15
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	78.68

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 Build
Jurisdiction	TDOT Region 3	Time Analyzed	AM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3278	4646	0.71	68.3	24.0	C

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3278	197	4646	1742	0.71	0.11	53.1	53.1	30.9	23.4	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3105	4646	0.67	69.6	22.3	C

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3325	220	4646	1742	0.72	0.13	61.8	61.8	26.9	22.3	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3299	4646	0.71	68.2	24.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1133	1064	2.11	52.67	64.7	25.2	18.5	1.80	D

Facility Overall Results

Space Mean Speed, mi/h	64.7	Average Density, veh/mi/ln	18.5
Average Travel Time, min	1.80	Average Density, pc/mi/ln	25.2
Total VMT, veh-mi/AP	1133	Total VHD, veh-h	2.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	52.67

HCS Freeway Facilities Report

Project Information

Analyst	Bradford Johnson	Date	4/24/2024
Agency	TDOT STID	Analysis Year	2046 Build
Jurisdiction	TDOT Region 3	Time Analyzed	PM DHV
Facility Name	I-40 Westbound	Units	U.S. Customary
Project Description	Smith Co I-40 Bridge Replacement Technical Report		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.89		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-40 Westbound	2000	2
2	Diverge	Diverge	I-40 Off Ramp	1500	2
3	Basic	Basic	I-40 Westbound	2000	2
4	Merge	Merge	I-40 On Ramp	1500	2
5	Basic	Basic	I-40 Westbound	3000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3611	4646	0.78	65.3	27.7	D

Segment 2: Diverge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3611	107	4646	1742	0.78	0.06	53.4	53.4	33.8	26.3	C

Segment 3: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3517	4646	0.76	66.3	26.5	D

Segment 4: Merge

AP	PHF		fHV		Volume Served (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.735	0.649	3614	97	4646	1742	0.78	0.06	60.6	60.6	29.8	24.6	C

Segment 5: Basic

AP	PHF	fHV	Volume Served (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.735	3603	4646	0.78	65.4	27.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1249	1174	2.94	73.41	62.7	28.7	21.1	1.80	D

Facility Overall Results

Space Mean Speed, mi/h	62.7	Average Density, veh/mi/ln	21.1
Average Travel Time, min	1.80	Average Density, pc/mi/ln	28.7
Total VMT, veh-mi/AP	1249	Total VHD, veh-h	2.94
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	73.41

NATIONAL BRIDGE INVENTORY
TENNESSEE INVENTORY AND APPRAISAL REPORT

BRIDGE ID NUMBER: **80I00400036**
BRIDGE OWNER: **STATE OF TENNESSEE**
FIPS CODE: **00000**
ROAD NAME: **I-40**
CROSSING: **CANEY FORK RIV & NFA A43**
LOCATION: **0.03 MI W. PUTNAM CO. LN**

COUNTY: **SMITH**
ROUTE: **I0040**
SPECIAL CASE: **0**
COUNTY SEQUENCE: **1**
LOG MILE: **17.16**
SUFFICIENCY RATING: **91.0**

IDENTIFICATION

(16a,b) LATITUDE:	N 36.13999 DEGREES
(17a,b) LONGITUDE:	W 85.80299 DEGREES
(98a) BORDER BRIDGE STATE CODE:	N/A
(98b) PERCENT SHARE:	00
(99) BORDER BRIDGE NUMBER:	NOT APPLICABLE

BRIDGE TYPE AND MATERIAL

(43a) MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
(44a) APPR SPAN MATERIAL:	NOT APPLICABLE
(45) NUMBER OF MAIN SPANS:	4
(46) NUMBER OF APPROACH SPANS:	0
(107) TYPE OF DECK:	OTHER
(108) TYPE OF WEARING SURFACE AND DECK PROTECTION:	
A) TYPE OF SURFACE:	ASPHALT
B) TYPE MEMBRANE:	NONE
C) TYPE PROTECTION:	NONE

AGE AND SERVICE

(27) YEAR THE BRIDGE WAS BUILT:	1971
(106) YEAR THE BRIDGE WAS REHABILITATED:	1991
(42a) SERVICE ON BRIDGE:	HIGHWAY
(42b) UNDER BRIDGE:	HIGHWAY-WATERWAY
(28a) NUMBER OF LANES CARRIED BY BRIDGE:	2
(28b) NUMBER OF LANES UNDER THE BRIDGE:	1

GEOMETRIC DATA

(48) MAXIMUM SPAN LENGTH:	89.9 FT
(49) TOTAL BRIDGE LENGTH:	319.9 FT
(50a) LEFT SIDEWALK WIDTH:	0.0 FT
(50b) RIGHT SIDEWALK WIDTH:	0.0 FT
(51) BRIDGE CURB TO CURB WIDTH:	42 FT
(52) BRIDGE OUT TO OUT WIDTH:	44 FT
(32) APPROACH ROADWAY (W/ SHLDS) WIDTH:	38.1 FT
(33) BRIDGE MEDIAN:	NO MEDIAN
(34) BRIDGE SKEW:	0 DEGREES
(35) BRIDGE FLARE:	NO FLARE
(520) MIN VERTICAL CLEARANCE OVER RD:	100 FT
(47) MIN HORIZONTAL CLEARANCE ON ROADWAY:	42.0 FT
(54a) VERT UNDERCLR:	HIGHWAY BENEATH BRIDGE
(54b) MIN VERTICAL UNDERCLEARANCE:	14.93 FT
(55a) HORZ UNDERCLR:	HIGHWAY BENEATH BRIDGE
(55b) MIN HORZ UNDERCLR ON RIGHT:	3.94 FT
(56) MIN HORZ UNDERCLR ON LEFT:	NOT APPLICABLE

NAVIGATION DATA

(38) NAV CONTROL:	NO NAVIGATION CONTROL
(39) NAVIGATION VERTICAL CLEARANCE:	N/A
(116) LIFT BRIDGE VERT CLEARANCE:	N/A
(40) NAVIGATION HORZ CLEARANCE:	N/A

CLASSIFICATION

(112) MEETS NBIS BRIDGE LENGTH:	YES
(104) NATIONAL HIGHWAY SYSTEM:	NHS ROUTE
(26) FUNCTIONAL CLASS:	RURAL INTERSTATE
(101) PARALLEL BRIDGE:	LEFT LANE BRIDGE
(102) TRAFFIC DIR:	1-WAY TRAFFIC
(103) TEMPORARY BRIDGE:	NOT APPLICABLE
(110) NATIONAL TRUCK ROUTE:	ON TRUCK NETWORK
(37) HISTORICAL CLASS:	HISTORICAL SIGNIFICANCE HAS NOT BEEN DETERMINED

CONDITION RATINGS

(58) DECK:	7
(59) SUPERSTRUCTURE:	6
(60) SUBSTRUCTURE:	7
(61) STREAM CHANNEL AND CHANNEL PROTECTION:	7
(62) CULVERT CONDITION (IF APPLICABLE):	N

DESIGN LOAD AND WEIGHT POSTING

(31) DESIGN LOADING:	H-20-44
WEIGHT POSTING (2 AXLE VEHICLES):	ALL LEGAL LOADS
WEIGHT POSTING (3 OR MORE AXLES):	ALL LEGAL LOADS
(70) BRIDGE POSTING CODE:	5
(41) WT POSTING STATUS:	OPEN

APPRAISAL

(67) STRUCTURAL EVALUATION:	6
(68) DECK GEOMETRY:	8
(69) UNDERCLEARANCE RATING:	4
(71) WATERWAY ADEQUACY:	6
(72) APPROACH ROADWAY ALIGNMENT:	8
(36) TRAFFIC SAFETY FEATURES:	1001
(113) SCOUR CONDITION RATING:	8

RECOMMENDED IMPROVEMENTS

(75) TYPE OF WORK:	NOT APPLICABLE
(76) LENGTH OF BRIDGE IMPROVEMENT:	N/A
(94) BRIDGE IMPROVEMENT COST:	
(95) ROADWAY IMPROVEMENT COST:	
(96) TOTAL PROJECT COST:	
(97) YEAR OF IMPROVEMENT COST ESTIMATE:	

INSPECTION DATES

(90) DATE OF LAST REGULAR INSPECTION:	8/9/2023
(91) REGULAR INSPECTION FREQUENCY (MONTHS):	24
(93b) DATE OF LAST UNDERWATER INSP (MO/YR):	N/A
(92b) UNDERWATER INSP FREQUENCY (MONTHS):	N00
(93c) DATE OF SPECIAL INSPECTION (MO/YR):	N/A
(92c) SPECIAL INSP FREQUENCY (MONTHS):	N00

PUBLICATION DATE
11-Mar-24

NATIONAL BRIDGE INVENTORY
TENNESSEE INVENTORY AND APPRAISAL REPORT

TN TDOT Department of Transportation

BRIDGE ID NUMBER:	**80I00400035**
BRIDGE OWNER:	**STATE OF TENNESSEE**
FIPS CODE:	**00000**
ROAD NAME:	**I-40**
CROSSING:	**CANEY FORK RIV & NFA A43**
LOCATION:	**0.03 MI W. PUTNAM CO. LN.**

COUNTY:	**SMITH**
ROUTE:	**I0040**
SPECIAL CASE:	**0**
COUNTY SEQUENCE:	**1**
LOG MILE:	**17.16**
SUFFICIENCY RATING:	**90.0**

IDENTIFICATION

(16a,b) LATITUDE:	**N 36.13978 DEGREES**
(17a,b) LONGITUDE:	**W 85.80280 DEGREES**
(98a) BORDER BRIDGE STATE CODE:	**N/A**
(98b) PERCENT SHARE:	**00**
(99) BORDER BRIDGE NUMBER:	**NOT APPLICABLE**

BRIDGE TYPE AND MATERIAL

(43a) MAIN SPAN MATERIAL:	**PRESTRESSED CONCRETE**
(44a) APPR SPAN MATERIAL:	**NOT APPLICABLE**
(45) NUMBER OF MAIN SPANS:	**4**
(46) NUMBER OF APPROACH SPANS:	**0**
(107) TYPE OF DECK:	**OTHER**
(108) TYPE OF WEARING SURFACE AND DECK PROTECTION:	
A) TYPE OF SURFACE:	**ASPHALT**
B) TYPE MEMBRANE:	**NONE**
C) TYPE PROTECTION:	**NONE**

AGE AND SERVICE

(27) YEAR THE BRIDGE WAS BUILT:	**1971**
(106) YEAR THE BRIDGE WAS REHABILITATED:	**1991**
(42a) SERVICE ON BRIDGE:	**HIGHWAY**
(42b) UNDER BRIDGE:	**HIGHWAY-WATERWAY**
(28a) NUMBER OF LANES CARRIED BY BRIDGE:	**2**
(28b) NUMBER OF LANES UNDER THE BRIDGE:	**1**

GEOMETRIC DATA

(48) MAXIMUM SPAN LENGTH:	**89.9 FT**
(49) TOTAL BRIDGE LENGTH:	**319.9 FT**
(50a) LEFT SIDEWALK WIDTH:	**0.0 FT**
(50b) RIGHT SIDEWALK WIDTH:	**0.0 FT**
(51) BRIDGE CURB TO CURB WIDTH:	**42 FT**
(52) BRIDGE OUT TO OUT WIDTH:	**44 FT**
(32) APPROACH ROADWAY (W/ SHLDS) WIDTH:	**38.1 FT**
(33) BRIDGE MEDIAN:	**NO MEDIAN**
(34) BRIDGE SKEW:	**0 DEGREES**
(35) BRIDGE FLARE:	**NO FLARE**
(520) MIN VERTICAL CLEARANCE OVER RD:	**100 FT**
(47) MIN HORIZONTAL CLEARANCE ON ROADWAY:	**42.0 FT**
(54a) VERT UNDERCLR:	**HIGHWAY BENEATH BRIDGE**
(54b) MIN VERTICAL UNDERCLEARANCE:	**14.93 FT**
(55a) HORZ UNDERCLR:	**HIGHWAY BENEATH BRIDGE**
(55b) MIN HORZ UNDERCLR ON RIGHT:	**3.94 FT**
(56) MIN HORZ UNDERCLR ON LEFT:	**NOT APPLICABLE**

NAVIGATION DATA

(38) NAV CONTROL:	**NO NAVIGATION CONTROL**
(39) NAVIGATION VERTICAL CLEARANCE:	**N/A**
(116) LIFT BRIDGE VERT CLEARANCE:	**N/A**
(40) NAVIGATION HORZ CLEARANCE:	**N/A**

CLASSIFICATION

(112) MEETS NBIS BRIDGE LENGTH:	**YES**
(104) NATIONAL HIGHWAY SYSTEM:	**NHS ROUTE**
(26) FUNCTIONAL CLASS:	**RURAL INTERSTATE**
(101) PARALLEL BRIDGE:	**RIGHT LANE BRIDGE**
(102) TRAFFIC DIR:	**1-WAY TRAFFIC**
(103) TEMPORARY BRIDGE:	**NOT APPLICABLE**
(110) NATIONAL TRUCK ROUTE:	**ON TRUCK NETWORK**
(37) HISTORICAL CLASS:	**HISTORICAL SIGNIFICANCE HAS NOT BEEN DETERMINED**

CONDITION RATINGS

(58) DECK:	**7**
(59) SUPERSTRUCTURE:	**6**
(60) SUBSTRUCTURE:	**7**
(61) STREAM CHANNEL AND CHANNEL PROTECTION:	**7**
(62) CULVERT CONDITION (IF APPLICABLE):	**N**

DESIGN LOAD AND WEIGHT POSTING

(31) DESIGN LOADING:	**H-20-44**
WEIGHT POSTING (2 AXLE VEHICLES):	**ALL LEGAL LOADS**
WEIGHT POSTING (3 OR MORE AXLES):	**ALL LEGAL LOADS**
(70) BRIDGE POSTING CODE:	**5**
(41) WT POSTING STATUS:	**OPEN**

APPRAISAL

(67) STRUCTURAL EVALUATION:	**6**
(68) DECK GEOMETRY:	**8**
(69) UNDERCLEARANCE RATING:	**4**
(71) WATERWAY ADEQUACY:	**6**
(72) APPROACH ROADWAY ALIGNMENT:	**8**
(36) TRAFFIC SAFETY FEATURES:	**1000**
(113) SCOUR CONDITION RATING:	**8**

RECOMMENDED IMPROVEMENTS

(75) TYPE OF WORK:	**NOT APPLICABLE**
(76) LENGTH OF BRIDGE IMPROVEMENT:	**N/A**
(94) BRIDGE IMPROVEMENT COST:	
(95) ROADWAY IMPROVEMENT COST:	
(96) TOTAL PROJECT COST:	
(97) YEAR OF IMPROVEMENT COST ESTIMATE:	

INSPECTION DATES

(90) DATE OF LAST REGULAR INSPECTION:	**8/9/2023**
(91) REGULAR INSPECTION FREQUENCY (MONTHS):	**24**
(93b) DATE OF LAST UNDERWATER INSP (MO/YR):	**N/A**
(92b) UNDERWATER INSP FREQUENCY (MONTHS):	**N00**
(93c) DATE OF SPECIAL INSPECTION (MO/YR):	**N/A**
(92c) SPECIAL INSP FREQUENCY (MONTHS):	**N00**

PUBLICATION DATE

11-Mar-24

MULTIMODAL PROJECT DISCRETIONARY (MPDG) GRANT

I-40 TRUCK PARKING & BRIDGES REPLACEMENT

2022

TN TDOT Department of Transportation

SUBMITTED TO THE U.S. DEPARTMENT OF TRANSPORTATION

SUBMITTED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION

505 DEADERICK STREET, NASHVILLE, TN 37243 | MAY 2022

COVER PAGE

Basic Project Information	
Project Name	I-40 Truck Parking & Bridges Replacement
Project Sponsor	Tennessee Department of Transportation
Was an application for USDOT discretionary grant funding for this project submitted previously?	No
A project will be evaluated for eligibility for consideration for all three programs, unless the applicant wishes to opt-out of being evaluated for one or more of the grant programs	____ Opt-out of Mega? ____Opt-out of INFRA? ____ Opt-out of Rural?
Project Costs	
MPDG Request Amount	$22,600,000
Estimated Other Federal funding (excl. MPDG)	$22,600,000
Estimated Other Federal funding (excl. MPDG) further detail	Other Federal funding being requested from other USDOT grant opportunities? $0.00
Estimated non- Federal funding	$11,300,000
Future Eligible Project Cost (Sum of previous three rows)	$56,500,000
Previously incurred project costs (if applicable)	$0.00
Total Project Cost (Sum of 'previous incurred' and 'future eligible')	$56,500,000
INFRA: Amount of Future Eligible Costs by Project Type	1. A highway freight project on the National Highway Freight Network: $22,600,000
Mega: Amount of Future Eligible Costs by Project Type	2. A highway or bridge project on the National Highway Freight Network: $22,600,000
Rural: Amount of Future Eligible Costs by Project Type	4. A highway freight project eligible under the National Highway Freight Program: $22,600,000
Project Location	
State(s) in which project is located	Tennessee
INFRA: Small or Large project	Large Project
Urbanized Area in which project is located, if applicable	N/A
Population of Urbanized Area (According to 2010 Census)	N/A
Is the project located (entirely or partially) in Area of Persistent Poverty or Historically Disadvantaged Community?	Persistent Poverty - No Historically Disadvantaged - No
Is the project located (entirely or partially) in Federal or USDOT designated areas	Opportunity Zone - Yes - 47159975300 and 47159975400
Is the project currently programmed in the: TIP; STIP; MPO; Long Range Transportation Plan; State Long Range Transportation Plan; State Freight Plan	Tennessee STIP; Tennessee State Freight Plan

TABLE OF CONTENTS

1. PROJECT DESCRIPTION

The Tennessee Department of Transportation (TDOT) is requesting $22,600,000 in 2022 MPDG grant funding for the I-40 Truck Parking & Bridges Replacement Project.

The proposed modifications for the I-40 Welcome Center and bridge interchange will vastly improve traffic flow, access and safety for all motorist traveling I-40. At 455 miles, I-40 is Tennessee's longest interstate corridor. Having safe rest areas for all Tennessee travelers and providing a large number of safe and reliable truck parking spaces in a bi-directional facility on I-40 will only increase the usage of the facility. Additionally, the truck parking area is nearly half way between Nashville and Knoxville and close to the half way point in the state on I-40.

The following project elements are part of this grant proposal:

- Existing welcome center ramps will be upgraded to meet current national standards, making access for all vehicles much easier.
- An additional 125 truck parking spaces (Figure 1) will be added to the TDOT-owned property within the welcome center, more than doubling the current capacity at this location.
- The adjacent bridge structures on I-40 over the Caney Fork River will be upgraded to extend its service life well into the next century.

The main characteristic of this proposed project is the update and transformation of an already stunning public facility with amenities to propel Tennessee interstates into the future. The additional truck parking will provide safe parking on a busy 180 mile stretch of I-40 between Nashville and Knoxville. This route has an estimated average annual daily traffic (AADT) of over 45,000 vehicles per day.[1] Unsafe parking along I-40 on and off ramps will see a drastic decline because of the additional spaces in a crucial area of the national freight network.

The new truck parking spaces will provide facilities to mitigate idle emissions concerns. The location of the proposed truck haven is in a rural setting on available property that does not impact agricultural or residential properties. The property currently houses many historical commemorations and recreation access points that will only be enhanced with the upgrade to the facility. This Welcome Center improvement project will provide additional walking trails and recreation access for visitors in a rural environment during their stop.

FIGURE 1: Location of Truck Parking Expansion

Project History

The proposed modifications for the I-40 Welcome Center and bridge interchange are part of a larger project along I-40 that TDOT had been in the planning stages for several years. The I-40 corridor in Smith County, from SR 53 in Gordonsville, TN along the Caney Fork River east to the Putnam County line, is approximately ten miles, four lanes, and includes 18 bridges. The corridor represents a critical connection between the Nashville MSA and Cumberland Plateau region.

Because of the winding nature of the Caney Fork River and its proximity to the I-40 Truck Parking & Bridges Replacement (Figure 2), 18 bridges are densely located within the project limits. In the larger project, TDOT proposes to construct nine new bridges, a single new bridge at each crossing, while widening the footprint of the corridor from four lanes to six lanes; three bifurcated sections would be eliminated, relocating one side to be directly next to the other that has the preferred alignment. This proposal would replace bridges in need and increase roadway capacity while keeping all traffic lanes open during construction to eliminate user delay costs. The two bridges included in the I-40 Truck Parking & Bridges Replacement MPDG project are part of the larger set of 18 bridges.

When initial discussions of the larger project began, TDOT realized an opportunity to impact the truck parking issue that has been a national concern since Jason's Law was incorporated as a part of Moving Ahead for Progress in the 21st Century (MAP-21).[2] Because of the tragic death of Jason Rivenburg in March 2009, the Federal Highway Administration (FHWA) completed the Jason's Law Truck Parking Survey Results and Comparative Analysis. In the analysis, one of the key findings from the survey showed that I-40 was one of the top five corridors cited by drivers and staff as having truck parking shortages.[3]

With valuable needed federal funds from the MPDG program, TDOT will not only be able to provide a necessary service to truckers utilizing I-40 with added safe truck parking, but the proposed project, when coupled with other surrounding projects, is expected to increase throughput and reduce congestion on a route that is critical to regional and national freight movement.

FIGURE 2: Existing Bridge at the I-40 Welcome Center

2. PROJECT LOCATION

The I-40 Truck Parking & Bridges Replacement project is located 60 miles east of downtown Nashville. The project bridges cross the Caney Fork River six river miles north of the Center Hill Dam.

The Welcome Center is minutes from Center Hill Lake, providing over 400 miles of shoreline for boating, fishing and other water activities. Smith County is also the gateway of the Upper Cumberland region and at the base of the Cumberland Plateau, the world's longest expanse of hardwood-forested plateau.[4]

Next to the Welcome Center, the river serves as the county border between Smith and Putnam Counties. The project location straddles two designated Opportunity Zones, 47159975300 and 47159975400. Opportunity Zones are an economic development tool that allows people to invest in distressed areas in the United States. Their purpose is to spur economic growth and job creation in low-income communities

Smith County is part of the Upper Cumberland Development District and the Dale Hollow Rural Planning Organization (RPO). The organizations' purpose is to facilitate input from rural counties to TDOT for transportation planning. RPOs work with TDOT to identify the Upper Cumberland region's needs regarding highways, transit, bike/pedestrian issues, aviation and waterways. RPOs are partners with Tennessee's development districts because economic and community development drives many of the transportation improvements in rural counties.[6]

While showing some population growth, Smith County remains relatively small and rural. When compared to Tennessee as a whole, Smith County has a lower poverty rate and a higher rate of the population with broadband Internet subscription. However, per capita and median household incomes lag below the state average. Table 1 shows a snapshot comparison of Smith County and Tennessee.

Table 1: Smith County and Tennessee At-a-Glance

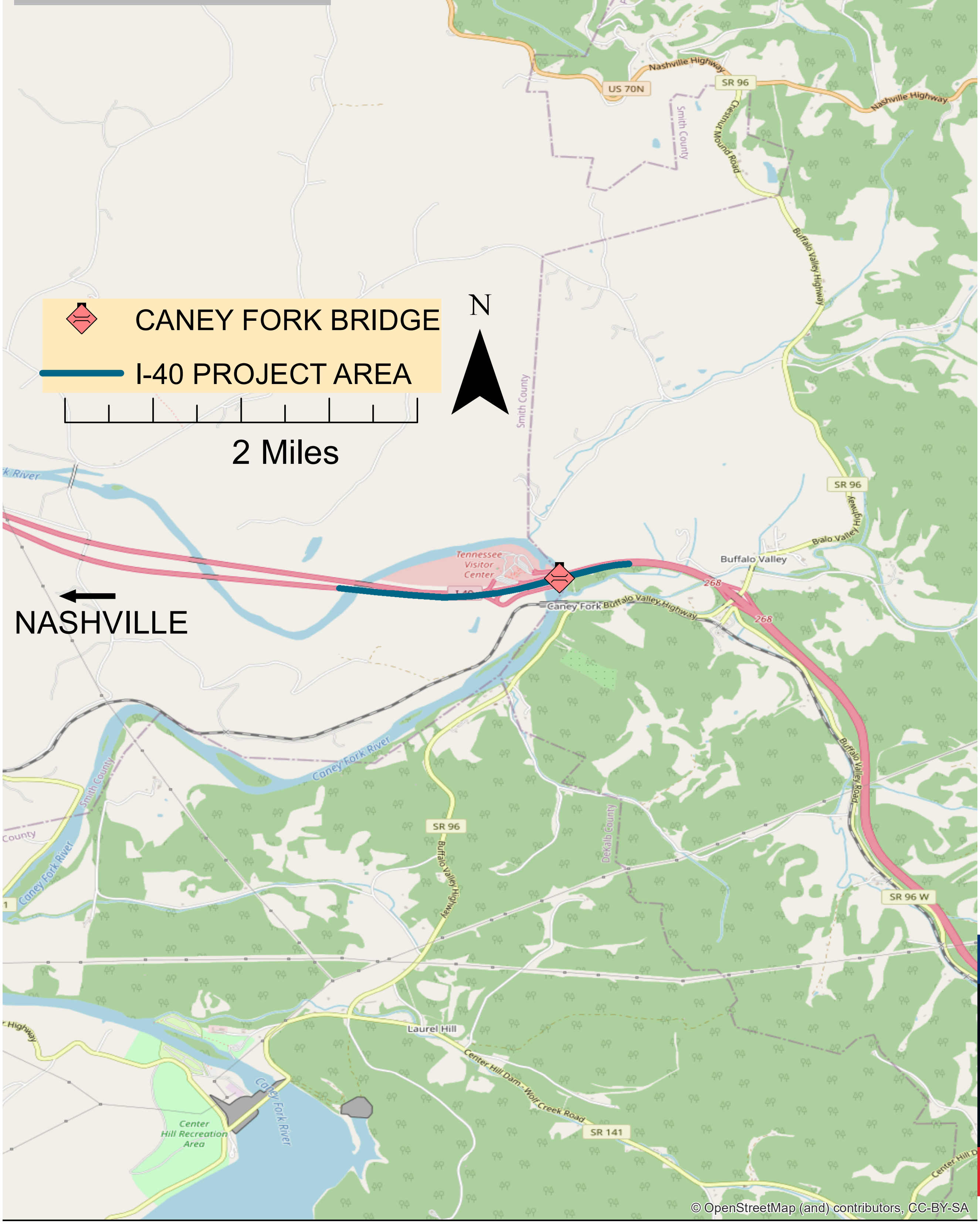
COUNTY CHARACTERISTICS	Smith County	Tennessee
Population (2019)	19,904	6,910,840
Per Capita Income	$28,134	$29,859
Total Employer Establishments (2019)	289	139,760
Mean Travel Time to Work (minutes)	34.0	25.2
Median Household Income	$48,611	$53,320
Poverty Rate	11.7%	13.9%
Households with a Broadband Internet Subscription	79.9%	78.4%

Source: US Census, Smith County and Tennessee Quick Facts

2.1. Project Area Details

The map below provides a layout of the specific project area, while highlighting the larger area outside the project limits in both Smith and Putnam Counties (Figure 3).

FIGURE 3: Project Location



Smith County and the Upper Cumberland region of Tennessee is home to multiple areas of natural beauty and numerous possibilities for outdoor activity as evidenced in the pictures below from the region. The Caney Fork River is the main tributary of Center Hill Lake, designed and built by the U.S. Army Corps of Engineers. The dam and lake were completed in 1948 and have been a source of varied outdoor recreation opportunities for millions of visitors each year.[7]

Pictured above are two views of the Caney Fork River.

Pictured below are Center Hill Lake and Center Hill Dam.

3. PROJECT PARTIES

The project sponsor, TDOT, serves as the MPDG applicant and implementing agency, and will own, operate, and maintain the roadway, bridge, and truck parking infrastructure improvements being constructed as part of this project.

This project is a priority for multiple stakeholders, including TDOT, and many others as evidenced by 14 letters of support.

Other project partners include those offering letters of support for this project are included in Appendix B. *Please note: project revisions during the process of garnering letters of support showed that truck parking spaces increased by 125 spots, instead of 100 spots. Also, at one point, TDOT discussed submitting replacement of six bridges, but decided to only include two for this MPDG application.*

4. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

TDOT is requesting $22,600,000 in MPDG funding for project construction costs to supplement federal and state funding sources.

Receipt of a MPDG grant provides the following beneficial outcomes:

- Improved Safety along the Entire I-40 Corridor – The proposed bridge replacement will increase the remaining service life of the bridge from approximately 10 years to 100. Upgraded rest areas for the motoring public and the addition of safe, reliable truck parking will decrease fatal, injury, and property damage crashes.
- Improved Clearance Access - The project will increase access to the truck facility by increasing the current height of the underpass from 14-6 to 16-2.
- Improved Traveler Recreation Access – The proposed site has an opportunity to provide walking trails for both auto and truck patrons to provide opportunities to enjoy the natural beauty of the river during their stop.
- Landscaping and Aesthetic Improvements – The project will incorporate unique landscaping qualities, along with intentionally low maintenance, environmentally sound, sustainable plantings. In addition, plantings will conform to those recommended for rest area locations that will not attract or provide homes and habitat for birds. Trees, shrubs, and flowers will be native and non-invasive to the middle Tennessee basin planting zone 7a.
- Truck Parking - The current amount of truck parking will increase by 125 spaces at this Welcome Center. This bi-directional facility's, serving both east and east bound travelers, current capacity is 27 designated diagonal truck parking spaces. This project will increase the percentage of truck parking spaces at this location by 82%.
- Electric Charging Stations - This site can incorporate solar power or other electrical sources, providing the ideal location for charging for the future electric trucks and cars.

4.1. Eligible Project Costs

The breakdown of federal and state funding to be used for the project is shown in Table 2. MPDG funding will be used as matching funds for project construction expenditures only, and no construction funding has been expended to date for this project. No expenditures for pre-construction activities are included in the MPDG request.

TABLE 2: PROJECT CAPITAL BUDGET SUMMARY BY SOURCE: CONSTRUCTION ONLY *(IN MILLIONS, 2022)*

	Funding source	Total funding
Federal funds	MPDG	$22.60
Federal funds	NHPP	$22.60
State fund	TDOT	$11.30
Total project cost		$56.50

4.2. Capital Sources of Funds

Federal Funds – A total of $22.60 million in MPDG funding and $22.60 million in National Highway Performance Program (NHPP) funding will be used for this project. Expenditures of both NHPP and MPDG funding will be matched with 20 percent state funding.

State Funds – A total of $11.30 million in state funding is committed and will be expended on the project. This funding will come from Tennessee's IMPROVE Act legislation that was passed in 2017 by the Tennessee General Assembly, aimed at accelerating vital transportation projects through a tax increase on gasoline and diesel fuel.

4.3. Operating Sources and Uses

After completion, TDOT will be financially responsible for any long-term operations and maintenance (O&M) within the project area, including winter maintenance, roadway repairs, emergency management planning, pavement management, and general roadway management. Funding for O&M costs in Tennessee is provided by dedicated state transportation funding supported by fuel tax revenue.

TDOT can manage MPDG grant funding, if awarded, and continuously manages and oversees numerous federal grants and streams of funding. As a steward of federal funds, TDOT is committed to a transparent and accountable financial management plan that will include:

- Current and complete disclosure of all spending on an accrual basis.
- Thorough documentation and recording of all authorizations, obligations, unobligated balances, assets, outlays, income, and interest.
- Effective control over and accountability for all funds, property, and other assets. All assets will be safeguarded and used solely for authorized purposes.
- Comparison of outlays with budget amounts for each award, related to performance and unit cost.
- Written procedures to minimize time elapsed between transfer of funds.
- Written procedures for determining reasonableness, allocability, and allowability of costs in accordance with provisions of federal cost principles and terms and conditions of the award.
- Accounting records including cost accounting records that are supported by source documentation.

5. PROJECT OUTCOME CRITERIA

Criterion #1 - Safety

One of the I-40 Truck Parking & Bridges Replacement's project goals is to address safety. The I-40 corridor is a common area for illegally parked, unsafe freight vehicles. In fact, recent pictures from the I-40 Welcome Center show a truck illegally parked at the west bound exit ramp, as seen in Figure 4. The addition of the truck haven will mitigate the current issue related to trucks parking on shoulders of exit / entrance ramps which result in unsafe conditions for all motorists. This condition is especially dangerous during overnight hours in rural areas where lighting of the interstate is very limited or nonexistent.

FIGURE 4: Illegal Truck Parking at the I-40 Welcome Center

In examining crash statistics from 2017-2022, even this small segment of I-40 has seen its share of accidents, including one fatality. In fact, total crashes in the area increased by over 30 percent from 2017 to 2018, from 11 to 16, as shown in Table 3. Property Damage Only crashes are the most frequent, followed by Minor Injury crashes. The first reported fatal crash during this period occurred in 2017.

Table 3: Crashes by Severity (2017 - 2022)

Year	Fatal	Severe injury	Minor injury	Property Damage	Total
2017	1	1	1	11	14
2018	0	1	2	8	11
2019	0	0	3	13	16
2020	0	0	1	8	9
2021	0	0	0	8	8
2022	0	0	0	4	4
Total	1	2	7	52	62

Source: Enhanced Tennessee Roadway Information Management System (E-TRIMS), Tennessee Department of Transportation (TDOT)

I-40 is one of the most heavily traveled east-west freight corridors in the southeast. Running from coast to coast with major north south intersecting interstates, including five in Tennessee (I-24, 55, 65, 75 & 81). I-40 truck traffic currently exceeds the available capacity for rest points in the state. Since the project proposes the development of a major truck parking facility adjacent to an existing rest area on I-40, which is near the midpoint of I-40 in Tennessee, the addition of 125 truck spaces will lead to the more truck parking opportunities at this facility. With the increase number of trucks on I-40, the opportunity for idle emissions exist. This not only provides truckers needed rest and comfort but the added health and safety benefits of cleaner air with an 82 percent addition of truck parking spaces at this location.

In developing this project, improvements to I-40 will improve entrance and exit ramps, improve vertical and horizontal clearances on the access roads, and add an auxiliary lane to connect to the future widening of I-40. The proposed widening of a 10-mile stretch of I-40 will add an additional thru-lane in both directions between the proposed truck haven and Gordonsville, Tennessee where food, fuel and hotel facilities are available. This project will add needed capacity along this rural rolling terrain segment of I-40. These measures will assist with throughput, making travel along I-40 much safer for all roadway users.

Multiple trucks zoom past the I-40 Welcome Center.

Source: Aimee Swartz, TDOT.

Photo taken on May 5, 2022.

Criterion #2 - State of Good Repair

Operations and maintenance (O&M) and rehabilitation and repair (R&R) costs associated with the bridge located at I-40 are estimated to total approximately $690,000 (2020 dollars) in discounted terms over the lifetime of the project.

Tennessee is proud of their record of maintaining their network in a state of good repair without incurring debt. This project will bring an existing rest area up to current standards with improvements to the entrance and exit ramps and improved clear zone safety enhancements. The addition of 125 truck parking spaces will improve safety of surrounding facilities that now have trucks parking at substandard sites. The proposed project will rebuild facilities to current standards providing a new extended service life for the facilities.

By rebuilding the bridges over the Caney Fork River (Figure 5), TDOT can avoid the future of overweight detours by providing new bridges that can handle freight at any weight for many years to come. In fact, according to TDOT's Overweight Permits Office, some sections of I-40 near the Harpeth River bridges have required up to 1 billion tons being diverted due to downgrading the weight classification on this bridge.[8]

TDOT has an excellent history of keeping its highways in a state of repair that facilitates national and regional commerce. Good repair of highways encourage tourism, economic development and keeps travelers safe. Based on currently available funding, TDOT's interstate and NHS routes are projected to remain well within state of good repair targets.

To help identify the roadways needing rehabilitation or maintenance, TDOT collects pavement condition data and calculates a pavement quality index (PQI) for the interstate, NHS state routes, and non-NHS routes. TDOT also tracks pavement metrics including roughness, rutting, fatigue cracking, and faulting and calculates growth rate projections for urban areas throughout the state to help with the future analysis of pavement and bridge conditions. The department can use this to plan for maintenance and repair in the future.

Once bridge reconstruction over the Caney Fork River on I-40 is complete, the pavement and bridge will be maintained in a state of good repair by scheduling major maintenance activities according to the life-cycle cost analysis process outlined in the TAMP.

FIGURE 5: Current Bridges

Criterion #3 - Economic Impacts, Freight Movement, and Job Creation

Having a reliable and efficient transportation system is critical to the economic competitiveness of the region and to the entire state. The Cumberland Plateau, Center Hill Lake and the Greater Nashville area are some of Tennessee's most prominent destinations for commerce, tourism and outdoor recreation. Anticipating continued growth while maintaining the quality of life that has drawn so many to the area– requires thoughtful and strategic planning. The project will help ensure continued success for local residents, visitors, through traffic, and freight, thus preserving Smith County and the Upper Cumberland region as vital connection point while supporting the local residents.

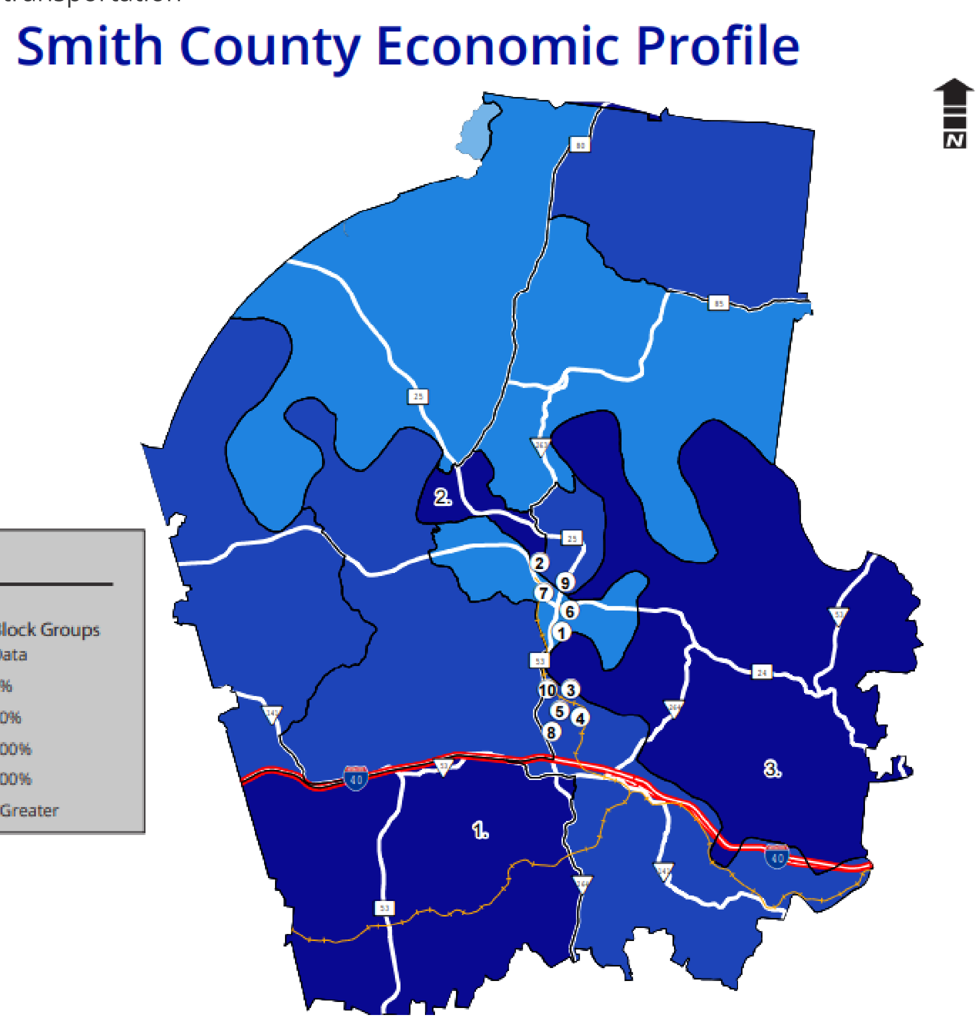
The I-40 bridge replacement, in addition to the auxiliary lane for future widening, and ramp improvements, will help improve reliability and operations on an interstate and connecting highway that is heavily traveled daily for commuting, freight, and seasonal recreation purposes.

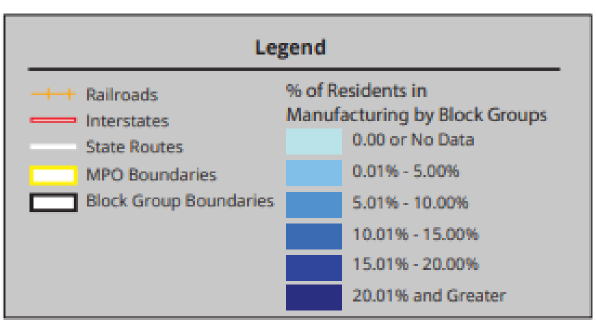
Maintaining a direct, safe, and efficient transportation network in Smith County is essential to the continued success of the region's tourism and outdoor recreation industries.

Freight and goods movement and related industries are also expected to experience benefits resulting from this project. Ensuring safe and efficient movement of goods is critical to Tennessee's economy, as 36 percent of jobs are considered goods-dependent.[9] Between 2016 and 2045, the percent growth of freight tonnage for Tennessee's middle to eastern leg of I-40 (up to the I-81 split) is projected to increase by over 80 percent.[10] The improvements associated with this project are intended to prepare for the increase in freight tonnage along this portion of I-40, in addition to the steadily increasing regional populations and traffic volumes.

Finally, most of the companies operating in Smith County are manufacturing companies (Figure 6) and major freight carriers, including several automotive companies such as Dana Driveshaft Products and Dura Automotive Systems.[11] Improving I-40 with these project elements will continue to ensure that freight flows in and out of Smith County.

FIGURE 6





PLEASE NOTE: Numbered circles on the map illustrate the locations of manufacturing businesses in and around the project location.

Criterion #4 - Climate Change, Resiliency, and the Environment

Environmental sustainability considerations and benefits of this project are present in aspects of project design, as well as the anticipated benefits once the project is constructed. Some of the project design elements that will mitigate climate change, aid in resiliency and the environment are listed below:

1. The facility can be designed to treat stormwater runoff to protect the Caney Fork River, detain runoff for groundwater recharge or grey water use at the facility, which will improve the resiliency of at-risk infrastructure.
2. Using bioretention and permeable pavement will mitigate stormwater runoff that would be a detriment to aquatic species.
3. During construction, TDOT evaluates any opportunities to incorporate sustainable alternatives and practices. TDOT has developed specifications for cold in-place recycling (CIR). This is a 100% recycling alternative to the traditional method of milling, hauling, and re-paving asphalt. CIR is a paving treatment which recycles in-situ asphalt at a depth of 3-5"; hot in-place recycling (HIR) is a similar alternative, which recycles 100% of in-situ asphalt at a depth of around 2" and is a hot process, rather than an ambient temperature process. HIR has been adopted by TDOT since 2013, with over 25 projects having used this process to date. CIR has been more recently adopted by TDOT, but three projects have been awarded with this provision and are beginning construction this year. Plans are to incorporate CIR and HIR for new base materials, thus incorporating lower-carbon pavement and construction materials.
4. The facility will be retrofitted with some solar power to promote energy efficiencies.
5. Finally, because TDOT is creating 125 additional parking spaces and because of the new HVAC systems that allow trucks to shut down and maintain a useable environment for the driver, proper rest locations as these can help mitigate climate change impacts and reduce transportation-related pollution such as air pollution and greenhouse gas emissions.

Although NEPA has not been completed, upon receipt of information necessary to initiate a NEPA review, TDOT's NEPA Office is prepared to prioritize their office's efforts related to NEPA document development for this project, in an effort to complete this review as quickly as possible.

Supplementary to NEPA, TDOT examines the project's communities to identify any additional EJ populations. To accomplish this, TDOT utilized the more advanced Statewide Environmental Justice Index (EJ Tool), which was developed in-house by TDOT, as shown in Figure 7. Rather than two criteria for NEPA, the EJ Tool analyzes nine criteria based on American Community Survey (ACS) 2019 5-Year Estimates: Under 18 Population (Age), Over 65 Population (Age), Minority, Hispanic, No Car Households, Population Living Below Poverty, Less than High School Diploma Attainment, Low-Proficiency English Speaking, and Disability Rates. These criteria are averaged to obtain a raw EJ score; the higher the raw score is – as indicated in Figure 7 – the more prevalent each of these nine criteria are in the surrounding community.

TDOT's more extensive EJ Screening Tool (Figure 7) reveals that the project is located in an area exhibiting an elevated EJ score. TDOT understands that improving traffic flow and safety along I-40 will benefit commuters and residents in this area, and deliberate consideration must be given to ensure that no undue burden is placed on these residents while rectifying infrastructure deficiencies.

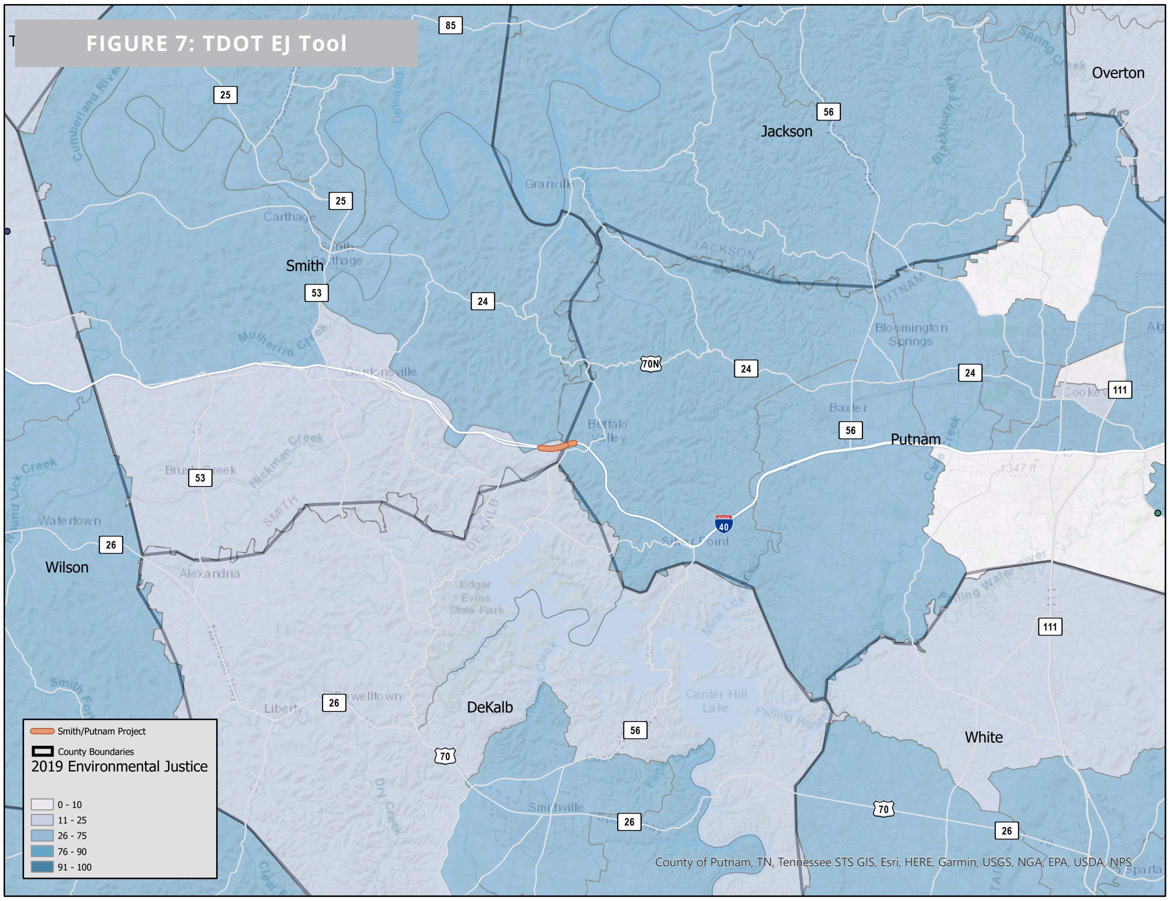


FIGURE 7: TDOT EJ Tool

In addition to identifying and addressing concerns to local EJ communities, TDOT is committed to the advancement of alternative fuel infrastructure – particularly electric, compressed natural gas (CNG), and propane – across Tennessee. Through a partnership with the Tennessee Valley Authority (TVA) and the Tennessee Department of Environment and Conservation (TDEC), TDOT is committed to investing in a Statewide Electric Vehicle (EV) Charging Station Network, which will help propel EV adoption by ensuring there is a DC Fast Charger every 50 miles along major interstates and highways. I-40 and nearby US-411 have been identified as Target Corridors in this collaborative Statewide effort. TDOT has dedicated $7 million towards this effort with TVA and TDEC, and is exploring opportunities for sustainable, ongoing funding strategies beyond the initial $7 million.

Currently, the entirety of I-40 is designated by the Federal Highway Administration (FHWA) as Corridor-Pending or Corridor-Ready for electric, CNG, and propane. By continuing to designate a diverse set of corridors and fuel types annually, Tennessee is strongly positioning itself to be able to invest in a variety of alternative fuel infrastructure for years to come. In 2020, TDOT completed the I-40 Alternative Fuels Corridor Deployment Plan. This effort brought together stakeholders from Tennessee, Arkansas, and North Carolina to take an existing inventory of EV and CNG stations along I-40 and initiate ongoing coordination for future build-out. TDOT continues to lead Quarterly Meetings with these stakeholders and is working with the University of Tennessee to develop a detailed I-40 Alternative Fuels Corridor Implementation Plan. Recognizing the rural and less dense nature of Smith County, TDOT anticipates that vehicles will remain a reliable mode of transportation in this area. TDOT wants to encourage migration towards cleaner vehicles, particularly in areas that are less suitable for modal shifts to transit and other non-vehicle options.

Criterion #5 - Equity, Multimodal Options, and Quality of Life

As demonstrated in Figure 7 on the previous page, the project area has EJ indices that range from 26 to 75 percent. I-40 Truck Parking & Bridges Replacement also straddles two designated Opportunity Zones, 47159975300 and 47159975400. The project improvements will give added access to an economically disinvested EJ area and ensure continued connections for all citizens using I-40 as a commute option and as an access thoroughfare to state parks and tourist destinations throughout the county and the Upper Cumberland region.

Community Engagement

TDOT recognizes and values the importance of robust engagement as a critical component of the project and essential to reaching traditionally underserved and underrepresented communities. The team has been and will continue to incorporate actions identified in our Public Participation Plan. In our Public Participation plan we as an organization will commit to the following: Provide opportunities for all stakeholders to receive updates on the plan throughout the process as well as provide input; Develop Partnerships with local community leaders, groups, and organizations to provide an integrated and environmentally aware approach to transportation; Provide timely and easily understood information to citizens impacted by the project; and ensure work with traditionally underserved and underrepresented communities.

To accomplish these important tasks, TDOT plans to partner with the Dale Hollow RPO and local communities in close proximity to the project. Through these partnerships, we will develop a strategy in which we host meetings, present key updates at local meetings, create surveys to ensure 24/7 access for the reception of comments, and provide updates from the planning/PE phase to construction.

Disadvantaged Business Enterprise (DBE)

TDOT is committed to the objectives of the Disadvantaged Business Enterprise (DBE) Program and it is our policy to fully support and comply with 49 C.F.R. Part 26 and all other applicable statutes, regulations, and guidelines of the United States Department of Transportation. TDOT has designated a DBE Liaison Officer (DBELO) within the Office of Civil Rights who is responsible for implementing all aspects of the DBE program. Implementation of the DBE program is in accordance with the same priority as compliance with all other legal obligations incurred by the TDOT in its financial assistance agreements with the Department of Transportation. The Small Business Development Office Certification Officers are tasked with certifying eligible DBEs as required by 49 C.F.R. Part 26 to participate in federally assisted contracts. Certified, eligible DBEs are included in a DBE directory. To meet the maximum feasible portion of its overall goal by race-neutral means, TDOT will make this policy statement available to all branches of State government and post it online for public viewing. It will be distributed to DBE and non-DBE communities that perform work on USDOT-assisted contracts by legal notices, and other appropriate means. In meeting its race-neutral participation policy, TDOT will make DBEs aware of contract opportunities and projects.

Criterion #6 - Innovation Areas: Technology, Project Delivery, and Financing

Innovative Funding

Tennessee has demonstrated its willingness to seek new methods of funding its transportation needs, including the 2017 IMPROVE Act that will provide non-federal funding for this project. The state's IMPROVE Act instituted an additional 6-cent gasoline tax and 10-cent diesel tax for TDOT to use to accelerate the development and completion of much-needed projects throughout the state. IMPROVE Act dollars will be providing the state match for this project. The IMPROVE Act provides funding for 962 road and bridge projects totaling $10.5 billion across the state over the next 20 years.

TDOT's commitment to financial stability and effective financial management is demonstrated by its track record of successfully delivering projects within available financial resources. For the last two decades, the Department has used all formula obligation authority and, as a result, received additional obligated funds for transportation investment. Tennessee was also one of the first states to obligate all American Recovery and Reinvestment Act (ARRA) funds – nearly $600 million for highway infrastructure – ahead of legislated deadlines.

TDOT oversees the annual distribution of approximately $2.2 billion per year in federal and state transportation revenues to support both state and local transportation-related projects. Tennessee is one of only five states with zero transportation debt as the state currently does not use debt financing to build or maintain its state and federal-aid transportation network. Zero debt allows the Department to dedicate all funds to infrastructure maintenance and improvements rather than interest payments. This "Pay-As-You-Go" philosophy creates a very financially stable system where future revenues are not tied up in debt repayment, allowing continued investment to occur.

Innovative Project Delivery

The I-40 corridor in Tennessee stretches over 400 miles from the Mississippi River near Memphis to the Appalachian Mountains near the Great Smoky Mountain National Park. Since this is such a critical thoroughfare for all segments of the traveling public, including freight carriers, TDOT is committed to using all available options to expedite delivery of the remaining project phases. Through State legislative authority, TDOT has the options of implementing Design-Build and Construction Management-General (CM/GC) Contracts. Design-Build allows a project delivery method that combines all or some portions of the design and construction phases of a project into a single contract, allowing delivery of those phases to be streamlined. CM/GC contracts involve a contractor through various phases to form a partnership with TDOT and other project partners, reducing risks and improving the ability to streamline elements of the project. To further improve performance, TDOT plans to place utility inspectors and construction managers on-site throughout the construction process.

In addition to the mechanisms described above, TDOT has developed a successful track record of accelerated project delivery (AD). Through AD, TDOT can incentivize contractors for meeting important deadlines early. TDOT also penalizes contractors for failing to meet agreed upon deadlines. This type of work encourages contractors to streamline their work and finish projects early while also reducing the impacts to the surrounding community.

Finally, for the bridge construction, Accelerated Bridge Construction (ABC) techniques could be used to lessen the impacts to the traveling public and dramatically reduce the overall construction time of the structures. ABC has been used successfully by TDOT in numerous bridge reconstruction projects, such as the I-440 reconstruction in Nashville and Phase 1 of the I-75/I-24 reconstruction and I-24 Bridges at Germantown and Bolivar Roads, all in Chattanooga.

6. BENEFIT COST ANALYSIS

A Benefit-Cost Analysis (BCA) was conducted to evaluate the proposed I-40 Truck Parking & Bridges Replacement improvements. The analysis looks at the project from the standpoint of society as a whole, and accounts for the net benefits and net costs based on the criteria described in the March 2022 USDOT BCA Guidance.

The primary benefits quantified relate to safety, travel time savings, and the residual benefits of the economic value of the project over the analysis period.

Project capital costs are compared to 20 years of operational benefits. All costs and benefits are reported in 2020 dollars and have been discounted using the seven percent rate recommended by the USDOT. The project is expected to have present value benefits of $2,821 million, compared to costs of $50.3 million. Thus, the benefit cost ratio is 56.1, and the net present value is $2,771 million. See Appendix C for more detail on the BCA assumptions and results.

TABLE 4: BENEFIT COST ANALYSIS (BCA) RESULTS *(IN MILLIONS, 2020)*

BCA metric	Undiscounted	Discounted (7%)
Total Benefits	$8,542.1	$2,821.0
Travel Time Savings	$2,774.1	$880.3
Safety Benefits	$1,378.2	$440.9
Vehicle Operating Cost Savings	$3,778.7	$1,191.7
Reduced Agency O&M Costs	$0.74	$0.69
Total Costs	$52.5	$50.3
Net Present Value (NPV)	N/A	$2,770.7
Benefit Cost Ratio (BCR)	162.6	56.1

7. PROJECT READINESS & ENVIRONMENTAL RISK

This project consists of a complete funding package. The State of Tennessee and TDOT have plans to obligate funding as presented in the Grants and Funding section of the grant.

7.1. Project Schedule

Because this project will remain almost entirely within TDOT's existing right-of-way, TDOT estimates that this project will be a Categorical Exclusion (CE). Although NEPA has not been completed, upon receipt of information necessary to initiate a NEPA review, TDOT's NEPA Office is prepared to prioritize their office's efforts related to NEPA document development for this project, in an effort to complete this review as quickly as possible. TDOT fully supports this project and will streamline efforts to ensure that funds are obligated ahead of the September 30, 2025 deadline for FY 2022 MPDG fund expenditures.

TABLE 5: PROJECT SCHEDULE

Item	Task	Start date	Completion date
1	MPDG Grant Award	November 2022	November 2022
2	Planning Document	November 2022	January 2023
3	Owners Rep/ 30% plan	January 2023	June 2023
4	Design Builder on Board		April 2024
5	Request MPDG Funding Obligations		April 2024
6	Project Construction	May 2024	April 2026
7	Project Closeout	May 2026	July 2026

7.2. Required Approvals

Environmental and Permit Approvals

As stated previously, all project activities and improvements will occur within a large majority of existing right-of-way, minimizing impacts to the surrounding environment. TDOT anticipates that this project will be a NEPA-CE.

State and Local Approvals

This project has been approved by both TDOT and the Tennessee State Legislature. The project is listed in both the current TDOT State Transportation Improvement Program and the FY 2021 – 2023 Comprehensive Multimodal Program, which is approved by the state legislature [12,13].

Assessment of Project Risks and Mitigation Strategies

It is unlikely that serious risks will be encountered on this project. As mentioned directly above, all project activities and improvements will occur within a large majority of existing right-of-way, minimizing impacts to the surrounding environment. TDOT anticipates that this project will be a NEPA-CE. All matching funds are available. TDOT has demonstrated success with Design-Build, (CM/GC), AD, and ABC and will be able to apply this experience to the MGDG project.

8. STATUTORY PROJECT REQUIREMENTS

Statutory Selection Requirements			
23 U.S.C. 117 INFRA	**23 U.S.C. 173 Rural**	**49 U.S.C. 6701 Mega**	**Guidance**
1) The project will generate national, or regional economic, mobility, or safety benefits	1) The project will generate regional economic, mobility, or safety benefits	1) The project is likely to generate national or regional economic, mobility, safety benefits	This project will: •Improve Safety along the entire I-40 Corridor – The proposed bridge replacement will increase the remaining service life of bridge from approximately 10 years to 100. Upgraded rest areas for the motoring public and the addition of safe reliable truck parking will decrease fatal, injury, and property damage crashes. • Improve Freight Access along I-40, one of the top freight interstates, for freight, industry, and local communities. • Truck parking - The current amount of truck parking will increase by 125 spots at this Welcome Center, 82 percent more than the current number of spaces, and creating a truck haven for freight carriers along I-40.
2) The project will be cost effective	2) The project will be cost effective	3) The project will be cost effective	The project is expected to have present value benefits of $2,821 million, compared to costs of $50.3 million. Thus, the benefit cost ratio is 56.1, and the net present value is $2,771 million.
3) The project will contribute to 1 or more of the national goals described under Section 150	3) The project will contribute to 1 or more of the national goals described under Section 150	No statutory requirement	This project contributes to the following goals listed under 23 U.S.C. § 150: Safety – As mentioned above, the proposed bridge replacement will increase the remaining service life of bridge from approximately 10 years to 100. Upgraded rest areas for the motoring public and the addition of safe reliable truck parking will decrease fatal, injury, and property damage crashes. System Reliability – This project's increased auxiliary lane will increase efficiency of traffic flow and prepare for future capacity expansion to six lanes. Freight Movement and Economic Vitality – This project is on the National Highway Freight Network and will improve travel for trucks accessing I-40 and will offer significant operational improvements.

Statutory Selection Requirements (Continued)			
23 U.S.C. 117 INFRA	**23 U.S.C. 173 Rural**	**49 U.S.C. 6701 Mega**	**Guidance**
4) The project is based on the results of preliminary engineering	4) The project is based on the results of preliminary engineering	No statutory requirement	The project is based on preliminary engineering because all planning and preliminary design activities are completed for this project. NEPA activities will be prioritized related to NEPA document development for this project. This project, because it is being built in existing right-of-way, should be a NEPA Categorical Exclusion (CE).
5) With respect to related non-federal financial commitments, 1 or more stable and dependable sources of funding and financing are available to construct, maintain, and operate the project, and contingency amounts are available to cover unanticipated cost increases	No statutory requirement	4) With respect to non-federal financial commitments, 1 or more stable and dependable sources are available to construct, operate, and maintain the project, and to cover cost increases	The project does have stable and dependable funding for the non-Federal match of $11,300,000. The source of this funding will come from the IMPROVE Act legislation that was passed in 2017 by the Tennessee General Assembly to accelerate vital transportation projects through a tax increase on gasoline and diesel fuel.
6) The project cannot be easily and efficiently completed without other Federal funding or financing available to the project sponsor	No statutory requirement	2) The project is in significant need of Federal funding	Without MPDG funding, this project will be severely delayed and costs will continue to rise, potentially threatening the project from coming to fruition.
7) The project is reasonably expected to begin not later than 18 months after the date of obligation of funds for the project	5) The project is reasonably expected to begin not later than 18 months after the date of obligation of funds for the project	5) The applicant have, or will have, sufficient legal, financial, and technical capacity to carry out the project	The project is scheduled to begin construction by May 2024, which is well within 18 months after the date of obligation of funds for the project.

ENDNOTES

1. *Enhanced Tennessee Roadway Information Management System (E-TRIMS), Tennessee Department of Transportation (TDOT)*
2. *Federal Highway Administration (FHWA), Jason's Law Truck Parking Truck Parking Survey Results and Comparative Analysis, August 2015.*
3. *Federal Highway Administration (FHWA), Jason's Law Truck Parking Truck Parking Survey Results and Comparative Analysis, August 2015.*
4. *https://www.nature.org/en-us/about-us/where-we-work/united-states/tennessee/stories-in-tennessee/cumberland-plateau/.*
5. *https://www.irs.gov/credits-deductions/businesses/opportunity-zones#:~:text=Opportunity%20Zones%20are%20an%20economic,providing%20tax%20benefits%20to%20investors.*
6. *https://ucdd.org/ecd/ecd-rpo/.*
7. *https://www.lrn.usace.army.mil/Locations/Lakes/Center-Hill-Lake/.*
8. *TDOT Overweight Permits Office.*
9. *TDOT's I-40/I-81 Multimodal Corridor Study, https://www.tn.gov/content/dam/tn/tdot/long-range-planning/studies/i-40-81-study/I-40-81-ExistingFutureConditionsReport.pdf.*
10. *Transearch, IHS, 2016 and 2045.*
11. *https://www.tn.gov/content/dam/tn/tdot/long-range-planning/oct/rural_regional_plans/DHRPO_Plan.pdf*
12. *Tennessee Transportation Improvement Program, Fiscal Years 2020-2023 tn.gov/content/dam/tn/tdot/programdevelopment/stateprograms/2.26.20%2STennessee%20STIP%20 2020-2023%20Final_12022019_RS%20(002).pdf*
13. *Tennessee Department of Transportation Fiscal Years 2021-2023 Comprehensive Multimodal Program. tn.gov/content/dam/tn/tdot/programdevelopment/stateprograms/3.25.20_tennessee%20fiscal%20years%2021-23.pdf*

APPENDICES

Appendix A: TDOT Funding Commitment

Appendix B: Letters of support

Appendix C: Benefit cost analysis supporting documentation

Appendix D: Benefit cost analysis spreadsheet calculations

FREIGHT & LOGISTICS DIVISION | FREIGHT PLANNING OFFICE
JAMES K. POLK BUILDING, 9TH FLOOR | 505 DEADERICK ST. NASHVILLE, TN 37243

Environmental Studies

Ecology

Environmental Studies

Ecology

Environmental Studies Request

Project Information

Route:	I-40
Termini:	L.M. 16.333 - L.M. 0.080
County:	Multiple Counties
PIN:	131552.01

Request

Request Type:	Initial Environmental Study
Project Plans:	Preliminary
Date of Plans:	04/24/2024
Location:	Email Attachment

Certification

Requestor:	Trent Deason	**Signature:**	Trent Deason
Title:	Planner II		Digitally signed by Trent Deason Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Ecology

Study Results

Based on the information provided, an environmental boundaries report dated September 26, 2024, has been completed. Species coordination was completed with TWRA, TDEC DNA, and USFWS for the project, and the coordination documents are included within the EBR. Species coordination for this project is based on current understanding of the project scope, any changes to which could lead to additional coordination being required.

Commitments

Did the study of this project result in any environmental commitments? **Yes**

In accordance with the Programmatic Consultation for Addressing Cliff Swallows and Barn Swallows on Transportation Projects dated 9/16/2020, cliff swallow and barn swallow nests, eggs, or birds (young and adults) will not be disturbed between April 15 and July 31. From August 1 to April 14, nests may be removed or destroyed, and measures may be implemented to prevent future nest building at the site (e.g., closing off area using netting).

Due to the presence of multiple state listed fish species, in stream work is prohibited from April 1 to June 30.

Haul road(s) shall not extend beyond one-third the stream width to avoid obstructing flow.

Additional Information

Is there any additional information or material included with this study? **Yes**

Type: Environmental Boundaries Report (EBR)

Location: Email Attachment

Certification

Responder: Evelyn DiOrio

Title: TDOT SR Technical Specialist

Signature: Evelyn DiOrio

Digitally signed by Evelyn DiOrio
Date: 2024.09.26 14:30:16 -05'00'

Project Name: Smith/Putnam I-40 Truck Parking and Bridge Replacement over the Caney Fork River **PIN:** 131552.01

Water Resource Table for NEPA Documentation

Based on: ETSA

Date: 12/14/2023

Table Amounts are based on (choose only one): Estimated extent of resource within ETSA

Water Resources (Non-Wetland)							
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**Quality**	**Amount (Linear Feet)**	**Amount (Acres)**
STR-1	Perennial Stream	36.141983	-85.810155	Cumberland River	ETW/Impaired (303(d))	686	4.09
STR-2	Perennial Stream	36.138627	-85.801272	Caney Fork River	Fully Supporting	0	0
WWC-1	Wet Weather Conveyance	36.138589	-85.818901	Caney Fork River	Unassessed	492	0.37
WWC-2	Wet Weather Conveyance	36.141784	-85.810451	Caney Fork River	Unassessed	168	0.03
WWC-3	Wet Weather Conveyance	36.139532	-85.800223	Caney Fork River	Unassessed	145	0.01
WWC-4	Wet Weather Conveyance	36.1141392	-85.799378	Caney Fork River	Unassessed	658	0.12
					Total:	2,149	5

**For the purposes of the NEPA document, Amount is assumed to be Permanent Loss.

Note- Features and estimated amounts referenced in this table are based on information available and may change as the project is further refined througout project development.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
REGION 3 ENVIRONMENTAL SECTION
6601 CENTENNIAL BOULEVARD
NASHVILLE, TENNESSEE 37243-1402
(615) 335-8783

BUTCH ELEY
DEPUTY GOVERNOR &
COMMISSIONER OF TRANSPORTATION

BILL LEE
GOVERNOR

MEMORANDUM

To: Brandon Chance
Headquarters Environmental Section

From: Evelyn DiOrio
Region 3 Environmental Section

Evelyn DiOrio Digitally signed by Evelyn DiOrio Date: 2024.09.26 14:38:30 -05'00'

Date: September 26, 2024

Subject: ENVIRONMENTAL BOUNDARIES FOR:
Smith/Putnam Counties, I-40 Truck Parking and Bridge Replacement over the Caney Fork River
PIN: 131552.01

An ecological evaluation of the subject project has been conducted in response to an initial evaluation request, with the following results:

STREAMS: There are two (2) streams and four (4) wet weather conveyances within the project area.

WETLANDS: There are no wetlands within the project area.

OTHER FEATURES: There is one (1) potential sinkhole and one (1) potential cave within the project area.

SPECIES:

- USFWS: Coordination with USFWS has been completed and it was determined there will be No Effect on federally listed species.

- TWRA: TWRA coordination was completed and a time of year restriction for in stream work will be required due to multiple state listed species.

- TDEC DNA: TDEC DNA coordination was completed and no effects on state listed plant species are anticipated as a result of this project. There are a number of state listed species in the vicinity, so if the scope of work changes further coordination may be warranted.

SPECIAL NOTES: There are no special notes for the subject project.

COMMITMENTS: The following are commitments and will be added in PPRM:

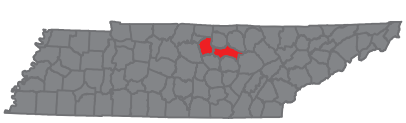
In accordance with the Programmatic Consultation for Addressing Cliff Swallows and Barn Swallows on Transportation Projects dated 9/16/2020, cliff swallow and barn swallow nests, eggs, or birds (young and adults) will not be disturbed between April 15 and July 31. From August 1 to April 14, nests may be removed or destroyed, and measures may be implemented to prevent future nest building at the site (e.g., closing off area using netting).

Due to the presence of multiple state listed fish species, in stream work is prohibited from April 1 to June 30.

Haul road(s) shall not extend beyond one-third the stream width to avoid obstructing flow.

If the scope of work for this project is revised, please contact the regional biologist for additional review and agency coordination as soon as possible. Your assistance is appreciated. If you have any questions or comments, please contact me at (615) 837-5004 or evelyn.diorio@tn.gov.

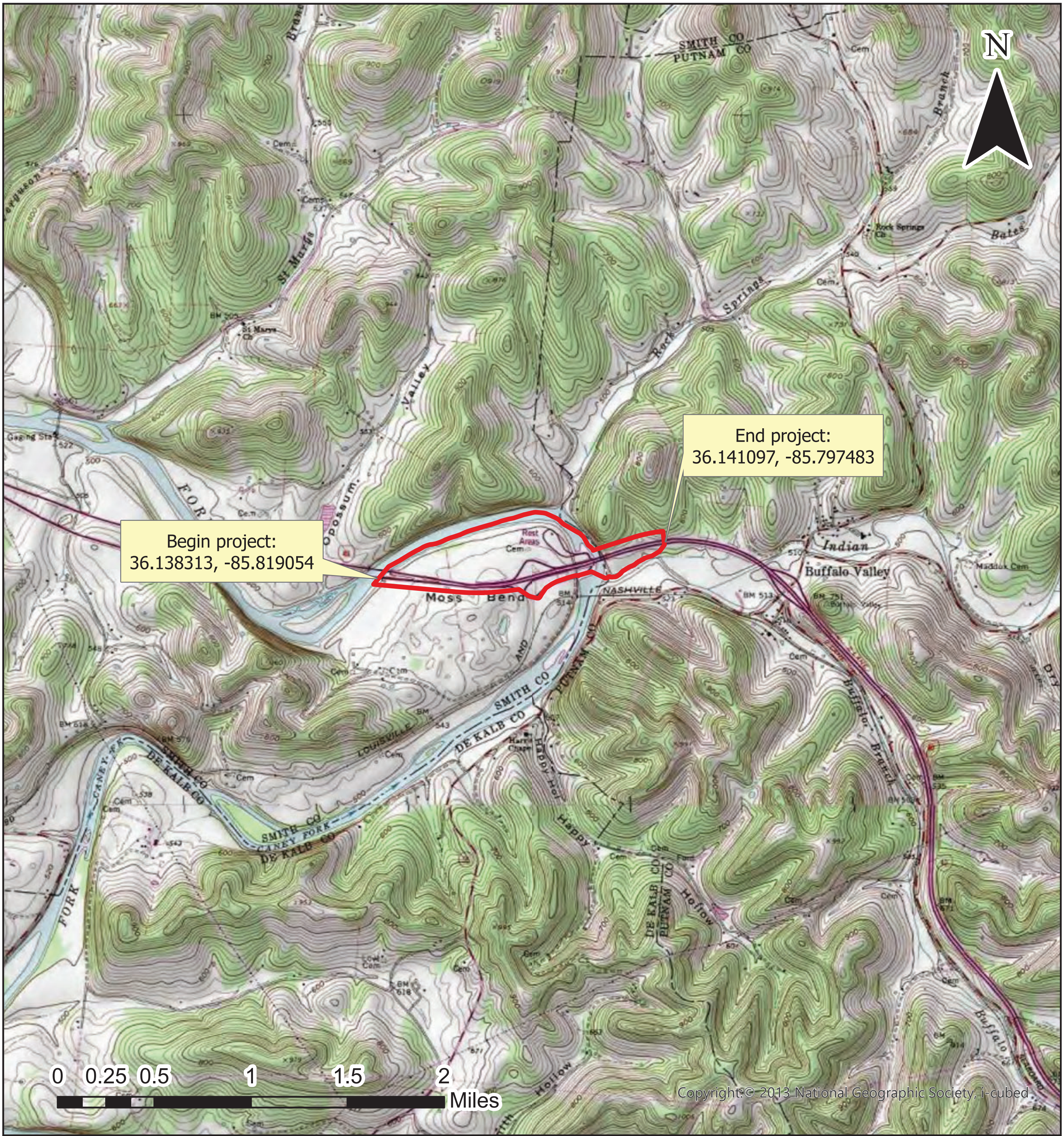
xc: R3.EnvTechOffice
TDOT.Env.Ecology
Kimberly Welch

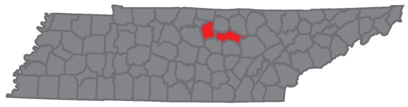


Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River

PIN: 131552.01

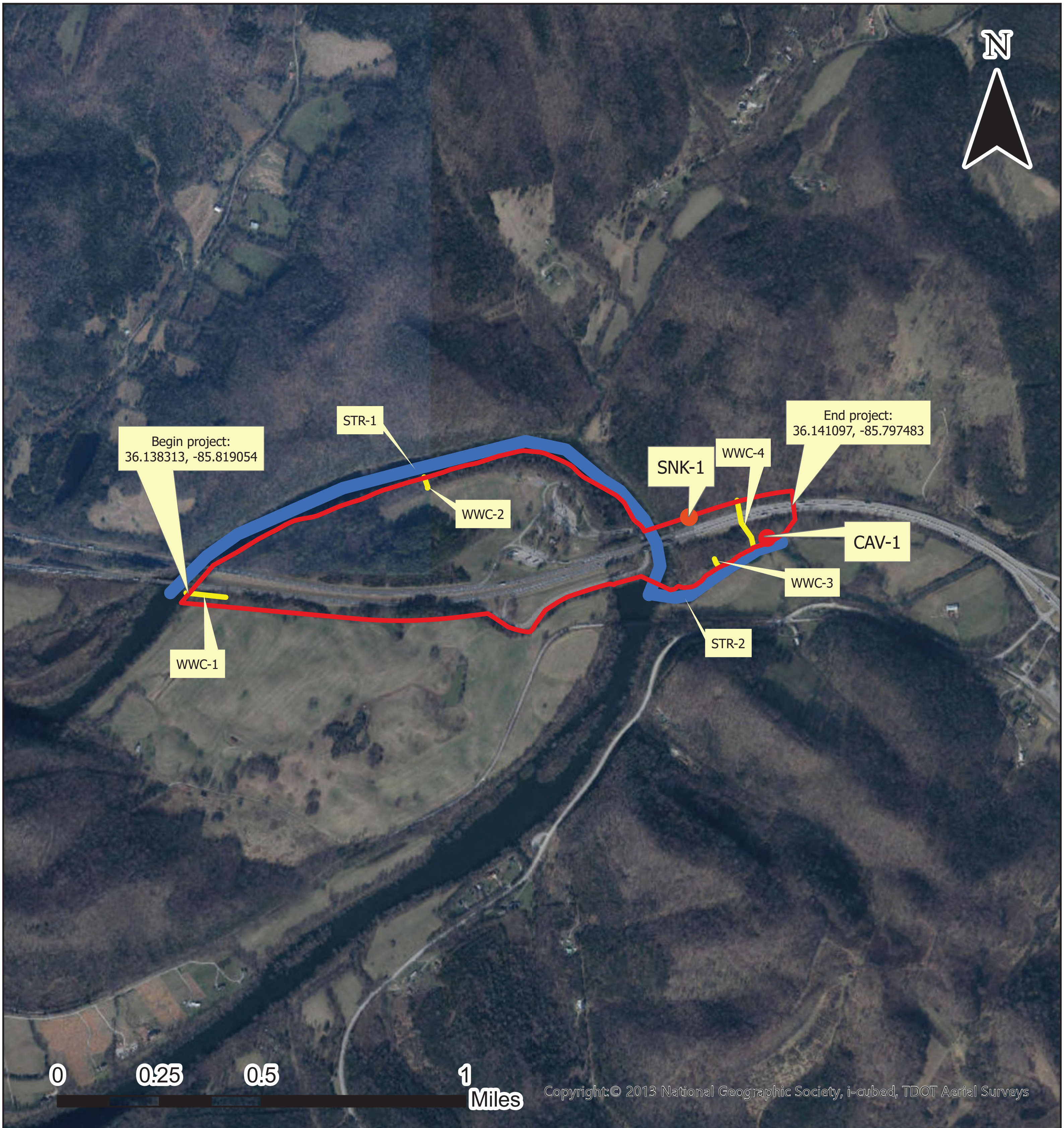
TN TDOT Department of Transportation

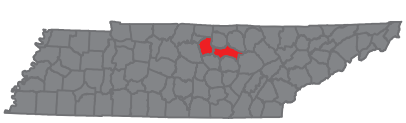




Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River

PIN: 131552.01

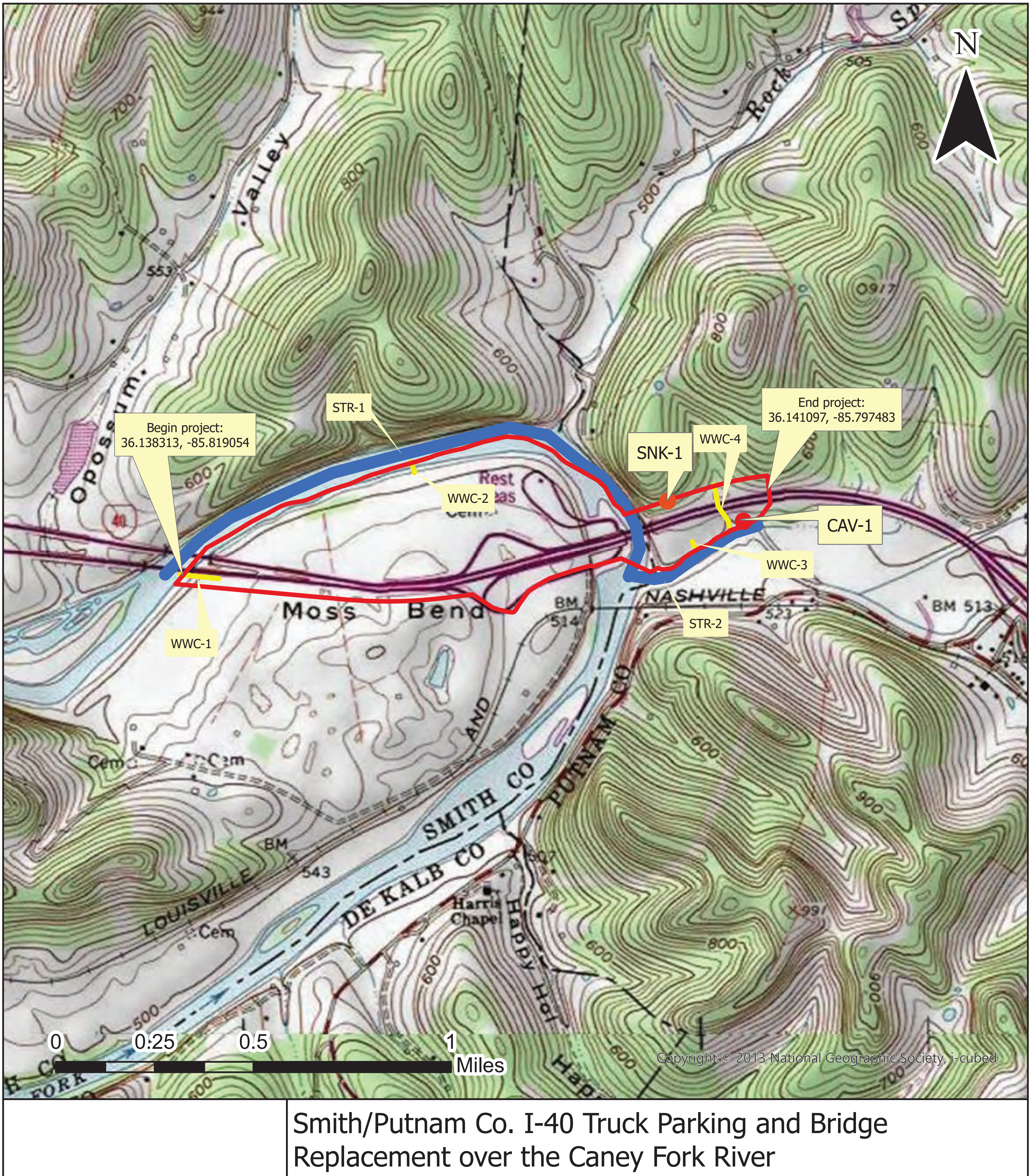




Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River

PIN: 131552.01

TN TDOT Department of Transportation



Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River

PIN: 131552.01

TN TDOT Department of Transportation

Project Name: Smith/Putnam I-40 Truck Parking and Bridge Replacement over the Caney Fork River **PIN:** 131552.01

Water Resource Table

Based on: ETSA

Date: 12/14/2023

Water Resources (Non-Wetland)					
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**Quality**
STR-1	Perennial Stream	36.141983	-85.810155	Cumberland River	ETW/Impaired (303(d))
STR-2	Perennial Stream	36.138627	-85.801272	Caney Fork River	Fully Supporting
WWC-1	Wet Weather Conveyance	36.138589	-85.818901	Caney Fork River	Unassessed
WWC-2	Wet Weather Conveyance	36.141784	-85.810451	Caney Fork River	Unassessed
WWC-3	Wet Weather Conveyance	36.139532	-85.800223	Caney Fork River	Unassessed
WWC-4	Wet Weather Conveyance	36.141392	-85.799378	Caney Fork River	Unassessed

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River			PIN:131552.01	
Biologist:	MLB/EWD	**Affiliation:**	-TDOT	**Date:**	8/26/2024

1-Station: from plans										
2-Map label and name	WWC-1									
3-Latitude/Longitude	36.138589, -85.818901									
4-Feature description:										
-channel identification	perennial stream	☐	intermittent stream	☐	ephemeral stream	☐	wwc	✓		
-HD score (if applicable)	17									
-OHWM indicators	bed & banks	✓	deposition	☐	presence of litter debris	☐	scour	✓	veg absent, bent, matted	✓
	change in plant community	✓	destruction of terrestrial veg	☐	multiple observe flow events	☐	sediment sorting	☐	water staining	☐
	change in soil character	✓	leaf litter disturb or absent	☐	natural line impressed on bank	☐	shelving	☐	wracking	☐
-channel bottom width	5.8 ft		-top of bank width		32.5 ft					
-width and max depth at ordinary high water mark	W: 5.8 ft				D: 0.4 ft					
-width at bankfull	17.7ft									
-bank height	LDB - 8 ft				RDB - 8 ft					
-riffle/pool complex or other specialized habitat present?	no									
-dominant riparian species: ----------(LDB /RDB)----------	LDB: sycamore, silver maple									
	RDB: sycamore, paw paw									
-particle size distribution %	Silt/Sand: 98		Gravel: 0		Cobble: 0		Boulder: 2		Bedrock: 0	
5-photo numbers	1-4									
6-HUC -8 Code & Name	05130108 Caney Fork River									
7-Assessed	yes	☐	no	✓						
8-ETW	yes	☐	no	✓						
9-303 (d) List	yes	☐	siltation	☐	habitat:	☐	other:	☐		
	no	✓								
10-Notes	Down gradient of grade control at the end of concrete lined channel (about 50 ft from Caney Fork River) is much more developed, up gradient of concrete lined channel is much less defined. The area down gradient of the grade control is likely part of the Caney Fork during the course of the day since the Caney Fork River levels fluctuate about 6 ft over a 24 hr period due to week-nightly generation from dam.									
Culvert size and Condition	n/a									

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:	Date/Time: 8/26/2024
Assessors/Affiliation: MLB/EWD -TDOT	Project ID : PIN:131552.01
Site Name/Description: I-40 Truck Parking and Bridge Replacement over the Caney Fork River	
Site Location: WWC-1	
HUC (12 digit): 051301080904 Indian Creek	Lat/Long:
Previous Rainfall (7-days) : 0.01 inches	36.138589, -85.818901
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precip data : NOAA past weather/AgACIS last 7 days	
Watershed Size : <2 sq miles	County: Smith/Putnam
Soil Type(s) / Geology : Arrington silt loam, 0 to 2 percent slopes, occasionally flooded Source: NRCS	
Surrounding Land Use : Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except *Gambusia*)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 17

Justification / Notes :

Feature was scored at the most developed area which is likely part of the Caney Fork during the course of the day since the Caney Fork River levels fluctuate about 6 ft over a 24 hr period due to week-nightly generation from dam. Area up gradient of concrete lined channel much less developed and would score much lower.

1. demarcation between riparian corridor and bank less obvious, some parts of banks lacking clear demarcation between bed and bank due to scour at the foot of the grade controls

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6)		Absent	Weak	Moderate	Strong
1. Continuous bed and bank	2	0	1	2	3
2. Sinuous channel	1	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	0	1	2	3
4. Sorting of soil textures or other substrate	0.5	0	1	2	3
5. Active/relic floodplain	0	0	0.5	1	1.5
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0	0	1	2	3
11. Grade controls	1.5	0	0.5	1	1.5
12. Natural valley or drainageway	1	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	0	No = 0		Yes = 3	

B. Hydrology (Subtotal = 5)		Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	0	1	2	3
15. Water in channel and >48 hours since sig. rain	1	0	1	2	3
16. Leaf litter in channel (January – September)	0.5	1.5	1	0.5	0
17. Sediment on plants or on debris	1	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	1	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	1.5	No = 0		Yes = 1.5	

C. Biology (Subtotal = 6)		Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed [1]	3	3	2	1	0
21. Rooted plants in the thalweg [1]	3	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	1	2	3
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28. Wetland plants in channel bed [2]	0	0	0.5	1	1.5

[1] Focus is on the presence of terrestrial plants. [2] Focus is on the presence of aquatic or wetland plants.

Total Points = 17

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River			PIN:131552.01	
Biologist:	MLB/EWD	**Affiliation:**	-TDOT	**Date:**	6/18/24

1-Station: from plans									
2-Map label and name	WWC-2								
3-Latitude/Longitude	36.141784, -85.810451								
4-Feature description:									
-channel identification	perennial stream	☐	intermittent stream	☐	ephemeral stream	☐	wwc	✓	
-HD score (if applicable)	18								
-OHWM indicators	bed & banks	✓	deposition	☐	presence of litter debris	☐	scour	☐	veg absent, bent, matted ✓
	change in plant community	✓	destruction of terrestrial veg	✓	multiple observe flow events	☐	sediment sorting	☐	water staining ☐
	change in soil character	☐	leaf litter disturb or absent	☐	natural line impressed on bank	☐	shelving	☐	wracking ☐
-channel bottom width	2.5 ft			-top of bank width		8 ft			
-width and max depth at ordinary high water mark	W: 2.5 ft				D: 0.3 ft				
-width at bankfull	2.5 ft								
-bank height	LDB - 5.5 ft				RDB - 5.5 ft				
-riffle/pool complex or other specialized habitat present?	no								
-dominant riparian species: ----------(LDB /RDB)----------	LDB: boxelder, red maple, sycamore								
	RDB: paw paw, sycamore, black walnut, red maple								
-particle size distribution %	Silt/Sand: 100		Gravel: 0		Cobble: 0		Boulder: 0		Bedrock: 0
5-photo numbers	5-7								
6-HUC -8 Code & Name	05130108 Caney Fork River								
7-Assessed	yes	☐	no	✓					
8-ETW	yes	☐	no	✓					
9-303 (d) List	yes	☐	siltation	☐	habitat:	☐	other:	☐	
	no	✓							
10-Notes	last ~20 ft is much more developed and even had some flow but this area is likely part of the Caney Fork during the course of the day since the Caney Fork River levels fluctuate about 6 ft over a 24 hr period due to week-nightly generation from dam. Water was likely flowing back into Caney Fork after overnight generation brought water levels high enough to flow into this channel.								
Culvert size and Condition	n/a								

Hydrologic Determination Field Data Sheet
Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:	Date/Time: 6/18/24
Assessors/Affiliation: MLB/EWD -TDOT	Project ID : PIN:131552.01
Site Name/Description: I-40 Truck Parking and Bridge Replacement over the Caney Fork River	
Site Location: WWC-2	
HUC (12 digit): 051301080905 Center Hill Lake	Lat/Long:
Previous Rainfall (7-days) : 0.05 in	36.141784, -85.810451
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precip data : NOAA past weather/AgACIS last 7 days	
Watershed Size : <2 sq mi	County: Smith/Putnam
Soil Type(s) / Geology : Arrington silt loam, 0 to 2 percent slopes, occasionally flooded Source: NRCS	
Surrounding Land Use : Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except *Gambusia*)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 18

Justification / Notes :

Form completed in last ~20 ft is much more developed and even had some flow but this area is likely part of the Caney Fork during the course of the day since the Caney Fork River levels fluctuate about 6 ft over a 24 hr period due to week-nightly generation from dam. Water was likely flowing back into Caney Fork after overnight generation brought water levels high enough to flow into this channel.

Up gradient portion much less developed (see photos).

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 5.5)		**Absent**	**Weak**	**Moderate**	**Strong**
1. Continuous bed and bank	2.5	0	1	2	3
2. Sinuous channel	0	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	0	1	2	3
4. Sorting of soil textures or other substrate	0	0	1	2	3
5. Active/relic floodplain	0	0	0.5	1	1.5
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0.5	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	1.5	0	1	2	3
11. Grade controls	0	0	0.5	1	1.5
12. Natural valley or drainageway	1	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	0	No = 0		Yes = 3	

B. Hydrology (Subtotal = 6.5)		**Absent**	**Weak**	**Moderate**	**Strong**
14. Subsurface flow/discharge into channel	1	0	1	2	3
15. Water in channel and >48 hours since sig. rain	2	0	1	2	3
16. Leaf litter in channel (January – September)	1	1.5	1	0.5	0
17. Sediment on plants or on debris	1	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	1.5	No = 0		Yes = 1.5	

C. Biology (Subtotal = 6)		**Absent**	**Weak**	**Moderate**	**Strong**
20. Fibrous roots in channel bed [1]	2	3	2	1	0
21. Rooted plants in the thalweg [1]	2	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	1	2	3
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	1.5	0	0.5	1	1.5
28. Wetland plants in channel bed [2]	0.5	0	0.5	1	1.5

[1] Focus is on the presence of terrestrial plants. [2] Focus is on the presence of aquatic or wetland plants.

Total Points = 18

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River			PIN:131552.01	
Biologist:	TNS/MLB/EWD	**Affiliation:**	-TDOT	**Date:**	8/29/24

1-Station: from plans										
2-Map label and name	STR-1 (Caney Fork)									
3-Latitude/Longitude	36.141983, -85.810155									
4-Feature description:										
-channel identification	perennial stream	✓	intermittent stream	☐	ephemeral stream	☐	wwc	☐		
-HD score (if applicable)										
-OHWM indicators	bed & banks	✓	deposition	✓	presence of litter debris	✓	scour	✓	veg absent, bent, matted	✓
	change in plant community	✓	destruction of terrestrial veg	☐	multiple observe flow events	✓	sediment sorting	✓	water staining	☐
	change in soil character	✓	leaf litter disturb or absent	✓	natural line impressed on bank	☐	shelving	✓	wracking	☐
-channel bottom width	228 ft		-top of bank width		260 ft					
-width and max depth at ordinary high water mark	W: 234 ft		D: 11 ft below TOB							
-width at bankfull	246 ft									
-bank height	LDB - 12 ft		RDB - 12 ft							
-riffle/pool complex or other specialized habitat present?	yes									
-dominant riparian species: ----------(LDB /RDB)----------	LDB: paw paw, sycamore									
	RDB: box elder									
-particle size distribution %	Silt/Sand: 40		Gravel: 40		Cobble: 20		Boulder: 0		Bedrock: 0	
5-photo numbers	8-12									
6-HUC -8 Code & Name	05130108 Caney Fork River									
7-Assessed	yes	✓	no	☐						
8-ETW	yes	✓	no	☐						
9-303 (d) List	yes	✓	siltation	☐	habitat:	☐	other:	☐		
	no	☐								
10-Notes	ETW due to a number of federal and state listed mussels 303d due to DO, flow regime, and temperature swallows on all bridges over Caney Fork within project area									
Culvert size and Condition	n/a									

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River				PIN:131552.01
Biologist:	TNS/EWD	**Affiliation:**	-TDOT	**Date:**	8/26/2024

1-Station: from plans														
2-Map label and name	STR-2 (Indian Creek)													
3-Latitude/Longitude	36.138627, -85.801272													
4-Feature description:														
-channel identification	perennial stream	✓	intermittent stream		ephemeral stream		wwc							
-HD score (if applicable)														
-OHWM indicators	bed & banks	✓	deposition	✓	presence of litter debris	✓	scour	✓	veg absent, bent, matted	✓				
	change in plant community	✓	destruction of terrestrial veg		multiple observe flow events	✓	sediment sorting	✓	water staining					
	change in soil character	✓	leaf litter disturb or absent	✓	natural line impressed on bank		shelving		wracking					
-channel bottom width	12 ft		-top of bank width		65 ft									
-width and max depth at ordinary high water mark	W: 23 ft		D: 4.5 ft											
-width at bankfull	57 ft													
-bank height	LDB - 20 ft		RDB - 10 ft											
-riffle/pool complex or other specialized habitat present?	yes													
-dominant riparian species: ----------(LDB /RDB)----------	LDB: sycamore, box elder, silver maple													
	RDB: silver maple, sycamore													
-particle size distribution %	Silt/Sand:	40	Gravel:	45	Cobble:	15	Boulder:	0	Bedrock:	0				
5-photo numbers	13-14													
6-HUC -8 Code & Name	05130108 Caney Fork River													
7-Assessed	yes	✓	no											
8-ETW	yes		no	✓										
9-303 (d) List	yes		siltation		habitat:		other:							
	no	✓												
10-Notes	fish observed													
Culvert size and Condition	n/a													

Ecology Field Data Sheet: **Other Resource Features**

(Caves/Rock Houses; Potential Sinkholes; Specialized Habitats; Other)

Project: Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River **PIN #:** 131552.01

Date of survey: 8/26/24 **Biologist(s):** EWD/MLB **Affiliation:** TDOT

1-Station: from plans		
2-Map label	SNK-1	
3-Lat/Long	36.140792, -85.801194	
4-Potential impact size	1 sq ft	
5-Feature name	potiential sinkhole	
6-Feature description:		
what is the feature	potential sinkhole on top of rock bluff along I-40 east of Caney Fork River	
portion affected		
connection to other features		
photo number(s)	23	
other information		
7- HUC code & name if applicable (12-digit)	051301080904 Indian Creek	
8-Notes		

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River			PIN:131552.01	
Biologist:	TNS/EWD	**Affiliation:**	-TDOT	**Date:**	8/27/2024

1-Station: from plans									
2-Map label and name	WWC-3								
3-Latitude/Longitude	36.139532, -85.800223								
4-Feature description:									
-channel identification	perennial stream	☐	intermittent stream	☐	ephemeral stream	☐	wwc	✓	
-HD score (if applicable)	12.5								
-OHWM indicators	bed & banks	✓	deposition	☐	presence of litter debris	☐	scour	✓	veg absent, bent, matted ✓
	change in plant community	✓	destruction of terrestrial veg	☐	multiple observe flow events	☐	sediment sorting	☐	water staining ☐
	change in soil character	✓	leaf litter disturb or absent	☐	natural line impressed on bank	☐	shelving	☐	wracking ☐
-channel bottom width	2.1 ft		-top of bank width		2.9 ft				
-width and max depth at ordinary high water mark	W: 2.9 ft				D: 0.4 ft				
-width at bankfull	2.9 ft								
-bank height	LDB - 2 ft				RDB - 1.5 ft				
-riffle/pool complex or other specialized habitat present?	no								
-dominant riparian species: ----------(LDB /RDB)----------	LDB: elm, sycamore								
	RDB: elm, white oak								
-particle size distribution %	Silt/Sand: 80		Gravel: 0		Cobble: 0		Boulder: 20*		Bedrock: 0
5-photo numbers	15-16								
6-HUC -8 Code & Name	05130108 Caney Fork River								
7-Assessed	yes	☐	no	✓					
8-ETW	yes	☐	no	✓					
9-303 (d) List	yes	☐	siltation	☐	habitat:	☐	other:	☐	
	no	✓							
10-Notes	*boulder is rip rap placed to prevent erosion near confluence with indian creek								
Culvert size and Condition	n/a								

Hydrologic Determination Field Data Sheet
Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:	Date/Time: 8/27/2024
Assessors/Affiliation: TNS/EWD -TDOT	Project ID : PIN:131552.01
Site Name/Description: I-40 Truck Parking and Bridge Replacement over the Caney Fork River	
Site Location: WWC-3	
HUC (12 digit): 051301080904 Indian Creek	Lat/Long:
Previous Rainfall (7-days) : 0 inches	36.139532, -85.800223
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precip data : NOAA past weather/AgACIS last 7 days	
Watershed Size : <2 sq mi	County: Smith/Putnam
Soil Type(s) / Geology : Huntington silt loam, phosphatic Source: NRCS	
Surrounding Land Use : Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except *Gambusia*)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1” in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

NOTE: If any Primary Indicators 1-9 = “Yes”, then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 12.5

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6)		Absent	Weak	Moderate	Strong
1. Continuous bed and bank	2	0	1	2	3
2. Sinuous channel	0	0	1	2	3
3. In-channel structure: riffle-pool sequences	1	0	1	2	3
4. Sorting of soil textures or other substrate	0.5	0	1	2	3
5. Active/relic floodplain	0	0	0.5	1	1.5
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0	0	1	2	3
11. Grade controls	1.5	0	0.5	1	1.5
12. Natural valley or drainageway	1	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	0	No = 0		Yes = 3	

B. Hydrology (Subtotal = 1.5)		Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	0	1	2	3
16. Leaf litter in channel (January – September)	0.5	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	1	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	0	No = 0		Yes = 1.5	

C. Biology (Subtotal = 5)		Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed [1]	2.5	3	2	1	0
21. Rooted plants in the thalweg [1]	2.5	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	1	2	3
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28. Wetland plants in channel bed [2]	0	0	0.5	1	1.5

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 12.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Ecology Field Data Sheet: **Water Resources**

Project: Smith/Putnam	I-40 Truck Parking and Bridge Replacement over the Caney Fork River			PIN:131552.01	
Biologist:	TNS/EWD	**Affiliation:**	-TDOT	**Date:**	8/26/2024

1-Station: from plans	
2-Map label and name	WWC-4
3-Latitude/Longitude	36.141392, -85.799378
4-Feature description:	
-channel identification	perennial stream ☐ intermittent stream ☐ ephemeral stream ☐ wwc ☑
-HD score (if applicable)	14.5
-OHWM indicators	bed & banks ☑ deposition ☐ presence of litter debris ☑ scour ☐ veg absent, bent, matted ☑
	change in plant community ☑ destruction of terrestrial veg ☐ multiple observe flow events ☐ sediment sorting ☐ water staining ☐
	change in soil character ☑ leaf litter disturb or absent ☐ natural line impressed on bank ☐ shelving ☐ wracking ☐
-channel bottom width	6.7 ft — -top of bank width: 8 ft
-width and max depth at ordinary high water mark	W: 6.7 ft D: 0.6 ft
-width at bankfull	7.3 ft
-bank height	LDB - 0.6 RDB - 2.5 ft
-riffle/pool complex or other specialized habitat present?	no
-dominant riparian species: ----------(LDB /RDB)----------	LDB: sugar maple, sycamore, elm RDB: sugar maple, shagbark hickory
-particle size distribution %	Silt/Sand: 40 Gravel: 5 Cobble: 15 Boulder: 15 Bedrock: 25
5-photo numbers	17-22
6-HUC -8 Code & Name	05130108 Caney Fork River
7-Assessed	yes ☐ no ☑
8-ETW	yes ☐ no ☑
9-303 (d) List	yes ☐ siltation ☐ habitat: ☐ other: ☐ no ☑
10-Notes	feature assessed north of I-40, down gradient side much more incised, but still has leaf litter and some plants in the thalweg
Culvert size and Condition	38 in pipe previously slip lined about 3 ft perching at outlet

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:	Date/Time: 8/26/2024
Assessors/Affiliation: TNS/EWD -TDOT	Project ID : PIN:131552.01
Site Name/Description: I-40 Truck Parking and Bridge Replacement over the Caney Fork River	
Site Location: WWC-4	
HUC (12 digit): 051301080904 Indian Creek	Lat/Long:
Previous Rainfall (7-days) : 0.01 inches	36.141392, -85.799378
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precip data : NOAA past weather/AgACIS last 7 days	
Watershed Size : <2 sq miles	County: Smith/Putnam
Soil Type(s) / Geology : Rock land, limestone	Source: NRCS
Surrounding Land Use : Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent	

Primary Field Indicators Observed

Primary Indicators	**NO**	**YES**
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except *Gambusia*)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 14.5

Justification / Notes :

feature assessed north of I-40, down gradient side much more incised, but still has leaf litter and some plants in the thalweg

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.5)		**Absent**	**Weak**	**Moderate**	**Strong**
1. Continuous bed and bank	2	0	1	2	3
2. Sinuous channel	0	0	1	2	3
3. In-channel structure: riffle-pool sequences	1	0	1	2	3
4. Sorting of soil textures or other substrate	1.5	0	1	2	3
5. Active/relic floodplain	0	0	0.5	1	1.5
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	1	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0	0	1	2	3
11. Grade controls	1.5	0	0.5	1	1.5
12. Natural valley or drainageway	1.5	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	0	No = 0		Yes = 3	

B. Hydrology (Subtotal = 1)		**Absent**	**Weak**	**Moderate**	**Strong**
14. Subsurface flow/discharge into channel	0	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	0	1	2	3
16. Leaf litter in channel (January – September)	0	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	1	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	0	No = 0		Yes = 1.5	

C. Biology (Subtotal = 5)		**Absent**	**Weak**	**Moderate**	**Strong**
20. Fibrous roots in channel bed [1]	2.5	3	2	1	0
21. Rooted plants in the thalweg [1]	2.5	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	1	2	3
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28.Wetland plants in channel bed [2]	0	0	0.5	1	1.5

[1] Focus is on the presence of terrestrial plants. [2] Focus is on the presence of aquatic or wetland plants.

Total Points = 14.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Ecology Field Data Sheet: **Other Resource Features**

(Caves/Rock Houses; Potential Sinkholes; Specialized Habitats; Other)

Project: Smith/Putnam Co. I-40 Truck Parking and Bridge Replacement over the Caney Fork River **PIN #:** 131552.01

Date of survey: 8/27/24 **Biologist(s):** EWD/TNS **Affiliation:** TDOT

1-Station: from plans		
2-Map label	CAV-1	
3-Lat/Long	36.140792, -85.801194	
4-Potential impact size	6 sq ft	
5-Feature name	potiential cave	
6-Feature description:		
what is the feature	potential sinkhole on top of rock bluff along I-40 east of Caney Fork River	
portion affected		
connection to other features		
photo number(s)	24	
other information		
7- HUC code & name if applicable (12-digit)	051301080904 Indian Creek	
8-Notes		

Photo 1. WWC-1 looking up gradient near beginning of feature and before concrete lined channel starts

Photo 2. WWC-1 looking down gradient within concrete lined channel portion of feature

Photo 3. WWC-1 looking up gradient at scoured area shortly after concrete lined portion ends

Photo 4. WWC-1 looking down gradient where it meets the Caney Fork River (STR-1)

Photo 5. WWC-2 looking up gradient at beginning of feature

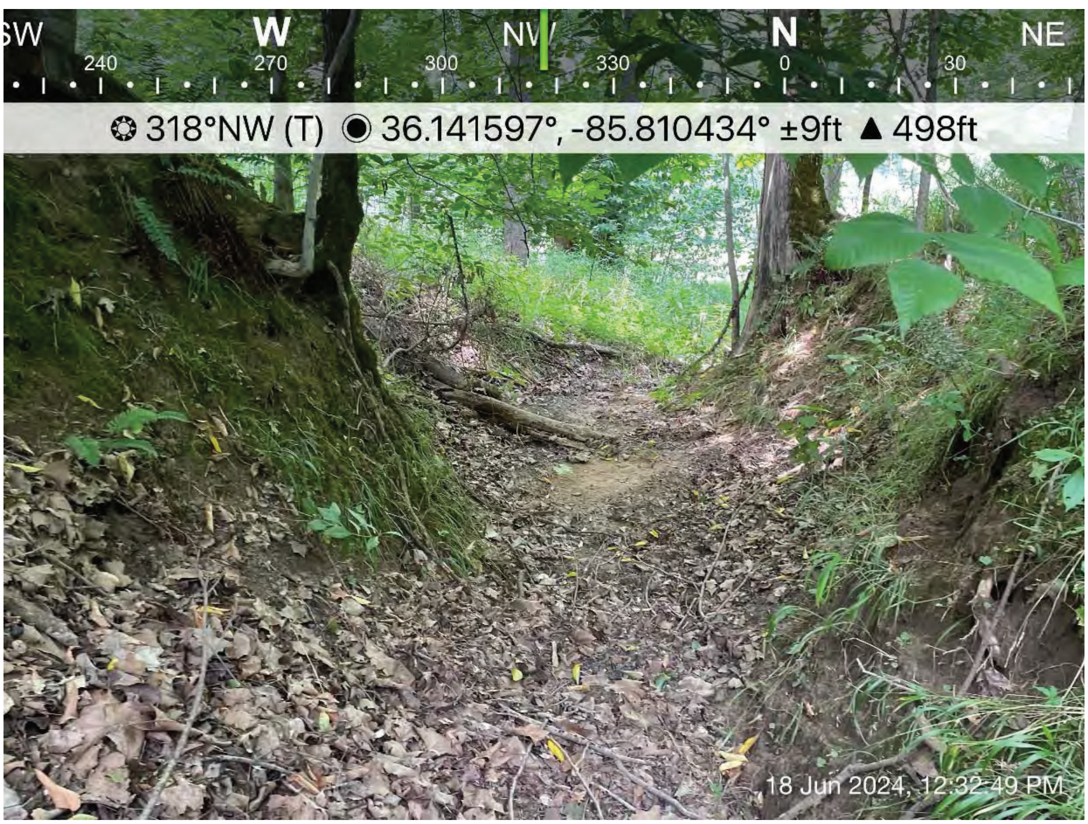


Photo 6. WWC-2 looking down gradient in the middle of the feature

Photo 7. WWC-2 looking downstream near confluence with Caney Fork (STR-1)

Photo 8. STR-1 (Caney Fork River) looking upstream at I-40 bridge

Photo 9. STR-1 (Caney Fork River) looking downstream at I-40 bridge from near confluence with STR-2 (Indian Creek)

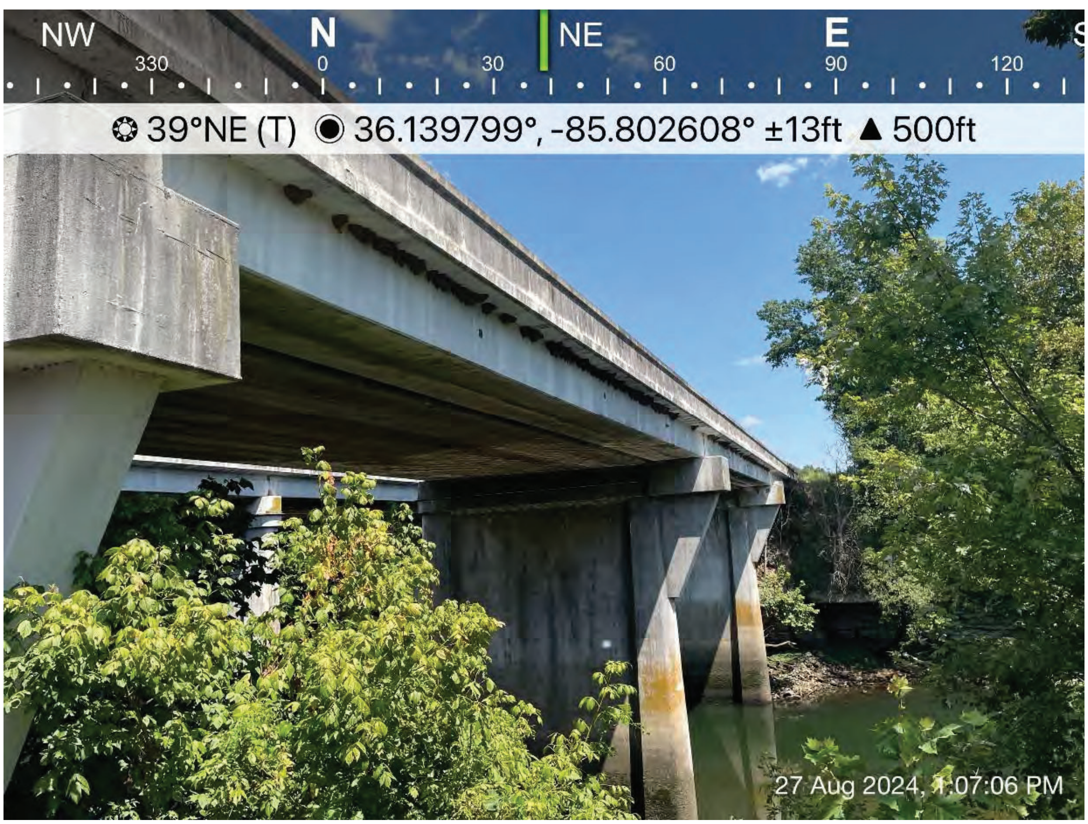


Photo 10. Swallows' nests on EB I-40 bridge over STR-1 (Caney Fork River) at LM 17.16

Photo 11. Swallows' nests on WB I-40 bridge over STR-1 (Caney Fork River) at LM 16.20

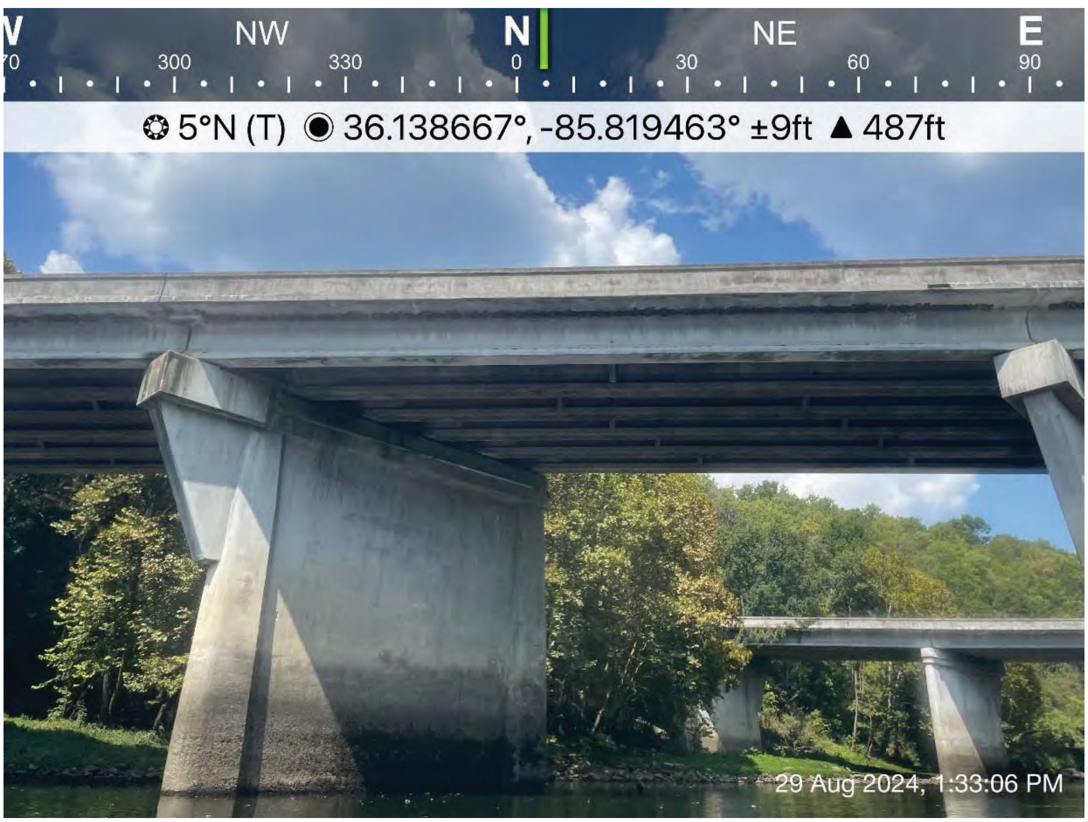


Photo 12. Swallows' nests on EB I-40 bridge over STR-1 (Caney Fork River) at LM 16.20

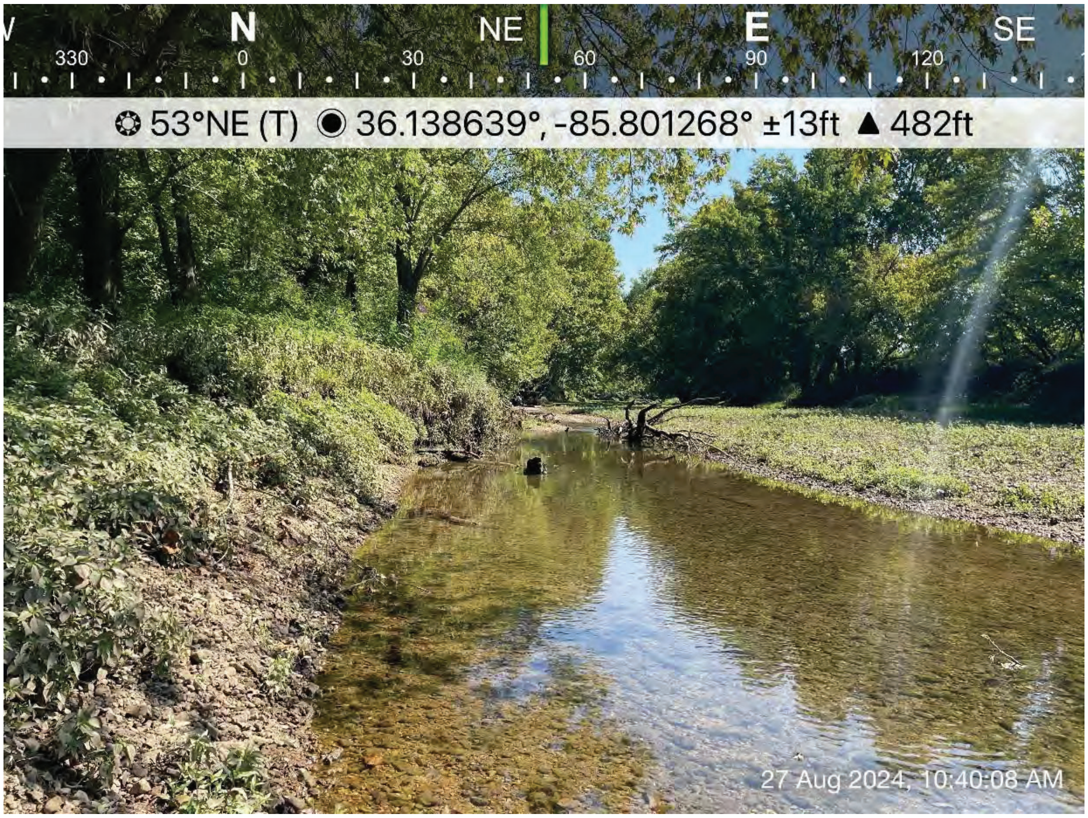


Photo 13. STR-2 (Indian Creek) looking upstream

Photo 14. STR-2 (Indian Creek) looking downstream

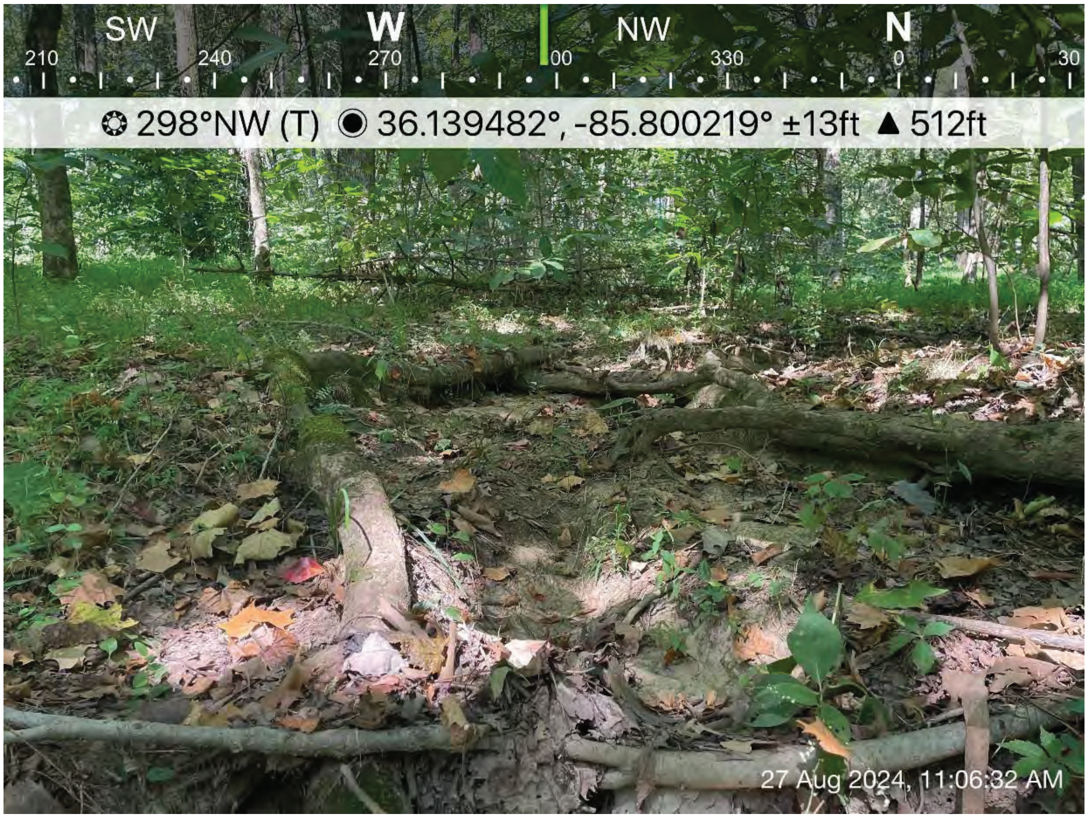


Photo 15. WWC-3 looking up gradient

Photo 16. WWC-3 looking down gradient

Photo 17. WWC-4 looking up gradient from culvert inlet north of I-40

Photo 18. WWC-4 looking down gradient at culvert inlet north of I-40

Photo 19. WWC-4 culvert outlet south of I-40

Photo 20. WWC-4 looking down gradient from culvert outlet south of I-40

Photo 21. WWC-4 looking up gradient south of I-40 near STR-2 (Indian Creek)

Photo 22. WWC-4 looking down gradient south of I-40 near STR-2 (Indian Creek)

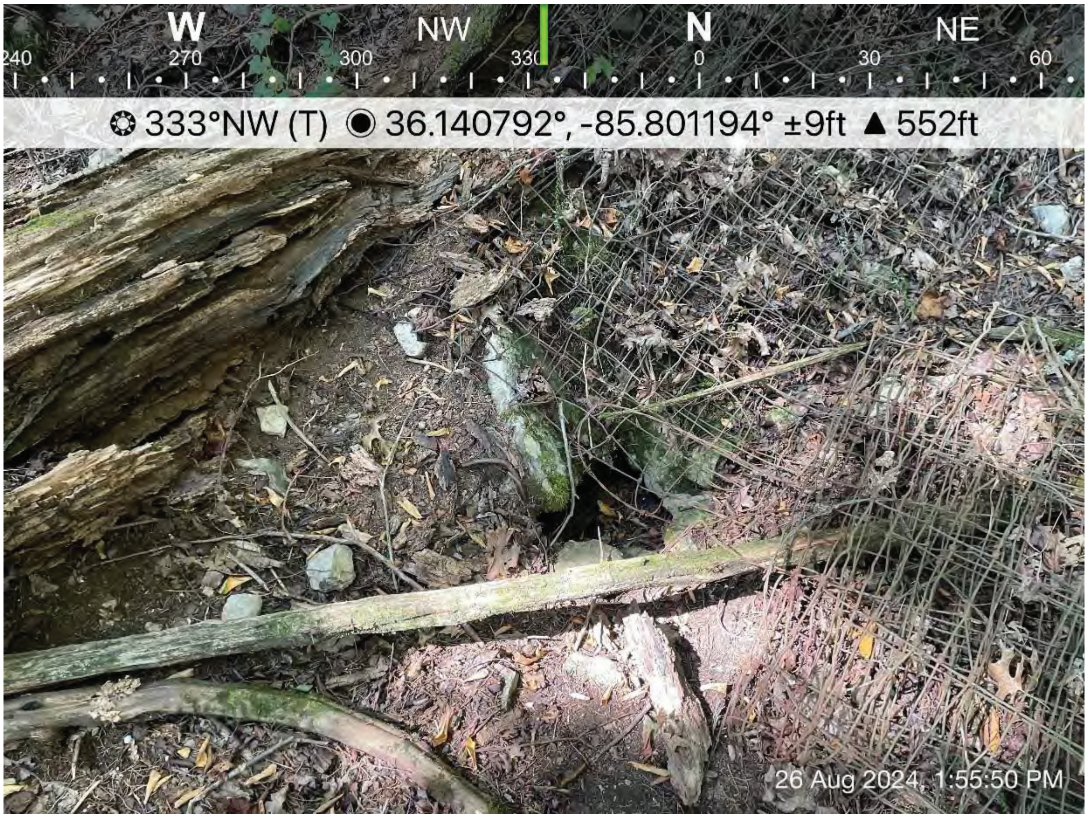


Photo 23. SNK-1 potential sinkhole

Photo 24. CAV-1 potential cave

Steve A. Walker

From: Griffith, John <john_griffith@fws.gov>
Sent: Thursday, June 6, 2024 3:13 PM
To: Steve A. Walker
Cc: Sikula, Nicole R
Subject: Re: [EXTERNAL] Steve Walker added you to an IPaC project

Steve,

Thank you for your correspondence requesting review of the Interstate (I-) 40 Truck Parking and Bridge Replacement over the Caney Fork River in Smith and Putnam counties, Tennessee. The scope of work includes addition of a 125-bay truck parking expansion adjacent to the existing Welcome Center, replacing twin I-40 bridges over the Caney Fork River, and updating ramp acceleration and deceleration length at this location to current standards. The project would utilize two conceptual typical sections for I-40: 4-lane freeway with depressed median or a 6-lane freeway with median barrier. Bridge replacements would involve demolition and removal of the existing structures and a retaining wall. The project length is approximately 0.86 mile. You are requesting a list of federally threatened or endangered species that may be present in the project area.

Our database indicates that several federally listed mussels historically occurred in this reach of the Caney Fork River. However, since the Center Hill Dam became operational in 1951, altered water temperatures have affected mussel survival and reproduction for miles downstream. Multiple mussel surveys conducted post-construction of the dam have confirmed that the cold water temperatures have resulted in extirpation of federally listed mussels from the tailwater reach below Center Hill Dam. We are not aware of any other federally listed or proposed species or critical habitat that would be impacted by the project. Based on the best information available at this time, we believe that the requirements of the Endangered Species Act (ESA) are fulfilled for all species that currently receive protection under the ESA. Obligations under section 7 of the ESA should be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Implementation of standard construction BMPs would be necessary to ensure instream work is separated from flowing waters and that project-related pollutants are kept out of the Caney Fork River. If required for construction, the instream haul road(s) should be limited to no greater than one-third the stream width to avoid obstructing flow. Equipment staging and maintenance areas should be developed an adequate distance away to prevent the introduction of petroleum-based pollutants into the water. Fresh concrete and cement dust must be kept out of the water as they alter chemical properties and can be toxic to aquatic species.

This email will serve as our official project response. Please let me know if we can offer further assistance. Thanks,

John Griffith
Transportation Biologist
U.S. Fish and Wildlife Service
Tennessee Field Office
931-525-4995 (office)
931-261-3755 (cell)

Steve A. Walker

From: twrasurveymgmt@gmail.com
Sent: Friday, May 17, 2024 10:03 AM
To: Steve A. Walker; Casey Parker
Subject: [EXTERNAL] Environmental Review Request: 1715965200000

Steve Walker
Auto-generated email
DO NOT REPLY
Tennessee Wildlife Resource Agency has received your submission. If additional information is required, Biodiversity Division staff will reach out via the contact information you provided. Although we strive to respond to review requests as quickly as possible, a formal response may take up to 30 days.
Thank you,
TWRA Biodiversity

TENNESSEE WILDLIFE RESOURCES AGENCY

ELLINGTON AGRICULTURAL CENTER
5107 EDMONDSON PIKE
NASHVILLE, TENNESSEE 37211

June 14, 2024

Re: Smith County, I-40 Interchange-Welcome Center Improvement project along I-40 EB & WB in Smith & Putnam County, PIN 131552.01

Mr. Steve Walker,

The Tennessee Wildlife Resources Agency has reviewed the information that you provided regarding the subject project in Smith and Putnam County, Tennessee. Your letter to us requested comments by our agency regarding potential impacts to endangered species, wetlands, and other areas of concern as we may think pertinent due to the proposed project.

This project involves improvements to I-40 Interchange-Welcome Center along I-40 EB & WB in Smith & Putnam County and construction of 125 bay truck parking expansion adjacent to the existing Welcome Center, replace twin bridges at I-40 over the Caney Fork River, and update ramp acceleration and deceleration length at this location to current standards. The project will utilize two conceptual typical sections for I-40: 4 lane freeway with depressed median, and 6 lane freeway with median barrier for the proposed bridge replacements. The project length is approximately 0.86 miles. The bridges being replaced on I-40 cross the Caney Fork River and will require demolition and removal activities of the existing structures to include an existing retaining wall.

I have reviewed the information that you provided regarding the proposed project in Smith and Putnam County, Tennessee. In-stream work is expected, therefore to minimize impacts to the State Endangered species, Lake Sturgeon (*Acipenser fulvescens*), and State Threatened species, Blue sucker (*Cycleptus elongatus*), request preference given to prohibit instream construction during the combined species spawning season from April 1 through June 30 and not recommend fish sweeps due to the size and depth of the river.

Thank you for the opportunity to review and comment on this proposed project. If you have further questions regarding this matter; please contact me at (731) 431-0012.

Sincerely,

Casey Parker

Casey Parker
Wildlife Biologist/Liaison to TDOT and the Federal Highway Administration
Cc: Andy Barlow TWRA and John Griffith US Fish and Wildlife

Steve A. Walker

From:	Dillon Blankenship
Sent:	Tuesday, September 24, 2024 1:32 PM
To:	Steve A. Walker
Cc:	Shawn Wurst; Rita M. Thompson
Subject:	RE: Smith-Putnam Co; PIN 131552.01_ Design Build Rest Area Improvements (TDEC DNA coordination) review
Attachments:	project_report_pin_13155201_smith_putnam_c_3502_3995.pdf; project_shapefile_pin_13155201_smith_putna_3502_3995.zip

Hi Steve,

The Division of Natural Areas - Natural Heritage Program has reviewed the above referenced project with respect to rare plant species.

PUTNAM COUNTY: The most sensitive portion of the study area with regard to rare plant species is the rocky bluff line on the Putnam County side of the Caney Fork River from which RTE species have been documented (approximately 36.1405785, -85.8017945). Insofar as the project work area ends at the base of the SSE facing bluff north of I-40, impacts to this area would be avoided and we would not anticipate impacts to state-listed plant species.

SMITH COUNTY: The project plans provided to us do not indicate any direct impacts to the vegetated area around (36.1407859, -85.8041982) or contiguous habitat along the river, so we do not anticipate any impacts to documented RTE plant species at that location or any other locations in the study area on the Smith County side of the Caney Fork River.

You may use this email as evidence of consultation with our office.

I have attached a copy of the ERT report (and shapefile) that would be generated for this project by our Environmental Review Tool, as a reference.

Regards,

Dillon

TN Department of Environment & Conservation

Dillon Blankenship | Data Manager | Env. Review Coordinator
Division of Natural Areas | Natural Heritage Program
Davy Crockett Tower, 8th Floor
500 James Robertson Parkway
Nashville, TN 37243
p. 615-532-4799
dillon.blankenship@tn.gov

www.tn.gov/environment/natural-areas

We value your feedback! Please complete our customer satisfaction survey.

From: Steve A. Walker <Steve.A.Walker@tn.gov>
Sent: Tuesday, August 27, 2024 11:23 AM
To: Dillon Blankenship <Dillon.Blankenship@tn.gov>
Cc: Shawn Wurst <Shawn.Wurst@tn.gov>; Rita M. Thompson <Rita.M.Thompson@tn.gov>
Subject: Smith-Putnam Co; PIN 131552.01_ Design Build Rest Area Improvements (TDEC DNA coordination) review

Good Morning Dillion,

TDOT is proposing improvements to the Smith County Rest area along I-40 at the Smith-Putnam County line. The main purpose of this project is to add a truck parking area shown on the conceptual plan design attached to this correspondence. Also included in this project is the replacement of the I-40 bridges over the Caney Fork River right at the county line. During our review we have noted multiple plant species within 1 and 4 miles with two being within the proposed project ETSA (study area). Due to the observed records within the study boundary this project does not fit our MOA with TDEC (DNA). One record is shown very near the project limits. TDOT is assuming presence for these species but does not anticipate impacts to any shown based upon the proposed project limits. Please review the information attached (conceptional plans) and let me know if you all have any concerns for these plants or others that we may not know of anywhere else within this proposed project area? The area nearest the record for (*Eriogonum harperi*) Harper's umbrella-plant (E) will extend to the edge of existing pavement (east side of I-40 bridge) and possibly into the existing drainage ditch for work to tie in the new bridge structure into the existing alignment of I-40 (eastside of Caney Fork River). Let me know if you have any questions or need any additional information.

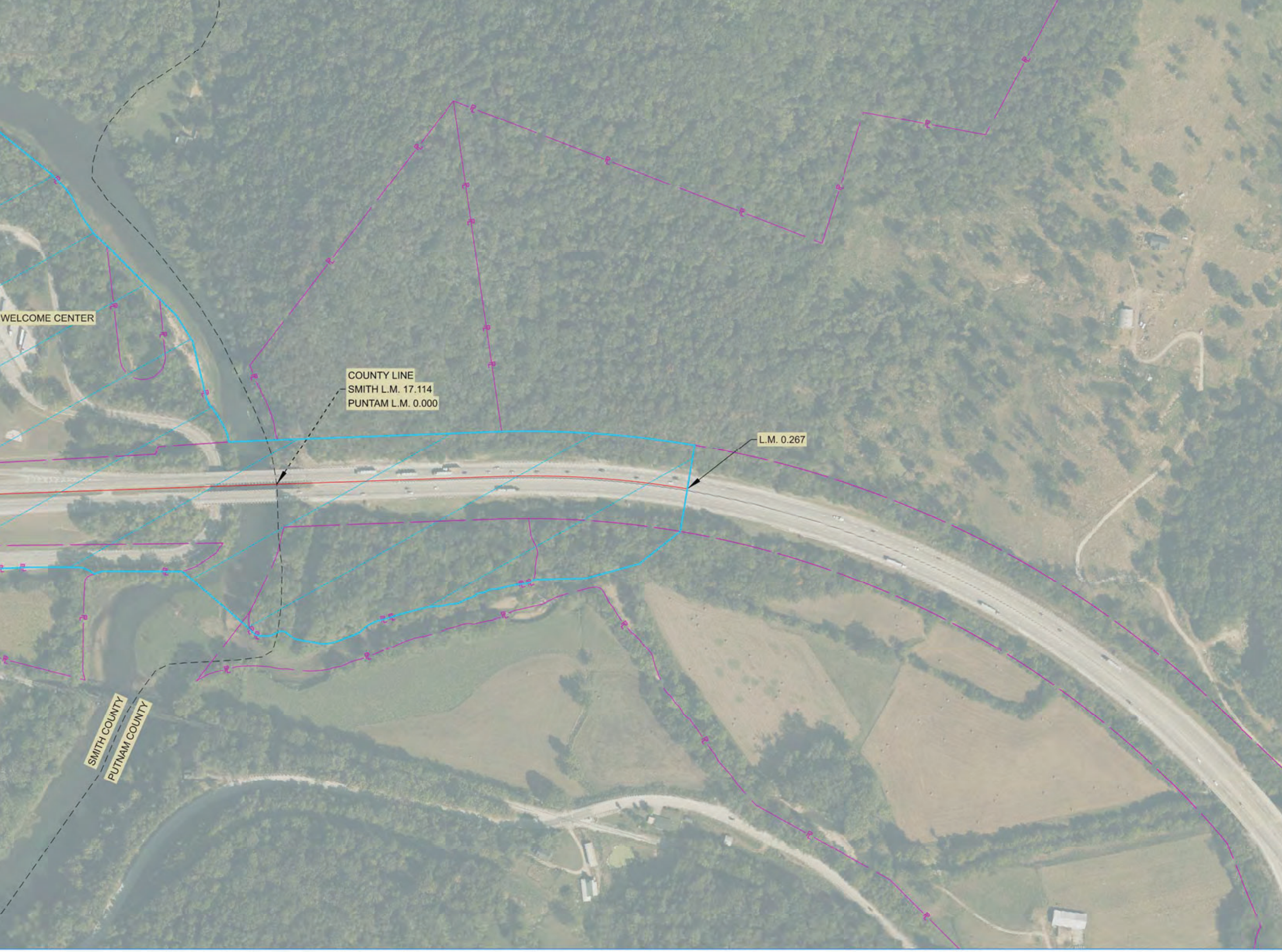
Thanks Steve

TN TDOT Department of Transportation

Steve A.Walker| TESS AD
Environmental Division/Ecology Section Region 3
James K. Polk Building, 9th Floor
505 Deaderick Street, Nashville, TN 37243-0334
p. 615-253-9908
steve.a.walker@tn.gov
tn.gov/tdot

Follow TDOT: Facebook| X | Instagram | LinkedIn

ENVIRONMENTAL TECHNICAL STUDY AREA



ENVIRONMENTAL TECHNICAL STUDY AREA

Floodplain Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Tennessee State Plane (FIPSZONE 4100). The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Tennessee, Department of Finance and Administration, Office for Information Resources, GIS Services. This information was photogrammetrically compiled at scales of 1:100 and 1:400 from aerial photography dated March 2006. Additional information was constructed from property information recorded in the Office of the Register of Deeds, and is dated March 2006 and from the Tennessee Department of Transportation, and is dated April 2004.

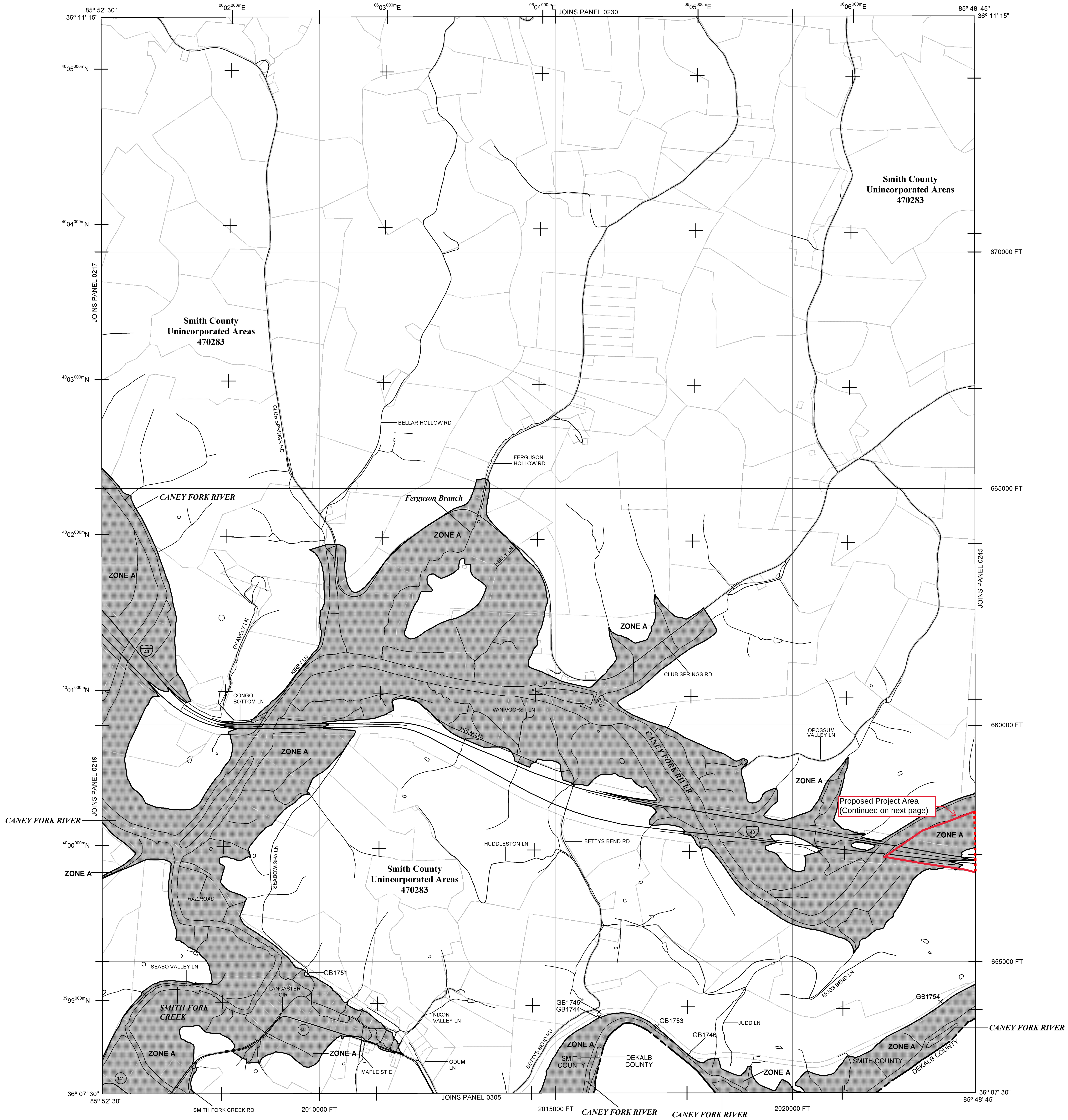
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary
Floodway boundary
Zone D Boundary
CBRS and OPA Boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 Base Flood Elevation line and value; elevation in feet*
(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*
*Referenced to the North American Vertical Datum of 1988
A A Cross section line
23 23 Transect line
Culvert, Flume, Penstock or Aqueduct
Road or Railroad Bridge
Footbridge
97° 07' 30", 32° 22' 30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{42}76^{000m}$E 1000-meter Universal Transverse Mercator grid values, zone 16
600000 FT 5000-foot grid ticks: Tennessee State Plane coordinate system, FIPSZONE 4100, Lambert Conformal Conic Projection
DX5510 × Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD
INSURANCE RATE MAP PANEL
SEPTEMBER 29, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in 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.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0240D

FIRM

FLOOD INSURANCE RATE MAP

SMITH COUNTY, TENNESSEE AND INCORPORATED AREAS

PANEL 240 OF 305

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SMITH COUNTY	470283	0240	D

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

U.S. DEPARTMENT OF HOMELAND SECURITY

MAP NUMBER 47159C0240D

EFFECTIVE DATE SEPTEMBER 29, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Tennessee State Plane (FIPSZONE 4100). The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Tennessee, Department of Finance and Administration, Office for Information Resources, GIS Services. This information was photogrammetrically compiled at scales of 1:100 and 1:400 from aerial photography dated March 2006. Additional information was constructed from property information recorded in the Office of the Register of Deeds, and is dated March 2006 and from the Tennessee Department of Transportation, and is dated April 2004.

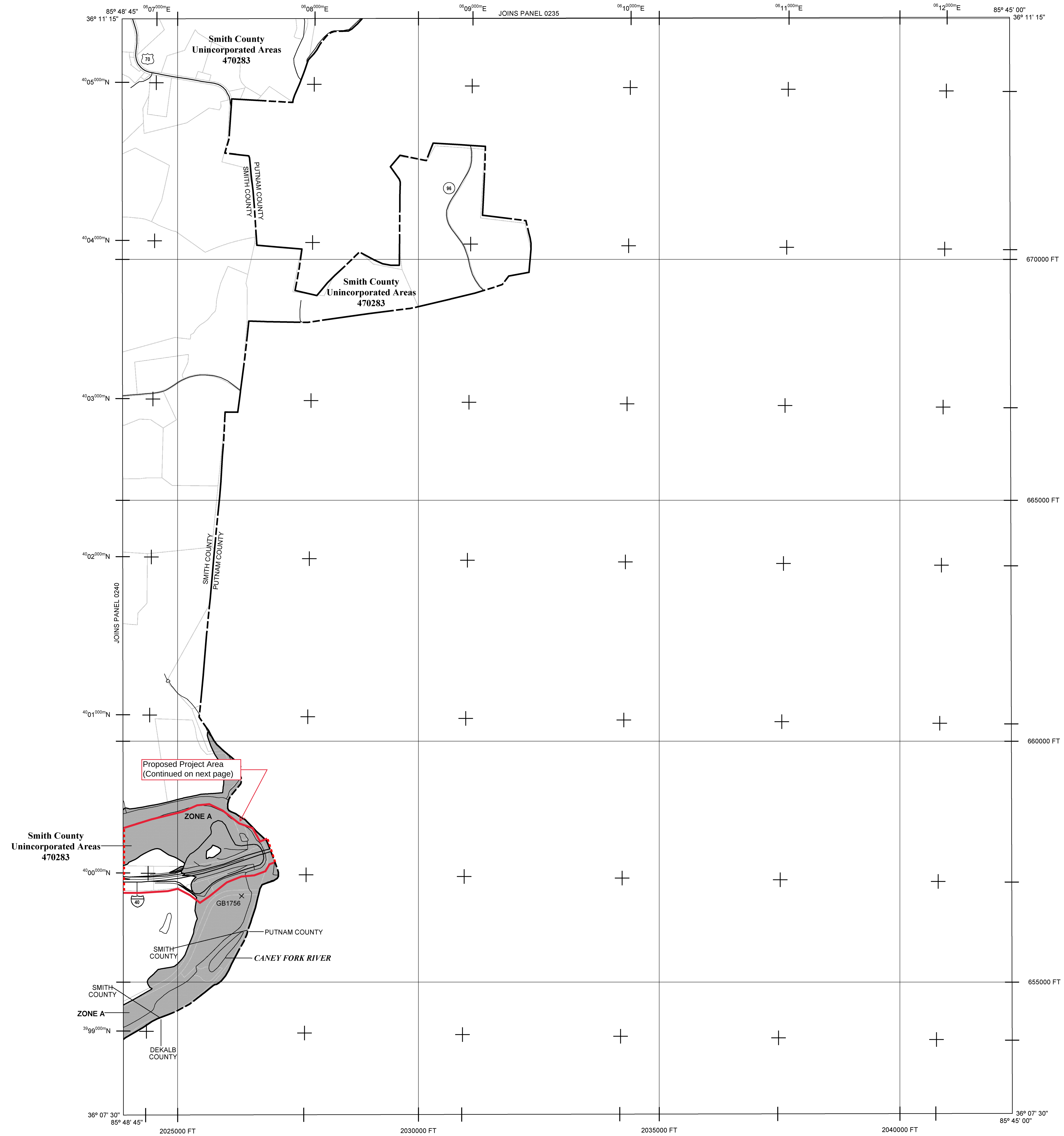
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary
Floodway boundary
Zone D Boundary
CBRS and OPA Boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A Cross section line

23 - - - 23 Transect line

Culvert, Flume, Penstock or Aqueduct
Road or Railroad Bridge
Footbridge

97° 07' 30", 32° 22' 30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

4276000mE — 1000-meter Universal Transverse Mercator grid values, zone 16

600000 FT — 5000-foot grid ticks: Tennessee State Plane coordinate system, FIPSZONE 4100, Lambert Conformal Conic Projection

DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)

● M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD
INSURANCE RATE MAP PANEL
SEPTEMBER 29, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in 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.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 0245D

FIRM

FLOOD INSURANCE RATE MAP

SMITH COUNTY, TENNESSEE AND INCORPORATED AREAS

PANEL 245 OF 305

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SMITH COUNTY	470283	0245	D

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

MAP NUMBER 47159C0245D

EFFECTIVE DATE SEPTEMBER 29, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole- foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Tennessee State Plane (FIPSZONE 4100). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC- 3, #9202
1315 East- West Highway
Silver Spring, MD 20910- 3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the State of Tennessee.

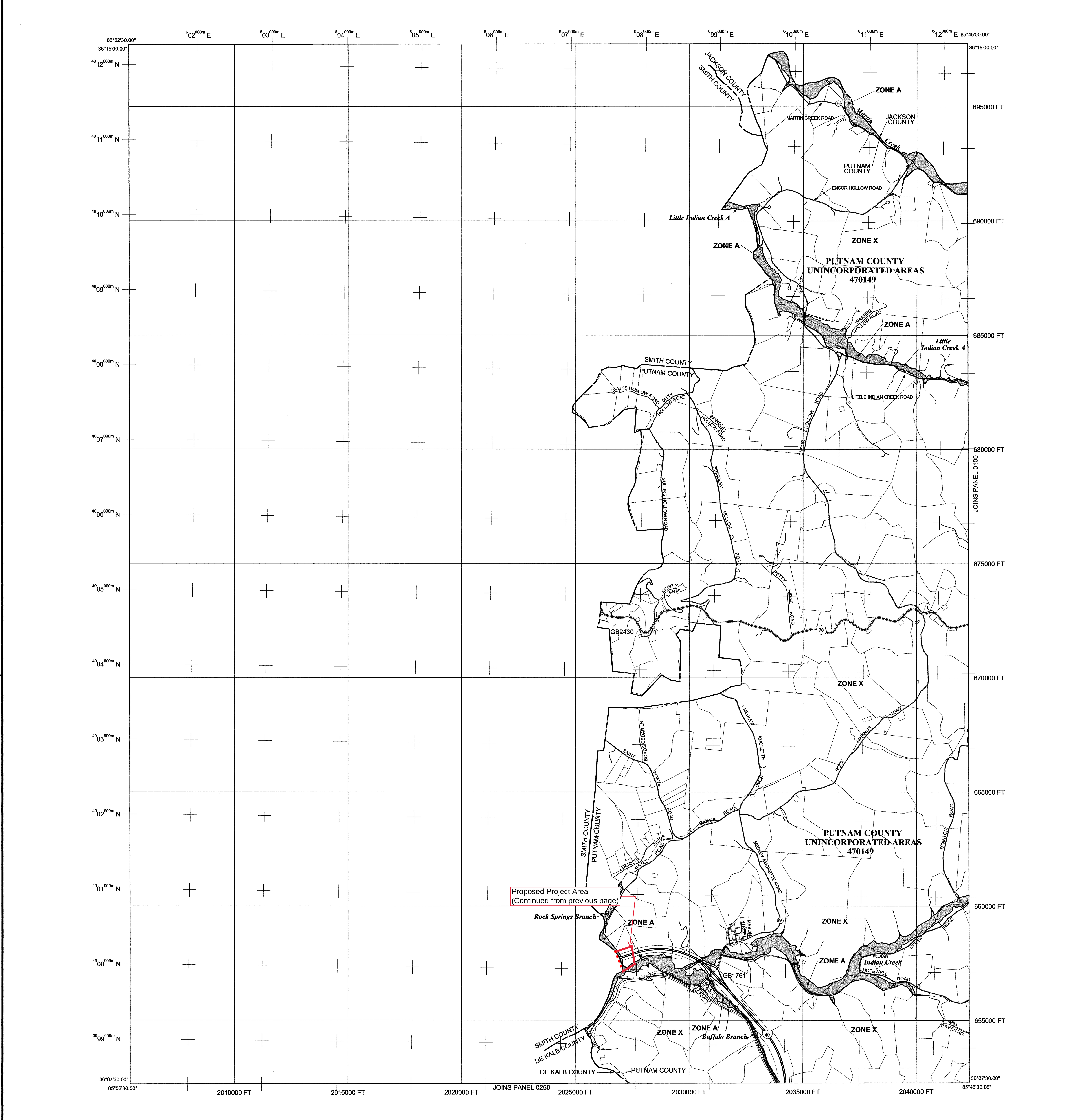
This map reflects more detailed and up- to- date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de- annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1- 800- 358- 9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, *a Flood Insurance Study report,* and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1- 800- 358- 9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1- 877- 336- 2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A	Cross section line
23 - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
$^{42}75^{000m}$N	1000-meter Universal Transverse Mercator grid ticks, zone 16
6000000 FT	5000-foot grid values: Tennessee State Plane coordinate system, (FIPSZONE 4100), Lambert Conformal Conic
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 16, 2007
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in 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.

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

600 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0075D

FIRM
FLOOD INSURANCE RATE MAP

PUTNAM COUNTY, TENNESSEE AND INCORPORATED AREAS

PANEL 75 OF 400
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PUTNAM COUNTY	470149	0075	D

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

MAP NUMBER 47141C0075D

EFFECTIVE DATE MAY 16, 2007

Federal Emergency Management Agency

Air and Noise

Environmental Studies

Air and Noise

TN TDOT Department of Transportation

U.S. Department of Transportation Federal Highway Administration

SEMS Statewide Environmental Management System

Environmental Studies Request

Project Information

Route: I-40

Termini: L.M. 16.333 - L.M. 0.080

County: Multiple Counties

PIN: 131552.01

Request

Request Type: Initial Environmental Study

Project Plans: Preliminary

Date of Plans: 04/24/2024

Location: Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Air and Noise

Study Results

AIR QUALITY

Transportation Conformity
This project is in Smith and Putnam Counties which are in attainment for all regulated criteria pollutants. Therefore, conformity does not apply to this project.

Mobile Source Air Toxics (MSATs)
This project qualifies as a categorical exclusion under 23 CFR 771.117 and, therefore, does not require an evaluation of MSATs per FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" dated January 2023.

NOISE

As presented in this ETSA and draft concept report dated 04/24/2024, this project will add travel lanes in the bridge replacement and add parking capacity to the rest stop. Therefore, this project is a Type I in accordance with the FHWA noise regulation in 23 CFR 772 and TDOT's noise policy. However, there are no noise sensitive land uses adjacent to the project area, and a noise study is not needed.

Note that if the project termini are extended in subsequent plans in such a way that there are adjacent noise-sensitive land uses within any part of the project area limits, those changes could trigger the need to conduct a required noise study.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Chasity L. Stinson

Title: TESS Advanced, TDOT Environmental Division

Signature: Chasity Stinson

Digitally signed by Chasity Stinson
Date: 2024.07.25 11:33:28 -05'00'

Cultural Resources

Environmental Studies

Historic Preservation

Environmental Studies Request

Project Information

Route:	I-40
Termini:	L.M. 16.333 - L.M. 0.080
County:	Multiple Counties
PIN:	131552.01

Request

Request Type:	Initial Environmental Study
Project Plans:	Preliminary
Date of Plans:	04/24/2024
Location:	Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Historic Preservation

Study Results

In a letter dated August 5, 2024, the Tennessee State Historic Preservation Office concurred that no architectural resources eligible for listing in the National Register of Historic Places would be affected by this undertaking.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **Yes**

Type: Agency Coordination

Location: Email Attachment

Certification

Responder: Ellen Hurd

Title: Historian

Signature: Ellen Hurd

Digitally signed by Ellen Hurd
Date: 2024.08.05 12:29:08 -05'00'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL DIVISION

ENVIRONMENTAL TECHNICAL STUDIES SECTION

SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

BUTCH ELEY
COMMISSIONER

BILL LEE
GOVERNOR

August 5, 2024

Mr. E. Patrick McIntyre, Jr.
Executive Director and State Historic Preservation Officer
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

RE: Cultural Resources Assessment for the Interstate 40 Truck Parking and Bridges Replacement Over the Caney Fork River; Lancaster and Buffalo Valley, Smith and Putnam Counties; TDOT PIN 131552.01

Dear Mr. McIntyre,

The Tennessee Department of Transportation (TDOT) proposes add a 125-bay truck parking expansion adjacent to the Welcome Center, replace twin bridges 80I00400036 along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. The project is state-funded, but there is federal involvement because it is an interchange project.

It is the opinion of TDOT that there is one historic property within the area of potential effects (APE) that is eligible for listing in the National Register of Historic Places (NRHP), the Buffalo Valley Railway Bridge, and that the project as currently proposed would have No Effect to this property.

In compliance with Section 106 of the National Historic Preservation Act (as amended) and implementing regulations 36 CFR 800, please review the enclosed information and provide me with your comments. If any additional information is needed, please contact Historian Ellen Hurd at (615) 741-6834 or Haley Seger at (615) 770-1762 for architectural resources or me at (615) 313-3764. I appreciate your assistance.

Sincerely,

Kim Vasut-Shelby
Cultural Resources Manager

kvs/edh/hs

HISTORIC RESOURCES SURVEY REPORT
ELIGIBILITY AND EFFECTS ASSESSMENT

INTERSTATE 40 TRUCK PARKING AND BRIDGES REPLACEMENT OVER THE CANEY FORK RIVER
GORDONSVILLE/BUFFALO VALLEY
SMITH AND PUTNAM COUNTIES, TENNESSEE
PIN #131552.01

Ellen Dement Hurd, Historian
Tennessee Department of Transportation
Historic Preservation Section
James K. Polk Building, 9th Floor
505 Deaderick Street
Nashville, Tennessee 37243

August 5, 2024

This document has been produced for use in compliance with Section 106 of the National Historic Preservation Act of 1966 and subsequent amendments and Section 4(f) of the National Environmental Policy Act.

Management Summary

In July of 2024, Tennessee Department of Transportation (TDOT) conducted an architectural and historic resources survey for the construction of truck parking at the Interstate 40 (I-40) rest station and the replacement of the I-40 bridges over the Caney Fork River in Smith and Putnam Counties. This TDOT project is state-funded, but there is federal involvement because it is an interstate project. Therefore, a Historic Resources Survey Report has been prepared in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) for review and comment by the Tennessee State Historic Preservation Office (TN SHPO). The purpose of this report is to identify historic resources in the project's Area of Potential Effects (APE); evaluate the surveyed resources' eligibility for listing in the National Register of Historic Places (NRHP); and assess the effects of the project on NRHP listed or eligible properties. A separate report will document and assess archaeological resources.

Project Description

The I-40 Interchange Improvement and Truck Parking project would add a 125-bay truck parking expansion adjacent to the Welcome Center, replace twin bridges 80I00400036 along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. The project would utilize two conceptual typical sections for I-40: 4 lane freeway with depressed median, and 6 lane freeway with median barrier for the proposed bridge. The project length is approximately 0.86 miles. The I-40 corridor is a full access-controlled facility with an interchange to access the Welcome Center.

Methods and Results

This study began with a records review and a reconnaissance-level field survey. The records review identified no previously documented properties in the APE.

Following the records review, TDOT historians completed a field survey of the APE, documented the current condition of previously surveyed resources, and surveyed three newly identified resources. Based on the results of the field survey and archival research, it is the opinion of TDOT that there is one resource eligible for listing on the NRHP, the Buffalo Valley Railway Bridge, and that the project as currently proposed would have No Effect on this resource.

Section 4(f) of the U.S. Department of Transportation Act gives special consideration to the use of park and recreational lands, wildlife and waterfowl refuges, and historic sites by federally assisted transportation projects. To be considered "historic," a property must be either listed in the NRHP or be determined eligible for such listing. At this time, no federal funding is proposed for this project; thus, Section 4(f) of the Department of Transportation Act of 1966, as amended, does not apply.

Table of Contents

Project Summary

This Historic Resources Survey Report has been prepared for the Tennessee Department of Transportation (TDOT) for the Interstate 40 (I-40) Interchange Improvement and Truck Parking project. This project would add a 125-bay truck parking expansion adjacent to the Welcome Center, replace twin bridges 80I00400036 along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. The project would utilize two conceptual typical sections for I-40: 4 lane freeway with depressed median, and 6 lane freeway with median barrier for the proposed bridge. The project length is approximately 0.86 miles. The I-40 corridor is a full access-controlled facility with an interchange to access the Welcome Center.

This project is state funded, but there is federal involvement because it is an interstate project. Therefore, it must comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and subsequent amendments, Section 4(f) of the U.S. Department of Transportation Act of 1966, and the 2020 *Programmatic Agreement Among the Federal Highway Administration (FHWA), TDOT, the Tennessee State Historic Preservation Officer (TN SHPO), and the Advisory Council on Historic Preservation (ACHP) Regarding Implementation of Transportation Projects*.

This report identifies historic resources within the project area and assesses project impacts to these resources in compliance with regulations detailing the implementation of the NHPA, which are codified in 36 CFR 800. This legislation requires federal agencies to identify any resources of historic significance in the project area, including buildings, districts, structures, objects, historic sites, and archaeological sites. For the purposes of this legislation, historic significance is defined as listing in the National Register of Historic Places (NRHP) or eligibility for inclusion in the NRHP. If the proposed project would have an adverse effect to a historic property, the legislation requires the federal agency to provide the ACHP an opportunity to comment on the effect.

Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, gives special consideration to the use of historic sites by federally assisted transportation projects. Regulations concerning TDOT's responsibilities under Section 4(f) are codified at 23 CFR 774. At this time, no federal funding is proposed for this project; thus, Section 4(f) of the Department of Transportation Act of 1966, as amended, does not apply.

The area of potential effects (APE) is defined in 36 CFR 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist." Based on the nature and the scope of the undertaking, the APE for this project consists of areas of existing and proposed Right-of-Way (ROW), all additional areas included in the Environmental Technical Study Area (ETSA), and adjacent parcels including the viewshed.

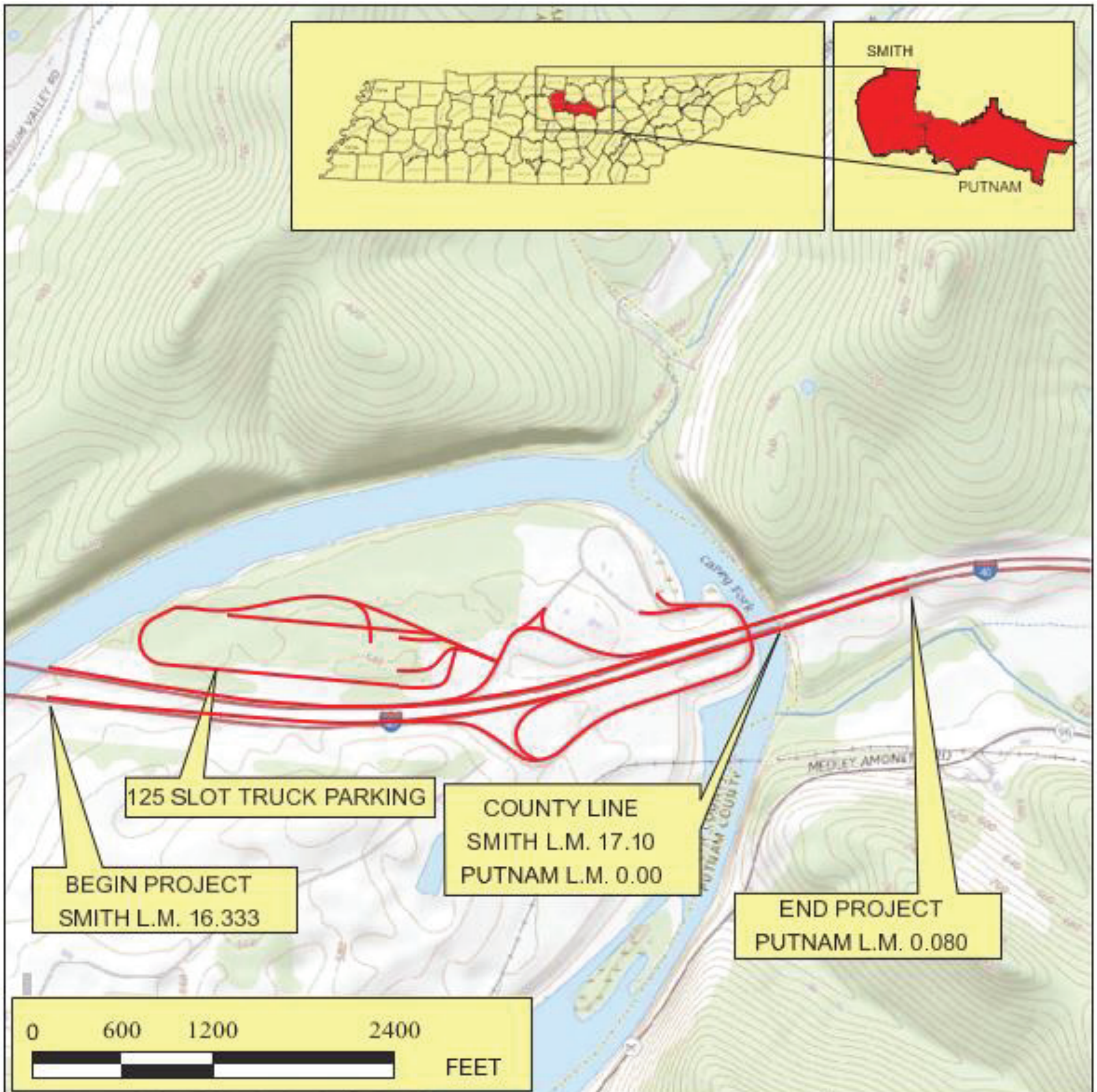
Potential consulting parties were identified based on the nature of the undertaking. The other potential consulting parties invited to participate in the Section 106 process were: the Putnam County Historian, the Smith County Historian, the Putnam County Mayor, the Smith County Mayor, and the Upper Cumberland Development District. The consulting parties were informed of our efforts to identify historic properties and asked to provide information on any unidentified

NRHP listed or eligible properties within the project's APE by an email on June 19, 2024 (see notification in Appendix B). At this time, no responses to this invitation have been received.

The APE was field surveyed during July 2024. As a result of these efforts, three historic resources were identified, including one recommended eligible for the NRHP, the Buffalo Valley Railway Bridge, and two resources recommended not eligible for the NHRP. It is recommended that the project would have No Effect on the Buffalo Valley Railway Bridge.

Due to the lack of federal funding for this project, Section 4(f) of the Department of Transportation Act of 1966, as amended, does not apply.

This Historic Resources Survey Report will be circulated to the TN SHPO and participating consulting parties for review and comment. Archaeological resources will be documented and evaluated in a separate report.

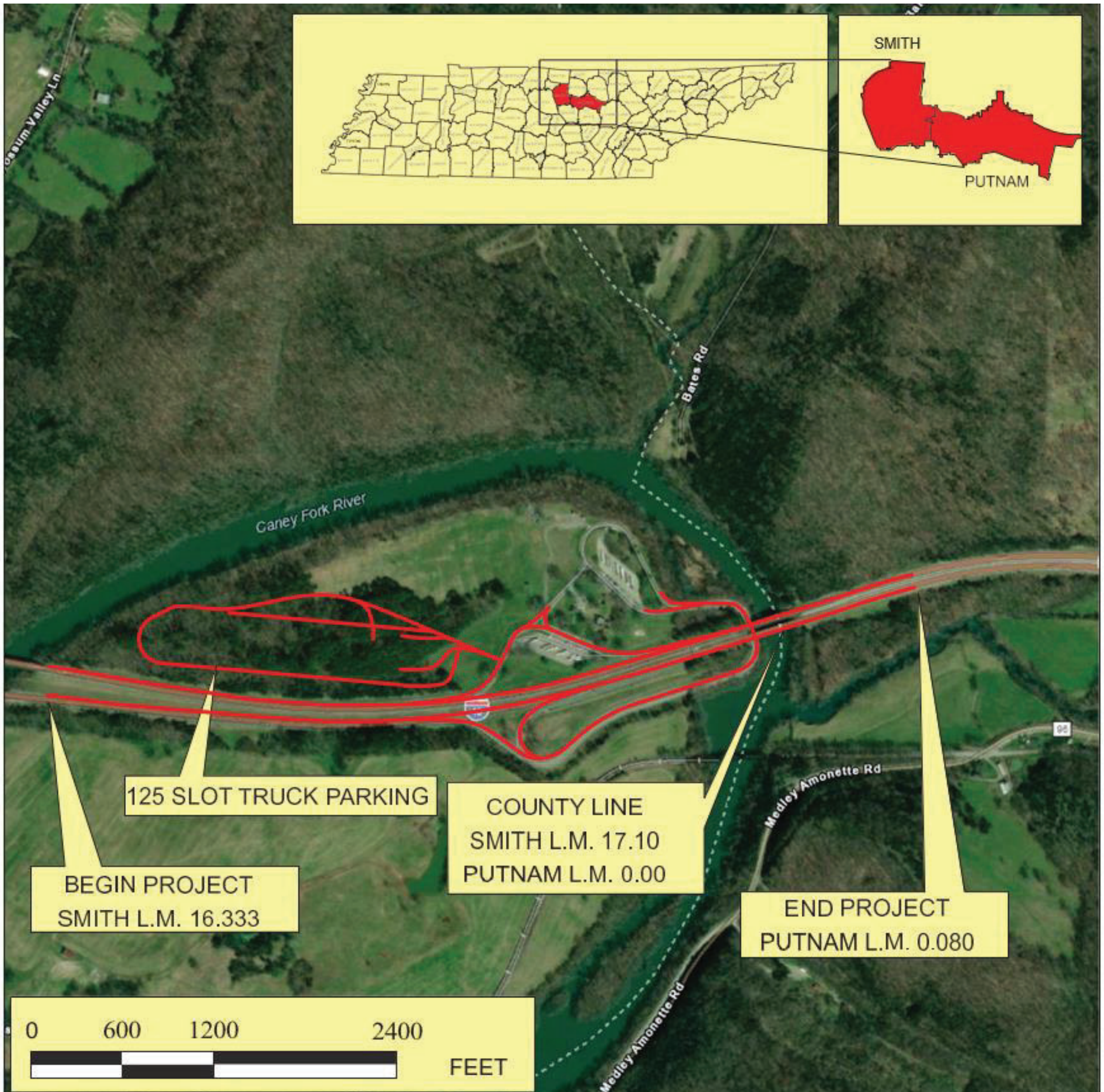


N

FIGURE 1: TOPOGRAPHIC MAP
INTERSTATE 40
FROM L.M.16.333
IN SMITH COUNTY
TO L.M. 0.080
IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation



N

FIGURE 2: AERIAL MAP

INTERSTATE 40
FROM L.M.16.333
IN SMITH COUNTY
TO L.M. 0.080
IN PUTNAM COUNTY

PIN 131552.01

TN TDOT Department of Transportation

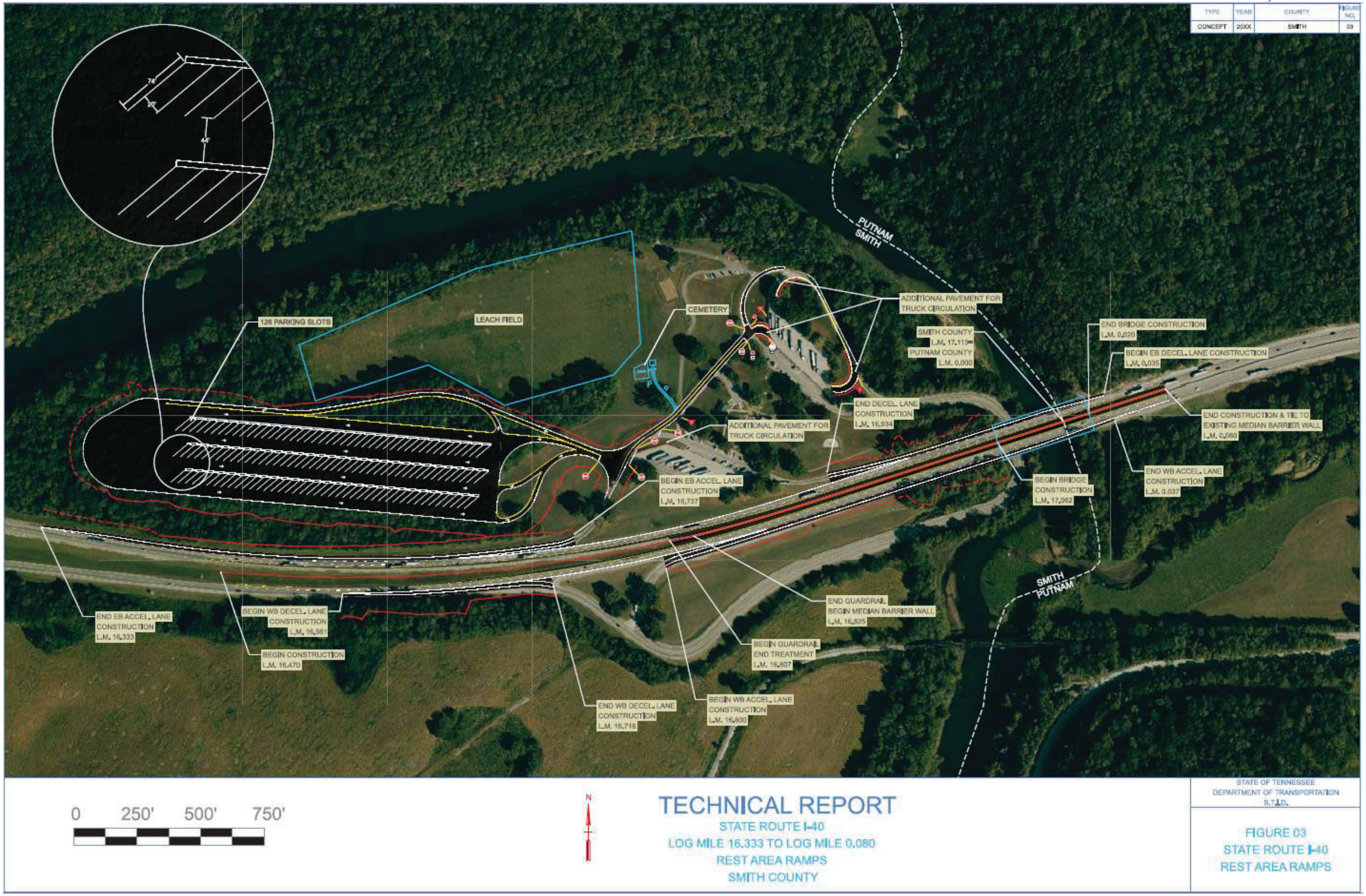


Figure 3: Conceptual design for truck parking, rest area ramps, and bridge replacement.

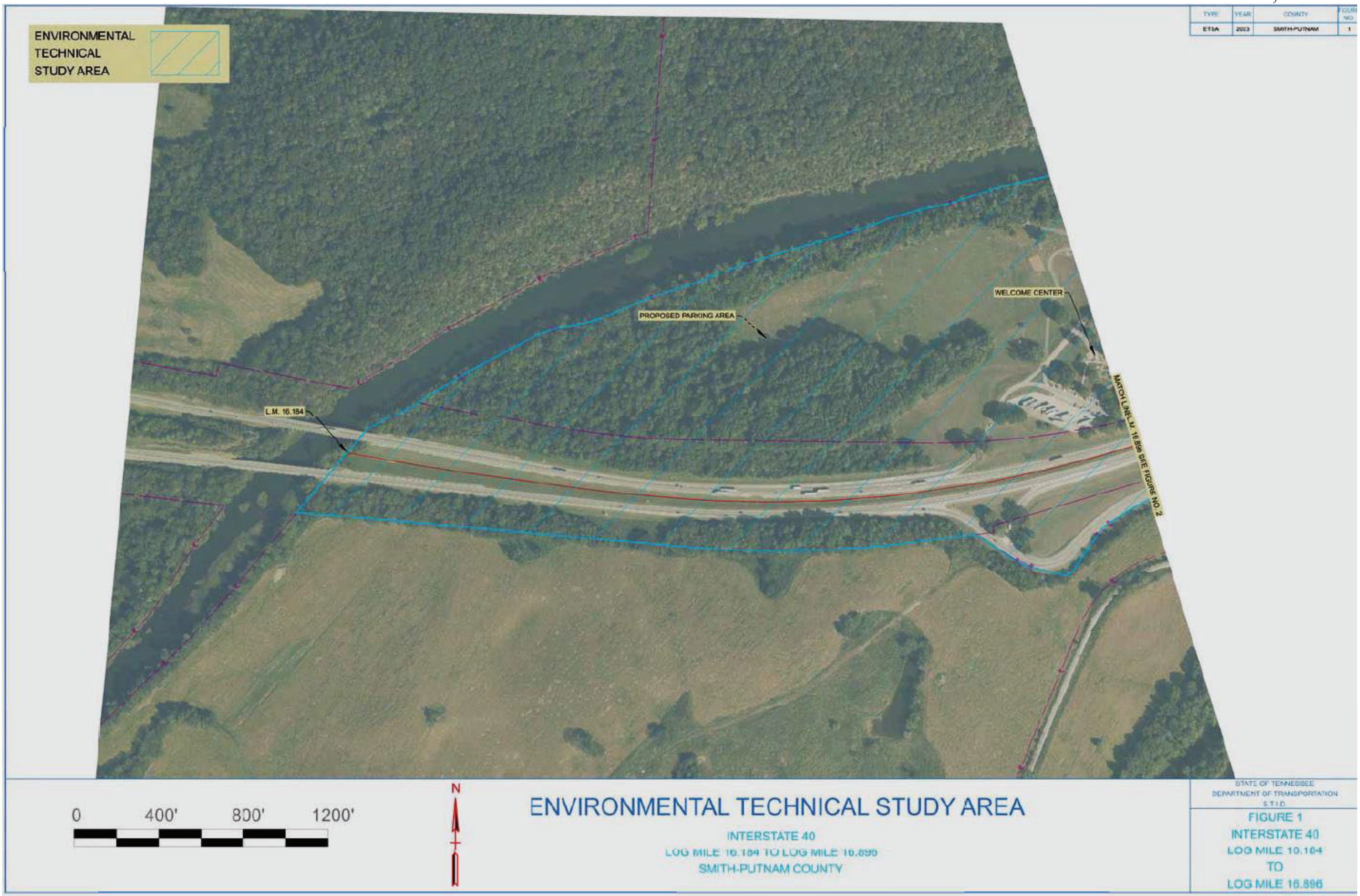


Figure 4: Environmental Technical Study Area (1 of 2).

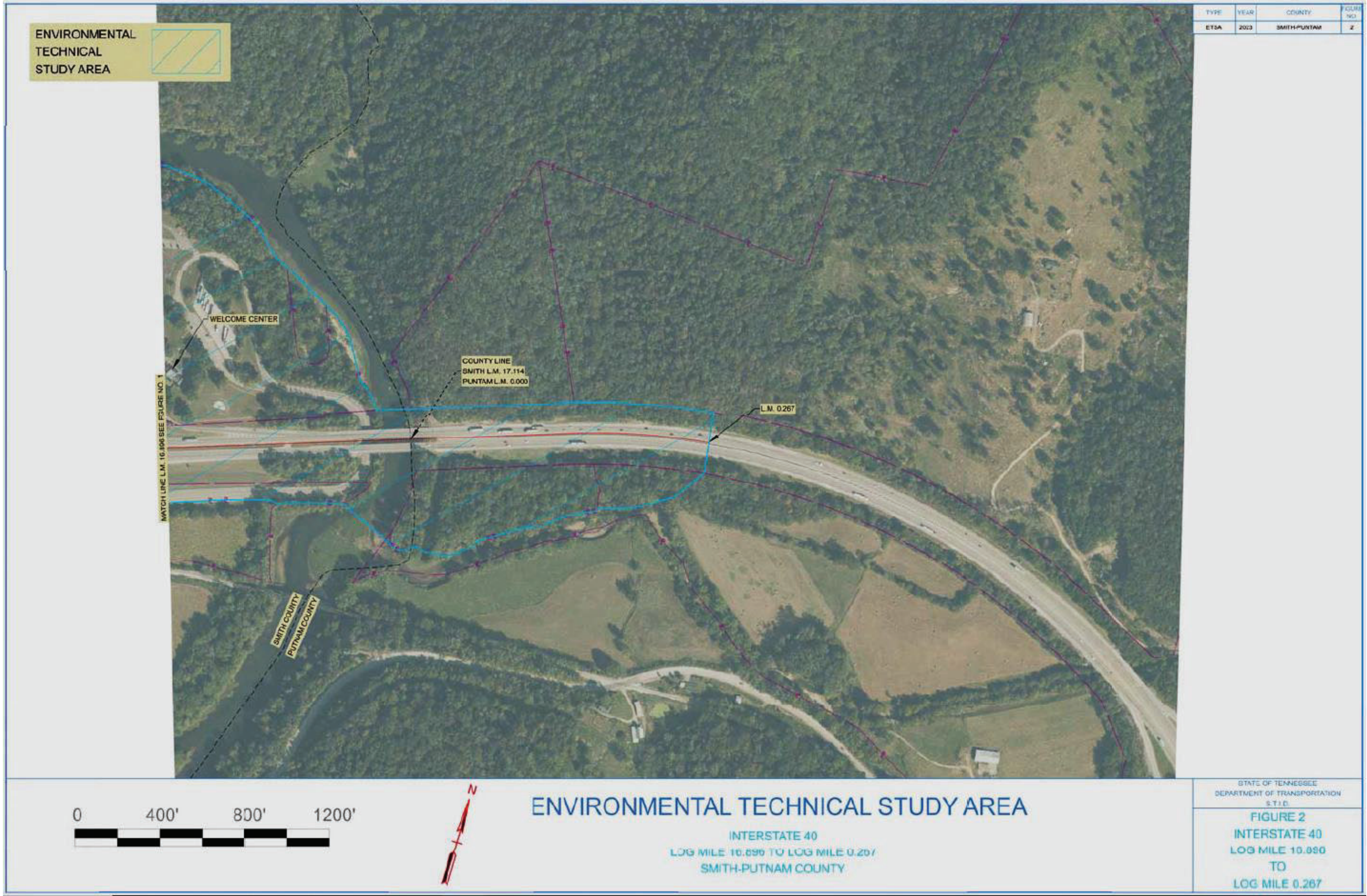


Figure 5: Environmental Technical Study Area (2 of 2).

Survey Methodology

Background Research

TDOT historians completed a records review to determine if any previously identified historic resources are located within the APE. This review included NRHP-listed properties, proposed NRHP nominations, National Historic Landmarks, local historic landmarks or zoning districts, and the survey files of the Tennessee Historical Commission, which serves as the TN SHPO. This research identified zero previously surveyed properties.

Historic contexts of Smith and Putnam Counties were compiled using available primary and secondary resources. Online research was conducted to determine settlement and development of the area and the types of architectural resources found in the Project APE. Online property records, topographic maps, historic maps, files of the local property assessor's office, and architectural styles were used to determine construction dates of the surveyed buildings discussed in this report.

Figure 6: Tennessee Historical Commission Survey Viewer, showing project area in blue and previously surveyed resources in yellow. There are no NRHP-listed resources in the project area (accessed June 14, 2024).

Field Survey

TDOT historians conducted a survey of the APE in July 2024. The survey was completed in accordance with *The Tennessee Historical and Architectural Survey Manual* (published by the Tennessee Historical Commission, updated 2023) and the National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation Planning* (National Park Service, 1985). The survey was conducted from the public right-of-way, unless property owners gave permission for surveyors to enter their property. Photos and field notes were taken of all newly identified resources aged 45 years or older, previously documented resources, and NRHP-listed properties located in the APE. All resources were mapped and photographed with a high-resolution digital camera. Information recorded during the field work included a brief architectural description, outbuilding and landscape feature identification, dates of construction, integrity, sketches of the property layout, photos of the setting, and a photolog.

Each resource was assigned a survey ID. Previously surveyed resources were assigned the survey number used in the Tennessee Historical Commission's survey files. Newly identified resources were given a temporary survey ID, beginning with HS-1 and continuing sequentially. Inventory forms for each resource were completed using the Tennessee Historical Commission's Survey123 application and submitted on July 22, 2024.

Evaluation of Eligibility for the National Register of Historic Places

TDOT historians evaluated the NRHP eligibility of newly identified historic resources and reevaluated previously surveyed properties according to the guidelines found in 36 CFR 60.4. This report includes evaluations of above-ground resources; archaeological resources will be assessed separately. To be eligible for listing on the NRHP, buildings, sites, structures, objects, and districts must meet one of these four criteria:

- Criterion A: Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criterion B: Association with lives or persons significant in the past.
- Criterion C: Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources.

For a property to be eligible for listing in the NRHP it must also possess integrity. This rule also applies to historic districts. The aspects of integrity are as follows:

- Location: the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;
- Design: the combination of elements that create the form, plan, space, structure, and style of a property (or properties);
- Setting: the physical environment of the historic property (or properties);
- Materials: the physical elements that were combined to create the property (or properties) during the associated period of significance;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: the property's (or properties') expression of the aesthetic or historic sense of the period of significance; and
- Association: the direct link between the important historic event(s) or person(s) and the historic property (or properties).

Assessment of Effects

Pursuant to the Section 106 Regulations at 36 CFR § 800.5 (Assessment of Adverse Effects), TDOT historians used the criteria of adverse effect to assess the project's impact on the resources located in the APE that are listed or eligible for listing in the NRHP. The regulations are below.

§ 800.5 Assessment of adverse effects.

Apply criteria of adverse effect. In consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to identified historic properties, the agency official shall apply the criteria of adverse effect to historic properties within the area of potential effects. The agency official shall consider any views concerning such effects which have been provided by consulting parties and the public.

(1) *Criteria of adverse effect.*

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

(2) *Examples of adverse effects.*

Adverse effects on historic properties include, but are not limited to:

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Historical Overview

Smith County

Located in the Upper Cumberland region of Tennessee, Smith County is bisected by the Cumberland River and bounded by the Caney Fork River to the east. The county sits within the ancestral homelands of the Cherokee Nation, and it was part of the territorial claims of North Carolina during the colonial period. It was later incorporated into the Southwest Territory when it was created in 1790. The land that now forms Smith County was originally part of Sumner County during the colonial era and early Tennessee statehood.

The earliest white settler in the area was William Walton, who received a land grant and built his home at the confluence of the Cumberland and Caney Fork River in 1781. Walton operated a ferry over the river and developed Walton Road, which was the principal connector of Knoxville and Nashville and officially designated the Cumberland Turnpike. Smith County was established by the Tennessee General Assembly on October 26, 1799. It was named for Revolutionary War veteran and U.S. senator Daniel Smith. An election for a permanent county seat held in 1804 chose Waltons Ferry as its site; the new town was named Carthage.

In the late eighteenth and early nineteenth centuries, Smith County's agriculture and industry centered on subsistence farming, mills, and riverboat travel, although there was also a larger saltpeter mine located at Piper Cave. The construction of the Nashville & Knoxville Railroad (later the Tennessee Central Railway) and the Middle & East Tennessee Central Railroad in the 1880s spurred additional development, particularly around rail stops that included Lancaster and Caney Fork (both near the project area that is the subject of this report). A toll bridge across the Cumberland River opened in 1908 and was replaced by the Cordell Hull Bridge in 1936. This bridge connects Carthage to Walton Road, which was designated as U.S. Highway 70 in 1926. The Cordell Hull Dam on the Cumberland River north of Carthage, constructed between 1963 and 1973, spurred industrial development, most notably zinc mining.

Smith County has been home to many state and national politicians, including Governor William Bowen Campbell, who served from 1851-53, and Governor Benton McMillin, in office from 1899-1903. Cordell Hull practiced law in Carthage before his election to Congress in 1906; he would eventually become the U.S. Secretary of State from 1933 to 1944 under President Franklin Delano Roosevelt. Senator Albert Gore, Sr., was a longtime resident of Carthage, as was his son, former Vice President Albert Gore, Jr.

Senator Al Gore, Sr., authored the Federal-Aid Highway Act of 1956, which established the federal interstate system. This brought additional transportation connectivity to Smith County, as the route of I-40 passes through the southern part of the county. The portion of the highway from Gordonsville in Smith County to Silver Point in Putnam County was completed in 1963, and the portion running west from Gordonsville to Lebanon was finished in 1965. A rest area on the banks of the Caney Fork River north of the interstate was constructed in 1985.

Putnam County

Putnam County is directly east of Smith County in the Upper Cumberland Region of Tennessee. It is part of the traditional homeland of the Cherokee Nation, and it was claimed by North Carolina during the colonial period. It was later incorporated into the Southwest Territory and then the state of Tennessee as part of Sumner County.

The Tennessee General Assembly established Putnam County in 1842, encompassing land from Jackson, Overton, Fentress, and White County. An 1844 injunction deemed this formation unconstitutional after protests from Overton and Jackson Counties that it would reduce their areas below constitutional limits. The area was resurveyed and a constitutionally compliant boundary for Putnam County was reestablished in 1854. The county was named after General Israel Putnam, a Revolutionary War veteran who fought at the Battle of Bunker Hill. The legislature directed that the county seat be named after Richard F. Cooke, a state senator who served from 1851-54 and represented the counties from which Putnam was formed. Cookeville was established near the center of the county along Walton Road, which connected Knoxville and Chattanooga and was designated the Cumberland Turnpike.

From its first settlement in the 1700s through the first half of the nineteenth century, Putnam County was primarily comprised of subsistence farms. The county was divided between Confederates and Union supporters during the Civil War, and economic growth stagnated during the war. The construction of the Nashville and Knoxville Railroad (later the Tennessee Central Railway) in the 1890s spurred the development of new villages around train stations, including Buffalo Valley (which sits on the eastern bank of the Caney Fork River near the project area that is the subject of this report). Railroads served new industries, such as coal mining. The Church of Christ established Dixie College in Cookeville in 1909, which later merged with the Tennessee Polytechnic Institute when it was created in 1915.

Growth in Putnam County was supported by the completion of U.S. Highway 70, which ran along the Walton Road, in 1930, and the construction of the Cookeville Airport in 1934. I-40 was completed through the county in 1963, further supporting transportation-oriented development. Tennessee Polytechnic Institute changed its name to Tennessee Technological University in 1965, becoming the largest non-manufacturing employer in the county. Today, Putnam County supports a mixture of manufacturing, educational, and farming jobs.

Survey Results

Background research identified no previously surveyed resources within the APE. Fieldwork documented a total of three additional resources 45 years of age or older within the proposed Project's APE. These newly surveyed resources are summarized in Table 1.

Table 2 summarizes the resources have been recommended eligible. This table shows the results of the assessment of effects and the Section 4(f) assessment for these resources.

Table 1: Newly surveyed historic resources

Survey ID	Name	Date	Style/Type	Location/ Address	NRHP Eligibility Recommendation
HS-1	Sadler Cemetery	1868-1951	Rural Family Cemetery	I-40 Welcome Center	Not Eligible
HS-2	Buffalo Valley Railway Bridge	ca. 1890	Warren Through Truss	Nashville & Eastern Railroad over Caney Fork River	Eligible
HS-3	Moss Bend Farmstead	1966	Ranch House	159 Moss Bend Lane	Not Eligible

Table 2: NRHP-listed and eligible historic resources

Survey ID	Name	Eligible Criteria	Effects Recommendation	Section 4(f) Recommendation
HS-2	Buffalo Valley Railway Bridge	A, C	No Effect	Not Applicable

In total, there is one in the APE that is recommended eligible for listing on the NRHP, the Buffalo Valley Railway Bridge. There are two properties that have been recommended not eligible (refer to Figure 7: Resource Location Map). It is recommended that the project would have No Effect for the Buffalo Valley Railway Bridge.

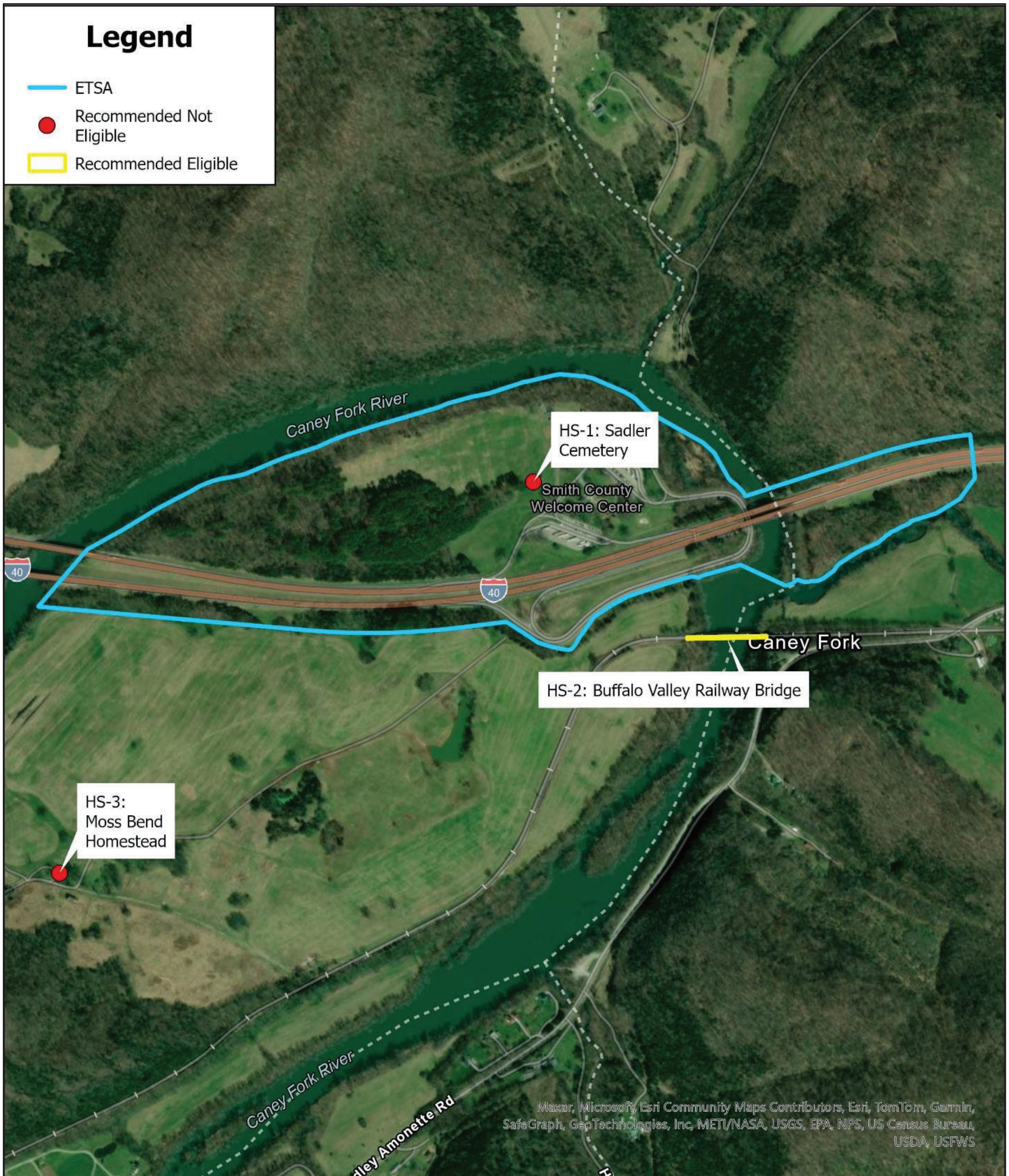


Figure 7: Resource Location Map
I-40 Truck Parking and Replacement of Bridges Over the Caney Fork River
PIN 131552.01; Smith and Putnam Counties

N
0 0.05 0.1 0.2 Miles

Historic Resource Inventory HS-1: Sadler Cemetery

Summary: The Sadler Cemetery is recommended not eligible for the NRHP.

Figure HS-1.1: Sadler Cemetery location marked in red, with I-40 Rest Area to east.

Description: The Sadler Cemetery is a rural family cemetery located on the grounds of the I-40 Rest Area. The cemetery sits on a hill to the north of the interstate and east of the main rest area building and parking lot. A grassy field and woods separate it from the Caney Fork River to the north and east. A paved walkway leads up to the cemetery, along with a covered pavilion to its east and picnic tables to the south.

The cemetery is approximately 0.07 acre in area. It has a quadrilateral boundary demarcated by a chain-link fence with fieldstone posts at its corners. Two fieldstones on the eastern side of the cemetery support a wrought-iron entrance gate. The cemetery contains eight marked burials, the earliest of which dates from 1868 and the latest of which dates from 1951. Early markers are marble and sandstone tablets, while most later stones are flat-top laminar granite headstones. Surnames in the cemetery include Bartlett, Maynard, Moss, Robinson, and Sadler.

A modern marker placed in the cemetery in 1982 notes that Philip Sadler homesteaded this land on the Caney Fork River and lists his two wives, Mary Jones and Martha Carr Sullins. Neither Philip nor his wives have legible headstones in this cemetery; preliminary research did not substantiate the locations of their graves.

Figure HS-1.2: Looking north at Sadler Cemetery, showing modern rest area setting.

Figure HS-1.3: Example of sandstone tablet gravestone.

Figure HS-1.4: Flat-top laminar granite gravestones dating from the twentieth century.

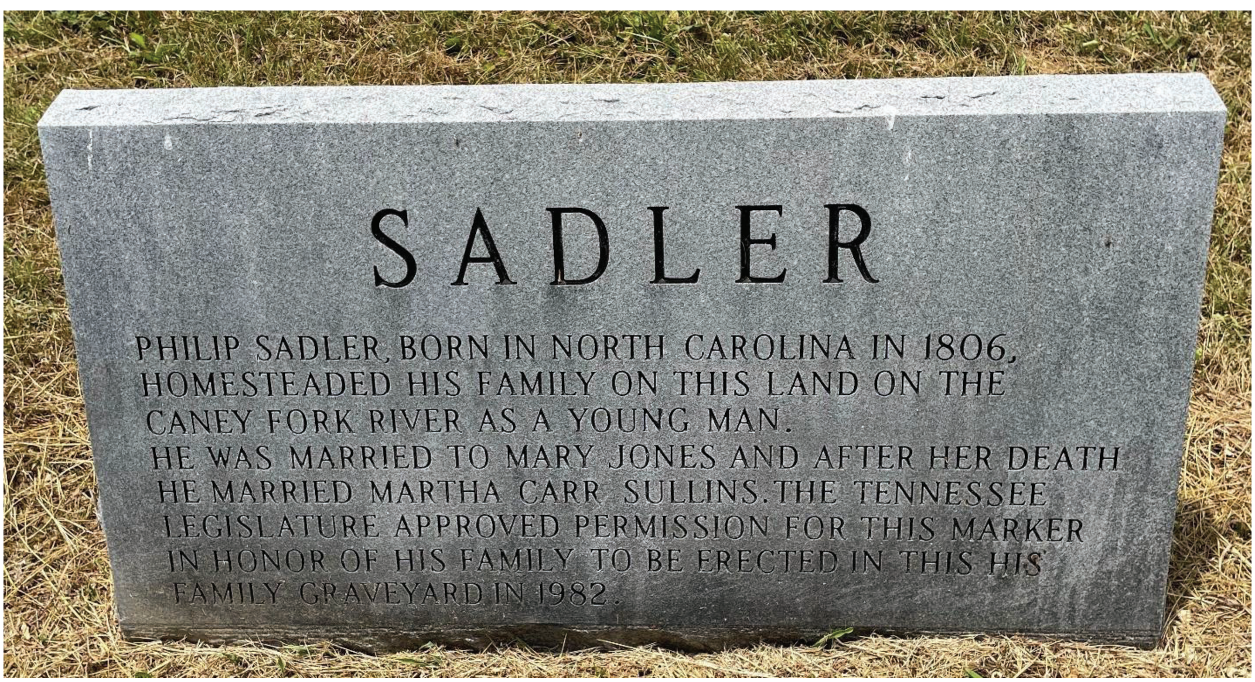


Figure HS-1.5: 1982 marker placed in cemetery.

NRHP Evaluation: The Sadler Cemetery is recommended not eligible for the NRHP.

The Sadler Cemetery is recommended not eligible under Criterion A. The cemetery is an example of the rural family cemetery type, representing a burial pattern in which families buried their dead in small cemeteries on their farms. This trend was ubiquitous in Tennessee's rural communities, and there is no evidence that the Sadler Cemetery contributed significantly to this broad pattern of history. It is not an early example of this type in Tennessee, nor does it represent a significant example of burial practices in the state. Furthermore, integrity has been diminished significantly due to drastic changes in the cemetery's setting. Historic aerials indicate that the cemetery was originally close to a house and surrounded by agricultural fields, which have been replaced with an interstate and rest stop. Thus, the cemetery no longer conveys the characteristics of a rural family cemetery.

Figure HS-1.6: 1959 aerial showing location of Sadler Cemetery marked with red arrow. Note house and driveway to the east that were demolished for the construction of I-40.

The Sadler Cemetery is recommended not eligible under Criterion B because it is not associated with persons who contributed significantly to the broad patterns of our history. Preliminary research did not indicate that any of the individuals buried in the Sadler Cemetery were prominent leaders or contributed significantly to the patterns of history locally.

The Sadler Cemetery is recommended not eligible under Criterion C. The cemetery is an example of the rural family cemetery type, but it lost its rural setting when the rest area was constructed. The cemetery contains only two types of monuments, and none of the stones represent high artistic values or distinctive types of grave markers. The cemetery possesses some decorative landscape elements—the stone posts at the corners and the iron entry gate—but the fence itself is non-historic. The cemetery does not represent the distinctive characteristics of a type, style, or period of development, does not possess high artistic values, and does not represent the work of a master.

The cemetery is recommended not eligible under Criterion D because it is not likely to yield information important in history or prehistory. This resource does not appear to have the potential to be the principal source of important information.

Historic Resource Inventory HS-2: Buffalo Valley Railway Bridge

Summary: The Buffalo Valley Railway Bridge is recommended eligible for the NRHP under Criteria A and C.

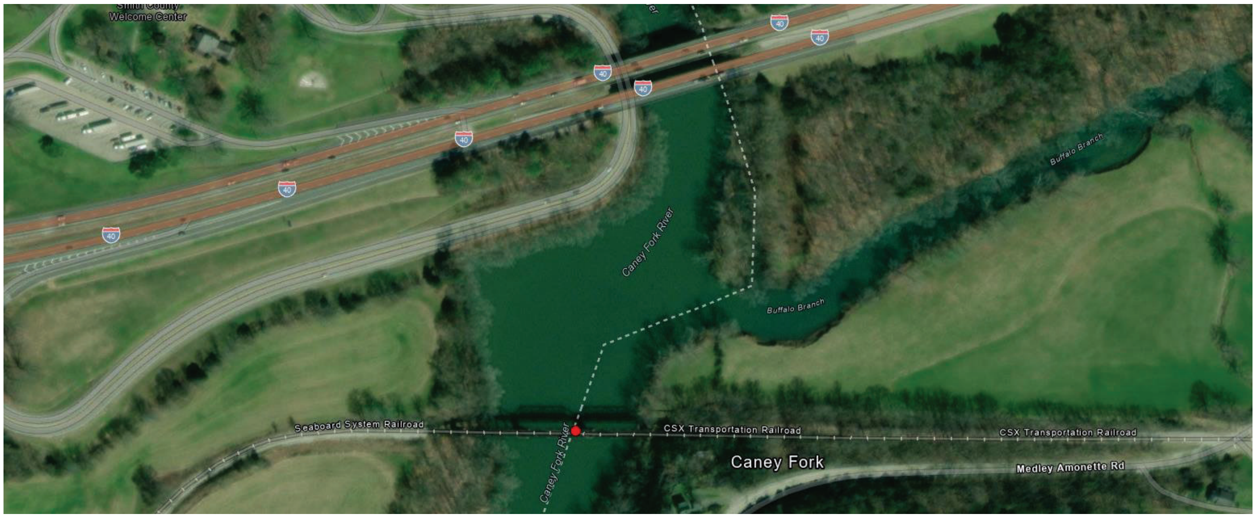


Figure HS-2.1: Buffalo Valley Railway Bridge location shown in red.

Description: The Buffalo Valley Railway Bridge is a ca. 1890 railroad bridge that carries the Nashville and Eastern Railroad over the Caney Fork River. It is a metal Warren Through Truss bridge with Pratt Through Truss and Fixed approach spans. The bridge has two main spans and three approach spans. The main span measures approximately 150 feet in length and the total structure is approximately 640 feet long. The bridge has four stone piers, with three in the river and one on the eastern bank. The central river pier is circular.

Figure HS-2.2: Looking south at bridge from I-40 bridge over the Caney Fork River.

Figure HS-2.3: View of bridge from April 2014 (photo by Dave Michaels; accessed via historicbridges.org).

Figure HS-2.4: View of bridge approach span from April 2014 (photo by Dave Michaels; accessed via historicbridges.org).

NRHP Evaluation: The Buffalo Valley Railway Bridge is recommended eligible for the NRHP under Criterion A with a local level of significance in the area of Transportation and under Criterion C with a local level of significance in the area of Engineering.

The Buffalo Valley Railway Bridge carried the Nashville & Knoxville Railroad across the Caney Fork River from the 1880s-90s onward. In this capacity, it provided an important role in linking cities in middle and eastern Tennessee. The railroad also prompted the development of new settlements along the rail corridor, including Lancaster, Caney Fork, and Buffalo Valley. Due to the increased connectivity that the railroad and this bridge provided to the region, the Buffalo Valley Railway Bridge is recommended eligible under Criterion A with a local level of significance in the area of Transportation.

The bridge has no known associations with persons who have contributed significantly to the broad patterns of our history; therefore, it is recommended not eligible under Criterion B.

The Buffalo Valley Railway Bridge is a good and intact example of a metal Warren Through Truss bridge with Pratt Through Truss and Fixed approach spans. According to HistoricBridges.org, the bridge was originally a swing span; the website argues that this is supported by the circular middle pier, which were typically used for swing piers. The website states that the swing span was replaced in 1907 with two Fixed Through Truss spans constructed by the Virginia Bridge and Iron Company.[1] However, the source of this information is not cited, and the records of the Tennessee Central Railway Company do not indicate that they conducted business with the Virginia Bridge and Iron Company.[2] Nonetheless, the bridge's design is consistent with an 1880-90s construction date. The bridge is an example of multiple types of metal truss bridge construction, and it is unique in its local context. The closest in design in the adjacent counties is the NRHP-listed 1934-36 Cordell Hull Bridge in Carthage, which is an example of a Parker Through and Warren Deck Truss.[3] However, this bridge is unique and locally significant as an example of its type constructed for a railroad in the nineteenth century. As such, it is recommended eligible under Criterion C in the area of Engineering with a local level of significance.

The bridge is not likely to yield information important in history or prehistory, nor is it likely to be the principal source of important information. Therefore, it is recommended not eligible under Criterion D.

Evaluation of Integrity: The Buffalo Valley Railway Bridge retains integrity of location because it has not been moved. Integrity of setting has been diminished slightly by the construction of I-40 approximately 800 feet north of the railroad bridge; however, while the interstate is visible from the railroad, the setting does not contribute to the significance of the bridge. The bridge retains its original materials, design, and workmanship; as a result, it conveys its association with its engineering and transportation history and the feeling of a nineteenth-century railroad bridge.

---

[1] "Buffalo Valley Railway Bridge: Tennessee Central Caney Fork River Bridge." HistoricBridges.Org, documented April 7, 2014, https://historicbridges.org/bridges/browser/?bridgebrowser=tennessee/buffalovalley/.

[2] "Tennessee Central Railway Company Records, 1884-1968," Tennessee State Library and Archives, Manuscript Accession Number 1985-10.

[3] Sources consulted to identify comparable bridges include: Carver, Martha, *Tennessee's Survey Report for Historic Highway Bridges,* Tennessee Department of Transportation, Nashville: Ambrose Publishing Company, 2008; HistoricBridges.org inventory; 2021 Federal Highway Administration National Bridge Inventory.

Proposed Boundary (Justification and Description): The proposed boundary for the Buffalo Valley Railway Bridge consists of the bridge's footprint, including approach spans. This boundary encompasses all NRHP-qualifying characteristics and features of the bridge.

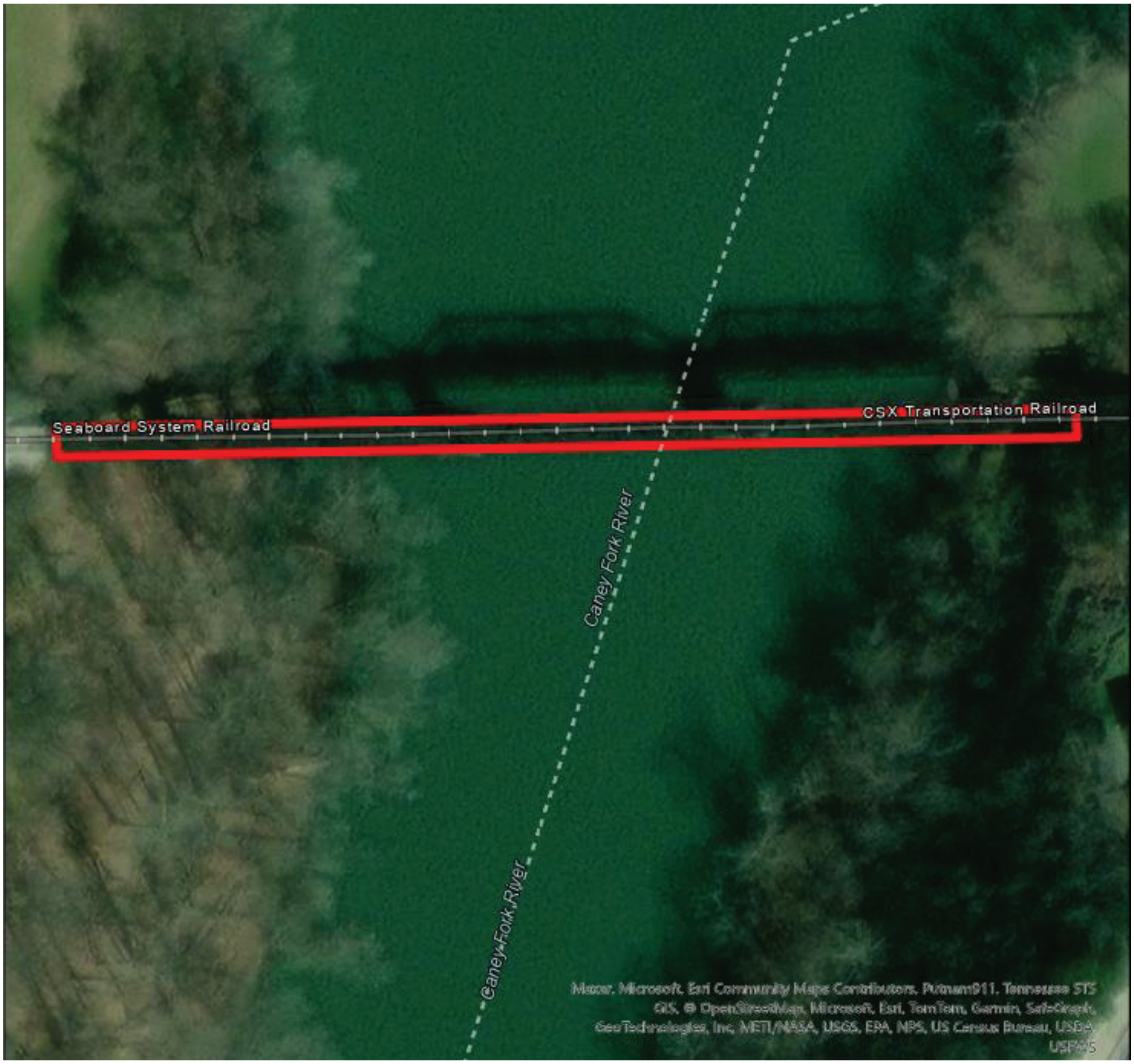


Figure HS-2.5: Proposed NRHP boundary for the Buffalo Valley Railway Bridge.

Assessment of Effects:

Pursuant to 36 CFR 800.5, TDOT historians applied the Criteria of Effects for the proposed project to the Buffalo Valley Railway Bridge. A finding of No Effect is anticipated.

Project activities would include the construction of a truck parking area approximately 2,000 feet northwest of the railroad bridge on the opposite side of the interstate and the replacement of two bridges that carry I-40 across the Caney Fork River approximately 800 feet north of the railroad bridge. No easements or ROW would be acquired from within the proposed NRHP boundary.

Example of Adverse Effect	*Assessment*
Physical destruction of or damage to all or part of the property	The bridge would not be physically impacted by the proposed project. The project would replace the two bridges that carry I-40 over the Mississippi River, but these bridges are 800 feet north of the railroad bridge at their closest point. There would be no ROW or easements taken from the Buffalo Valley Railway Bridge. Therefore, there would be not physical destruction or damage to all or part of the property.
Alterations of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines	The project would not result in any alterations to the Buffalo Valley Railroad Bridge. All project activities would occur outside the proposed NRHP boundary, approximately 800 feet away from the railroad bridge at the nearest point.
Removal of the property from its historic location	The Buffalo Valley Railway Bridge would not be moved from its historic location as a result of this project.
Change of the character of the property's use or physical features within the property's setting that contribute to its historic significance	The project would not change the use of the Buffalo Valley Railway Bridge, which was historically and is currently used to carry a railroad line across the Caney Fork River. The project would remove and replace the I-40 bridges across the river to the north of the railroad, but these bridges were constructed in 1971 and were not part of the railroad bridge's setting historically. The replacement bridges would be constructed on the same alignment and at the same height as the existing bridge. The bridges would be widened by approximately 12 feet to the north and 12 feet to the south at the widest points to accommodate updated acceleration and deceleration lanes, but this would not substantially alter the visual perception from the railroad bridge, which is approximately 800 feet away at the closest point. Therefore, project implementation would not change the character of physical features within the property's setting that contribute to its historic significance.
Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features	The project would not introduce any visual, atmospheric, or audible elements that would diminish the integrity of the property's significant features. The project would replace the I-40 bridges across the Caney Fork River and add truck parking to the I-40 rest area to the northwest of the railroad bridge. The replacement of the bridges would not introduce new visual elements to the railroad bridge's setting because they would be

	constructed on the same alignment, at the same height, and with a similar design to the existing bridges. The truck parking is on the opposite side of the interstate from the railroad bridge, approximately 2,000 feet away, and is shielded from the railroad bridge by dense trees. Thus, the project would not introduce any visual elements that would diminish the integrity of the property's significant features. The project would replace existing features of the interstate system to meet updated safety requirements, and it would add additional truck parking in response to existing demand. It would not induce additional traffic or other elements that would introduce atmospheric or audible effects that would diminish the integrity of the property's significant features.
Neglect of a property which causes its deterioration, except where such neglect or deterioration are recognized qualities or a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization	The project would not cause the property to be neglected or deteriorated. The bridge's use and maintenance would not be impacted by this project.
Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforcement restrictions or conditions to ensure long-term preservation of the property's historic significance	The Buffalo Valley Railway Bridge is not currently owned by the Federal government and would not come under the government's ownership as a result of this project.

Section 4(f) Evaluation:

Due to the lack of federal funding for this project, Section 4(f) of the Department of Transportation Act of 1966, as amended, does not apply.

Historic Resource Inventory HS-3: Moss Bend Homestead

Summary: The Moss Bend Homestead is recommended not eligible for the NRHP.

Figure HS-3.1: property boundary and locations of resources on the Moss Bend Homestead.

Description: The Moss Bend Homestead is a farm located at 159 Moss Bend Lane. The approximately 318-acre parcel is bounded by I-40 to the north, the Caney Fork River to the west, and wooded parcels to the west and south. At the eastern end, the parcel extends to the Caney Fork River and is bisected by the railroad. The southern portion of the parcel is wooded, but the majority of the property is used as pasture. A gravel road, Moss Bend Lane, runs through the southern portion of the property.

The property includes a ranch house just to the north of Moss Bend Lane, which tax assessor records indicate was constructed in 1966. This date is consistent with historic aerials and the building's style. The one-story house has a rectangular plan and a hip roof. The asymmetrical façade faces west and is clad with a mixture of roman brick and Crab Orchard sandstone. The metal replacement entry door is approached by a concrete stoop. Fenestration consists of single-hung vinyl windows, which are paired on the façade. The southern portion of the house was a carport that has been enclosed with brick, with a secondary entrance added. The rear of the house has a concrete patio.

Figures HS-3.2: Façade of ranch house, looking east.

Figure HS-3.3: South and east elevations of ranch house, facing north.

There is a small cemetery immediately to the east of the house, which contains one marked box grave, a pile of stones next to a tree, and a modern memorial marker. The dry-stone fieldstone box tomb belongs to William Franklin Moss, who was born in 1855 and died in 1868. The memorial marker is granite and lists the names and birth and death dates of 11 members of the Moss family, two of whom were born in the 1790s, one born in 1828, one born in 1834, and the remainder born between 1855 and 1870 (including William Franklin). Their relationships are not defined.

Figure HS-3.4: Looking north towards cemetery, showing box tomb and modern marker.

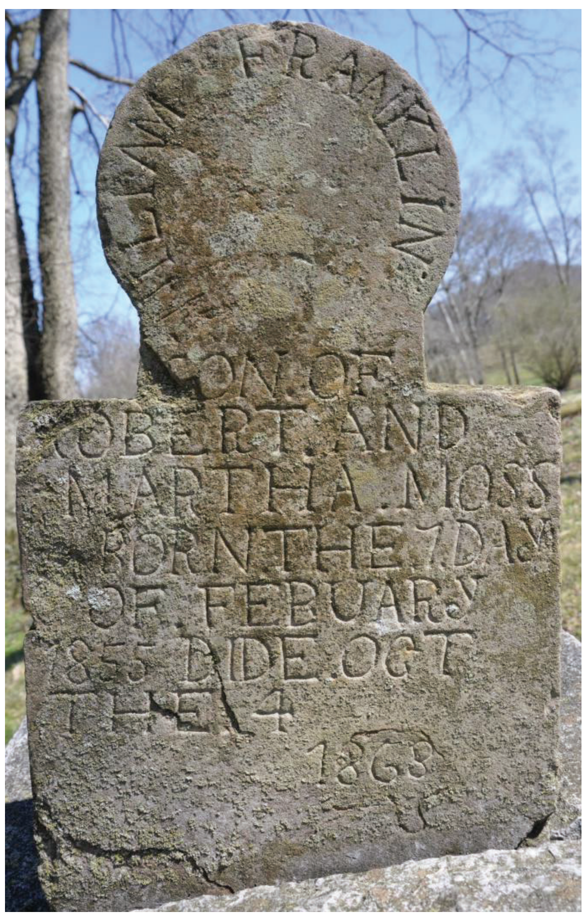


Figure HS-3.5: marker on box tomb (March 2013, accessed via FindAGrave.com).

Figure HS-3.6: modern marker in cemetery (March 2013, accessed via FindAGrave.com).

There are several barns on the property. One sits on the south side of Moss Bend Lane opposite of the house. Assessor records do not provide a date for this structure, but it does not appear on a 1960 aerial and appears on the next available aerial from 1981. It is assumed to date from ca. 1966 when the house was constructed. This structure has a rectangular plan, unpainted vertical wood board siding, and a front gable roof.

Figure HS-3.7: ca. 1966 barn across the gravel driveway from the house, looking south.

There is another barn approximately 700 feet northwest of the house. Its date is unknown, but it appears on the earliest available aerial from 1955. This barn has a rectangular plan, unpainted vertical wood board siding, and a front-gable metal roof.

Figure HS-3.8: pre-1955 barn to the northwest of the house, looking north.

The third farm structure on the property is an open hay-storage pavilion with metal supports and a metal gable roof to the northeast of the house. This structure does not appear on a 1960 aerial and first appears on a 1981 aerial. It is assumed to date from ca. 1966 when the house was constructed.

Figure HS-3.9: Hay-storage pavilion to the northwest of the house, looking northwest.

NRHP Evaluation: The Moss Bend Homestead is recommended not eligible for the NRHP.

Based on historic aerials, the property has been cleared and used as farmland since at least 1955, and the presence of a grave from 1868 suggests that it likely was settled by the mid-nineteenth century. However, the only above-ground evidence of this period is the box grave and possibly the pre-1955 barn. Although the property includes a house and three agricultural buildings, they do not represent significant events or trends in the history of farming in Smith County or the region. The buildings are not specialized structures for specific types of farming, nor does the property have known associations with significant events in the settlement of Smith County. Therefore, the property is recommended not eligible for the NRHP.

The property appears to have been owned by the Moss family at some point, given the name on the box tomb, the modern memorial stone, and the designation of the gravel road through the property as Moss Bend Lane. Preliminary research indicates that the Mosses were farmers who lived in Lancaster in Smith County, but there are no indications that any member of the family contributed significantly to the broad patterns of our history. Therefore, the farmstead is recommended not eligible under Criterion B.

The property has elements of a historic farmstead, including a main residence, several outbuildings, and a small rural cemetery. However, these elements date from various points in the property's history, and do not appear to have been developed according to an overarching vision. They do not represent unique architectural features or typify types, periods, or methods of construction. The house is an example of a ranch house, but its integrity has been diminished by the enclosure of a carport and the replacement of its windows and doors. The farm buildings are simple, utilitarian designs that do not represent distinctive types or specialized uses. Therefore, the Moss Bend Homestead is recommended not eligible under Criterion C.

The property is not likely to yield information important in history or prehistory or to be the principal source of important information, and it is recommended not eligible under Criterion D.

Conclusion

The proposed TDOT project would add a 125-bay truck parking expansion adjacent to the Welcome Center, replace twin bridges along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. This report has identified one resource that is recommended eligible for the NRHP within the project's APE, the Buffalo Valley Railway Bridge. A finding of No Effect is anticipated for the Buffalo Valley Railway Bridge. Due to the lack of federal funding for this project, Section 4(f) of the Department of Transportation Act of 1966, as amended, does not apply.

Bibliography

"Archives Shine Spotlight on Historic Buffalo Valley. *Herald-Citizen* (Cookeville, TN), January 4, 2015, p. A10.

"Buffalo Valley Railway Bridge: Tennessee Central Caney Fork River Bridge." HistoricBridges.Org, documented April 7, 2014, https://historicbridges.org/bridges/browser/?bridgebrowser=tennessee/buffalovalley/.

Carver, Martha. *Tennessee's Survey Report for Historic Highway Bridges.* Tennessee Department of Transportation. Nashville: Ambrose Printing Company, 2008.

Lundy, Ted Sadler. "The Sadlers of Silver Point." *Heritage of Putnam County Tennessee.* Cookeville: Putnam County Heritage Book Committee and County Heritage, Inc., 2008.

Maggart, Sue W. "Smith County." *Tennessee Encyclopedia*. Tennessee Historical Society, October 8, 2017, https://tennesseeencyclopedia.net/entries/smith-county/.

Semmer, Blythe. "Putnam County." *Tennessee Encyclopedia.* Tennessee Historical Society, October 8, 2017, https://tennesseeencyclopedia.net/entries/putnam-county/.

"Tennessee Central Railway Company Records, 1884-1968," Tennessee State Library and Archives, Manuscript Accession Number 1985-10.

Appendix: Notification Letter and Early Correspondence

Ellen Hurd

From: Ellen Hurd
Sent: Wednesday, June 19, 2024 10:03 AM
Subject: I-40 Truck Parking and Replacement of Bridges over the Caney Fork River, TDOT PIN 131552.01

The Tennessee Department of Transportation (TDOT), with funding from the Federal Highway Administration (FHWA), proposes the construction of truck parking at the Interstate 40 rest station and the replacement of the Interstate 40 bridges over the Caney Fork River in Smith and Putnam Counties (map of project location attached).

The Advisory Council on Historic Preservation regulations stipulate that TDOT invite local government representatives to participate in the historic review process as a consulting party. TDOT would like to invite you, as the local government official, to participate as a consulting party for the proposed project. If you choose to participate as a consulting party, you will receive copies of TDOT's environmental reports and will be invited to attend project-related meetings between TDOT and the Tennessee State Historic Preservation Office (TN SHPO), if any are held. As a consulting party, you should be prepared to attend any such meetings between TDOT and the TN-SHPO and provide a response to TDOT's reports in written form within 30 days upon receipt of the report. TDOT also wishes to seek your comments on the identification and evaluation of historic properties that the proposed project might impact.

If you would like to participate as a consulting party, please write to me at the above email address. To facilitate our planning process, please respond within 30 days of receipt of this email. Thank you for your assistance.

TN TDOT Department of Transportation

Ellen Dement Hurd | Historian
Environmental Division | Cultural Resources
James K. Polk Building, 9th Floor
505 Deadrick St, Suite 900, Nashville, TN 37243
Work: (615) 741-6834
Cell: (470) 433-4121
Email: Ellen.Hurd@tn.gov

Ellen Hurd

From: TN Help <tnhelp@service-now.com>
Sent: Monday, August 5, 2024 11:52 AM
To: Ellen Hurd
Cc: Kimberly Vasut-Shelby
Subject: I-40 Truck Parking and Bridges Replacement over the Caney Fork River, Lancaster and Buffalo Valley, PIN 131552.01 - Project # SHPO0005421

TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

2024-08-05 11:51:41 CDT

Kimberly Vasut-Shelby
TDOT Cultural Resources Team Lead

RE: Federal Highway Administration (FHWA), I-40 Truck Parking and Bridges Replacement over the Caney Fork River, Lancaster and Buffalo Valley, PIN 131552.01, Project#: SHPO0005421, Smith and Putnam Counties, TN

Dear Kimberly Vasut-Shelby:

In response to your request, we have reviewed the architectural survey report and accompanying documentation submitted by you regarding the above-referenced undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering the information provided, we concur that no architectural resources eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Please include the Project # when submitting additional information regarding this undertaking. Questions or comments may be directed to Kelley Reid, who drafted this response, at Kelley.Reid@tn.gov, +16157701099.

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

Ref:MSG14876480_02TaWEW5xUqOPP9AreY

Environmental Studies

Archaeology

Environmental Studies Request

Project Information

Route:	I-40
Termini:	L.M. 16.333 - L.M. 0.080
County:	Multiple Counties
PIN:	131552.01

Request

Request Type:	Initial Environmental Study
Project Plans:	Preliminary
Date of Plans:	04/24/2024
Location:	Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Archaeology

Study Results

In a letter dated July 21, 2025 the TN SHPO concurred that no NRHP listed, eligible, or potentially eligible properties would be affected by this undertaking.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **Yes**

Type: Archaeology Report

Location: FileNet

Certification

Responder: Michael Jeu

Title: Senior Archaeologist

Signature: Michael Jeu

Digitally signed by Michael Jeu
Date: 2025.07.24 12:58:08 -05'00'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

WILL REID
COMMISSIONER

BILL LEE
GOVERNOR

July 21, 2025

Mr. E. Patrick McIntyre, Jr.
Executive Director and State Historic Preservation Officer
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

RE: Archaeological Assessment for Truck Parking Lot and Bridges Replacement on Interstate 40 over the Caney Fork River in Smith County and Putnam County, Tennessee. PIN: 131552.01

Dear Mr. McIntyre,

The Tennessee Department of Transportation (TDOT) with funding from the Federal Highway Administration (FHWA), proposed for a truck parking lot and bridges replacement on Interstate 40 over the Caney Fork River in Smith County and Putnam County, Tennessee (see attached maps). The I-40 Welcome Center Improvement project will add a 125 bay truck parking expansion adjacent to the Welcome Center, replace twin bridges on I-40 adjacent to the Welcome Center, and update ramp acceleration and deceleration lengths to current standards.

Please find enclosed Stantec's **draft** report of a Phase II archaeological assessment for the subject project. Duane Simpson served as Principal Investigator. Stantec had the following conclusions:

- Site 40SM273 is potentially eligible for listing in the National Register of Historic Places (NRHP), but will be completely avoided by all construction activity the site, was not tested. It remains potentially eligible.

- Site 40SM274 is not eligible for inclusion in the NRHP

- Site 40PM184 is eligible for NRHP listing, but will be avoided by all construction activities.

TDOT concurs with Stantec's opinion. Additionally, those parts of sites 40SM273 and 40PM184 which are within the existing right of way will be delineated by high-visibility fencing and marked on plans as Sensitive Environmental Areas to be avoided. Since TDOT had no plans to construct or do ground-disturbing activities within the boundary of site 40SM273, we did not do Phase II testing.

In compliance with Section 106 of the National Historic Preservation Act (as amended) and implementing regulations 36 CFR 800, please review the enclosed information and provide me with your comments. If any additional information is needed, please contact Michael Jeu (629) 239-9546 for archaeology, or me at or me at (615)-313-3764. I appreciate your assistance.

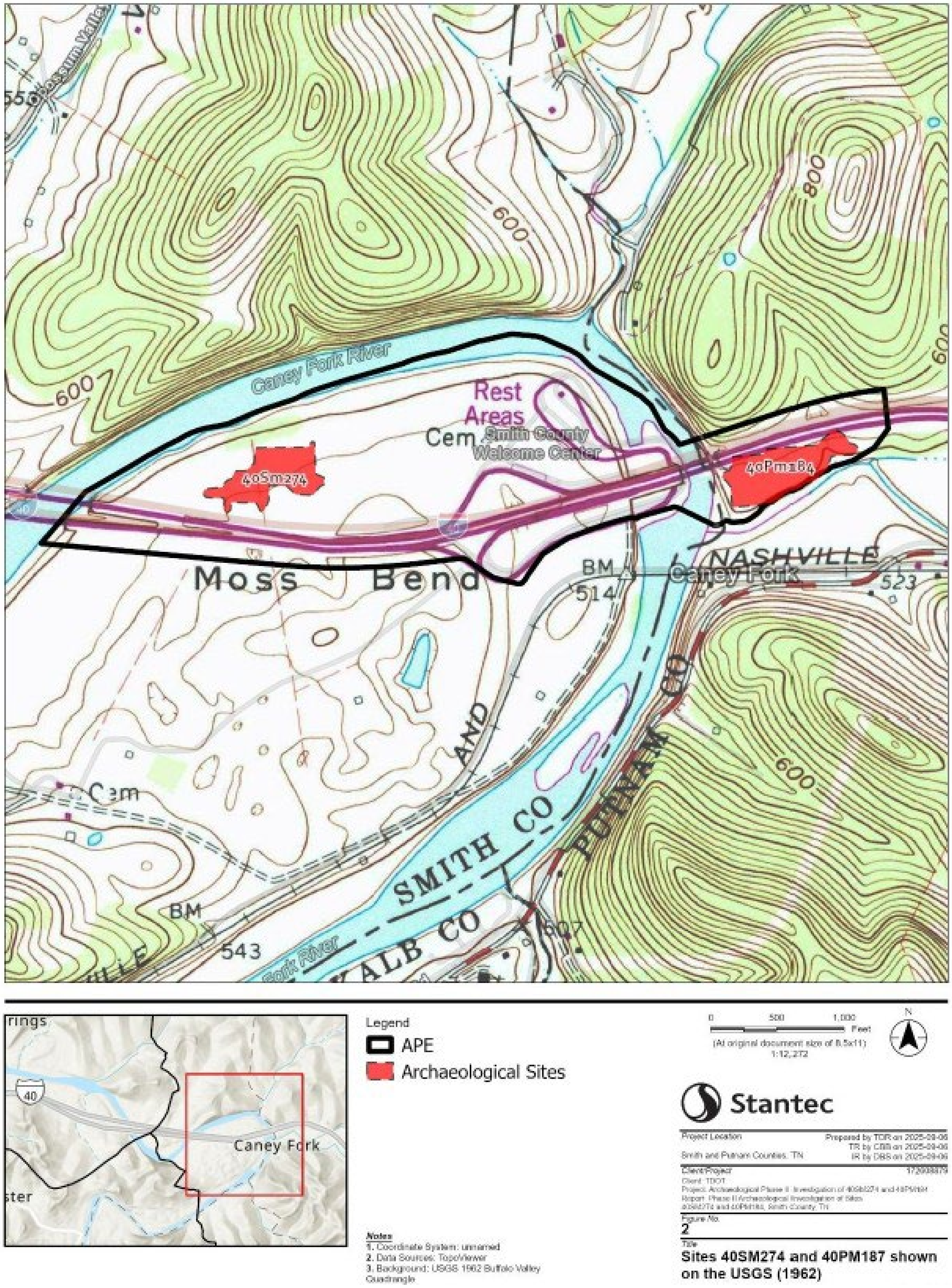
Sincerely,

Kimberly Vasut-Shelby

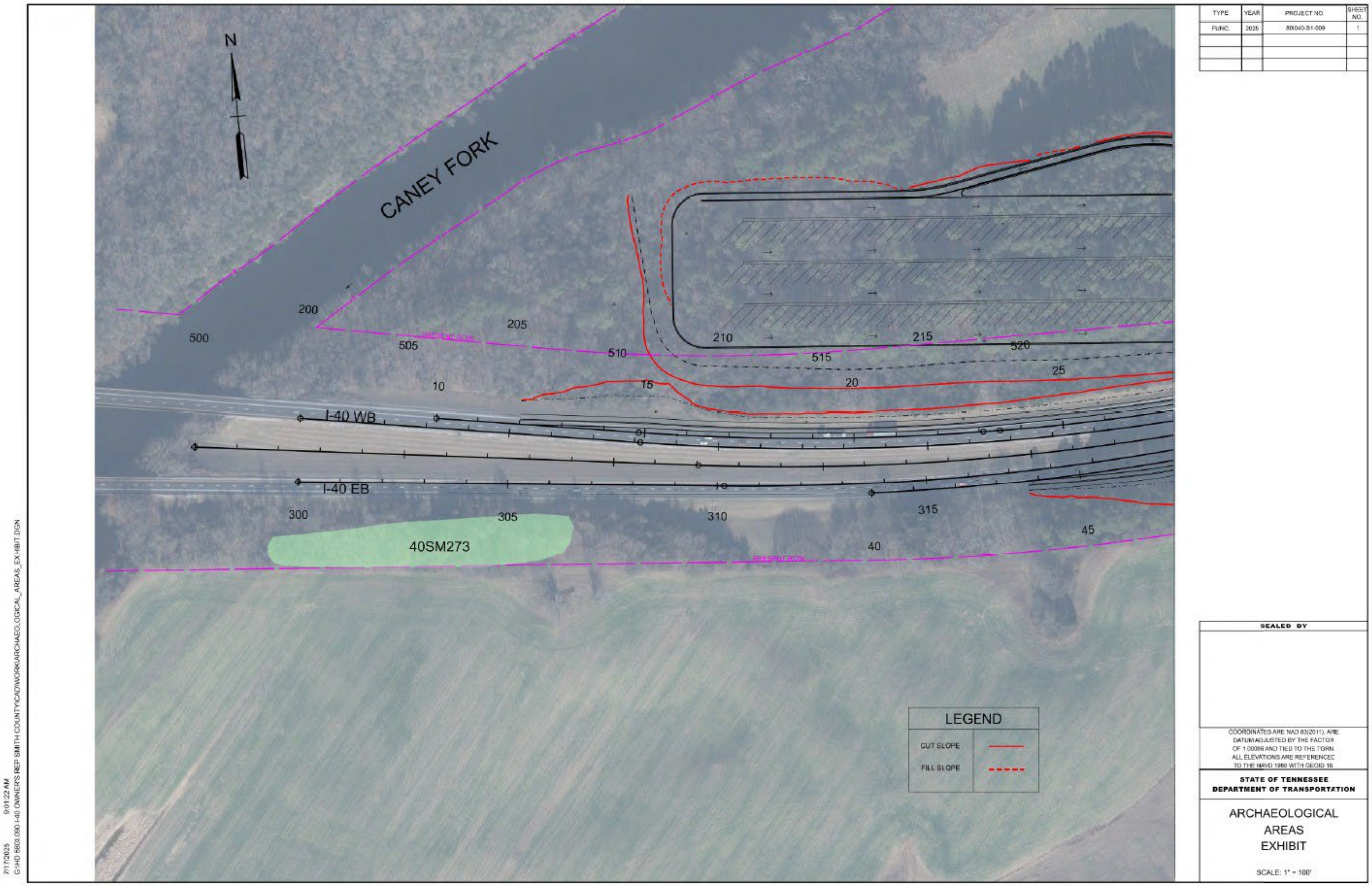
Cultural Resources Team Lead

KV/ msj

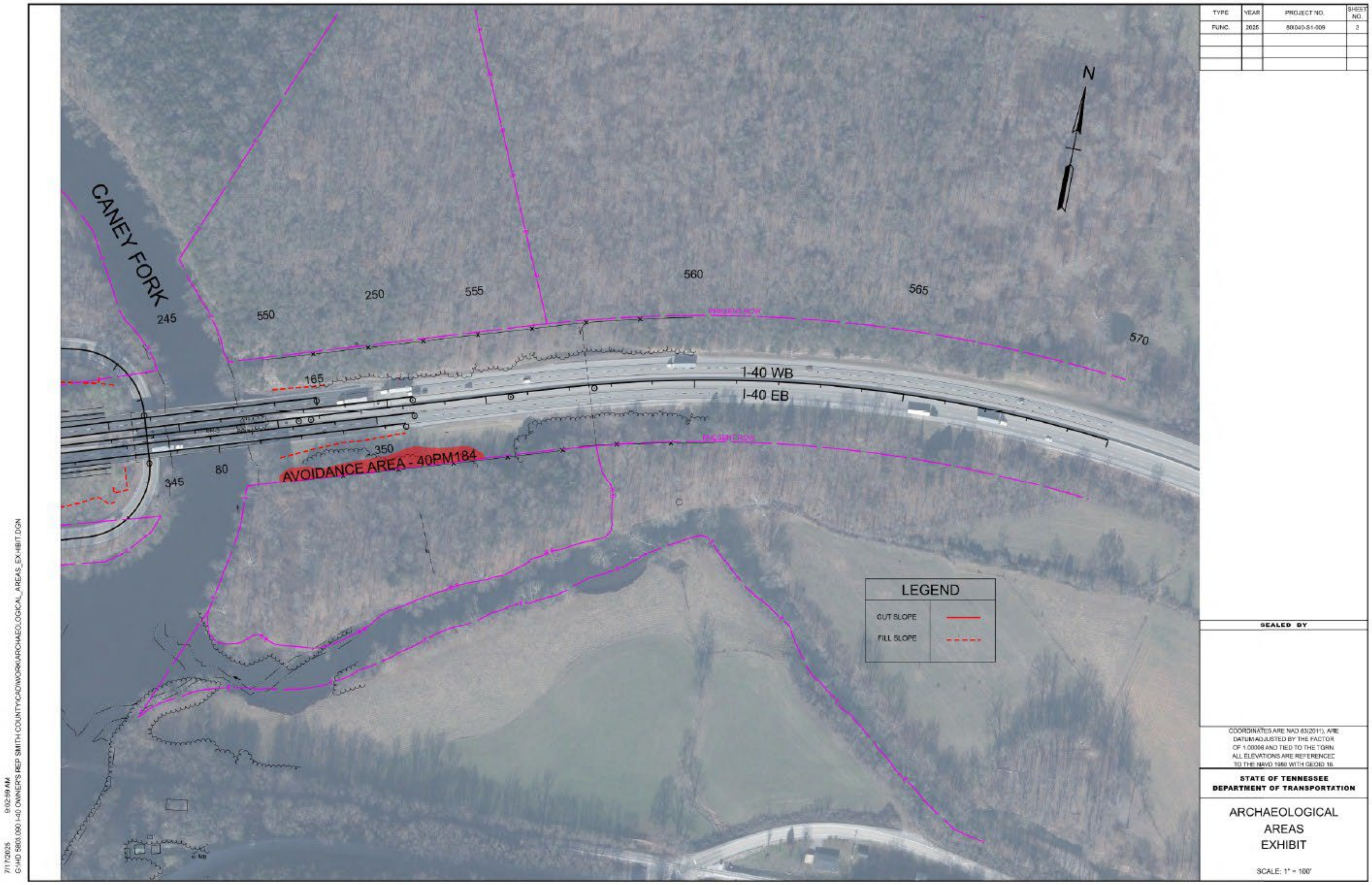
Attachment 1: Project location (red) on excerpt of USGS Buffalo Valley (322NE), TN 7.5' quadrangle.



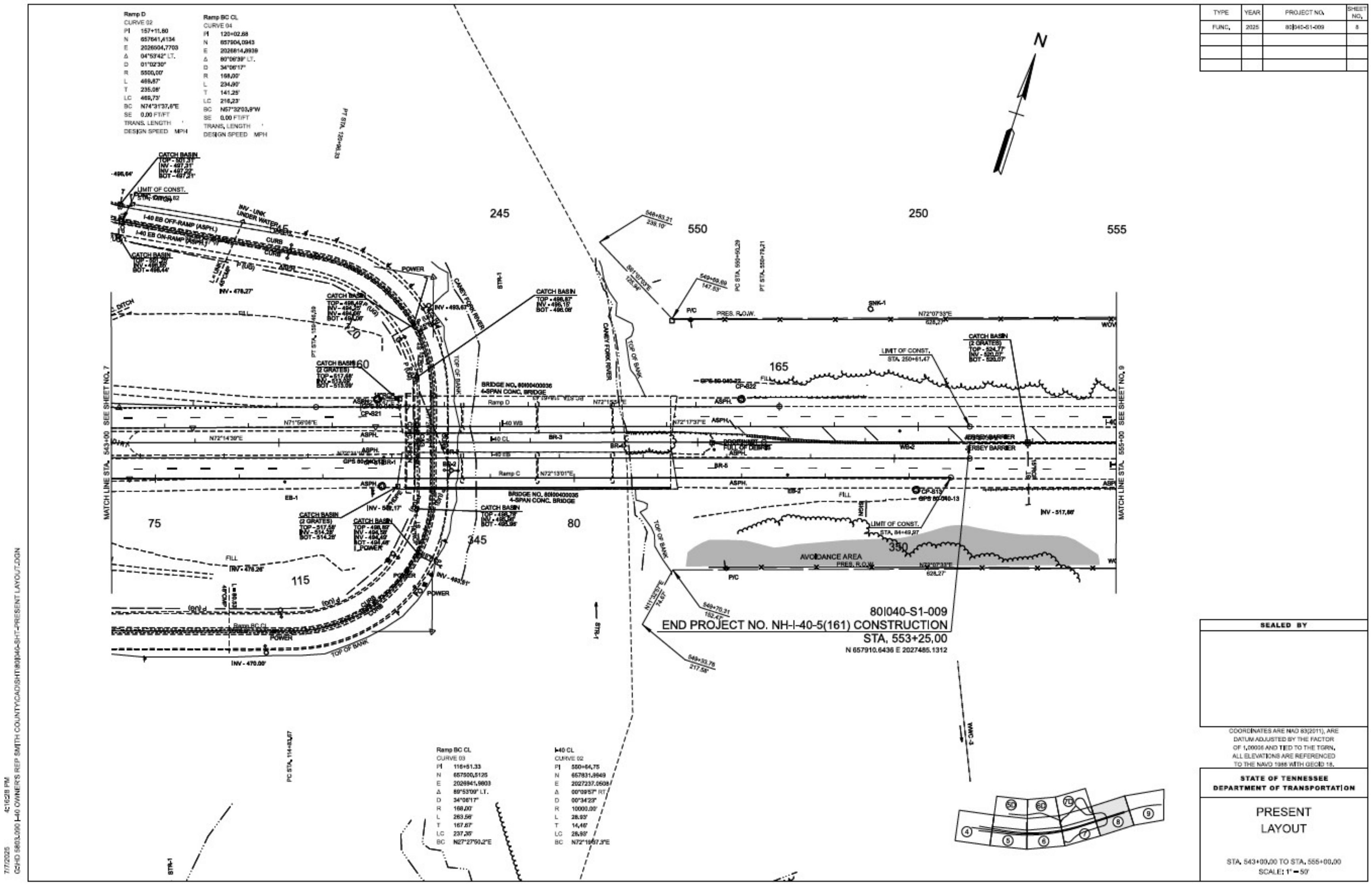
Attachment 2: Aerial Avoidance Plans View of West side of the project area dated 7-17-2025, page 1.



Attachment 3: Aerial Avoidance Plans View of the East side of project area, dated 7-17-2025, page 2.



Attachment 4: TDOT Avoidance Plans, East side of the project area, dated 7-7-2025.



Phase II Archaeological Investigation of Sites 40Sm274 and 40Pm184, Smith County, TN

for the Proposed State Route 1-40 Truck Parking and Bridges over the Caney Fork River Project

TDOT PIN: 131552.01
Agreement No.: E2302
TDOA Permit No.: 001664

Prepared for:
Tennessee Department of Transportation

July 18, 2025

Prepared by:
Duane Simpson, Tyler Donaldson, and Kimberly Simpson

Project/File:
172608879

Stantec Consulting Services Inc.

Disclaimer

The conclusions in the Report titled Phase II Archaeological Investigation of Sites 40Sm274 and 40Pm184, Smith County, TN are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on the conditions and information existing at the time the scope of work was conducted and do not consider any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Tennessee Department of Transportation (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: ________________________
Signature

____
Duane Simpson

Reviewed by: ________________________
Signature

____
Michael Loughlin

Approved by: ________________________
Signature

____
Duane Simpson

Table of Contents

List of Tables

List of Figures

List of Appendices

Executive Summary

In response to a request from the Tennessee Department of Transportation (TDOT), Stantec conducted Phase II cultural resource investigations at sites 40Sm274 and 40Pm184 for the proposed I-40 truck parking and bridge replacement over the Caney Fork River project in Smith and Putnam Counties, Tennessee (PIN: 131552.01, PE: 80I040-S1-006). Both sites are potentially eligible for listing in the National Register of Historic Places (NRHP) under Criterion D of 36CFR 60.4 and will be unavoidably impacted by construction of the parking area and the I-40 bridge replacement. The Area of Potential Effects (APE) is defined by the extent of the site boundary of each site. Site 40Sm274 measures approximately 5.77 ac (23,365 m^2) in size, all of which is contained within the overall proposed project area related to the expansion of the trucking parking area within the I-40 rest area. The bridge replacement portion of the project was constrained to the current extent of the TDOT right of way (ROW). The portion of Site 40Pm184 lying within the current ROW measures approximately 0.5 acres (2,305 m^2) and represents the extent of the APE in relation to the site.

Site 40Sm274

Site 40Sm274 encompasses an area of just over 5.7 ac of forested terraces lying within an interior bend of the Caney Fork River. The terraces are heavily dissected by a series of depressions and sinkholes that have given it the impression of an upland ridge, but testing at the site indicates that it is comprised of a series of older alluvial terraces built up in the Pleistocene and early Holocene periods. The site represents a palimpsest of precontact occupations that span from at least the Early Archaic to approximately the Late Woodland period, with more intensive occupation appearing to have occurred during the Early and Late Archaic periods.

The Phase II investigations included the hand excavation of 45 test units and the mechanical excavation of 55 strip trenches and blocks that exposed a total area of approximately 3,100 m^2. The Phase II investigations at 40Sm274 produced a total of 8,571 precontact period artifacts that were lightly distributed across the site, with a few clusters of occupation occurring around specific sinkhole-derived depressions on the east and west ends of the site.

The eastern occupations focused on the shallow depression that was heavily sampled during the Phase II investigations by a series of test units and mechanical strip trenches and blocks. A thin remnant of an intact A-AE horizon was found lying below the plowed surface soils that contained limited remains of what appeared to be primarily an Early Archaic occupation based upon the recovery of a series of Stillwell and Kirk ppks from within the depression and the surrounding terrace. Two features were excavated on the perimeter of the depression, with one feature dating to the Late Woodland period. Additional Late Archaic and Early Woodland ppks were also identified along the terrace. While it is believed that the few artifacts recovered from within the intact stratum in the depression are related to the Early Archaic occupations, the bulk of the material lying above, in the plow zone, represents a palimpsest of ephemeral occupations dating throughout most the Precontact period. Based upon this mixed nature of deposits and the very light usage of the site it is difficult to determine any level of site function related to the eastern concentration area beyond the precontact occupations appear focused on the retooling and creation of stone tools from chert cobbles recovered from the river.

The western occupations are focused on a terrace above and around a much larger and deeper sinkhole-derived depression. Both the terrace and the depression were extensively sampled by a series of test units and mechanical strip trenches and blocks. The core of the occupations lies along the top of the terrace directly to the south and southeast of the depression, with extensive amounts of debitage and tools fragments being found down the southern slope extending into the depression. Most of the material recovered were collected within the mixed disturbed Ap horizon. Four features F3-F6 were located on the terrace, all appearing to be associated with a more intensive Late Archaic occupation focused within this western concentration. Radiocarbon dates obtained from all four features indicate a calibrated 2σ range of approximately 1620-1270 cal. BCE. Feature forms were similar, especially for the three (F3, F4, and F6) clustered directly south of the depression. Diagnostic McIntire and Motley ppks and radiocarbon dates obtained from the features indicate similar Late Archaic temporal range. Early Archaic ppks were also recovered from these features, and while interpreted as being either curated or randomly deposited artifacts, their recovery within these features speaks to the mixed nature of the deposits on the surface of the terrace and the downslope collection of materials within the depression that characterize the nature of the western occupational area.

Overall, the site is densely plowed and besides the two areas addressed above, the remainder of the site possesses poor depositional integrity. The depositional integrity within these two intact occupation areas is fair as no vertical separation was noted between occupational components indicating the probability that successive occupations may have led to mixing of deposits. This type of mixing appears to be more of a problem along the western concentration area, but that is only because the eastern concentration area is so lightly used that defining the degree of mixing is difficult due to a lack of diagnostic artifacts. While intact artifacts were recovered from some limited remnant deposits and features, it is difficult due to the mixing and disturbance to reliably interpret or contextualize them to specific periods of occupation. Based upon an inability to isolate and interpret specific occupations or periods of precontact use at the site, Stantec recommends that site 40Sm274 be considered not eligible for listing on the NRHP under Criterion D. No further work at the site is recommended.

Site 40Pm184

Site 40Pm184 is a multicomponent site with precontact occupations dating from the Early Archaic to the Early Woodland period, with some minor indications of historic period usage of the site as well. The site encompasses an area of just over 6.5 ac, of which only approximately 0.5 acres is located within the current I-40 ROW corridor property boundary. It is this smaller portion of the site that was evaluated as part of these Phase II investigations, as the project design was constrained to remain within the current TDOT ROW. The Phase II investigations were comprised by the excavation of ten (10) test units and 16 shovel tests. These additional shovel tests spaced at 10 m intervals were placed along the northern and western perimeter of the site to provide a more refined site boundary. Mechanical investigations on a limited scale were proposed for the site within the initial workplan but the results obtained from the additional shovel tests and the hand excavated units were sufficient to understand the development of the landform on which site 40Pm184 lies and define the extent of intact soil deposits without the inclusion of subsequent trenching.

Phase II investigations at 40Pm184 produced a total of 8,450 precontact and historic period artifacts. Of the 8,450 artifacts recovered, 8,404 were affiliated with the precontact occupations and 46 with the later historic period. These precontact materials were primarily recovered within the disturbed Ap horizon or within the underlying intact AB horizon. Diagnostic ppks recovered relate primarily to the Early Archaic period, with more ephemeral occupations occurring within the Late Archaic and into the Early Woodland periods. An intact AB horizon identified during the excavations solely produced Early Archaic diagnostics within the Kirk Cluster and Decatur types, indicating an approximate temporal age range of from 7500-6900 BCE (Justice 1995). These points were collected from across the entire breadth of the intact deposits identified at the site. Coupled with the diagnostic ppks was a collection of 1,174 pieces of debitage, 12 cores, and 71 unifacial tools. An analysis of the debitage indicates that the full trajectory of biface production was taking place within the component from cobbles obtained from the nearby Caney Fork River. Intentionally heat-treated material was observed in approximately half the collection of artifacts from the Early Archaic component, indicating that purposeful heat-treatment was more than likely taking place on site during the reduction process. The 71 unifacial tools include simple utilized flakes and flake scrapers, as well as more formal gravers, perforators, and spokeshaves, indicating a wide variety of expedient tasks being completed in concert with bifacial tool production. The unifacial tools indicate a focus on potential craft production of clothes or wood working, with the expedient tools appearing more focused on domestic activities and potentially processing of plant materials. The varied depositional patterning noted from across the site within the AB horizon would indicate that the Early Archaic occupations were sporadic, utilizing different portions of the terrace over countless occupations. It may prove possible with broader block excavation methods to isolate individual occupations from within the Early Archaic period to further refine our understanding of changing patterns of usage throughout the period by precontact groups.

The overall depositional integrity for the precontact materials recovered from 40Pm184 ranges from fair to excellent across the site. The deposits lying in the eastern third of the APE and along the slope up toward the current I-40 roadbed have been deflated and destroyed by a combination of previous road construction and subsequent erosion related to agricultural activity. The portions of the APE located along the southern edge of the ROW contain an intact AB stratum that possesses significant deposits that remain intact and have excellent depositional integrity. These intact deposits appear to date wholly to the Early Archaic period based upon diagnostic ppks recovered from across the entire breadth of the site. These occupations appear to be the densest in proximity to the Caney Fork River, but isolated deposits lying further east within proximity to a broad sinkhole-derived depression were also heavily used by Early Archaic groups. These areas of the site contain the greatest research potential and should be avoided. Shovel testing completed to the south of the I-40 boundary fence identified similar intact deposits, indicating that the information gleaned from these limited investigations could be applied to most of the site south of the current I-40 corridor. Stantec recommends that site 40Pm184 be considered eligible for listing on the NRHP under Criterion D, and that the intact deposits identified during these investigations be avoided during subsequent construction of the proposed bridge.

Page Left Intentionally Blank

1 Introduction

1.1 Project Overview

In response to a request from the TDOT, Stantec conducted Phase II cultural resource investigations at sites 40Sm274 and 40Pm184 for the proposed I-40 truck parking and bridge replacement over the Caney Fork River project in Smith and Putnam Counties, Tennessee (PIN: 131552.01, PE: 80I040-S1-006). Both sites are potentially eligible for listing in the NRHP under Criterion D of 36CFR 60.4 and will be unavoidably impacted by construction of the parking area and the I-40 bridge replacement. The APE is defined by the extent of the site boundary of each site. Site 40Sm274 measures approximately 5.77 ac (23,365 m^2) in size, all of which is contained within the overall proposed project area related to the expansion of the trucking parking area within the I-40 rest area. The bridge replacement portion of the project was constrained to the current extent of the TDOT ROW. The portion of Site 40Pm184 lying within the current ROW measures approximately 0.5 acres (2,305 m^2) and represents the extent of the APE in relation to the site (Figures 1 and 2).

Site 40Sm274 lies west of the Caney Fork River on the active interior depositional bend. Site 40Pm184 lies east of the Caney Fork River on the upland above the confluence of the Caney Fork and Indian Creek. Site 40Sm274 is characterized by a pine and mixed deciduous forest that was planted by the early 1980s. The area has been impacted by previous agricultural use of the area since at least the 1950s, the construction of I-40 between 1958 and 1980s, and the construction of the Tennessee Welcome Center beginning in the 1980s and ongoing into the mid-2000s. The area around 40Pm184 was impacted by the development of I-40 around 1959 east of Caney Fork and agricultural use prior to the construction of the road. The entire area is underlain by karst limestone geology which has significantly affected the depositional patterns and usage of the landscape throughout the precontact period. The subsequent subsidence of bedrock across both sites has acted to preserve as well as erode the soils deposited across either site throughout the Holocene period, playing a significant role in the results obtained during the Phase II investigations at both sites.

The Phase II evaluations of Sites 40Sm274 and 40Pm184 were completed to fulfill compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), and 36 CFR Part 800 (Protection of Historic Properties). The goals of the Phase II evaluations were to determine the research potential of Sites 40Sm274 and 40Pm184 and provide an evaluation and recommendation of the sites' potential to be listed on the NRHP. These evaluations are necessary to assess appropriately any potential impacts of the proposed Project construction would have on these cultural resources. The Phase II fieldwork, as well as the resulting report, conform to the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (FR48: 190:44716-44742 – U.S. Department of the Interior, 1983) and the guidelines set forth by the Tennessee Historical Commission (THC) and Tennessee Division of Archaeology (TDOA) (Tennessee Department of Environment & Conservation [TDEC] 2018, THC 2020).

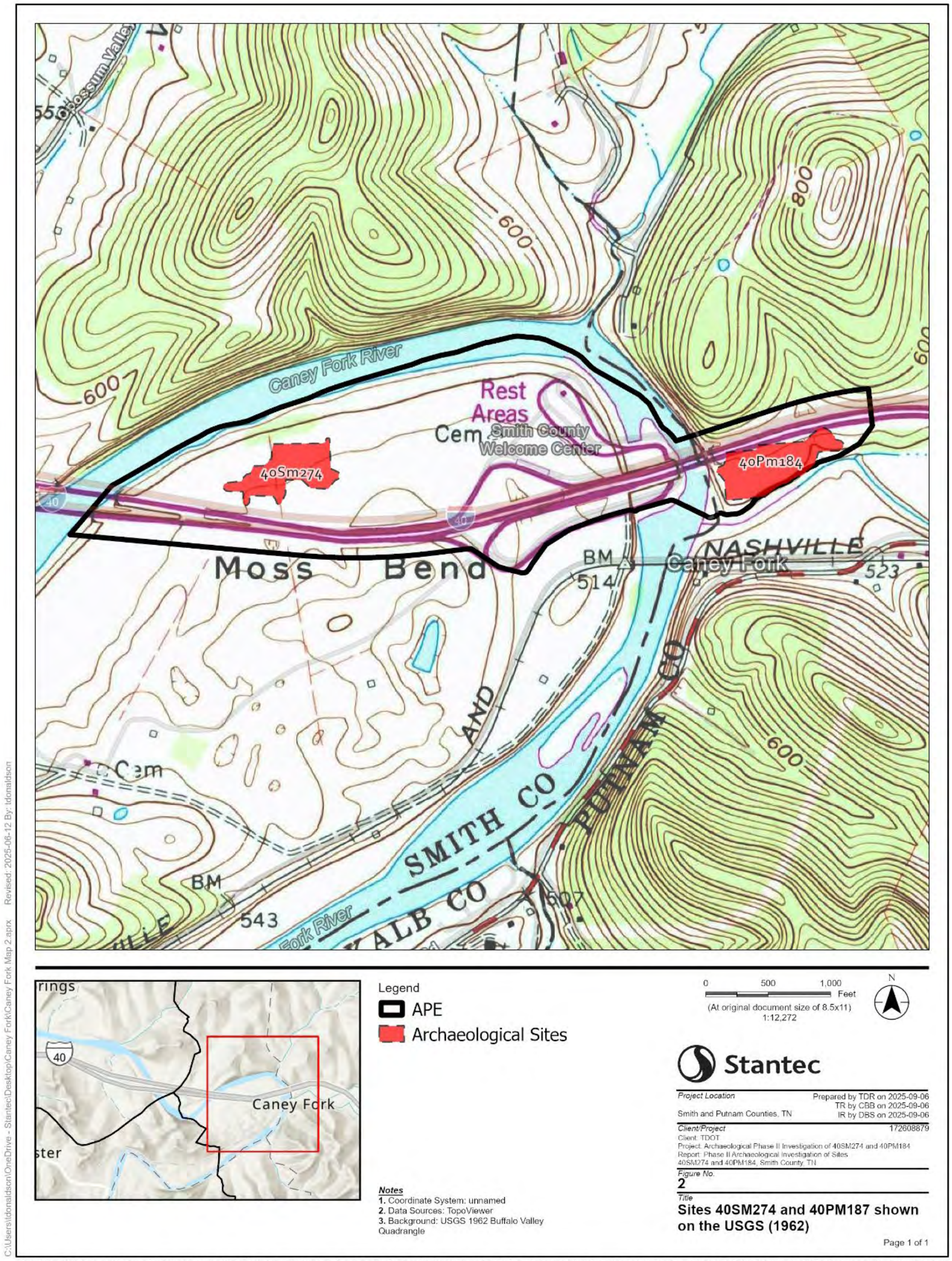


Figure 1. Sites 40Sm274 and 40Pm184 shown on the USGS (1962) Buffalo Valley, TN Quadrangle.

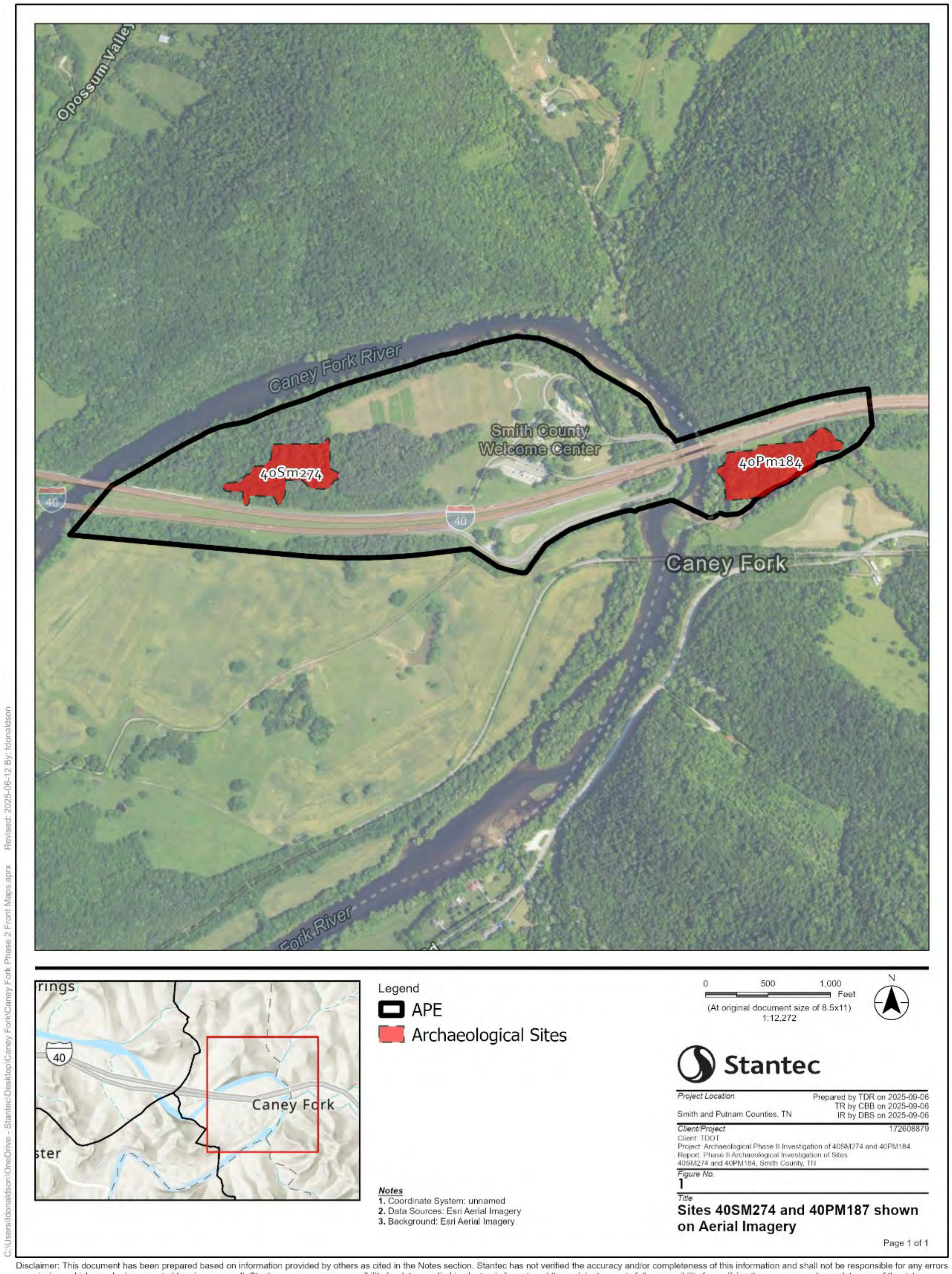


Figure 2. Project Location shown on aerial imagery.

1.2 Research Methods and Study Area

Stantec reviewed records held on file at the Tennessee Division of Archaeology (TDOA) in addition to previous reporting completed by Stantec at each site to determine what level of previous surveys have been completed in and around the Project area within Smith and Putnam Counties, Tennessee and the broader Caney Fork River region. Background research was conducted virtually between November 2024 and March 2025 with TDOA, providing digital information as the Project developed. The background research focused on the area surrounding the APE. Stantec gathered information about previously conducted cultural resource investigations and documented cultural resources as well as the environmental and cultural context of the region within Smith and Putnam Counties to understand the potential of the cultural resources in and around the Project area. A closer examination of the archaeological surveys previously completed within the Caney Fork River region as well as at both site 40Sm274 and 40Pm184. In addition to the records held at the TDOA, broad regional archaeological and geological research was incorporated into the contextual development surrounding these investigations.

Stantec filed for and received a TDOA archaeological permit (No. 001664) on January 3, 2025 (Appendix A). Stantec conducted the Phase II archaeological evaluations between January 3 and February 15, 2025. Stantec personnel committed to the Project include Archaeological Principal Investigator Duane Simpson; Field Director Tyler Donaldson; GIS analyst Chris Blair; Laboratory Director Kimberly Simpson; trackhoe operator Alex Jones; and field technicians, Michael Loughlin, Harold Stanton, Alise Connelly, Brianna Baker, Liz Cardoso, Julian Koehler, Don'Neka Haslett, David Crittendon, Jeremy Norr, Ashley Medina, Ren Smith, AnneMarie Brown, and Chelsea McGowan.

1.3 Report Structure

This report presents the environmental context in Section 2.0, and the results of the background research and literature review in Section 3.0. Section 4.0 outlines the archaeological evaluation methods and field data. Section 5.0 discusses the previous investigations at both sites and research questions. The results of the investigations at site 40Sm274 are provided in Section 6.0 followed by the results of 40Pm184 in Section 7.0. Section 8.0 provides interpretations and discussions related to the evaluation of both sites, with recommendations and conclusions being summarized within Section 9.0. References cited in this report appear in Section 10.0. Appendix A provides a copy of the TDOA archaeological permit issued for the project, Appendix B provides a series of detailed artifact catalogs for each site, and Appendix C provides the radiocarbon dates report.

2 Environment

2.1 Environmental Context

The project APE is in Smith (40Sm174) and Putnam (40Pm184) Counties, Tennessee. Smith County is in east-Middle Tennessee and is bounded by Trousdale County to the northwest, Macon County to the north, Jackson County to the northeast, Putnam County to the southeast, DeKalb County to the south, and Wilson County to the southwest. Site 40Sm274 lies west of the Caney Fork River on the active interior depositional bend. Site 40Pm184 lies east of the Caney Fork River on the upland above the confluence of the Caney Fork and Indian Creek. The entire APE is spanned by I-40. The western portion of the APE exhibits a pine and mixed deciduous forest that was planted by the early 1980s (Figure 3). The western APE has been impacted by agricultural use of the area since at least the 1950s, the construction of the I-40 between 1958 and 1980s, and the construction of the Tennessee Welcome Center that began in the 1980s and was ongoing into the mid-2000s (Figure 4). In 2006, a broad leach field was constructed to the northwest of the primary rest area that disturbed a large portion of the broad terraces that comprise the central portion of the APE (Figure 5). The eastern APE was impacted the development of I-40 around 1959 east of Caney Fork and agricultural use prior to the construction of the road.

Figure 3. General forested conditions within the western portion of the APE, facing north.

Figure 4. General conditions within the manicured portions of the APE, facing east.

Figure 5. Leach field constructed along the north central portion of the APE, facing west.

2.2 Physiography, Hydrology, and Soils

The project APE is located on the border of the Eastern Highland Rim and the Outer Nashville Basin within the broader Interior Plateau physiographic province. The Interior Plateau is a diverse, expansive region that extends from southern Indiana and Ohio to northern Alabama. The Highland Rim Physiographic region is characterized by broad, hilly terrain; elevations range from 400 to 1000 ft above mean sea level (amsl) throughout the region (Griffith et al 1997: 22). Areas of moderate relief dominate the Eastern Highland Rim; the area where the Eastern Highland Rim meets the Outer Nashville Basin is highly dissected characterized by hills and knobs (Griffith et al. 1997).

The APE is located primarily on a broad interior bend of the Caney Fork River. The Caney Fork is a 143-mile-long river that flows through Middle Tennessee until reaching its confluence with the Cumberland River near the city of Carthage in the central portion of Smith County. The Caney Fork River is the Cumberland River's largest tributary. The river is highly conscribed and entrenched within the bend area to the north of the APE that would force all flood deposition back within the interior bend of the river and across the entire APE (Figure 6). Based upon these conditions, it was assumed that deep soils containing buried cultural deposits could exist across most of the APE outside of the upland ridge spur on which the rest area has been constructed.

Figure 6. Caney Fork River taken from the floodplain along the northern edge of APE (facing northeast).

The geologic bedrock in the region is of Mississippian-age limestone, chert, shale, and dolomite, acting as the parental material for the surficial chert and clay within the Eastern Highland Rim region (Griffith et al. 1997). Ordovician limestone bedrock and Mississippian-aged Fort Payne Formation limestone characterize the Outer Nashville Basin and is also noted within the highland rim (Griffith et al 1997). The APE is specifically underlain by the Hermitage Formation comprised of Ordovician aged, bedded shales and limestones (Green and Wolf 2000). The Hermitage Formation is karstic in nature and yields to sinkholes across landscapes due to the dissolution of the limestone. The APE is marked by a series of small sinkholes due to bedrock dissolution (Figure 7). Broad depressions were noted across the alluvially deposited terraces as well, indicating sinkhole formation across the entire breadth of the interior bend area of the APE.

The study area is characterized primarily by four soil series, Armour silt loam, Arrington silt loam, Huntington Silt Loam, and Mimosa-Rock Outcrop Complex (Figure 8) (USDA/SCS 2024). All these soils are characterized as deep, moderately drained soils that form from alluvium on levees and floodplains of streams and rivers (USDA/SCS 2024). These soils typically exhibit loamy surface deposits underlain by clayey subsoils. The soil units within the APE are mapped and summarized in Figure 8 (USDA/SCS 2024).

Armour silt loam is typically found on low stream terraces and is well drained. These soils are deposited on older soils formed during the Pleistocene Period to early Holocene Period. A typical soil profile consists of Ap- A- Bt1-Bt2-Bt3- BC sequence, with a predominate clayey texture (NRCS/SCS 2024).

Arrington Series consists of very deep, well drained soils with thick dark surface layers. They formed in silty alluvium on flood plains (NRCS/SCS 2024). The soils are young and typically have formed on soils deposited within the Holocene Period on the Caney Fork River. A typical profile includes an Ap-A-Bw1-Bw2-C sequence, with a predominately silt loam texture.

Huntington Silt Loam consists of very deep, well drained soils that formed from alluvium on floodplains (USDA/SCS 2024). These soils are young and typically have formed on soils deposited during the Holocene Period on Indian Creek. A typical profile includes an Ap/A-Bw1-Bw2- Bw3-Bw4-C sequence with a predominately silt loam texture.

Mimosa-Rock Outcrop Complex consists of deep, well drained soils that formed from clayey residuum on bedrock (USDA/SCS 2024). These soils are older and formed off the floodplain on backchannel most likely during the Pleistocene Period. A typical profile includes an Ap/A-Bt1-Bt2- Bt3-Bt4-BC-C-R sequence, with a predominately clayey texture.

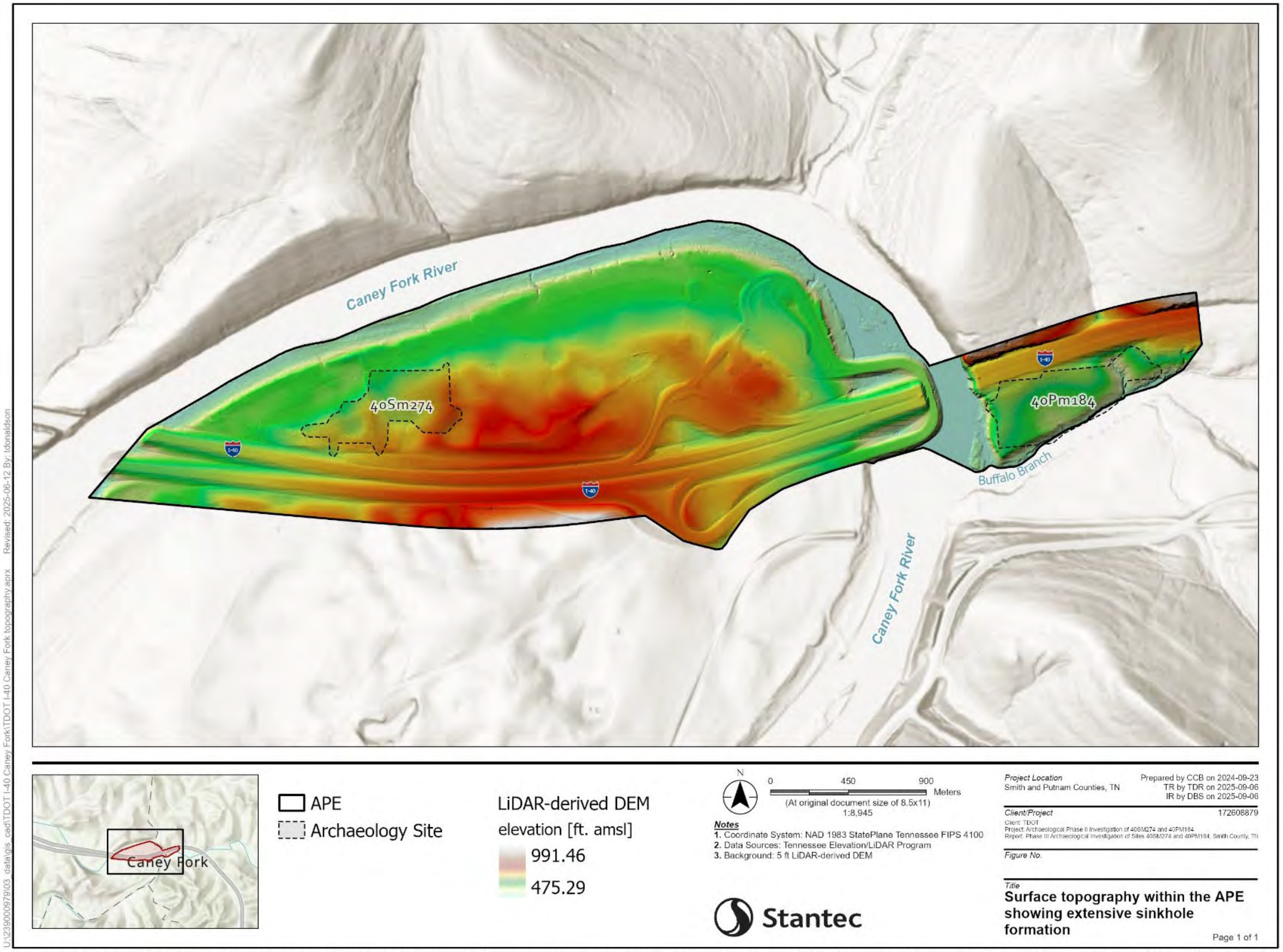


Figure 7. Surface Topography within the APE, showing extensive sinkhole formation

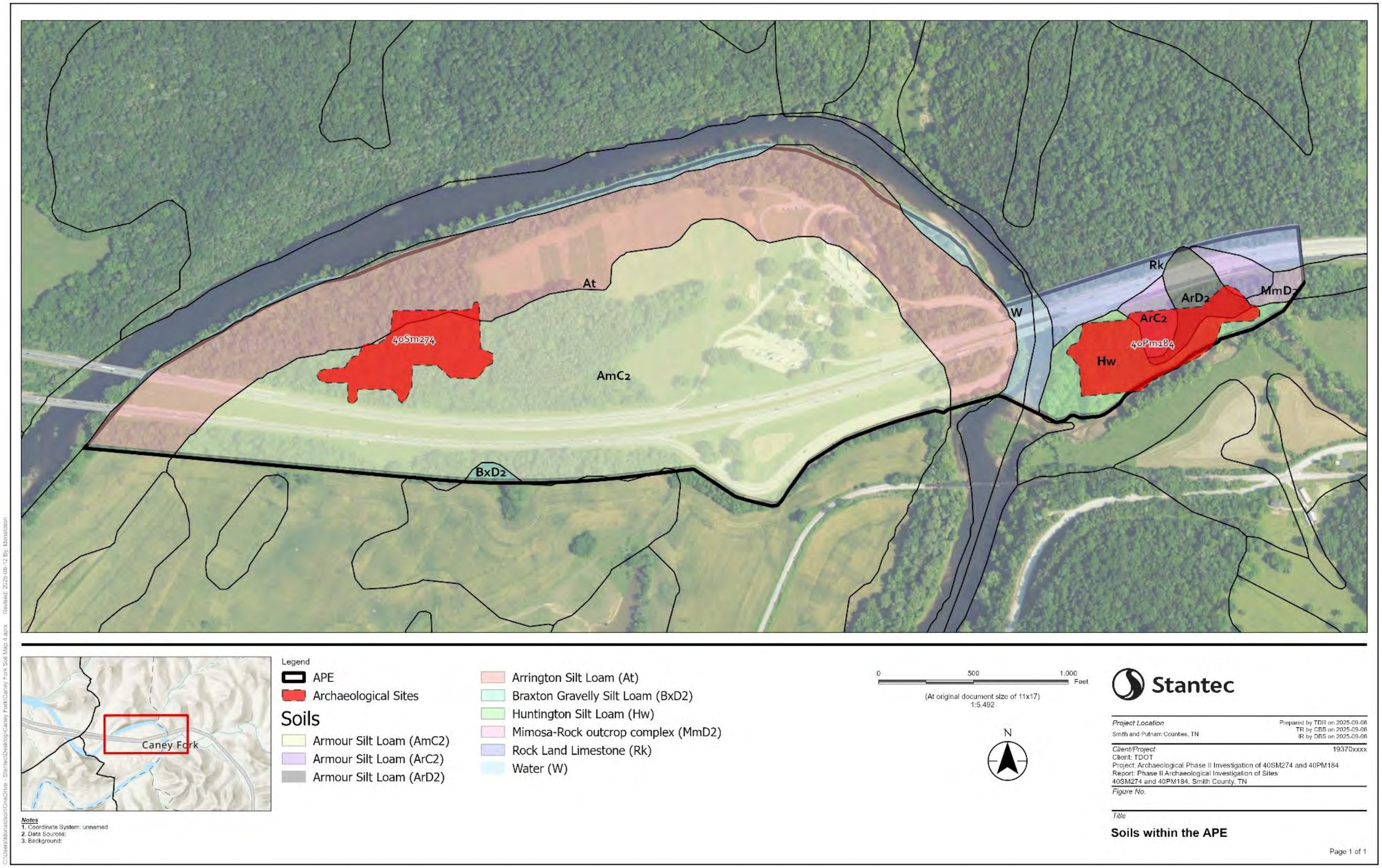


Figure 8. Soils within the APE.

2.2.1 Climate

The climate of Smith and Putnam Counties, Tennessee has fluctuated over the last 13,000 years as the North American continent rebounded from the preceding Pleistocene Epoch. At the end of the Pleistocene Epoch, approximately 13,000 years ago, Tennessee was dominated by broad regional air masses that created dramatic climatic shifts. This period of transition, known as the Younger Dryas, extended for approximately the first 1000 to 1300 years of the Holocene period. The period was marked by a reversal of general warming trends and a return to glacial-like conditions (Smallwood et al. 2015). The general trend though the Holocene was for slightly cooler with increased moisture climatic conditions than what is seen today (Delcourt and Delcourt 1984). As glaciers continued to retreat well to the north of Tennessee, temperatures and forest communities continued to evolve and shift from a boreal to deciduous communities. By 5,000 years ago, this transition was complete and modern forest communities began establishing across the region (Delcourt and Delcourt 1981). Today, Smith County and surrounding Middle Tennessee experience humid climatic conditions. The winters are moderate with average temperatures of 39 degrees Fahrenheit (F) (3 degrees Celsius [C]) (USDA/NRCS 2008:4). Summers are humid and have average temperatures of 75 degrees F (24 degrees C) (USDA/NRCS 2008: 4). The spring through early fall have the highest probability for rainfall; the average yearly precipitation is approximately 132 cm (52 in) (USDA/NRCS 2008:5).

2.2.2 Flora and Fauna

In Middle Tennessee, the ecological communities are diverse and include xeric oak-hickory forests in dry upland areas, mixed mesophytic forests on north facing slopes, hydric plants in floodplains and uplands swamps, and rare cedar glades on poorly drained limestone outcrops (Delcourt and Delcourt 1981; Mainfort 1986). These ecological communities presented a wide variety of food resources available to precontact populations. In these forests, plant species such hickory, a variety of oaks, mulberry, sugar maple, and beech would have provided nuts and other food resources to native groups (Mainfort 1986). Animal species occurring in this environment would have included a variety of woodland mammals such as white-tailed deer, eastern cottontail, red and gray fox, black bear, bobcat, beaver, muskrat, raccoon, and opossum (Kricher 1988). River valleys would have contained a variety of shellfish, fish, amphibians, and reptiles as well as migratory waterfowl. Other birds such as wild turkeys, bobwhite quail, ruffed grouse, and passenger pigeon would have also been present.

Page Left Intentionally Blank

3 Literature Review

The objective of the current study is to determine the NRHP eligibility of archaeological Sites 40Sm274 and 40Pm184. For the purposes of this investigation, the sites were evaluated for eligibility based on the following criteria.

"*The quality of significance in American history, architecture, archaeology, engineering, and culture is present in the districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*

a. *That are associated with the events that have made a significant contribution to the broad patterns of our history; or*

b. *That are associated with the lives of persons significant in our past; or*

c. *That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*

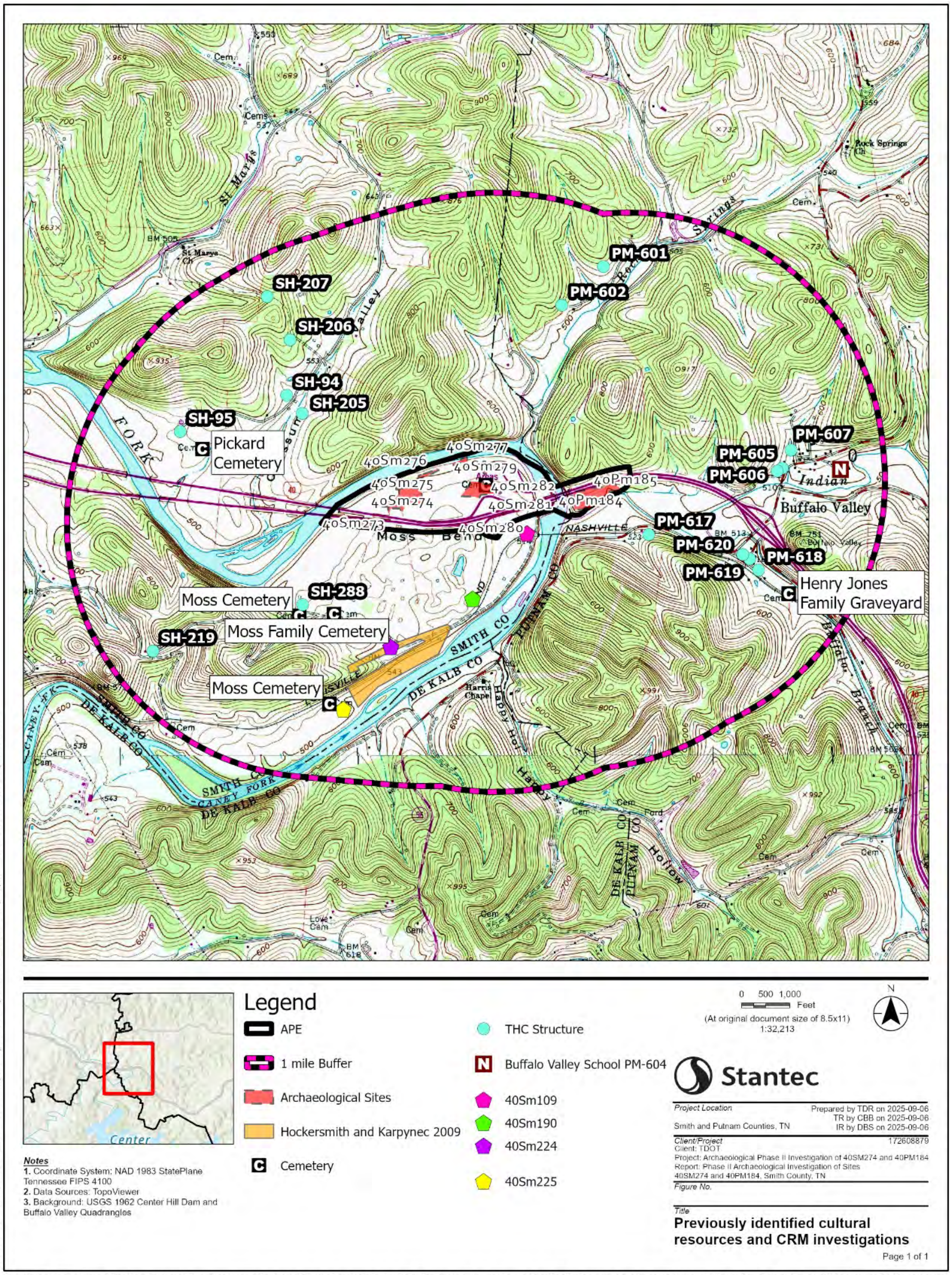
d. *That have yielded or may be likely to yield, information important in prehistory or history" (36 CFR 60.4).*

The purpose of this section is to provide a basic context through which to evaluate the results of our investigations. This section will briefly outline the cultural background of the region in and around the Smith and Putnam Counties, Tennessee.

3.1 Background Research

The purpose of this section is to provide a basic context through which to evaluate the results of our investigations. The literature review was directed towards identifying previously recorded archaeological sites and other cultural resources near sites 40Sm274 and 40Pm184 with similar site characteristics. Stantec conducted a complete record search of all previously identified cultural resources within a 1 mi (1.6 km) radius of sites 40Sm274 and 40Pm184 (Figure 9). For the literature review, the following resources were consulted:

- National Historic Landmark List;
- National Park Service, NRHP files;
- Tennessee Division of Archaeology (TDOA) Site files;
- Tennessee Historical Commission database;
- Cultural Resources Management Reports;
- County Cemetery Records;
- County Histories and Historic Maps.



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Figure 9. Previously Identified Cultural Resources and CRM Investigations

3.1.1 National Historic Landmarks List

Research indicates no National Historic Landmarks are in or adjacent to the 1.6 km (1.0 mi) study area.

3.1.2 National Register of Historic Places (NRHP)

Research indicates there are thirteen NRHP listed properties in Smith County, Tennessee. None of these NRHP are in or adjacent to the APE.

3.1.3 Tennessee Historical Commission Historic Structure Inventory

Stantec referenced the Tennessee Historical Commission's database for historic above-ground resources (THC n.d.). This review identified 17 historic structures located within 1.6 km (1.0 mi) of the project APE (see Figure 9). Most are houses or commercial properties that were constructed from the 19th century through the early 20th century. The Buffalo Valley School is the only non-commercial or residential building within the 1.6 km (1.0 mi) study area. The Buffalo Valley School (Survey ID: PM-604) was built in 1929 and is listed on the NRHP. The school was in use from 1929 through 1966. None of these resources are located within the APE nor will be impacted by the proposed construction.

3.1.4 Tennessee Division of Archaeology (TDOA) Site files

The review of the TDOA site database in September 2024 prior to the survey identified four archaeological sites (40Sm109, 40Sm190, 40Sm224, and 40Sm225) located within 1.6 km (1.0 mi) of the APE through the online Tennessee Site File Map Viewer. The TDOA online site file map viewer is not all inclusive and the information reported here was what was readily available from the online tool.

Site 40Sm109 was documented as a multicomponent site, containing artifacts that indicated a historic domestic habitation that dated from 1901 to 1932, and a precontact Archaic habitation. This site is located on the southern border of the current project APE on the Caney Fork River. Site 40Sm224 was documented by The Research Corporation (TRC) in 2009 as a multicomponent site featuring a historic structure that dates from 1901 to present, and a secondary undetermined precontact component (Hockersmith and Kaprynec 2009). This site is located approximately 0.8 km (0.5 mi) south of the current project area above the floodplain of the Caney Fork River. Site 40Sm225 is located on a low terrace above the Caney Fork River and was identified as an Early to Middle Woodland habitation site. The site is approximately 1.2 km (0.72 mi) south of the current project APE. Site 40Sm190 is a precontact site with a habitation dating from the Paleoindian through the Archaic. This site is located above the floodplain of the Caney Fork River approximately 0.4 km (0.3 mi).

The review also indicated that one previous archaeological survey is located within one 1.6 km (1.0 mi) of the current project. A Phase I survey was completed in 2009 by TRC (Hockersmith and Karpynec 2009). The APE for the survey encompassed 18 ac (7.3 ha) and was for proposed residential development along the Caney Fork River. Additionally, TRC completed a 0.8 km (0.5 mi) architectural survey around the proposed development. The survey resulted in the identification of 40Sm224, a multicomponent archaeological site. The precontact component represented an open habitation of indeterminate cultural affiliation and the historic component consisted of a domestic and structural remains scatter dating to the mid-twentieth century. Due to lack of integrity and ability to provide information of past inhabitants of the area, the site was not recommended for the NRHP. Additionally, TRC did not recommend any further archaeological investigation within the survey area.

The site's being currently evaluated were documented during the recent Stantec survey of the APE in 2024. The survey identified twelve new archaeological sites and nine isolated finds (Simpson et al. 2024). These sites and isolated finds are primarily precontact in affiliation with just minor amounts of historic material at four of the sites. Sadler Cemetery was also documented within the report. This cemetery is located near the rest area complex and is fenced and well maintained as part of the rest area.

Sites 40Sm275, 40Sm276, 40Sm277, 40Sm278, 40Sm279, 40Sm280, 40SM281, 40Sm282, 40Pm185, and Isolated Finds IF1-IF9 represent ephemeral to small precontact sites that have marginal integrity, if any, due to previous agricultural activity or construction activity. Stantec, recommended none of these sites as eligible for listing on the NRHP, and no further work was recommended at any of these sites.

Sites 40Sm273 and 40Sm274 represent small to medium sized precontact sites that possess multiple occupations. In both cases, intact deposits and materials were noted within portions of each site's boundary. Based on the potential for intact cultural features and deposits to exist at the site, Stantec recommended additional investigations at both sites to determine their eligibility for listing on the NRHP. Site 40Sm273 was avoided by proposed construction related to the I-40 rest area expansion was not evaluated, but 40Sm274 could not be avoided and was subjected to Phase II evaluation.

Site 40Pm184 represents a densely occupied precontact site dating from the Early Archaic to Early Woodland periods. Extensive intact cultural deposits were noted from 80 to 330 cmbs, with over 56 percent of all precontact materials recovered from intact strata. A series of stratified occupations were noted along the western edge of the site that lies on a levee of the Caney Fork River. Based on the potential for intact cultural features and deposits to exist at the site, Stantec recommended additional investigations at the site to determine its eligibility for listing on the NRHP.

3.1.5 Cemeteries

Twelve historic cemeteries are in Lancaster, Smith County, Tennessee. Six of the twelve historic cemeteries are located within 1.6 km (1.0 mi) of project APE (see Figure 9). Three of the cemeteries (both Moss Cemeteries and Sadler Cemetery) within the study area were depicted on the 1962 (USGS) Buffalo Valley Quadrangle, 1:24,000 topographic map. The other three cemeteries were identified through Find-A-Grave's (2024) cemetery record search engine. Sadler Cemetery is located within the project APE at the Lancaster Tennessee Welcome Center along I-40. The Sadler Cemetery contains eleven memorials. The earliest known interred individual was 1868 and the most recent was 1951. This cemetery is also referred to as the Bartlett-Sadler Family Cemetery. This cemetery is well known and will not be impacted by future construction efforts related to the I-40 rest area. The other two cemeteries, Moss Cemetery and Moss #1 Cemetery, are located approximately 0.98 km (0.61 mi) southwest of the APE.

3.1.6 Historic Maps

Historic maps were referenced for information pertaining to the historic use of the project area. Two historic topographic maps and six historic aerials were referenced for information to the historic use pertaining to the project APE. The earliest topographic map available dates to 1928 (USGS 1928 Gordonsville, TN 1:63,000). This map depicts two structures within the project APE west of the Caney Fork River. These structures are located where the current I-40 rest area, as it is today. No other structures or roads are located within or near the APE at the time of the 1928 mapping (Figure 10). The 1962 (USGS 1968) Buffalo Valley, KY Quadrangle depicts conditions consistent with what is seen today. The 1962 map depicts I-40 as it is today, and several structures located around the I-40 rest area. Additionally, the mapping shows the Sadler Family Cemetery. The area surrounding the APE is relatively rugged and did not experience much, if any, residential or commercial development between the 1928 and 1962 mapping. Today, the same conditions persist.

The six historic aerials depict the development of the APE in conjunction to the construction of I-40 and the rest area from 1957 to 2006 (Nationwide Environmental Title Research [NETR] 2024). The 1957 aerial depicts the APE used primarily for farming. A couple of structures, likely those mapped in the 1928 topographic mapping, are seen in the aerial. The interstate did not exist in the 1957 aerial of the area (Figure 11). A few years later, in 1960 construction of I-40 was underway, with the road development being completed from east to west across Putnam County. By 1960, the road construction was up to the Caney Fork River (Figure 11). The next aerial found was from 1981 and shows I-40 developed and the start of construction on the I-40 rest area. At this time, the area around the rest area was planted in pines and mixed deciduous trees, which are fully grown today (Figure 12). By 1997, the rest area was fully established (Figure 12). The aerial imagery from 2006 shows the extensive construction disturbance related to the leach field northwest of the I-40 rest area (Figure 13). Virtually no other changes between 1997 and today are noted within or around the APE outside of the leach fields construction.

3.2 Precontact Cultural Setting

The precontact occupation of central Tennessee is generally divided into four broad periods: Paleoindian, Archaic, Woodland, and Late precontact. The Paleoindian period encompasses the cultural remains of the earliest recorded occupations of the region, after about 11,000 Before Common Era (BCE), during early postglacial times. Archaeologists identify the Archaic as the period where more localized seasonal settlement and subsistence patterns replaced the broad seasonal migration patterns of the Paleoindian period. Broad exchange patterns, the innovation of ceramic technology, the emergence of cultigens, and an increasing shift toward sedentism generally identify the transition to the Woodland period. The Mississippian period is marked by continued population growth, large villages, and subsurface storage pits resulting from an increased reliance on maize agriculture. This section outlines each of these broad periods including smaller divisions within each.

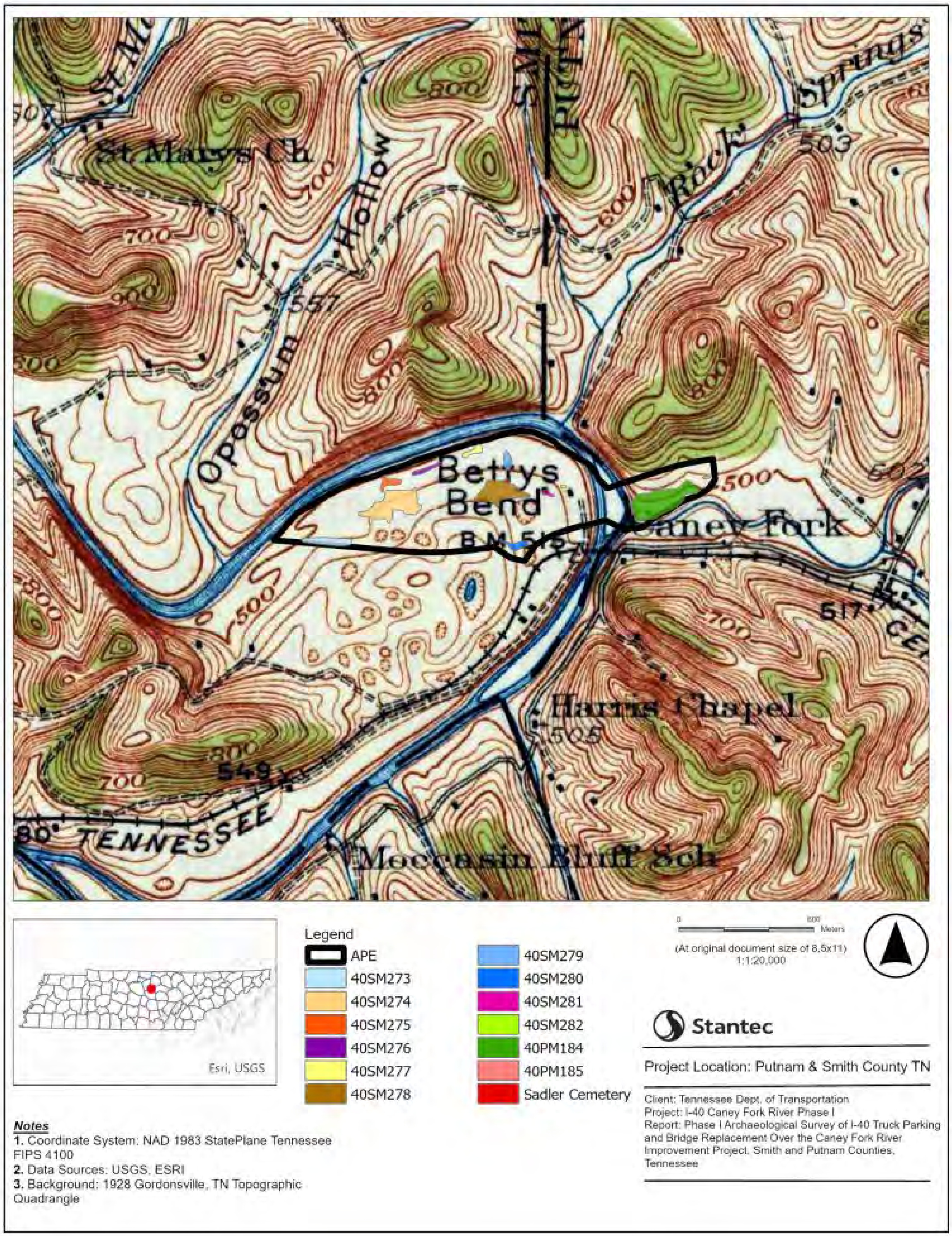


Figure 10. The APE depicted on the 1928 (USGS) Gordonsville, TN 1:63,000 Topographic map.

Figure 11. The APE depicted on a 1957 and 1960 aerial images.

Figure 12. The APE depicted on a 1981 and 1997 aerial images.

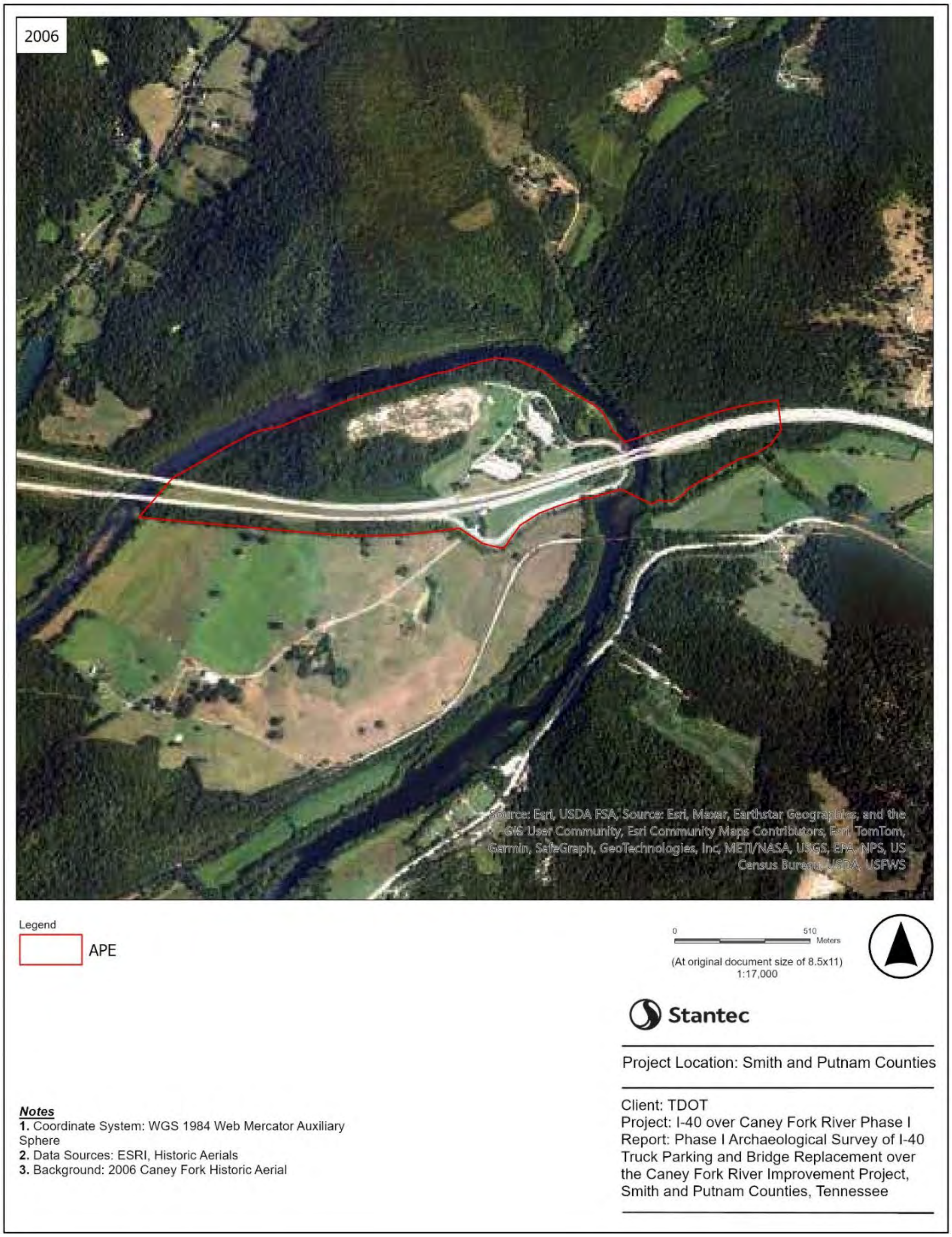


Figure 13. The APE depicted on a 2006 aerial image.

3.2.1 Paleoindian Period (ca. 10,000 – 8,000 BCE)

Humans arrived in the Middle Cumberland and Tennessee Valleys by at least 10,000 BCE. Paleoindians were nomadic groups comprised of small kin-based bands that primarily practiced a foraging subsistence strategy. Current research suggests that Paleoindian bands repetitively moved within a circumscribed geographic range to intercept large herd animals during their migratory cycles (Gramly 1988). Over time, the focus likely shifted from large-scale hunting expeditions to a more regular procurement of game.

Paleoindian sites are most easily recognized in the archaeological record by the presence of lanceolate spear points. These points may be fluted (a large flake removed from each side of the base) or unfluted. Early Paleoindian projectile points are often made of high-quality materials, usually from a widely dispersed area, which suggest a high level of mobility. Later Paleoindian points are more often made from local chert types, which may reflect a reduction in this mobility. Tennessee has some of the largest collections of Paleoindian and Early Archaic artifacts in America (Tune 2016). As of 2013, there were nearly 5,500 Paleoindian and Early Archaic points recorded by the Tennessee Fluted Point Survey; however, nearly half were not recorded in-situ (Tune 2016). Of these, only 261 were identified in the Central (Nashville) Basin (Tune 2016).

The Paleoindian period in the central Tennessee region can be divided into three segments: Early, Middle, and Late. The Early Paleoindian period extends from at least 10,000 to 8,800 BCE., the Middle Paleoindian from 9,000 to 8,500 BCE, and the Late Paleoindian from 8,500 to 8,000 BCE.

3.2.2 The Archaic Period (8,000 – 1,000 BCE)

The Archaic Period can be divided into three periods: Early, Middle, and Late Archaic. Archaeological sites with Archaic components are numerous in Tennessee and extensive across the Inner and Outer Nashville Basins that comprise the Central Basin within Middle Tennessee (Deter-Wolf and Peres 2012).

Early Archaic (8,000 – 6,000 BCE)

The Early Archaic time period is often identified in the archaeological record by the transition from large, lanceolate bifaces of Paleoindian assemblages to smaller, side-notched, corner-notched, and bifurcated bifaces (Anderson 1996). Point types that are typical in the Early Archaic in Tennessee include points in the Thebes Cluster, LeCroy Cluster, and Kirk Corner Notched and Stemmed Clusters (Justice 1995). Groundstone tools such as grooved axes, bannerstones and netsinkers, and other lithic tools are also observed in the Early Archaic. Local chert continue to appear in the archaeological record as a common resource. Early Archaic subsistence strategies continued the focus on large, migrating Pleistocene herd animals, but Early Archaic groups also began to exploit more local environmental resources including smaller game animals and local chert (Hollenbach 2009). Early Archaic artifacts tend to display more diversity in style and function than Paleoindian artifacts, which also may reflect diversity in resource exploitation.

Icehouse Bottom (40MR023) is an Early Archaic site in Eastern Tennessee that contains a wide variety of processing tools for plant and animal resources. Items recovered from the site include mortars and pestles, as well as tools used for processing hides, making and sharpening stone tools, and butchering animals. In addition, the site has preserved the impressions of baskets, bags, clothing, and mats in the clay within the site. The impressions in the clay exhibit a high level of technical acuity (Shaffer 1992).

Middle Archaic Period (6,000 – 3,000 BCE)

Archaeologists observe little change between the Early and Middle Archaic periods. The Middle Archaic period is reflected by changes in projectile point and blade types, predominately the introduction of stemmed points (Sassaman 2010). The Middle Archaic may be described simply as a transitional period between the Early and Late Archaic periods. Although, Sassaman (2010) argues that in some regions, Middle Archaic traditions bear little resemblance to earlier traditions and may in fact be the result of regional abandonment and resettlement patterns. By the end of the Middle Archaic period long term, intensive occupations become evident.

Diagnostic point types for this period in Tennessee include Eva, Morrow Mountain, White Springs, and Benton clusters (Justice 1995). Beads, pins, awls, and numerous other items cut and ground from bones and shells are not uncommon (Griffin 1974). It is during this period that the first evidence of the spear thrower appears in the form of atlatl weights (Kerr 2010).

Burials during the Middle Archaic period are commonly flexed. Extended inhumations, cremations, and multiple individuals in a single feature are not unusual. Burials may include stone, bone, and shell grave goods (Sassaman 2010).

The use of freshwater shellfish increases in the Middle Archaic, which coincides with a transition from upland settlements to riverine settlements (Sassaman 2010). The Shell Mound Archaic were located in the Lower Tennessee and Green River Valleys and select areas within the Nashville Basin. The age of these sites and amount and variety of shellfish within these sites varies by region. Pond snails sometimes dominate the shell middens in the Nashville Basin. Sassaman (2010) argues that the Shell Mound Archaic did not use the freshwater shellfish as a necessity, rather it was a cultural choice, as some of the best shellfish beds on the Cumberland and other rivers were never exploited by Archaic groups.

Late Archaic Period (3,000 – 1,000 BCE)

Archaeologists characterize the Late Archaic Period as a period with an increased focus on regional mobility patterns, as well as an increase in resource diversity. The Late Archaic period had climatic conditions like today, growing more favorable for longer term and larger scale occupation in many regions (Sassaman 2010). In general, Late Archaic sites are more numerous and regional diversity is much greater, as is easily seen in the vast variety of regional point types (Sassaman 2010). In addition, long-distance trade networks began to develop during the Late Archaic because of the localization during the Early and Middle Archaic periods. The localization made it more difficult to acquire exotic resources, thus initiating a need for long-distance exchange (Shaffer 1992).

Late Archaic groups incorporated plants into a larger part of their subsistence strategy. Late Archaic sites often represent repeated occupation over a long period of time, which suggests a regular, more localized pattern of movement across the landscape. Projectile points and other lithic tools also show an increase in variation. The projectile points associated with the Late Archaic in Tennessee include the Ledbetter, Pickwick, and Saratoga (Justice 1995). Small side-notched and corner-notched points, and side and end scrapers appear frequently in Late Archaic assemblages. Groundstone tools are also increasingly evident. Pottery begins to appear in the transition between the Late Archaic and Early Woodland periods. Grave goods made of non-local material indicate a special treatment of some people, indicating an increased social complexity. Common grave goods include projectile points, bannerstones, plummets, pendants, shell and bone beads, and decorated bone pins (Sassaman 2010).

Mussel shell is common at shell midden or shell mound sites. While prior studies indicate the mussels were likely a low-quality food that may have been utilized in times of shortages or as an expedient food source (Hofman 1985), they continue to persist in the Late Archaic. In addition, there are indications that the cultivation of plants such as sunflower, sumpweed, and chenopods began in the Late Archaic (McClung Museum 2009).

3.2.3 The Woodland Period (1,000 BCE – 900 CE)

Populations in the Woodland Period tended to be broad-spectrum hunter-gatherers, living in semi-sedentary occupations made up of small groups, likely based on kinship. These occupations were typically located around riverine environments and organized around communal burials. Innovations such as a more intensive reliance on pottery, horticulture, and the bow and arrow also occur during the Woodland period. Evidence points to squash, gourds, and sunflowers as the first domesticated plants grown in Tennessee, first appearing in the Late Archaic. Corn was introduced to Tennessee from the south during the Woodland Period and mound building began in the area during the Woodland Period (Satz 1979).

Early Woodland Period (1,000 – 200 BCE)

The Early Woodland period marks the transition from the more nomadic Archaic subsistence strategy to a more localized, semi-sedentary subsistence strategy. The defining characteristic of the Early Woodland is the introduction of ceramics into the artifact assemblage (Wellborn et al. 2013). In addition to the advent of horticulture, soils became important to subsistence strategies, and populations shifted to terraces along rivers as populations increased (Baden 1985). Deep, cylindrical storage pits are also commonly found in Early Woodland sites in Tennessee (Wellborn et al. 2013).

The Gulf Formational Period represents the earliest pottery in the Tombigbee and Tennessee River Valleys. The pottery is defined by fiber tempered plain, punctate, and dentate stamped Wheeler and sand tempered punctate, pinched, and incised Alexander style (Jenkins et al. 1986; Rafferty 2002). Pottery tempering in the Early Woodland generally consists of sand or grog (Rafferty 2002).

Smaller lanceolate shaped, notched, and stemmed points replaced the large bifaces of the preceding Archaic. Projectile points found at Early Woodland sites include Adena Stemmed, Gary Contracting Stemmed, Motley, and Wade (Justice 1995).

Similar to the Late Archaic period, the Early Woodland settlement patterns are represented by small, mobile groups, exploiting the seasonal resources (Wellborn et al. 2013). Sites appear to have been frequently re-inhabited on a seasonal, but not year-round, basis (Wellborn et al. 2013). Rafferty (2002) notes an increased number of sites with Alexander ceramics compared to the earlier Wheeler pottery, but little change in the distribution of sites. The increased number of sites containing pottery could indicate a greater population density or the increase in the adoption of pottery through time.

The mortuary complex is like the Late Archaic period, with the addition of elite burials in earthen mounds. Grave goods such as beads, shell and bone ornaments, and caches of lithic items often accompanied burials. Unlike the Late Archaic people who tended to bury people near activity areas of short-term habitation sites, Early Woodland burials shifted towards areas specific for burial use (Wellborn et al. 2013).

The Middle Woodland Period (200 BCE – 500 CE)

The Middle Woodland has a more complex social system and subsistence strategy was organized around a seasonal pattern of resource procurement and an increasing reliance on horticulture (Yerka et al. 2013a). The Middle Woodland period saw a continued increase in population and social organization, reflected in the numerous earthworks constructed in this period. These earthworks, often constructed in geometric figures, may have represented ceremonial centers suggesting that populations may have been organized at some larger scale. The precontact trade of exotic materials also reached a high during the Middle Woodland as populations within the “Hopewell Interaction Sphere” traded materials from as far away as the Upper Peninsula of Michigan (copper), the Gulf Coast (shell and shark teeth), and the Carolinas (mica). It is likely that the Hopewell Interaction Sphere represents a broad but loosely organized pattern of exchange rather than a well-defined system of trade (Pacheco 1996). The Hopewell Interaction Sphere in Tennessee has come under some scrutiny as argued by Yerka et al. (2013a).

The Middle Woodland phases that have been identified in the Middle Cumberland and Tennessee Valleys include Colbert, Lick Creek, and Copena in the Bear Creek drainage; Colbert and Copena in the Pickwick and West Wheeler Basin; Green Mountain, Walling, and Bell Hill in north-central Alabama (Rafferty 2002); and Old Stone Fort at the forks of the Duck River.

Diagnostic lithic artifacts for the Middle Woodland period included the Copena and Bakers Creek clusters (Justice 1995). Hopewell bladelets and blade cores, some of which are made of Ohio Valley chert, are periodically found at Middle Woodland sites in Tennessee.

The Late Woodland Period (500 –1,000 CE)

A significant reduction in the extra-regional trade of exotic goods marks the Late Woodland period. In addition, the collapse of the Hopewell influence occurs (Yerka et al. 2013b). The construction of large ceremonial earthworks also ends in the Late Woodland, although burial mounds are still being constructed

(McClung Museum 2009). This period is also characterized by an increasingly sedentary residential pattern of large, nucleated villages supported by a growing reliance on maize and other cultigens as a substantial part of the Late Woodland diet. Late Woodland artifacts include small triangular, ovate, and side-notched points, often associated with arrow points (Rafferty 2002). Madison and Hamilton Incurvate are common point types of the Late Woodland in Tennessee (Justice 1995). The bow and arrow became prevalent, though likely in the later portion of the Late Woodland.

Late Woodland ceramic assemblages in eastern Tennessee have produced ambiguous results (Sullivan and Koerner 2010). This is due to their similarity to earlier Middle Woodland wares and later Mississippian types. Limestone tempered varieties, such as Hamilton and Owl Hollow, or chert tempered wares, known as Mason wares, are commonly identified in eastern and middle Tennessee (Faulker 2002; Schroedel and Boyd 1991). Middle Tennessee wares typically are plain or cordmarked, with net-impressed and simple stamping also noted. Many of these wares transitions into the Baytown forms that began to dominate in areas to the west. Baytown pottery is traditionally grog tempered, or clay tempered with admixtures of sand to varying degrees (Mainfort 1994).

The Late Woodland period in the lower midsouth is divided into four cultural traditions: Late Woodland / Baytown in west Tennessee; Miller III in northwest Alabama and Northeast Mississippi; McKelvey and West Jefferson in the Pickwick and Wheeler Basins; and Flint River in north-central Alabama (Rafferty 2002). These divisions are general and difficult to define exact extents given the overlap of ceramic series and the general lack of consistent forms. The project area lies in a transitional area between the Flint River cultures to the south and the Baytown groups lying further west. Likely, the area is more akin to the western Baytown traditions that were built from the earlier Middle Woodland traditions.

3.2.4 Mississippian (900 CE to Contact)

The Mississippian culture extends from the American Bottom region throughout the southeastern United States. Hallmarks of this cultural system include a hierarchical social and political formation; a subsistence based on cultivation of maize, squash, and beans that supplemented hunted and gathered wild resources; and a shared set of symbols and decorative motifs that appear on ceramics and other media (Lewis 1996:127; Pollack 2008). An additional feature of Mississippian society was the construction of planned towns that often feature earthen mounds and platforms that were used for residential, mortuary and ritual purposes, central plazas, and in some cases, defensive structures such as palisades and ditches. These sites often served as political centers administering smaller villages and hamlets in their hinterlands (Pollack 2008:605). Technologically, Mississippian ceramics featured thin walled, shell-tempered vessels in a variety of forms with plain as well as highly decorated exteriors. Lithics included small, triangular projectile points, as well as a variety of other tools such as abraders, scrapers, and perforators.

The Mississippian culture includes a hierarchical social structure within habitation sites, cultivation of native and wild plants, and a trading exchange with neighboring elites (Pollack 2008). This trade, including that of non-local goods, may have had religious, political, or economic significance within Mississippian societies (Pollack 2008). Platform mounds in Tennessee were also introduced during the Mississippian Period (Satz 1979).

The Mississippian period of the Southeast was dominated by chiefdom level societies, which influenced the surrounding tribal groups or hamlets. Shell-tempered pottery and a more sedentary lifestyle reflected in permanent, sometimes fortified, villages are indicative of the Mississippian period. Elaborate mortuary practices involving burial pits, mounds, and more extravagant grave goods also evolved during this time.

The Shiloh Indian Mounds site is located west of the project area in Hardin County near the Tennessee River. It is located within the Shiloh National Military Park and as a result, it has not been disturbed by modern farming. Remains of the original structures of wattle and daub are still visible as low rings or mounds, the only location in the eastern United States where such remains are visible.

The dominant projectile point forms during this period in Tennessee were the Madison and Nodena types (Justice 1995). Ceramic, shell, copper, and stone artifact assemblages also include human and animal effigy forms and complex iconography (McClung Museum 2009).

Due to the rapidly increasing importance of agriculture many of the sites are in floodplains or alluvial terraces that are near larger streams and rivers. Many of these sites have been inundated by reservoirs (McClung Museum 2009). Early Mississippian people continued to exploit the same range of food resources as prior peoples; however, horticulture products were now a primary source of food, specifically an increase dependence on maize (Baden 1985).

Whether or not the Mississippian cultures were in a state of decline by ca.1450-1500 CE is unknown due to the interruption of precontact settlement patterns by European contact.

3.2.5 Protohistoric Period (1700-1800 CE)

Prior to European contact, portions of central Tennessee were used by the Cherokee, Chickasaw, Shawnee, Creeks, and Choctaws for seasonal hunting and fishing camps (Hankins 2017). Early documents indicate that both the Nickajack Trail and Creek War Trace came together near present-day Murfreesboro (Hankins 2017). During the early to mid-eighteenth century, the Cherokee and Chickasaw were allied in a series of engagements ultimately driving the Shawnee from the area (Clark 2017). Additionally, the Chickamauga, a group that included Cherokee, Shawnee, and Creeks, as well as French, African, and Scots also proved to be an impediment to widespread European settlement in Middle Tennessee throughout the eighteenth century (Rolater 2017a).

The Chickasaw had increased European contact during the end of the seventeenth century due to the interaction with European traders (Satz 2017). Spain and the United States were vying for control of the Lower Mississippi Valley. In 1786, the United States officials formally recognized Chickasaw land claims in Tennessee and provided trade goods and weapons for distribution at the Lower Chickasaw Bluffs on the Mississippi River as part of their strategy to curb Spanish influence (Satz 2017). In 1792, William Blount signed a peace treaty with the Chickasaw. This caused a retaliation by the Creek Indians who were aligned with the Spanish. The United States secured control of the Lower Mississippi Valley in 1795 and negotiations for land cessions began. In 1805, 1816, and 1818, Andrew Jackson and other treaty commissioners acquired nearly 20 million acres of land from the Chickasaw in Tennessee (Satz 2017). The Jackson Purchase Treaty of 1818 removed all tribal rights to land in Tennessee; however, the Chickasaw remained in the lower bluffs for nearly 10 years. The Indian Removal Act in 1830 required their removal; however, the Chickasaw delayed their removal until 1837 (Satz 2017). In 1835, the Treaty of New Echota finalized the sale of Cherokee lands in Tennessee (as well as Georgia and North Carolina) and paved the way for Cherokee removal, resulting in the Trail of Tears (Rolater 2017b).

3.3 Historic Cultural Setting

3.3.1 Smith County

Smith County traces its European history to 1799 when the Tennessee General Assembly named the county in honor of General Daniel Smith (Maggart 2018). Many European immigrants came from North Carolina to Smith County on Revolutionary War Service land warrants. These immigrants set up towns along the Caney Fork and Cumberland Rivers that also provided highly fertile farmland. In 1804, the city of Carthage was named the capital of the county (Margat 2018).

The railroad system afforded new opportunities for the communities in Smith County. By the 1880s railroads were established through the county and many towns boasted new hotels and commercial business due to the increase in travelers. In conjunction with the rail industry, the county still had a prosperous agricultural sector. Over time, Smith County also had success in distilleries, grist and flour mills, tanneries, tobacco, and timber (Margat 2018). In the 1960s, Cordell Hull Dam on the Cumberland River allowed for the development of an industrial park where large industrial plans and mining operations for zinc bolstered the economy (Margat 2018).

3.3.2 Putnam County

Putnam County was officially established as a county in 1854 and named after Revolutionary War general, Israel Putnam (Semmer 2018). Putnam County is situated between major cities such as Knoxville and Nashville and became established as a key midway point between the cities for European settlers. By 1860 the population of the county was estimated at 8,591 (Semmer 2018). The Civil War halted the growth and development of the county, as many homes and farms were destroyed by both contingents.

From 1865 to 1910, the population grew exponentially due to the railroad system entering Putnam County. The rail system allowed people to travel more freely but also aided farmers in who could have access to wider urban markets. At this time, the county also established a presence in coal mining, lumbering, and education (Semmer 2018). County growth suffered again from World War II through the 1950s. The following decades brought a population resurgence with the construction of Interstate 40, rapid industrialization, and the establishment of several higher education universities.

3.4 Summary

The literature review indicates that 16 archeological sites are located within the bend of the Caney Fork River. Larger sites with more concerted occupation appear focused on the higher upper terraces of the river rather than along the lower terraces and floodplain of the Caney Fork or Indian Creek. These terraces have extensive sinkhole-derived depression that appear to be focal points of occupation throughout the precontact period.

Page Left Intentionally Blank

4 Archaeological Methods

This section describes the regulations and guidelines governing archaeological fieldwork as well as the research design, field methods, and laboratory methods employed during the Phase II evaluation. The TDOT considers the proposed project an undertaking subject to review under Section 106 of the NHPA. As such, this investigation was conducted according to 36 CFR 800.11 of Section 106.

The objective of the Phase II survey was to determine if sites 40Sm274 and 40Pm184 were eligible for listing on the NRHP. Stantec provided specially trained field survey crews to evaluate and excavate the sites in the Caney Fork River valley, providing the data needed to produce this cultural resource report.

4.1 Field Methods

Stantec conducted the archaeological fieldwork using methods consistent with the Tennessee State Historic Preservation Office guidelines (TN SHPO 2024). The TDOT was the lead agency guiding the fieldwork, and as such, TDOT fieldwork and reporting guidelines were also adhered to (TDOT 2024). The Phase II investigations included a combination of hand excavated test units and mechanical stripping. The specifics on these methods investigations and their subsequent documentation are discussed below.

The Phase I testing indicated that sites 40Sm274 and 40Pm184 were heavily occupied throughout the majority of the precontact period and possessed the potential to contain intact deposits (Simpson et al. 2024). Intensive shovel testing supplemented with deep bucket augers were completed over both sites during the Simpson et al. survey efforts (2024). The shovel tests and augers excavated during the 2024 survey were adequate to provide an understanding of site density and concentration areas that would be the focus of the Phase II investigations at both sites.

Per Stantec's workplan devised for the site in consultation with TDOT, a 20 percent sample of the 23,365 m^2 site area of 40Sm274 that totals a 4,670 m^2 sample. The investigations at 40Pm184 were constrained to the current I-40 ROW that represents only 0.5 acres of the sites total area. The original plan miscalculated the actual portion of the area within the ROW as only 0.1 acres in size, and the plan proposed an according 20 percent sample of 80 m^2 of area. Stantec completed a combination of fifty-five (55) hand excavated test units and mechanical stripping of 3,050 m^2 to explore a combined 12.1 percent sample across both sites 40Sm274 and 40Pm184. This level was sufficient to evaluate both sites regardless of the overall reduction in the percentage of area explored at either site.

Stantec established a grid system across each of the two sites. The original grid orientation used for the Phase I survey at 40Sm274 was again used, placing a site datum of N1000 E1000 within the approximate center of the site area. The Phase II efforts at 40Pm184 were constrained to just the portion of the site within the current I-40 ROW, and therefore the grid was shifted during the Phase II survey to the ROW fence orientation. All test units, excavation trenches, and features were recorded using an Emlid Reach RS+ GNSS data collector connected to the Tennessee or Kentucky CORS network for real time kinematic

(RTK) positioning. RTK corrections allow up to centimeter level positioning horizontal and vertical depending on field conditions.

4.1.1 Shovel testing

Stantec conducted systematic shovel probe excavation in transects spaced at 10 m (32.8 ft) intervals across the northern edge of site 40Pm184 in an effort to better define the site's boundary within the current I-40 ROW. Adherence to these intervals was maintained as closely as possible, although shovel test units were periodically offset due to the obstacles on the surface. Shovel tests were 30 cm (11.8 in) in diameter and extended into undisturbed soils or to bedrock. Soils removed from the units were screened for cultural materials through ¼-inch hardware mesh and immediately backfilled. The crew documented and characterized soil stratigraphy according to the Munsell color guide (Munsell 1994). Shovel test units that exhibited disturbance such as mixed and mottled "A" and "B" horizons or subsoil present at the ground surface were noted, but not fully excavated. Shovel tests located in wet, inundated soils were treated in the same fashion. Each shovel test location was mapped with GPS and select shovel tests were photographed with a digital camera. Archaeologists recorded the shovel tests along with relevant landscape features, with a Trimble R1 GNSS receiver unit capable of sub-meter accuracy.

4.1.2 Test Unit Excavation and Trenching

The Phase I investigations at both sites within the Caney Fork River valley identified broad concentrations of certain type of artifacts or materials from certain occupational periods, wherein exploratory units could be placed (Simpson et al. 2024). Testing began with initial test unit excavation across both sites based upon the results from Phase I survey. Additional test units were placed following stripping in areas of intensive occupation at 40Sm274. Most of the stripping was confined to 2 m wide trenches that extended from 10 to over 30 m in length, with a few larger strip blocks being employed at 40Sm274 to explore for features near the surface where other features or intensive occupations were identified. The stripping was performed using a trackhoe with a smooth-bladed 4-foot-wide bucket and was always monitored by an archaeologist. When a feature or anomaly was detected, it was flagged for further study as described below. The stripping occurred in stages, so that only a manageable area was exposed at any one time.

Test units were placed where high artifact concentrations were identified during either Phase I testing or mechanical evaluation. The excavation of the 1-x-1-m units was performed in a series of arbitrary 10-centimeter (cm) levels within natural strata, with the plow zone being removed in all tests units as a single level. Excavations were completed once multiple levels were excavated that contained very limited or no cultural material, or excavations had extended to a stratigraphic horizon that had no potential to contain *in situ* artifacts. All soil was screened through ¼-inch (in) mesh hardware cloth and all artifacts placed in bags labeled with the appropriate provenience information. Detailed notes for each excavation level were recorded and representative walls of each unit were documented by a detailed profile drawing and photography.

4.1.3 Feature Excavation and Documentation

All cultural features encountered within the excavations were exposed and documented in planview through detailed drawings and photography. If a feature was found during the hand-excavation of a test unit, then the unit was expanded to allow the feature to be completely exposed. Feature excavation proceeded as follows.

- Each cultural feature was recorded in planview and mapped in relation to the site datum.
- Features were bisected and the cultural fill was screened through ¼ in mesh or finer hardware cloth. All artifacts were placed in a bag labeled with the appropriate provenience information.
- The profile of the remaining feature half was documented by detailed drawings and photography.
- After this documentation was complete, a minimum of ten liters were removed from the remaining half of each feature for flotation/fine screening and additional analysis. Multiple samples were removed if individual fill zones were present. The samples were placed in bags labeled with the appropriate provenience information. Unless a noticeable amount of charcoal was present, no flotation samples were collected from post molds.

The remaining feature fill was excavated and screened through ¼ in mesh hardware cloth. Special care was taken to excavate individual fill zones if present.

4.2 Laboratory Methods

The Lithic artifacts recovered during excavations were analyzed to assess the period(s) of occupation, ascertain site function and/or areas of activity, evaluate chert resource selection, intensity of occupation and to create a catalog the of artifacts recovered from each site. For this analysis, shatter and flakes were separated then the flakes were analyzed using an aggregate trend analysis developed by Bradbury and Carr (2004) to investigate the general trends associated with core reduction and/or tool production at the sites. A total of 16,537 lithic tools and debris were recovered from sites 40Sm274 and 40Pm184. A complete inventory of the materials recovered is presented in Appendix B.

For the analysis, precontact artifacts were separated into categories associated with either tool type/function, tool manufacture or the waste of tool production. Artifacts were cleaned, sorted, and cataloged by material type (e.g., ceramic, lithic, faunal), morphology (e.g., biface, ground stone, flake), and attributes associated with form/function. Whenever possible, tools were assigned to a specific or broad temporal category. All the artifacts were cataloged into an excel spreadsheet so that the data could be manipulated for interpretative purposes.

4.2.1 Precontact Artifacts

Precontact cultural material can help archaeologists build an understanding of site function, activity areas, chronology, technology, settlement patterns, and landscape use. For example, functionally diagnostic material, such as lithic artifacts, can indicate the types of activities people conducted in the past, from resource procurement and tool manufacture to plant and animal processing. Temporally diagnostic materials can indicate the period when a site was occupied. The trajectory of reducing raw chert nodules to informal and formal tools by precontact peoples provides us with a method for understanding the techniques and methods used in their daily lifeways. This analysis can therefore provide information as to how materials were obtained and some of the work being performed during the numerous occupations of a site that comprised its creation during the precontact period. The following classification types represent archaeologists' attempt to place these various informal and formal tools into a reduction trajectory that can assist in defining actions taken in the precontact past. The reduction trajectory presented extends from initial collection to formal bifacial tool creation.

4.2.1.1 Lithic Artifacts

The Phase II investigations at sites 40Sm274 and 40Pm184 yielded primarily artifacts made of stone Debitage, the by-product of the tool manufacturing process, and formal and informal lithic tools comprise most of the materials recovered. A smaller collection of fauna, Fire Cracked Rock (FCR), ornaments created from river stones, charcoal specimens of wood and nutshell were also recovered. The following sections detail how these materials were sorted and analyzed.

The trajectory of reducing raw chert nodules to informal and formal tools by precontact people provides us with a method for understanding the techniques and methods used in their daily lifeways. This analysis can therefore provide information on how materials were obtained and some of the work being performed during the numerous occupations of a site that comprise its creation during the precontact period. The following classification types represent how archaeologists attempt to place these various informal and formal tools into a reduction trajectory that can assist in defining actions taken in the precontact past. The reduction trajectory presented extends from initial collection to formal bifacial tool creation.

4.2.1.1.1 Debitage

Debitage is typically divided into shatter and flakes. Shatter is blocky, angular fragments that lack a bulb of percussion and conchoidal fracture. Primary workshops and core reduction activities typically produce higher proportions of shatter within the overall debitage assemblage and can be used to evaluate the function of precontact sites (Ahler 1986; Root 2004; Stoltman et al. 1984). Shatter can be produced inadvertently in many ways that may not be related to the tool reduction process, such as cultivation machinery striking natural pieces of raw materials, flaws with the raw material itself or during the process of heat alteration. During the analysis shatter was sorted by raw material type, heat alteration, counted and weighed.

Flakes are detached pieces from nodules of raw material, cores, bifaces, or other flakes with a discernible dorsal and ventral surface. The detached ventral surface of the flake is smooth with no indication of previous flake removals. Whereas the opposing dorsal surface may exhibit cortex or scars from prior flaking (Andrefsky 2005). When intact, flakes possess a striking platform and bulb of percussion that indicates the degree of force used during their dislodgement from the primary piece (Andrefsky 2005). An analysis of certain attributes of these flakes can provide an understanding of wherein the reduction process the flakes were removed. This information can be used to interpret some of the activities that precontact inhabitants were completing at a site and a potential overall function that a site possessed for those inhabitants.

Attributes cataloged for the flakes recovered from each site included raw material type, heat treatment, dorsal cortex presence/absence, size grade, and striking platform facets. After being split into raw material types, the flakes were examined for indications of heat treatment. Heat treatment is a process believed to have been used to alter the properties of a raw material to allow for improvement in its flaking properties (Andrefsky 2005, Luedtke 1992, Whittaker 1994). This is achieved by slowly heating the material without causing “thermal shock” caused by uneven heating of the object (Luedtke 1992). The result may include changes in texture, color, translucency, and luster. Thus, grainy cherts may become more homogenous and smoother in texture. There are competing arguments as to what is taking place internally during the heating process. Some believe that the quartz microcrystal within the stone is melting and fusing, while others believe that microscopic cracks formed during the heating process allow for easier fracture during knapping (Luedtke 1992, Whittaker1994). For this analysis, color, luster, evidence of damage such as pot-lids and internal fractures were feature used to identify heat altered artifacts. Flakes were subdivided into heat treated, heat damage or none, counted and weighed.

Cortex represents the naturally occurring rind on the outside surface of chert. Primary cortex is the transition zone that forms between the chert and the surrounding matrix that may range in thickness from less than five millimeters to over a centimeter (Luedtke 1992:98). Secondary cortex is the patinaed surface of a stone that has been altered by processes of chemical or mechanical weathering. Chemical weathering is caused by prolonged exposure to external elements, such as moisture and sunlight that stimulate a chemical reaction oftentimes changing the color and texture of the stone’s surface. Mechanical weathering is physical changes to the outside surface of rocks. This is demonstrated by chert cobbles procured from rivers or creeks that exhibit a polished surface resulting from tumbling and agitation.

Measuring the amount of cortex on the dorsal side of flakes has been used to infer reduction stage. The assumption is that the smaller percentage of cortex on a piece the more advanced in the reduction sequence chain. Many researchers have debated the usefulness of this attribute as a reliable indicator, most often due to a lower accuracy rate for predicting the middle and late stages of production (Andrefsky 2005:115, Bradbury and Carr 1995). Therefore, some research had augmented data collected on cortex with additional measurable flake attributes to postulate the reduction trajectory of an assemblage (Bradbury and Carr 2004, Mauldin and Amick 1989). In the present study, it also provides a useful adjunct to other primary analysis methods designed to assess stone tool production trajectories observed within the assemblage.

The flake assemblage was then size graded following the methodology described by Ahler (1986, 1989). The flakes were sorted into three size grades (1-in, 0.5-in, and 0.25-in) by sifting and hand manipulating them through nested screens. In some instances, certain provenience produced flakes less than 0.25-in size, but this recovery was not consistently represented across the site. Given that analysis of these flakes was not comparable across all proveniences, the flakes were counted and weighed but not included in the broader analysis at the site. The large three size graded flakes were counted and weighed.

Ahler (1989:92) constructed models based on experimental data to distinguish four stages within the lithic reduction trajectory based on the percentage by weight of the flakes in each size grade. These trajectories included core reduction, primary biface reduction, biface thinning, and final biface shaping. The following are the approximate percentages by size grade for each trajectory stage:

Core reduction (percentage by size grade)	65:1.0-in, 25:0.5-in, 10:0.25-in
Primary Biface reduction	35:1.0-in, 40:0.5-in, 25:0.25-in
Biface thinning	10:1.0-in, 45:0.5-in, 45:0.25-in
Final Biface shaping	00:1.0-in, 40:0.5-in, 60:0.25-in

The final stage of the debitage analysis documented flakes with a striking platform. The striking platform is the point that is struck to detach a flake. This area may be unmodified or prepared depending on the objective of the knapper. Small flake scars across the surface of the platform are an indication of preparation and can be useful in distinguishing between core and bifacial reduction (Odell 2003:126). Several studies have indicated a correlation between higher numbers of facets to later stages in the biface production sequence (Magne and Pokotylo 1981, Bradburry and Carr 1995). Grinding along the surface of the platform is also believed to have a correlation to biface and projectile point production rather than core reduction (Tomka 1989:147). Flakes with striking platforms were classified and counted according to whether there were 0-1, 2, or 3+ facets on the platform. Small scars restricted to the edge of the platform were not counted, only facets that extended across, or likely across, the width of the platform was recorded. Multiple studies have found that platform facet count is one of the most helpful attributes when interpreting reduction trajectories related to distinguishing between core and biface reduction assemblages (i.e., Bradbury and Carr 2004; Odell 1989, 2003).

The results of the debitage analysis were assessed using production trajectory trends presented by Bradbury and Carr (2004). The researchers performed numerous controlled core and biface reduction experiments, defining trajectory trends based on the percentage of shatter and flakes with multiple striking platform facets, as well as the percentage and average weight of flakes in the 0.25-in size grade. These trends are general in their nature, as factors such as differing raw material type, the size of the raw material used, or the type of reduction being performed, can all affect the overall percentages. Regardless of these issues, these trends can provide another means of assessing the debitage analysis results. Bradbury and Carr (2004) proposed general trajectory trends for certain types of reduction based on the combination of factors. These percentages are summarized below by general trajectory:

	Percentage of Shatter %	Percentage of Flakes with 2+ Facets	Mean Weight (g) of 0.25-in Flakes	Percentage of 0.25-in Flakes
Core Reduction	15.2	0.9	0.94	60.1
Early Stage Biface Edging	1.4	12.1	0.56	83.2
Middle Stage Biface Thinning	0.1	26.0	0.35	95.2
Late Stage Final Biface Shaping	0.0	75.0	0.35	100.0

4.2.1.1.2 Cores

A core is a mass of lithic material from which flakes have been detached from its surface (Crabtree 1982:30, Andrefsky 2005:14). Fundamentally, cores are an easily transportable supply of lithic material used to generate flakes that can be modified into tools. Cores with flakes removed from one direction with a single flat platform from which they are struck are generally known as unidirectional cores. In various parts of the world, unidirectional cores are called by different names, such as microblade or polyhedral. These cores require more preparation resulting in a uniform piece with a predictable shape and size. Cores that have multiple striking platforms resulting in the removal of flakes from various directions are categorized as a multidirectional core or in the case of this study, an amorphous core. These cores may require no preparation and flake scars may be removed across the piece in a more advantageous manner. When flakes have been removed from both sides of a core so that they meet at an edge, oftentimes displaying a more overall disc shape, they are called bifacial cores. Cores are seldom utilized, however, if retouch is observed on one or more of its edges it is categorized as a utilized core. Blocks of raw material that have fewer than three flake scars are described as a tested cobble. This type of core is attributed to an attempt to test the quality of the internal material for tool making purposes.

4.2.1.1.3 Unifaces

Unifaces are flakes with retouch on either their ventral and/or dorsal surface along one side of an edge (Andrefsky 2005:79, Crabtree 1982:57). The flake scars may have been intentionally removed or worn away by use. Unimarginal unifaces are modified on the ventral *or* dorsal side of the flake, but flake removals can be observed at different locations on a single piece. Bimarginal unifaces are modified on both the ventral *and* dorsal side of a flake in the same location. These flakes are distinguished from bifaces because they are worked on and edge verses across the entire surface of the tool (Andrefsky 2005:79). Unifaces that have unimarginal and bimarginal modifications at different locations are classified as combination tools. Examples of unifaces are utilized flakes, endscrapers, sidescraper, gravers, and backed blades.

Utilized Flake and Unmodified Utilized Flake

Utilized flakes are identified by retouch along either the ventral or dorsal surface along a flake’s margin. Flakes identified as utilized must exhibit three or more purposeful flake removals. Unmodified utilized flakes do not have any retouch but exhibit visible signs of use wear. Use wear on flakes that have been utilized, weather modified or not, typically have a straight and slightly rounded edge that may exhibit areas of polishing under magnification. Unlike, other unifacial tools, utilized flakes appear to be generated for opportunistic purposes rather than specific tasks.

Scraper

Scrapers are found on sites from almost all periods of prehistory and are thought to have been primarily used for the preparation of animal hides and woodworking (Andrefsky 2005:206). Scrapers are one of the most diverse formal tool types and can be found in a variety of shapes and sizes; usually categorized by which edge of the piece that has been modified. *Endscrapers* are worked along their distal end and *sidescrapers*, as their name implies, are modified along their side or longest edge of a piece. Endscrapers and sidescrapers are typically convex in shape and with their working edge angled approximately 70 to 90 degrees. This angle prevents the person performing the task from cutting or slicing the material being worked as the blade is pushed away then drawn back towards them (Andrefsky 2005:205). These types of scrapers may exhibit trimmed or dulled edges for hafting purposes or may be handheld. Scrapers can be manufactured in a formal manner with a higher level of preparation forming a tool with a specific shape, such as a tear drop or thumb nail scraper. In other instances, scarpers are used in a more expedient fashion exhibiting little to no preparation.

Angled Flake Scraper

An angled flake scraper is an informal expedient tool created from a flake. A flake selected or created for this purpose may require no modification or may be retouched so that its working edge is angled 70 to 90 degrees as with formal scrapers. Thes tools can be used for scraping items such as plant material or wood.

Combination Tools

Combination tools Care unifacial tools that exhibit some combination of other formal uniface types, such as end scrapers, spokeshaves, gravers, *etcetera* on a single piece. These tools are usually advantageously created from debitage in which the form of the flake or shatter piece is easily manipulated for the creation of one of the formal uniface types.

Denticulate

Denticulate tools are flake tools that can be identified by a tooth or serrated edge. A denticulate tool's toothed edge resembles and functions much like a saw. It is most likely that these tools were for processing meat rather than wood.

Graver

Gravers are unifacial tool that has been pressure flaked to create a working point for engraving or perforating material (Crabtree 1982).

Spokeshave

Spokeshaves are chipped stone tools with rounded notches that have been created by intentional retouch or retouch resulting from use along one or more margins. Based on their appearance, it is assumed that these tools were used to scrape convex surfaces such as plant material or bone. The associated activities may have included honing wooden, bone, or ivory shafts such as spear or arrow shafts. Spoke shaves may be made from both unifaces and bifaces.

Perforator/drill

Perforators are unifacial tools that are created intentionally or through happenstance and have a shaft or protrusion that is more substantial than the small points on gravers. These tools usually are sharpened using retouch along its length on either side. The tip may be sharp or blunted depending on the amount of usage. These tools are thought to be used to punch or drill through material.

Chisel

A chisel can be used to work wood or stone and may come in various sizes depending on the objective of the user. Chisels have a beveled blade with an angle that may vary in degree depending on what the task at hand is. These tools may be used shape, carve, or scrape an object.

Blade/Bladelet

A blade is a long, thin flake generally two times as long as it is wide with uniform width and thickness (Odell 2003:45, Andrefsky 2005:165). Their parallel sides with profiles that are often trapezoidal characterize these flakes. Blade tools measuring <12.0mm are referred to as bladelets.

4.2.1.1.4 Bifaces

Bifaces are tools with two opposing surfaces that are worked around the circumference of the piece forming a single edge (Andrefsky 2005). Through the manufacturing process, bifaces evolve from a bulky amorphous shape into a refined recognizable tool. Researchers that categorize the trajectory of biface production into stages distinguish each phase by distinctive characteristics. For this analysis, each phase of production was divided into four stages, evolving from various unfinished forms to the final finished piece. Figure 14 depicts each stage defined by the following traits, worked lateral perimeter, cortex removal and lateral edge straightening (Johnson 1989:124).

Indeterminate Biface

Biface fragments that are small fragments or significantly damaged and cannot be identified are categorized as indeterminate biface fragments.

Early-Stage Biface Fragment

Biface fragments that have characteristics comparable to a blank or preform 1 but are too small to classify are categorized as Early-Stage Biface fragments.

Late-Stage Biface Fragment

Biface fragments that have characteristics comparable to a preform IIs or finished biface but are too small to classify are categorized as Late-Stage Biface fragments.

Blanks

Blanks are the initial stage of biface reduction. During this first step, flakes are removed to create a bifacial edge along the outer margin of the piece. Cortex will cover some percentage of the blank and the lateral margin of the perimeter will not be completely worked. At this early stage, the length, width, and thickness of the piece will be at its maximum and its overall appearance may appear crude and amorphous.

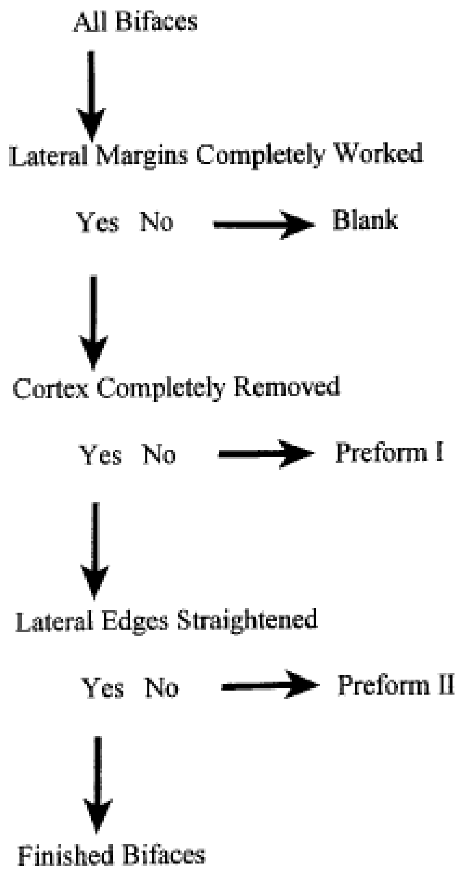


Figure 14. Biface classification key. Adapted by Andrefsky (2005) from Johnson (1989: 124).

Preform 1

Preform I bifaces have a length to width ration that is increasing, while their thickness continues to decrease. At this stage, the focus is concentrated on completing the edge work around the entire perimeter; however, the bifacial margin has not been straightened and has a wavy appearance. The earliest steps of bifacial thinning are also occurring, as well as cortex removal.

Preform 2

Preform 2 bifaces have a diminished profile as the piece is thinned by the removal of flat flakes. At this point, the form and appearance of the biface is approaching the shape of the desired tool. The defining characteristics of this biface stage is the absence of cortex and continued refinement of the lateral margins.

Finished Bifaces

During this final step in the manufacturing process, the lateral edges have been completely straightened, and the biface may have been thinned to a greater degree. It is also at this stage when the haft element can be added, or the lateral margins serrated. Projectile point/knives and drills are the most common artifacts in the finished bifaces category. For this analysis, biface fragments that were broken in a manner that made further classification of the tool implausible were categorized as a *finished biface*.

Projectile Point

A projectile point is a biface, produced in various shapes and sizes that exhibits a haft for attachment to a shaft such as an arrow or spear. It is thought that these tools were not used for this single task but most likely in a multipurpose manner for activities such as, sawing and slicing. Past cultures have changed their method of manufacture over time in recognizable ways so that a projectile point's distinctive morphology can be correlated to periods in time. This aspect makes the identification of projectile points recovered from archaeological sites a useful dating tool. Below are descriptions of projectile points recovered during PH II excavations of the sites discussed in this volume.

Cotaco Creek

Cotaco Creek projectile points have a triangular blade with flaring squared or rounded shoulders. The blade edge may be serrated or beveled or may exhibit both traits. The haft area may be straight or slightly expanding with a straight to convex base (Johnson 2017:210-211). Cotaco Creek points date from the Late Archaic to the Early Woodland and are generally found in the Tennessee River Valley (Johnson 2017:210-211).

Adena Stemmed

Adena Stemmed projectile points are often identified by their well-formed symmetry and ovate haft. These stemmed points have excurvate blade edges with weak side notches creating a leafy shape and biconvex cross section (Converse 2007:128, Justice 1987: 191-194). The stem typically expands toward the shoulders and grinding is frequently observed on the haft region. Adena Stemmed points are associated with the Early Woodland period (Justice 1987:191-194).

Dalton Cluster

Projectile points contained within the Dalton Cluster are Beaver Lake, Quad, Dalton, Greenbrier and Hardaway Side Notched. These projectile points have several shared attributes including a concave base, basal ears and lateral and/or basal grinding (Justice 1987:35-43). Points within this cluster are diagnostic of the Late Paleo period (Justice 1987:35-43).

Decatur

Decatur projectile points are triangular with a distinctive base created using a burin technique producing a flattened appearance (Justice 1987:81-82). The blade edges are usually incurvated with beveled and serrated edges. The shoulders exhibit expanded barbs, and basal grinding may be seen on some specimens. Decatur points have been found in Northern Alabama, Tennessee, Kentucky, Ohio, Indiana, Illinois, and southern Michigan and are diagnostic of the Early Archaic period (Justice 1987:81-82).

Elk River Stemmed

Elk River Stemmed projectile points are found distributed throughout northern Alabama and southern Tennessee but have also been found in sites in Kentucky and Indiana (Justice 1987: 112). They are a medium to large, straight stemmed point. One, or typically both, faces feature oblique flaking carrying from the blade edges to near the center that occasionally forms a median ridge. This flaking pattern results in minimized retouch. While the stem is typically straight, it is sometimes expanding or contracting with a straight or excurvate base (Cambron and Hulse 2022:90-91, Justice 1987: 111-112). Elk River Stemmed projectile points are diagnostic of the middle to late Archaic periods (Cambron and Hulse 2022:91).

Graham Cave Side Notched

Graham Cave Side Notched projectile points are found in the Midwest. They occur in sites throughout Missouri and Illinois and have been found in lower frequencies in southern Indiana, southern Iowa, and eastern Oklahoma (Justice 1987:66). These points have a deeply concave base, precise side notches, and are finely flaked. Variations of this type are differentiated by basal ear shape and blade attributes. The blades of this point may be slightly serrated, excurvate, or recurvate due to sharpening. The basal configuration ranging from distinct basal concavity to less robust (Justice 1987:62-66). These points are diagnostic of the Early Archaic period to Middle Archaic period, 8000-5500BC (Justice 1987:66).

Greenbrier

Greenbrier projectile points are found throughout Kentucky and Tennessee, northern Georgia, Alabama, Mississippi, Illinois, Ohio, and southern Indiana (Justice 1987:42). It is a medium to large side-notched point, with a straight to excurvate blade that can show beveling from resharpening. The degree of resharpening affects the shape pf the blade, in addition to the amount of shoulder reduction present. The base shows broad, shallow side notches and a typically incurvate base. Heavy lateral grinding on the base is common (Justice 1987:42). Greenbrier points are diagnostic to the Early Archaic period (Justice 1987:42).

Kirk Corner Notched Cluster

Kirk Corner Notched Cluster is composed of; Kirk Corner Notched, Stilwell, Palmer Corner Notched, Charleston Corner Notched and Pine Tree Corner Notched projectile points. The attributes common to this cluster of projectile points are serrated blade edges with downward pointing shoulder barbs. The blade length varies due to resharpening and the bases range from straight to concave or convex.

Kirk Corner Notched

Kirk Corner projectile points are large triangular blades with serrated edges. The base may be straight or modestly rounded and exhibits no basal grinding. The shoulders are characterized as wide with barbs that extend towards the base while the blade displays wide, arbitrarily place thinning flakes. Kirk Corner Notched projectile points are diagnostic of the Early Archaic period.

Little Bear Creek

Little Bear Creek projectile points are long stemmed points that range in size from medium to large. The blade edges are excurvate with shoulders that are horizontal or tapered. The stem may be straight or contracting with grinding along its margins. The stem base is straight and may be unfinished or unmodified (Justice 1987: 196-197). Little Bear Creek projectile points are concentrated in central Kentucky and Tennessee, as well as the bordering states to the north and south. They are diagnostic of the Late Archaic/Early Woodland periods (Justice 1987:196-197).

Madison

Madison are small triangular points characteristic of the Late Woodland and Mississippian periods (Justice 1987: 224-225). The blade edges are usually straight but excurvate variants have been observed. Madison points are widest at their base that can vary from straight to concave (Justice 1987: 224-225). They are often well formed with a thin cross-section but may also be bulkier and biconvex.

McIntire

McIntier projectile points are medium sized with excurvate blade edges and a biconvex cross-section. The shoulders may be horizontal or exhibit short upward sloping barbs (Cambron and Hulse 2022:166-167). The half area is expanding with a thinned base that is straight or may be incurvate. McIntire projectile points are most often found in association with Late Archaic shell mounds on sites in Tennessee, Georgia, Alabama, and Mississippi (Johnson 1987:189-190).

Motley

Motley projectile points are found on archaeological sites from southern Indiana and Illinois into portions of the southeast including Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana (Justice 1987:198-200). These points are medium to large sized and have a distinctive long narrow neck created by broad corner notches. The blade edges are often straight but somewhat convex edges have also been observed (Justice 1987:198-200). The narrow neck accentuates the wide shoulders and expanded stem characteristic of this point type. The shoulders may be horizontal or have short barbs that project downward. The basal edge is generally straight; however, they may also be convex. Motely projectile points emerge in the Late Archaic and endure until the Early Woodland period (Justice 1987:149-152m Cambron and Hulse 2022:150-151).

Palmer Corner Notched

Palmer Corner Notched projectile points are widely distributed east of the Mississippi River. They are diagnostic of the Early Archaic period. Palmer Corner Notched projectile points are small, corner notched points with a biconvex cross section. Blade edges are typically straight but can be slightly incurvate to excurvate. Most are serrated. Bifacial pressure flaking is exhibited across the blade relating to its manufacturing and resharpening processes. Its shoulders are barbed and vary in widths from greater to less than basal width. The basal edge can be slightly concave or convex and is thinned and heavily ground (Justice 1987:78).

Pickwick

Pickwick projectile points are medium to large with a recurvate blade and expanded shoulder barbs (Justice 1987: 153-154, Cambron and Hulse 2022:198-199). The barbs are typically symmetrical with tapered or horizontal shoulders. The stems are tapered and generally exhibit a straight of excurvate basal edge. The highest frequency of Pickwick projectile points is found in the Tennessee River valley and its tributaries in the northern portions of states boarding southern Tennessee (Justice 1987:153). These projectile points are affiliated with the Late Archaic period.

Pine Tree Corner Notched

Pine Tree Corner Notched projectile points have the general appearance of Kirk Corner Notched points with serrated blade edges, barbed shoulders, and corner notches (Justice 1987:79-80). However, Pine Tree Corner Notched points are more refined and very thin in cross section. The blade is long with an edge that can vary from straight to incurvate near the shoulders. The base is typically thinned with a straight or incurvate edge that is ground (Johnson 2017:152). Pine Tree Corner Notched projectile points are diagnostic of the Early Archaic period and most often found at sites in the Tennessee River Valley into Kentucky (Johnson 2017:152).

Savannah River Stemmed

Savannah River Stemmed projectile points have triangular blades that are longer in comparison to their stem length (Justice 1987:163-167). The blade edge is either straight or excurvate with shoulders at right angles to the broad stem. Wide flake scars over the face of the blade are also characteristic of this form (Justice 1987:163-167). The basal edge is usually concave but have also been observed with straight to somewhat rounded edges (Justice 1987:163-167). Savannah River Stemmed projectile points have been recovered along much of the eastern seaboard, stretching into West Virginia and Tennessee but, are most often found on sites in the southern states boarding the Atlantic Coast (Justice 1987:163-167). These points are diagnostic of the Late Archaic period.

Stilwell

Stilwell projectile points are believed to be related to Kirk Corner Notched points and associated with the Early Archaic period (Justice 1987:72-77). Stilwell points are similar in appearance Kirk Corner Notched with the most notable difference being its deep concave base. The blades are also usually elongated with parallel sides and prominent barbs due to the incurving blade near the shoulder (Justice 1987:72-77). Some other characteristics of these points are large thinning scars on the blade and light basal grinding with rounded basal ears (Justice 1987:72-77). Stilwell projectile points may be found in central to southern Illinois, eastern Missouri, southern Indiana, southwestern Ohio, central to western Kentucky and northern Tennessee (Justice 1987:72-77).

Wade

Wade points are found throughout central Tennessee, Kentucky, and in northern Alabama and Mississippi (Justice 1987:180-183). The Wade is a medium sized basal notched point with a straight to excurvate blade and deep basal notches. These notches create a relatively narrow straight to expanding stem, and long barbs that may be parallel with the base of the stem (Justice 1987:180-183). The base is commonly thinned and can be slightly ground Cambron and Hulse 2022:234). The wade point is diagnostic of the transitional Late Archaic to Early Woodland period (Justice 1987:180-183).

Drill

A biface or flake tool, typically with a tapered sharpened end that can be rotated and used to bore and/or pierce various materials (Andrefsky 2005).

4.2.1.1.5 Groundstone

Groundstone tools are artifacts that have been formed using abrasion to shape a stone by either use or purposeful design. In some cases, such as hammer stones, these alterations may be minimal. While in others, for instance, stone axes and pipes, the transformation is more dramatic. Some additional examples of ground stone artifacts are grinding stones, gorgets, bannerstones, and atlatl weights.

Hammerstone

A hammerstone is a handheld implement used as a precursor to detach flakes from lithic material. Hammerstones are typically made from hard rock such as quartzite. They are identified by the damage created from impact, often displaying crushed edges and/or rough irregular surfaces.

Abrading Stone

An abrading stone is used during the knapping process to strengthen an edge before flake removal. Abrasion is indicated by multiple step fractures and a crushed surface. Abraders are typically formed from coarse grained rocks such as sandstone.

Celt

Celts are stone tools used for wood cutting that are generally made from metamorphic or igneous rocks with an elongated body that tapers at the end. The tool is shaped through a labor-intensive process of pecking and grinding. Its working edge is beveled on one side and is typically smoothed and polished from use.

Hoe

Hoes are tabular stone tools believed to have been used for agricultural tasks such as tilling, weeding and creating furrows for planting or irrigation. These activities may have employed the tool by hand or using an attached handle. The working edge is sometimes formed by bifacially removing flakes. After extended use the surface of hoe may display a sheen and/or striations from use. Sometimes the only indication of hoes on a site are flakes inadvertently removed during the tools use. These hoe flakes often exhibit a high polish on their dorsal outer surface.

4.2.1.1.6 Other Lithic Artifacts

Fire-Cracked Rock

Fire-cracked rock is thermally altered stone either by natural or intentional processes; characterized by crenated fractures, irregular edges, crazing, pot-lid fractures, and discoloration.

4.2.1.1.7 Other Non-Lithic Artifacts

Beads and Pendants

Beads and pendants are created from a variety of materials such as pottery, stone, bone and shell. These ornaments are made by drilling, incising or perforating the object. Unmodified items that are advantageously formed may also be used for this purpose.

4.2.1.2 Raw Material Classification

Smith and Putnam Counties in Tennessee sit on the border of the Outer Nashville Basin and the Eastern Highland Rim. This area is primarily composed of Ordovician age deposits containing limestone, shale, dolomite, siltstone, sandstone, and claystone. In Amick's (1984) study of the central Duck River Basin, he found that the Upper Ordovician formations of the Outer Basin tend to be cherty. Some of the chert bearing formations in the study area are Fort Payne Formation, St. Louis Limestone and Warsaw Limestone (USGS 2024). These formations in tandem with abundant Ft. Payne and St. Louis gravel chert available in streambeds gave indigenous peoples ample resource to produce the necessary lithic tools for everyday life in this region. During the survey, Ft. Payne chert was the most plentiful resource with lesser amounts, St. Louis, Bigby-Cannon, Chalcedony and quartz. Detailed descriptions of these cherts have been previously provided by Amick (1984) and Jamaldin et al. (2022). Along with descriptions provided by these publications, geologic units for each county were determined and corresponding samples of Stantec's chert type collection were selected for comparison. The traits examined for comparison were color, luster, texture, fossils, and mineral inclusions. If identification of the material could not be determined, then it was classified as an unknown chert. Below is a description of each chert type recovered during Phase II testing at Caney Fork.

Ft. Payne chert possesses great variability in color and structure. The Ft. Payne chert found during the survey had a texture that was predominately fined to medium and ranged in color from laminated gray and tan, brownish black to olive black and a fossiliferous variety that was gray or tan to cream colored. The St. Louis chert encountered was dark gray, light gray, brownish gray, with tan to yellowish brown cortex. Most of the artifacts composed of Bigby-Cannon chert were the distinctive, gray-banded variety pictured in Amick's description of Central Duck River Basin lithic material. The Chalcedony was fine gained and white to smoky gray and translucent to semi-translucent. A frequency of quartz was also identified during the survey.

4.2.1.3 Floral and Faunal Analysis

Flotation was conducted using a flotation tank. The light fraction was collected using a 250-micron mesh bag, and the heavy fraction was recovered using 1/16-in hardware cloth. Both fractions were air-dried. The heavy fraction was examined macroscopically to recover any cultural material. The light fraction was weighed to the nearest gram and was passed through a set of nested sieves (#10, 25 and 45 US Standard Sieve Series). The material recovered from the #10 sieve was examined macroscopically for charred plant remains, and the #25 and 45 remains were examined using a low-power binocular microscope. Identification of plant remains were made to the most specific taxonomic level.

Only carbonized seeds and nuts were analyzed because uncarbonized materials rarely preserve in open-air sites in temperate environments (Minnis 1981). Occasional preservation of unburned material can occur in anaerobic conditions or in association with copper sulfates and high pH levels (Lopinot and Brussell 1982); however, these conditions are not present at the site in this study. Modern seeds can be introduced into the archaeological record from several sources such as bioturbation (Stein 1983) and during the collection and processing of samples (Keepax 1977; Minnis 1981). Wood material was not analyzed for these investigations.

All recovered faunal material was rough sorted to kingdom. Identification of element, side, section or portion of element, and taxonomic classification was conducted where possible. Taxonomic and element identification was based on osteological manuals (Gilbert 1990; Hillson 1996). The assemblage was examined for evidence of exposure to heat, such as burned (partially smoked or burned black) or calcined (gray to bluish white in color with chalky texture). Due to specimen fragmentation, otherwise identifiable pieces of mammal bone were categorized following Kuehn (2006) as large-sized, medium-sized or small-sized, based on the relative size and thickness of each specimen.

4.2.2 Historic Artifacts

Historic artifacts can be grouped into functional categories that can reveal patterns and offer insights into the lifeways of people from the past. Historic archaeologist, Stanley South (1977), created a method for categorizing artifacts into groups that describes the relationship between the object and its function. These groups include, activity, architecture, kitchen, clothing, arms, furniture, and personal (South 1977). Some believe, as we have progressed into a modern society the complexities and changes in our culture sometimes find these categories one-dimensional, however, fundamentally they are useful for interpretation and comparison.

A total of 55 historic artifacts were recovered during the Phase II excavations at sites 40Sm274 and 40Pm184. Eighty-four percent of the historic artifacts were collected from across 40Pm184 in six test units (1, 2, 3, 4, 7 and 10) with the highest density from Test Units 3 and 10. The artifacts ranged in date from the early to late nineteenth century. A small scatter of twentieth century material was recovered from Test Units 4, 6 and 8 at site 40Sm274.

Following completion of excavation and initial processing of artifacts, materials were first categorized by type, ceramics, glass, metal, faunal, brick, etc. Next, these materials were separated into groups; architecture, activity, clothing, firearms, furniture, kitchen, personal, transport and miscellaneous, then further subdivided into by form, manufacture, decoration and color.

4.2.2.1 Activity

The activity group is a broad category encompassing a multitude of artifacts associated with work related activities, such as, agriculture, farming, logging, machinery repair and the implements and tools associated with those activities. Artifacts were divided into sub-categories to clarify their possible uses and function.

4.2.2.2 Architecture

The architecture group encompasses artifacts associated with the external and internal material remains of structures that have been deserted, torn down or burned (South 1977). Some of the materials associated with this group are brick, mortar, plaster, nails, window glass, ceramic drainpipes, tiles and roofing tiles.

Nails

Nails are one of the most often collected artifacts from historic sites. The manufacturing process endowed nails with attributes that are chronologically significant and proven to be useful temporal markers on sites with structural remains. Nails can provide information to archeologist about the sequence of construction, as well as indications of renovations and maintenance of a building (Nelson 1968). In the Americas, nails were a crucial commodity imported up until the Revolution; after which, American nailerys documented a significant rise in production in their account books (Nelson 1968). Nails are categorized based on the manufacturing process by which they were made as follows, wrought, cut and wire. When assessing the cultural significance of nails, it is important to remember that sites in rural areas may have responded more gradually to modernize products than consumers in urban areas (Nelson 1968).

Cut nails can be broken into two types, early cut with hammered or crude machine cut heads and late cut, with perfected machine cut heads. Several aspects can aid in the identification of early verse late cut nails. Iron fibers run crosswise to the shank on early cut nails and the body can sometime have a beveled facet on one side. Some early cut nails exhibit narrowing or pinching under the head located where the heading clamp was positioned, and the heads themselves are typically irregular in shape. Early cut nails generally date from 1790 to the late 1830’s (Nelson 1968). Attributes seen on late cut nails included iron fibers that run parallel to the shank and nail heads that are uniform and slightly rounded. The change in direction of iron fibers also made them useful clinching process thus overtaking the need for wrought nails. Late cut nails were most popular by the late 1830’s until the1880s (Nelson 1968).

Wire nails were manufactured in the United States by the 1850’s but used for consumer goods rather than building construction (Nelson 1968). They are formed from, “steel wire, which is held in gripper dies and headed; then wire is advance and sheared to length” (Nelson 1968). Machinery used for wire nail production was not perfected until the 1870s; however, the use of wire nails was slow to take hold and didn’t dominate the market until the 1890’s (Nelson 1968). Cut nails were still preferred by some builders into the twentieth century due to their superior holding power. Nevertheless, eventually the use of wire nails became more widespread because they were inexpensive, easy to use and were produced for a variety of purposes (Nelson 1968).

4.2.2.3 Arms

The arms group contains artifacts related to the civilian and military use and maintenance of firearms, such as, minie balls, gunflints, bullet casings, shotgun shells, lead sprue and weaponry parts. Lead balls and bullet casings with head stamps can be useful tools for dating purposes.

4.2.2.4 Kitchen

The kitchen group is one of the largest functional groups, composed of a variety of artifacts related to cooking, dinning and storing of foods and beverages. Some of the most common artifacts in this group are ceramics, bottles, jars, tableware, cooking and eating utensils, pots/pans, cans and remnants of faunal material. The kitchen group contains artifacts that have been the most useful in establishing site chronology due to the changes in manufacture and decoration over time.

Ceramics

Ceramics are one of the most temporally diagnostic artifact classes, the analysis of which can illustrate the socio-economic scaling of site occupants, market access and practices, personal preferences and fashion, and the range of some site-specific activities in which they were historically engaged. During laboratory analysis, ceramics are initially sorted in the following paste types: earthenware, stoneware, and porcelain. Next ceramics were sorted into ware types, such as stoneware, whiteware and ironstone. Ware types are distinguished based on paste color, paste texture, glaze, and decoration.

Redware

Redwares are soft, non-vitreous wares with a red body of varying shades and visible inclusions. Redware potteries were typically small local establishments, as clay could be found almost anywhere across the United States (Ketchum 1983). In early rural settings redware may have been the only ceramic type available due to the slow movement of goods inland. The most common forms found on archeological sites are jugs, crocks, pans, mugs and large bowls (Ketchum 1983). Redware was often glazed depending on the function of the vessel due to the porosity of the clay. Most often, a clear lead glaze was used to seal the pottery and to make it more appealing. Some potteries added various metallic oxides to the glaze resulting dark brown or black color (Ketchum 1983). Redware has been produced since the 1750s but was on the decline by the 1850s due to competition by more durable stoneware (Ketchum 1983). However, up until the late 1880s redware potteries still produce utilitarian vessels in rual areas, as well as flowerpots and drain tiles (Ketchum 1983). Often redware recovered on archaeological sites is fragmentary and eroded with little or no discriminating features. For this reason and, the extended period of its production, redware is generally dated by context. Redware was identified during the analysis by its soft red porous body that is very sticky. If glazed, sherds are frequently eroded or have numerous pock marks where the lead glaze is missing.

North American Stoneware

North American stoneware is non-porous, vitrified coarse earthenware, with a clay body that varies from tan to, brown/reddish brown, to gray with particle grains sometimes visible (Greer 2005, Samford & Miller 2015a). Typically, potteries could be found in the countryside outside small towns and produced utilitarian wares such as, crocks, jugs, churns, and bowls (Raycraft & Raycraft 1985). Stoneware's were known for their durability and the glaze/slip that often covered the vessel made cleaning it more manageable. Four glazes were predominantly used, salt glaze, Albany slip, Bristol glaze or, in the south alkaline glaze (Greer 2005, Raycraft & Raycraft 1985). Salt glazes can be identified by their uniquely textured surface often compared to an orange peel and alkaline glazes are typically dark to yellowish green or dark to pale brown, and exhibit streak marks where the glaze has run down the sides of the vessel. Salt and alkaline glazed vessels generally date before the twentieth century, however, salt glazes are still used on vessels until 1925-1930 in Seagrove, North Carolina and isolated potteries that produced alkaline glazes could be found in Alabama, Georgia, and North Carolina (Greer 2005). Albany slip is usually dark brown but can be almost black to reddish brown in appearance and used on both the interior and exterior of stoneware vessels (Raycraft & Raycraft 1989, Samford & Miller 2015a). Albany slip was being used by potteries in Albany, New York by 1825 and gained widespread popularity by 1875 and into the early twentieth century (Greer 2005). Bristol glaze can be identified by its smooth creamy white to blueish white features (Samford & Miller 2015a). Bristol glaze, developed in Bristol, England, was used by American potters beginning in 1885 then eventually became manufactured commercially, dominating the market by the end of World War I (Raycraft & Raycraft 1985). The combination of Albany slip and Bristol glaze can be found on pottery dating from 1885 to 1920, before Bristol glazed vessels on the interior and exterior overtook the market (Greer 2005, Raycraft & Raycraft 1985, Samford & Miller 2015a).

Whiteware

Whiteware is a refined, white-bodied earthenware that is often covered with a colorless lead glaze (Stelle 2001). The development of whiteware emerged from lessening amount of bluing added to the glaze of pearlware over time (Miller 1980, Majewski & O'Brien 1987). The motive for this change is unclear, conceivably advancements in technology could be the cause or perhaps it was competition, driven by the souring popularity of the much whiter bone china introduced around 1800 (Miller 1980). By the 1830s whiteware had become common in the United States and remained so until the 1870s (Stelle 2001). Whiteware was produced in a variety of forms and numerous techniques were employed to decorate this ware type. The most popular forms of decoration for whiteware were hand painted, and underglaze transfer printed in an assortment of colors (Majewski & O'brien 1987).

White Granite/Ironstone

White Granite and Ironstone are two of the various names used for a semivitreous to a vitreous ware that ranges in hardness between earthenware and porcelain with a clear glaze (Majewski & O'Brien 1987, Miller

1991). At the end of the eighteenth century, English manufactures were attempting to recreate a ware to replace Chinese porcelain that the British East India Company had stopped importing in 1791. The name “Ironstone” was first coined by Charles Mason, who in his attempt to make porcelain created an entirely new product named Mason’s Patent Ironstone China (Miller 1991, Majewski & O’Brien 1987). Mason however was undoubtedly influence by contemporaries, such as, Josiah Spode who had made a similar ware he called Stone China (Majewski & O’Brien 1987). The earlier forms of Ironstone are tinted blue gray, a characteristic that resembled Chinese porcelain. The quality of Ironstone was improving by the 1840’s at which time it entered the United States market (Miller 1991). By 1850, hand painted, luster and flown patterns had given way to either undecorated vessels or molded patterns in geometric or floral motifs (Lofstrom et al. 1982:10). The American market continued to thrive leading potters such as William Taylor to focus entirely on this market producing both blue-tinted and white ironstone (Miller 1980, Majewski & O’Brien 1987). During the last quarter of the nineteenth century, the popularity of molded ironstone began to weaken and as the century came to a close, the “classic heavy ironstones became outdated for household use” and delicately molded, lighter-weight semivitreous and vitreous white bodied ceramics “became the tableware ware of choice in American homes well into the twentieth century” (Majewski & O’Brien 1987). For the purposes of this study, white granite/ironstone will be the term used to describe the whiter semiviterous and vitreous ware dating from the early 1840s to present day (Majewski & O’Brien 1987, Miller et al. 2000). Ironstone tinted blue-gray, or blue is referred to as blue gray/blue tinted ironstone with the same start date but with a terminal date of 1880 (Majewski & O’Brien 1987).

Container Glass

Glass making was believed to be discovered in the Middle East around 2000 B.C. It’s thought that the process was stumbled upon and perfected in various places by different people (McKearin and McKearin 1950). There are three basic methods of glass making during the late eighteenth and nineteenth centuries: free-blowing, mold-blowing and pressing (Spillman 1983). In free blowing, an iron rod gathers molten glass at one tip then the gaffer or glass blower alternately blows air through the blowpipe and shapes the glass until the desired shape and size of the container is acquired. A pontil rod or snap case could then be added at the opposite end allowing for the blowpipe to be cracked off and the neck and lip could then be finished (Jones and Sullivan 1989, Spillman 1983). For bottles, the “finish” could be left plain of modified by several techniques including fire polishing, folding or adding a string of glass. Mold-blowing require less hand shaping as the gathered glass is blow into a mold. The types of molds and the number of pieces of each mold changed in the industry over time (Jones and Sullivan 1989, Spillman 1983, Deiss 1981). These molds allowed for uniform shape and size, as well as the addition of manufacturer and brand names on almost any part of the bottle (Jones and Sullivan 1989, Spillman 1983). Innovations and the changes they prompted in the glass industry help establish chronology. For instance, bottles with pontil marks generally date from the early nineteenth century to 1870, twenty years after the introduction of the snap case (Jones and Sullivan 1989). The method of pressing glass is more common on tableware such as, lamps, candlesticks and vases. In this process, the glass is gathered and placed into a mold then a lever is pulled to release a plunger that presses the glass into the outer mold allowing for a fully formed piece (Spillman 1983).

Machine manufactured containers appeared just before the end of the nineteenth century when mechanization of the industry came to fruition. (Jones and Sullivan 1989). Michael Owens made improvements over semi-automatic machines when he patented his fully automatic glass blowing machine in 1903 (Miller and Sullivan 1984). These machines were widely used in the industry so that by 1917 half of all bottles produced in the United State were Owens Machines (Miller and Sullivan 1984). Owens scars are located on the base of a bottle and are identified by the distinctive off centered circular score with "feathery" edges left from the cutting shears. Parallel mold seam know as ghost seams were found on a bottle glass fragment distinguishing it also as machine-made. Press and blow machines that features a valve mark instead of ghost seam replace blow and blow machines like the Owens Automatic Bottling Machine by the mid-twentieth century (Lindsey 2025). Another feature common on the machine-made bottles found during the survey was stippling. Stippling is believed to first appear around 1940 when it accompanied the "Duraglass" branding created by the Owens-Illinois Glass Company (Lindsey 2025).

4.2.2.5 Personal

Artifacts included in this group are often some of the most interesting due to their tendency to be associated with the intimate routines of daily life. For example, coins, watches, jewelry, smoking pipes, slate pencils, toothbrushes and toys. These objects can be further broken into classes associated with their function, such as, *currency*, *hygiene, tobacco, and writing to name a few.*

4.2.2.6 Miscellaneous/Unknown

Other materials include conglomerate artifacts, indeterminate artifacts, and those artifacts with materials that do not readily fit into other identified material categories such as unidentified, metal, plastic, rubber, textile or wood.

4.3 Curation

All collected artifacts and associated documentation were prepared for curation according to TDOT's archaeological curation requirements; TDOT's archaeological lab in Nashville, Tennessee will house the recovered artifacts. The project was assigned TDOT accession number 24.049 for 40Sm274 and 24.050 for 40Pm184.

5 Phase I Investigation and Research Themes

This section provides a recap of the previous work that was conducted at sites 40Sm274 and 40Pm184. Previous work at both sites provided a basic concept of the deposits that comprise the sites and the general character of the broader Caney Fork River valley in which the sites exist, but some questions remained that needed to be addressed within the Phase II investigations. These research questions are discussed within the context of the broader research themes that directed the evaluation of the sites.

5.1 Results of Phase I Investigation at Site 40Sm274 and 40Pm184

Sites 40Sm274 and 40Pm184 were both recorded during the Phase I archaeological survey conducted by Stantec in the summer of 2024 for the proposed I-40 Truck Parking area development and bridge replacement project (Simpson et al. 2024). The survey identified twelve new archaeological sites and nine isolated finds. These sites and isolated finds were primarily precontact in affiliation with just minor amounts of historic material being recovered at four of the sites. Sadler Cemetery was also documented within the report. This cemetery is located near the rest area complex and is fenced and well maintained as part of the rest area. Of the twelve sites identified, three were recommended for additional evaluation: Sites 40Sm273, 40Sm274, and 40Pm184. Site 40Sm273 was avoided by the planned construction activities, but neither 40Sm274 nor 40Pm184 could be avoided, and Phase II evaluation recommendations were initiated by TDOT. The following site descriptions detail the initial inspection and understanding of the sites prior to any Phase II investigation.

5.1.1 40Sm274

Site 40Sm274 was discovered during the Phase I survey of the I-40 Rest Area survey in 2024 (Simpson et al. 2024). The site is located on top of a wooded upper older terrace between I-40 and the Caney Fork River. The terrace is heavily dissected by a series of depressions and sinkholes that have given it the impression of an upland ridge, but testing at the site indicated that it was comprised of a series of older alluvial terraces built up in the Pleistocene and early Holocene periods.

A total of 144 shovel tests (60 positive and 84 negative) were excavated to investigate the site. A broad series of depression related to an underlying sink holes divide the site, creating two distinct areas of concentration. Area A is located in the southwestern portion of the site and Area B is located in the northeastern portion (Figure 15).

The southwestern concentration (Area A) lies across the older dissected Caney Fork terrace and is defined on the north by the lower younger terrace, on the east by broad depressions derived by a series of underlying sinkholes and the construction of I-40 on the south. The broad depression on the east side of

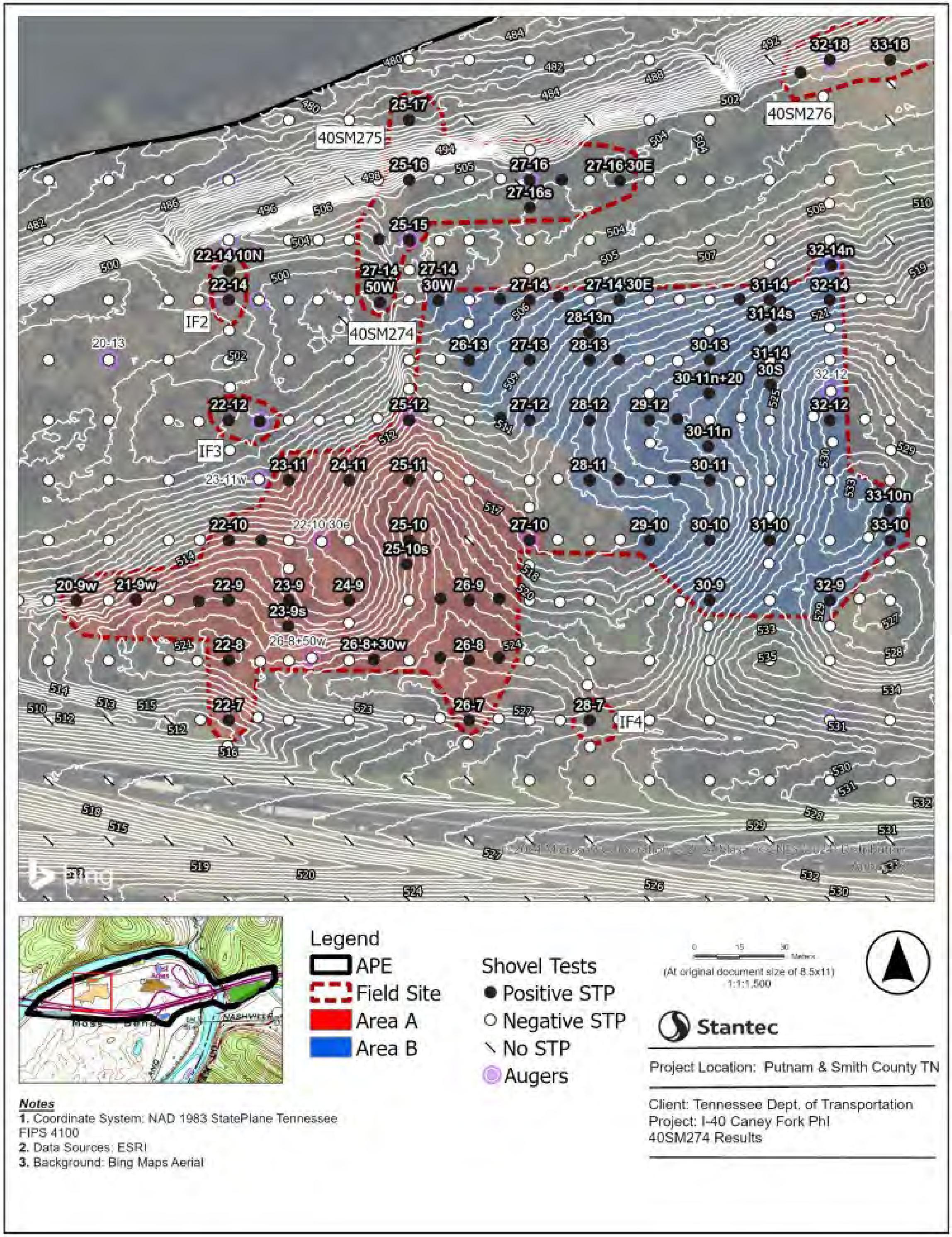


Figure 15. Previous Phase I investigations at Site 40Sm274.

Area A separates it from Area B. A second centrally located large sinkhole-derived depression was noted within the site that had positive shovel tests ringing the depression. As with most sites identified within the I-40 rest area survey, these topographic features appear to have served as a focus for occupation during the precontact period. Shovel testing across the southern third of the site lying in proximity of I-40 extends across extremely old Pleistocene alluvial deposits that had minimal depth and potential for buried deposits. These areas possessed a thin 15-20 cm thick Ap horizon overlying a dense Bt horizon. In this section, shovel testing extended to a depth of approximately 35-50 cm, but within the portions of the concentration north of the current I-40 ROW fence the deposits were younger and deposition was much deeper. Shovel test STP 25-12 was found to be consistent with most of this northern half of the site, wherein more deeply buried and potentially intact portions of the site may remain.

Shovel test profiles from the northern terrace deposits within Area A provided representative examples for the potential stratigraphic sequence. These shovel tests contained an Ap-A-AB-Bw-Bt sequence, with cultural materials being constrained primarily to the disturbed Ap plow zone horizon or directly below within what was thought to be an A horizon. The shovel test possessed a brown (10YR 4/3) silt loam Ap horizon that extended from the surface to a depth of approximately 30 cm; underlain by a silt loam dark brown (7.5YR3/3) A horizon to a depth of 70 cmbs; underlain by transitional silt loam brown (7.5YR 4/4-5/4) AB to Bw horizon to a depth of 125 cmbs, with basal yellowish red (5YR4/6) sandy clay loam Bt horizon being sampled to a depth of 155 cmbs (Figure 29). Shovel testing across the site indicated that the depth of the disturbed plow zone Ap horizon varied from 15-30 cmbs, deepening in areas down slope along the terrace.

Within the southwestern concentration (Area A) 25 positive shovel tests produced artifacts from the disturbed Ap horizon and the underlying A horizon. A review of all the positive test locations identified seven shovel tests (STP 20-9w, 22-9w, 23-9, 23-9s, 25-12, 26-9w, and 27-10) in which artifacts were recovered from the intact A horizon. The remaining shovel tests produced material only from within the Ap horizon. The distribution of artifacts would appear to indicate a series of occupations occurring over time. Most of the material is debris from tool production, but a small collection of unifacial and bifacial tools were recovered from the site. None of the material recovered from the southwestern concentration (Area A) is diagnostic of a specific period.

The northeastern concentration (Area B) lies on the upper older terraces of the Caney Fork River that formed throughout the late Pleistocene and into the early Holocene periods, producing deep soils that were consistently sampled to a depth of 50-80 cmbs within all shovel tests excavated at the site. Shallower older soils were found within the southeastern corner of the concentration, wherein the older portions of the terrace exist, and shovel tests were terminated at the minimum investigative depth. The tests excavated in the remainder of the site were excavated to the maximum investigative range, extending to 75-80 cmbs. Given the potential for buried components, various shovel tests were augered to depths of over 200 cmbs, providing a detailed understanding of the soil strata on which the site developed. Shovel test 32-14n soil profile was used as a representative example for Area B as it was consistent with most of the terrace deposits on which the site lies (Figure 15). While focused on the eastern end of the concentration, these tests appeared consistent with the upper soil stratigraphy observed within most of the tests excavated at the site. This shovel test contained an Ap-AB-Bt-BC sequence, with cultural materials being constrained primarily to the disturbed Ap plow zone horizon or directly below within the AB stratum. Shovel test 32-14n possessed a brown (10YR 4/3) silt loam Ap horizon that extended from the surface to a depth of approximately 40 cm; underlain by a silt loam brown (10YR4/4) AB horizon to a depth of 70 cmbs; underlain by silty clay loam brown (7.5YR 5/4) Bt horizon to a depth of 150 cmbs, with basal yellowish red (5YR4/6) loamy sand BC horizon being sampled to a depth of 210 cmbs (Figure 31). Shovel testing across the site indicated that the depth of the disturbed plow zone Ap horizon varied from 25-40 cmbs, deepening in areas down slope along the terrace.

Within Area B, 35 positive shovel tests produced artifacts from the disturbed Ap horizon and the underlying AB horizon. A review of all the positive test locations identified eight shovel tests (STP 27-12, 27-14e, 27-14w, 29-10, 30-11n, 30-9, 32-9, and 33-10) in which artifacts were recovered from the intact AB stratum. The remaining shovel tests produced material only from within the Ap horizon. The distribution of artifacts would appear to indicate a series of occupations occurring over time. Most of the material is debris from tool production, but a small collection of unifacial and bifacial tools and ppks were recovered from the site. A Hamilton ppk indicative of the Late Woodland to Mississippian period was recovered, along with a larger indeterminate ppk that would be older in affiliation based upon its general form. Given the extent of the site, it is likely that various occupations throughout the precontact period comprise the assemblage collected within this portion of the site.

Overall, 40Sm274 represents a series of small to medium sized precontact occupations spread across the older terrace of the Caney Fork River. A broad depression related to a series of underlying sinkholes defines its eastern extent and provides a point of separation from two areas of concentration (Area A and Area B). Of the 173 artifacts recovered, as many as 64 appear to have potentially come from an intact A horizon that underlies the plowed surface. These shovel tests lie along the edge of the terrace in proximity to the two sinkhole-derived depressions or along the central axis of the site of Area B and along the western half of Area A in proximity to the broad sinkhole-derived depression. In addition, a small collection of ppks, bifaces, and unifacial tools were recovered in shovel tests in proximity to these intact deposits that appear to indicate denser occupations across the western half of the site. The limited recovery of materials from what appeared to be intact depositional context and given the relative depth of alluvial deposits it was deemed possible that intact cultural features and broader cultural deposits could be located at the site. Based on that potential, Stantec recommended additional investigations at site 40Sm274 to determine its eligibility for listing on the NRHP if it could not be avoided.

5.2 Research Themes 40Sm274

The investigations at Site 40Sm274 have shown that it potentially contains significant cultural deposits dating to the precontact period, but whether intact cultural deposits or features remain has yet to be determined. The primary objective of the Phase II investigations at Site 40Sm274 is to evaluate its eligibility by comparing the site against National Register eligibility criteria as detailed in 36 CFR 60.4:

- The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or are likely to yield, information important in history.

The cultural significance of archaeological sites and their National Register eligibility are typically evaluated under Criterion D, which will be the case of Site 40Sm274. A site should be evaluated in terms of its potential to contribute data pertinent to regional or local research questions. Special consideration should be afforded sites that address gaps in the regional database and do not provide largely redundant information. Furthermore, to qualify for NRHP eligibility under criterion (D), by which most archaeological sites meet eligibility requirements, the site must be evaluated in terms of the contextual integrity of its archaeological deposits and material assemblage. For a site to be significant, it is necessary that the data be well preserved and recoverable. The presence or absence of intact sub-plow zone midden and/or features is generally a major factor in determining the significance of a site. However, sites limited to the plow zone can be eligible for the NRHP if it is demonstrated that the deposits can be used to address significant research questions.

To assess the National Register eligibility of Site 40Sm274 the investigation was focused on a series of specific research themes, listed below.

- ***Assess Site Archaeological/Contextual Integrity***. The initial question that must be answered is whether Site 40Sm274 has retained sufficient archaeological integrity to yield contextually sound information. In the past two centuries, the site has been impacted by road construction, plowing, sheet erosion, and other agriculturally related disturbances. What is the horizontal and vertical extent of intact archaeological deposits at each of the sites, and specifically, how will they be impacted by the proposed construction activities? To address this research goal, the portion of the sites within the Project area will be examined to determine the horizontal and vertical distribution of artifacts, sample features, and midden, if identified; in an effort to define occupations or specialized activity areas.

- ***Determine Geomorphology, Site Stratigraphy and Occupation Sequence***. Site 40Sm274 lies in an elevated alluvial position which provides variable potential for buried cultural deposits with reliable stratigraphic separations of cultural components, however, colluvial slope wash and restrictive alluvial deposition appears possible at the site. Integral to assessing this site's archaeological integrity is to determine the depth, context of cultural materials, and how the cultural deposits vary across the length and breadth the site.

- ***Document Material Culture and Artifact Assemblages***. The recovered artifact assemblages will be analyzed and documented to facilitate statistical artifact analyses and comparisons to assess changes through time and differences or similarities to contemporaneous groups in the central Caney Fork and broader Cumberland River drainage system.

- ***Site Function and Spatial Patterning***. The shovel testing of the site has shown some degree of spatial patterning that appears related to separate occupations or differential usage of the landforms overtime. Diagnostics recovered from the site indicates a range of temporal periods, so it is believed at this point that the perceived spatial patterns relate to individual occupation sequences. The Phase II investigation will be directed toward identification and examination of intact cultural features, in conjunction with the recovered artifacts, to resolve a variety of issues such as occupation sequence, site function, and spatial patterning.

The cultural significance and relative importance of site 40Sm274 can be measured by the archaeological data it can yield. The Phase II goals outlined above will evaluate the breadth and caliber of those data sets and how they can be used to address research questions regarding the precontact cultures of the Central Caney Fork River region and broader Cumberland River watershed.

5.2.1 40Pm184

Site 40Pm184 was discovered during the Phase I survey of the I-40 Rest Area and the bridge replacement survey in 2024 (Simpson et al. 2024). Site 40Pm184 is located on an elevated section of terrace just north of the confluence of Indian Creek with the Caney Fork River (Figure 16). The northern edge of the site is bounded by I-40 roadway that has been inset into a broad upland ridge that runs south toward Indian Creek. Most of the site south of the I-40 ROW boundary fence is forested with an open collection of deciduous trees and sections of planted pines that appear to have been planted after the construction of I-40 in the late 1960s (Figure 16). Prior to the construction of I-40 that area was open, appearing to be pasture into the mid-1960s. A total of 72 shovel tests (60 positive and 12 negative) coupled with the disturbed extent of the I-40 road corridor define the sites extent (Figure 16). It is bound by the Caney Fork River on the west and Indian Creek to the south. The terrace on which the site lies is over 35 feet above the confluence of both streams. In addition to materials recovered from shovel tests, some advantageous surface collection was also possible within the eastern half of the site, where in rockier and more exposed soils were observed.

The elevated landform on which the site extends is a palimpsest of topographic features developed from both residual as well as alluvial deposition. From approximately the 87 transect line east, the site lies along the southern end of a broad upland ridge that runs down toward Indian Creek (Figure 16). A deep-set drainage cuts down to the creek along approximately the 91 transect line. The soils within this section of the site are shallow rocky and appear to have formed by a combination of colluvial accumulation along the drainage cut and residual breakdown from underlying bedrock. From the 87 transect line west to the 82 transect line, deep older terrace soils alluvially deposited by a combination of the Caney Fork River and Indian Creek exist. The terrace has been deposited against the upland ridge blanketing it and creating a gradually sloping surface from north to south that leads to a small drainage around STP 86-10 (Figure 16). More recent alluvium fronts this older terrace along Indian Creek at the base of the terrace scarp slope that

Figure 16. Previous Phase I investigations at Site 40Pm184.

extends down to the northern bank of the creek. The final topographic feature is a levee built along the western end of the terrace by the Caney Fork. These deposits extend along approximately the 81 transect line and west toward the scarp face. The levee is much coarser in texture than the older terrace and rises 6-10 feet higher than it along the western edge of the landform.

The upland soils on the eastern end of the site consist of a thin rocky dark brown (7.5YR 3/3) Ap horizon underlain by an extremely stony strong brown (7.5YR 5/6) silty clay Bt horizon. The Ap horizon was found to range from 10-20 cm in thickness depending on the degree of erosion and relief. This soil is consistent with a deflated upland position with no potential for buried cultural deposits. The terrace deposits located in the western half of the site were far deeper and more complex than the upland sections of the site. Shovel tests excavated across this entire section of the site were taken to approximately 80 cmbs, with some shovel tests being augmented with a bucket auger to further explore the soil stratigraphy at the site. The shovel tests selected for deeper investigations were placed to understand the geomorphological development of the landforms as well as to determine the potential for deeply buried cultural deposits. In total a series of eight augers were used to extend the vertical exploration depth of the testing to the maximum extent possible (Figure 16). Of these eight augered shovel tests, STP 82-12 and 81-10 were selected as the most representative and informative about the alluvial deposits at the site.

Shovel test 82-12 is located along the northwestern corner of the site and is representative of the older terrace deposits that dominate the central portions of the site. Shovel test 82-12 was augered to a depth of over 140 cmbs, providing a detailed understanding of the soil strata on which the site developed. This shovel test contained an Ap-AB-Bt-Bt^2 sequence, with cultural materials being recovered in the disturbed Ap plow zone, the AB stratum, and to the top of the underlying Bt horizon. The material recovered from below the Ap horizon was extensive, with *in situ* debitage and tools being identified to a depth of approximately 60-70 cmbs within the shovel test. The shovel test possessed a brown (10YR 4/3) silt loam Ap horizon that extended from the surface to a depth of approximately 20 cmbs; underlain by a dark brown (10YR 3/3) silt loam AB horizon that extended to 60 cmbs; underlain by a friable brown (7.5YR 4/4) silt loam Bt horizon that extended to 100 cmbs; with a basal dense strong brown (7.5YR 5/8) silty clay loam Bt^2 horizon being sampled to a depth of 140 cmbs. Small inclusions of degrading limestone were noted within the Bt^2 horizon that was interpreted to indicate that it may have developed in place through residual breakdown of the underlying bedrock rather than alluvial deposition like the overlying Bt horizon. The auger was terminated at this point due to this interpretation.

Shovel test 81-10 was located on the extreme western end of the site and was representative of the levee deposits that front the older terrace. Shovel test 81-10 was augered to a depth of over 390 cmbs, providing the most detailed understanding of the soil strata within the levee position at the site (Figure 16). This shovel test contained an Ap-A-A^2-A^3-A/C-AC-Bw-Bt sequence, with cultural materials being recovered in the disturbed Ap plow zone horizon and within the underlying A, A^3, A/C, and AC horizons. The material recovered from below the Ap horizon was extensive, with *in situ* debitage and tools being identified to a depth of 330 cmbs within the shovel test and auger. The shovel test possessed a brown (10YR 4/3) silt loam Ap horizon that extended from the surface to a depth of approximately 40 cmbs; underlain by a brown (7.5YR 4/3) silt loam horizon that extended to 80 cmbs; underlain by a brown (7.5YR 4/3) sandy loam A^2 that extended to 120 cmbs; underlain by a dark brown (7.5YR 3/2) loamy sand A^3 horizon that extended to a depth of 180 cmbs; underlain by a dark brown (7.5YR 3/2) loamy sand with brown (7.5YR 5/3) sand lensed A/C horizon that extended to 230 cmbs; underlain by a brown (7.5YR 4/4) loamy sand AC horizon that extended to 330 cmbs; underlain by a weekly developed strong brown (7.5YR 4/6) Bw horizon that extended to 380 cmbs; with a basal light brown (7.4YR 6/3) very fine sandy clay loam Bt horizon with a few isolated alluvial pebbles being sampled to a depth of 390 cmbs. The auger was terminated at the limits of the instrument. While the Bw-Bt horizon sequence did not produce any artifacts, they both appear relatively young, and it is possible that either could contain additional buried cultural deposits. This shovel test identified a series of separate stratified occupations occurring to a maximum depth of 330 cmbs, including occupations from 0-80 within the Ap-A horizon sequence; 160 to approximately 200 cmbs within the base of the A^3 horizon; 230-240 within the A/C horizon; and at the base of the AC horizon at 300-330 cmbs. Nearby STP 81-11 also documented the A^3 horizon occupation, recovering artifacts and burnt nutshell fragments from 165-188 cmbs before terminating on a large cobble that is more than likely a precontact artifact.

The 60 positive shovel tests produced artifacts from the disturbed Ap horizon from across the site within all three sections: upland, older terrace, and younger terrace. The Ap horizon varied in thickness from 10-20 cm across the site. A total of 726 artifacts were recovered from the Ap horizon or on the surface. The underlying intact AB horizon found across the older terrace portion of the site was found to produce extensive deposits down to 60-80 cmbs. A total of 557 artifacts were recovered from the AB horizon across the older terrace. Those tests located along the younger terrace that form a levee along the western edge of the site, also produced extensive stratified deposits that were sampled by shovel test and augers. Shovel tests 80-11, 81-8, 81-9, 81-10, and 81-11 comprise these levee position shovel tests that produced 380 artifacts down a maximum depth of 330 cmbs (Figure 16). This provides a conservative estimate of 56 percent of the overall assemblage collected from the site being recovered from *in situ* context.

Most of the material recovered was debris from tool production, but an extensive collection of ppks, bifacial tools, unifacial tools, and cores were recovered from the site. Of the ppks recovered from the site, five could reliably be identified to a specific type. A total of three Kirk Corner Notched points, a Kirk Stemmed, and an Adena ppk were identified, providing indications of Early Archaic and Early Woodland periods of occupation. Given the extent and density of the deposits recovered from the site, it is assumed that occupations spanning the entire breadth of the precontact period are represented within the collection even if diagnostic ppks were not recovered. The stratified depth of the deposits noted on the levee and the recovery of artifacts from the base of the AB with the underlying Bt horizon along the older terrace portion of the site may also indicate that even older occupations are plausible as well.

Overall, 40Pm184 represents a dense series of medium sized precontact occupations spread across an elevated terrace of the Caney Fork River. The precontact occupations appear to temporally span from approximately 7900-300 BCE. The materials recovered along the western levee section of the site, were found in a series of stratified deposits. The deposits located on the older terrace appear more mixed within an intact AB horizon. Additional detailed investigations would be necessary to discern the contextual nature of the deposits within the AB horizon and their correlation to the stratified deposits contained within the western levee. It will also be necessary to assess how far these intact AB horizon deposits extend to the north at the site. Given the extensive recovery of materials from intact depositional context and the relative depth of alluvial deposits noted across the APE, it would appear probable that additional intact cultural features and broader cultural deposits are located at the site. Based on this potential, Stantec recommended additional investigations at site 40Pm184 to determine its eligibility for listing on the NRHP if the site could not be avoided (Simpson et al. 2024:117). Stantec also recommended that these investigations be focused on the western half of the site, wherein there appears to be the greatest potential for intact deposits to exist. The proposed bridge replacement activities were found to be able to be constrained within the current TDOT ROW, limiting the Phase II investigations at the site to the extreme northern portion of the site and avoiding most of the extremely deep younger terrace deposits. Given the constraints on the Phase II investigations the research was primarily focused on defining the extent of intact deposits noted within the older AB horizon strata and if there was any limited potential for the younger terrace deposits to exist north of the ROW in the extreme northwestern corner of the site.

5.3 Research Themes 40Pm184

The investigations at Site 40Pm184 have shown that it contains significant cultural deposits dating to the precontact period, but whether intact cultural deposits or features remain has yet to be determined. The primary objective of the Phase II investigations at Site 40Pm184 is to evaluate its eligibility by comparing the site against National Register eligibility criteria as detailed in 36 CFR 60.4:

- The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or are likely to yield, information important in history.

The cultural significance of archaeological sites and their National Register eligibility are typically evaluated under Criterion D, which will be the case of Site 40Pm184. A site should be evaluated in terms of its potential to contribute data pertinent to regional or local research questions. Special consideration should be afforded sites that address gaps in the regional database and do not provide largely redundant information. Furthermore, to qualify for NRHP eligibility under criterion (D), by which most archaeological sites meet eligibility requirements, the site must be evaluated in terms of the contextual integrity of its archaeological deposits and material assemblage. For a site to be significant, it is necessary that the data be well preserved and recoverable. The presence or absence of intact sub-plow zone midden and/or features is generally a major factor in determining the significance of a site. However, sites limited to the plow zone can be eligible for the NRHP if it is demonstrated that the deposits can be used to address significant research questions.

In order to assess the National Register eligibility of Site 40Pm184 the investigation was focused on a series of specific research themes, listed below.

- ***Assess Site Archaeological/Contextual Integrity***. The initial question that must be answered is whether or not the site has retained sufficient archaeological integrity to yield contextually sound information. The Phase I investigation at site 40Pm184 retained significant amounts of material from across the elevated terrace. Deposits varied in depth and depositional integrity, especially those deposits located to the north of the ROW fence. The Phase II investigation focused on defining the horizontal and vertical extent and nature of the deposits contained at the site and the potential that they could add to the broader understanding of precontact occupations along the Caney Fork River.
- ***Determine Geomorphology, Site Stratigraphy and Occupation Sequence***. The site lies in on an elevated terrace setting that possesses limited potential for buried cultural deposits due to both alluvial and colluvial deposition. Integral to assessing the sites' archaeological integrity is to determine the depth, context of cultural materials, and how the cultural deposits vary across the length and breadth of the site.
- ***Document Material Culture and Artifact Assemblages***. The recovered artifact assemblage will be analyzed and documented to facilitate statistical artifact analyses and comparisons to assess changes through time and differences or similarities to contemporaneous groups in the central Caney Fork Region and broader Cumberland River region.
- ***Site Function and Spatial Patterning***. The shovel testing and limited augers at the site has shown some degree of spatial patterning that appears related to separate occupations or differential usage of the landform overtime. Augers and shovel testing across the western levee position within the site has produced stratified deposits indicating a series of occupations occurring the site over time, but the exact timeframes represented, or the horizontal extent of those occupations is not understood. The field investigations will be directed toward identification and examination of intact strata and cultural features, in conjunction with the recovered artifacts, to resolve a variety of issues such as occupation sequence, site function, and spatial patterning.

The cultural significance and relative importance of site 40Pm184 can be measured by the archaeological data it can yield. The Phase II goals outlined above will evaluate the breadth and caliber of those data sets and how they can be used to address research questions regarding the precontact cultures of the Central Caney Fork River region and broader Cumberland River watershed.

Page Left Intentionally Blank

6 Results from Site 40Sm274

Site 40Sm274 is located at 4100 2023428.45774 m E, 657486.822865 m N Tennessee State Plane. The site encompasses an area of just over 5.7 ac of forested terraces lying within an interior bend of the Caney Fork River. The terrace is heavily dissected by a series of depressions and sinkholes that have given it the impression of an upland ridge, but testing at the site indicates that it is comprised of a series of older alluvial terraces built up in the Pleistocene and early Holocene periods.

Site 40Sm274 represents a palimpsest of precontact occupations. The temporal extent of these occupations is not understood, as the initial Phase I survey produced only a single Late Woodland Hamilton ppk as its sole diagnostic artifact. The Phase I survey also recovered a limited collection of Historic Period material, but this usage appears limited in scale and more than likely related to agricultural usage of the site from the early nineteenth century when the property was first purchased. The site was identified by Stantec in 2024 as part of a survey for the proposed improvements to the I-40 rest area and the replacement of the I-40 bridge over the Caney Fork River (Simpson et al. 2024). The site measures 285 m east-west ×152 m north-south. During the 2024 survey, a total of 144 shovel tests were excavated within the site area at a 20 m interval, of which 60 were found to contain precontact materials.

Stantec established a 20-meter grid at site 40Sm274 aligning it with True North and running consistently with the overall testing pattern used for the initial Phase I survey of the site (Simpson et al. 2024). The 40Sm274 site datum for Stantec’s Phase II investigations is located at the site’s N1000 E1000 grid corner which is located near the center of the site (Figures 17 and 18). A broad depression related to a series of underlying sinkholes divides the site, creating two distinct areas of concentration located in the southwestern portion of the site (labeled Area A) and the other located in the northeastern portion of the site (labeled Area B) (Simpson et al. 2024). The cultural deposits were primarily encapsulated on the older more dissected terraces that lie above and to the south of the younger terraces of the Caney Fork River.

The Phase II investigations were initiated with a combination of test unit excavations and long exploratory strip trenches advantageously placed across the eastern half of the site. The site is completely forested, and while placement of the mechanical excavations was attempted to be placed in areas of greater potential as defined by the initial Phase I survey results the positioning of each strip trench was dictated by tree spacing across the site. The orientation of the grid was maintained during the mechanical excavation process, with the length of each exploratory strip being dictated by forest coverage. The investigations found that the site is dissected by a series of deep depressions that have formed due to presences of sinkholes underlying the alluvial terraces. These deep depressions continually have usurped surface soils into these sinkholes, with deep colluvial deposits developing in each due to clearance and agricultural practices starting in the nineteenth century and extending into the twentieth century. These deposits have little research potential, as all the materials recovered are in a secondary context. The depth of these colluvial soils within the context of the depressions is extensive and usually far exceeded the investigative depth that test units, or mechanical excavations could safely document. While the site may cover 5.77 acre of aerial extent, the portion of the site that contains the potential for intact precontact deposits is more restrictive, measuring approximately 4.9 acres or 19,830 m^2.

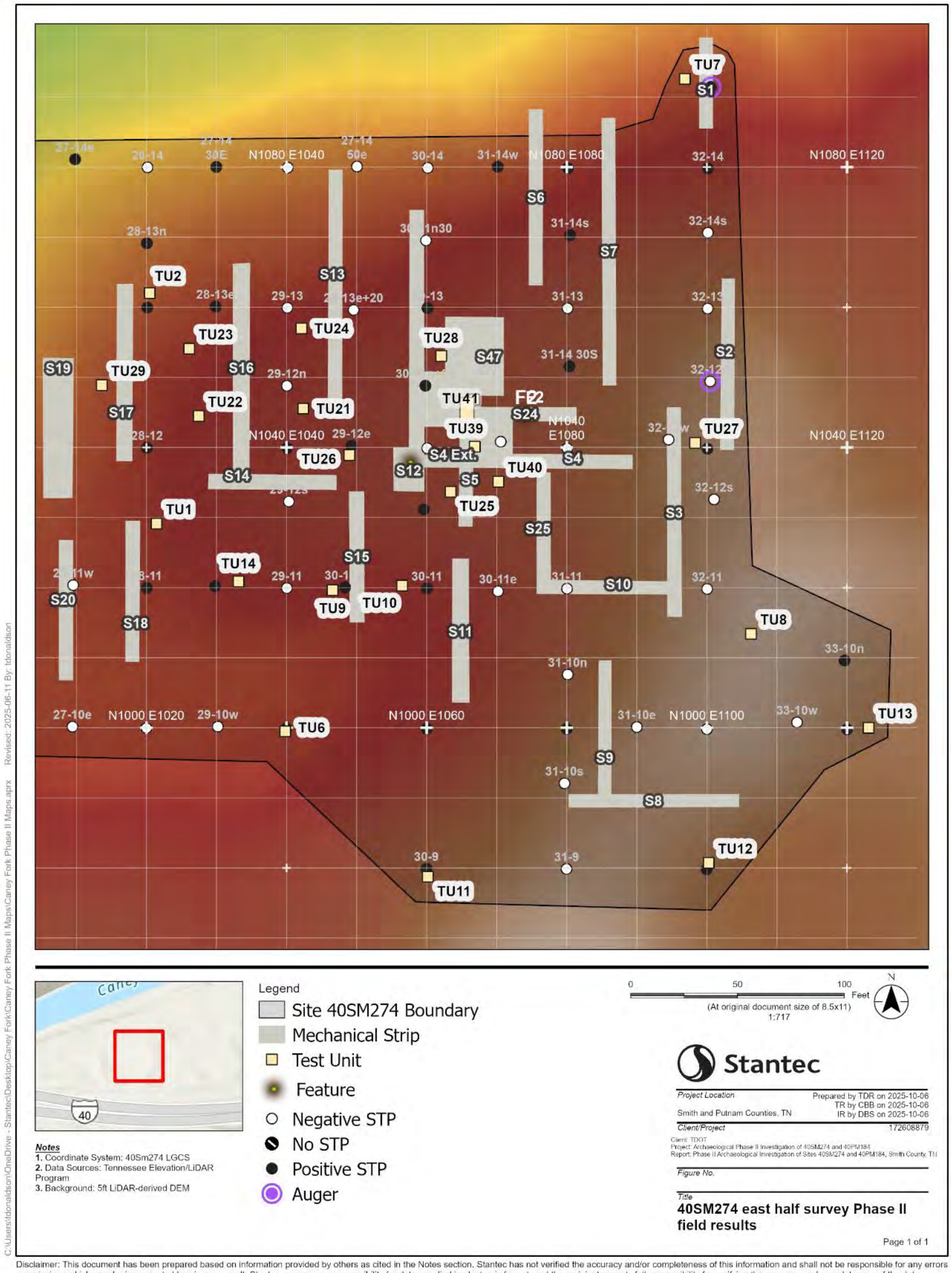
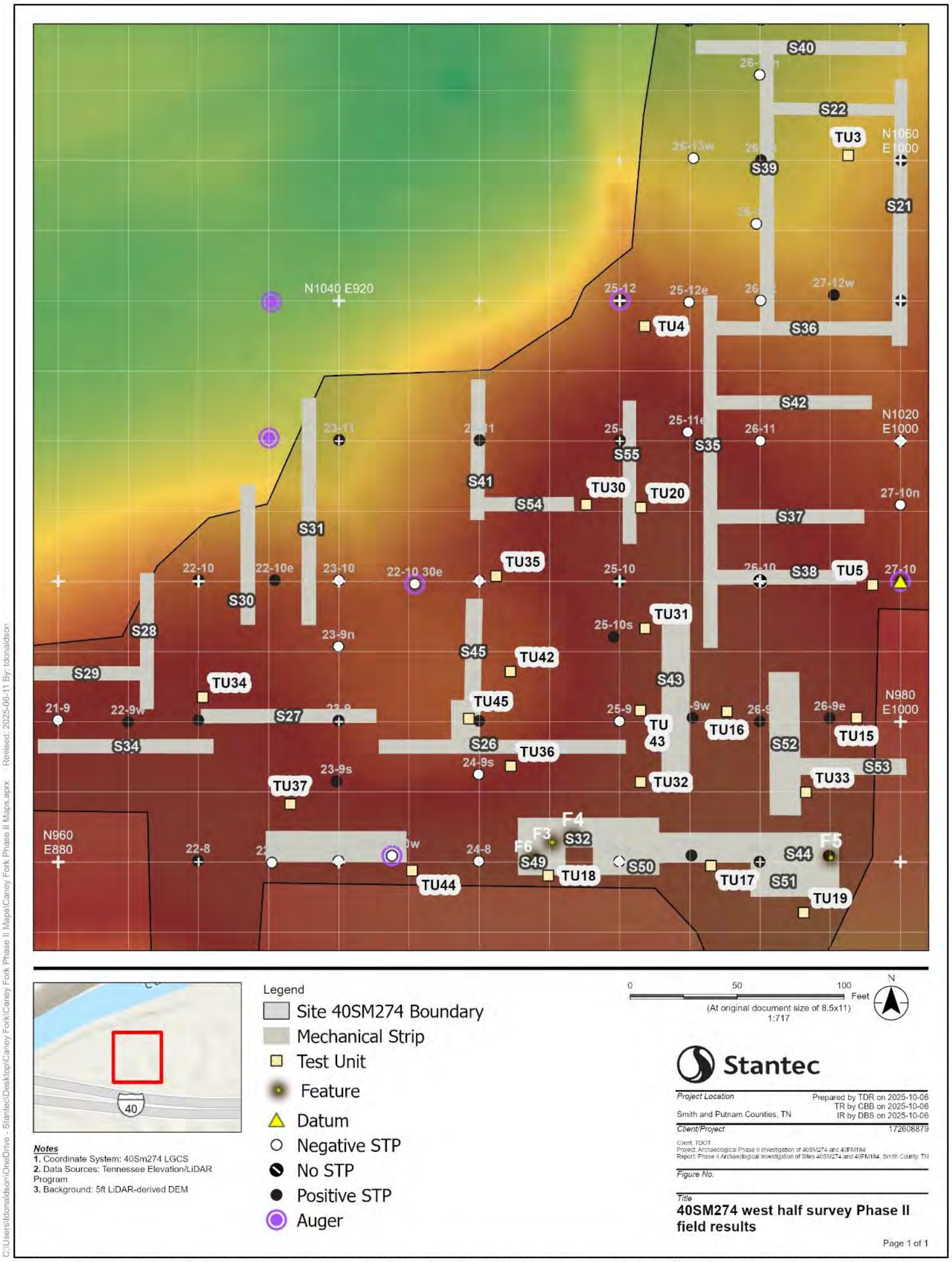


Figure 17. 40Sm274 Phase II Field Results: Eastern Half.



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Figure 18. 40Sm274 Phase II Field Results: Western Half.

6.1.1 Geomorphology/Stripping

The mechanical investigations at site 40Sm274 were placed to explore the entire breadth of the site. The stripping at site 40Sm274 was primarily shallow, with most stripped areas not extending below 30 cm in depth from the surface (Figure 19). In some instances, primarily around the broad sinkhole-derived depressions the depth of investigation was extended to 50-60 cmbs, but once this depth was reached mechanical excavation was terminated and test units were placed to provide a controlled vertical method of sampling and recording deeper deposits. In one instance within S45, a test unit was placed within a strip trench to allow for increased vertical depth of investigation, but this was the rarity of the mechanical excavation with most cultural bearing soil deposits found to extend no more than 50 cmbs.

Figure 19. Stripping of S10, Looking East.

The mechanical investigations can be separated into four general areas that are ascribed to the various landforms that comprise the upper terraces of the Caney Fork River on which the site extends. The first is represented in the northeastern portion of the site wherein a long ridgelike section of terrace extends between a series of sinkhole-derived depressions and the lower Caney Fork terrace that generally include strip trenches, such as S4, S5, S12, S13, S16, S19, and S21 (see Figures 17 and 18). These strip trenches identified a series of stacked plow zones (Ap1-Ap2) overlying the remnants of the original ground surface that were characterized as an A/AE/AB stratum, depending on drainage or the degree of pedogenic weathering. A Bw horizon developed in concert with the A/AE/AB horizon underlain the original ground surface remnants that graded conformably down into C horizon sediments laid down by the Caney Fork River. As these strata rose to the east, the Bw horizon was underlain by a Bt horizon that was developed under the older Pleistocene terraces that lie to the southeast (Figures 20 and 21).

The second area lies to the east and upslope of the ridgelike section of terrace. This area extends across an older potentially Pleistocene-aged terrace that extends to the south and southeast away from the primary site area. Mechanical strip trenches S2, S3, S8, S9, and S10 generally characterize this section of the terrace (see Figure 17). These trenches identified a plow zone (Ap1) overlying the underlying remnants of the Bt subsoil horizons. The Bt horizon was pedologically developed from alluvially deposited sediments that have extensive age and stability (Figure 20). This area has become entirely deflated due to excessive erosion and plowing, leaving only a thin remnant Ap1 horizon overlying the very old Bt horizon developed soils.

The third area lies atop the broad terrace on the western half of the site that wraps around a large deep sinkhole-derived depression. Mechanical strip trenches extending from S35 and S55 in the north and wrapping around through S43, S53, S49 and S33 to the south of the depression and then extending to the west within S34, S29, and S28 comprise the areas sampled within this area (see Figure 18). Coupled with this area are exploratory strip trenches S26 and S45 that were excavated down into the broad depression that dominates the western half of the site (see Figure 18). The upper terrace possessed a similar stratigraphic profile as the long ridgelike terrace in the east, with an Ap-Bw-C horizon sequence being the norm. The strata become more varied within the downslope broad depression, with additional Ap2 and colluvially developed A horizon lying within the depression (Figures 22 and 23). These strata represent a series of soils that have eroded down slope into the depression. An A horizon was noted lying at over 200 cmbs within the depression that appears to be intact, but it represents a sloped surface that rises toward the upper terrace but is incorporated into the overlying Ap horizon prior to reaching the terrace surface, and as such it is not possible to temporally separate these deposits into one specific period of occupation.

The fourth area lies to the north of the broad depression along the northern face of the western terrace. Mechanical strip trenches S30, S31, S41, and S54 are included within this section of the site. This area represents an older levee deposit that was deposited when the Caney Fork River meander closer to the upper terrace, effectively eroding away the northern face of the older terrace and redepositing a sandier levee deposit within an exterior bend in the river’s channel. This area is characterized be a series of BC-C horizons underlying the Ap horizon (Figure 20). These soils form a linear deposit along the northern face of the depression, creating the northern terrace scarp face that extends down slope to the younger mid to late Holocene terraces. As the river eroded away the upper terrace the depression would have represented a steeply sloped bank that was then closed by the subsequent sandier levee deposits.

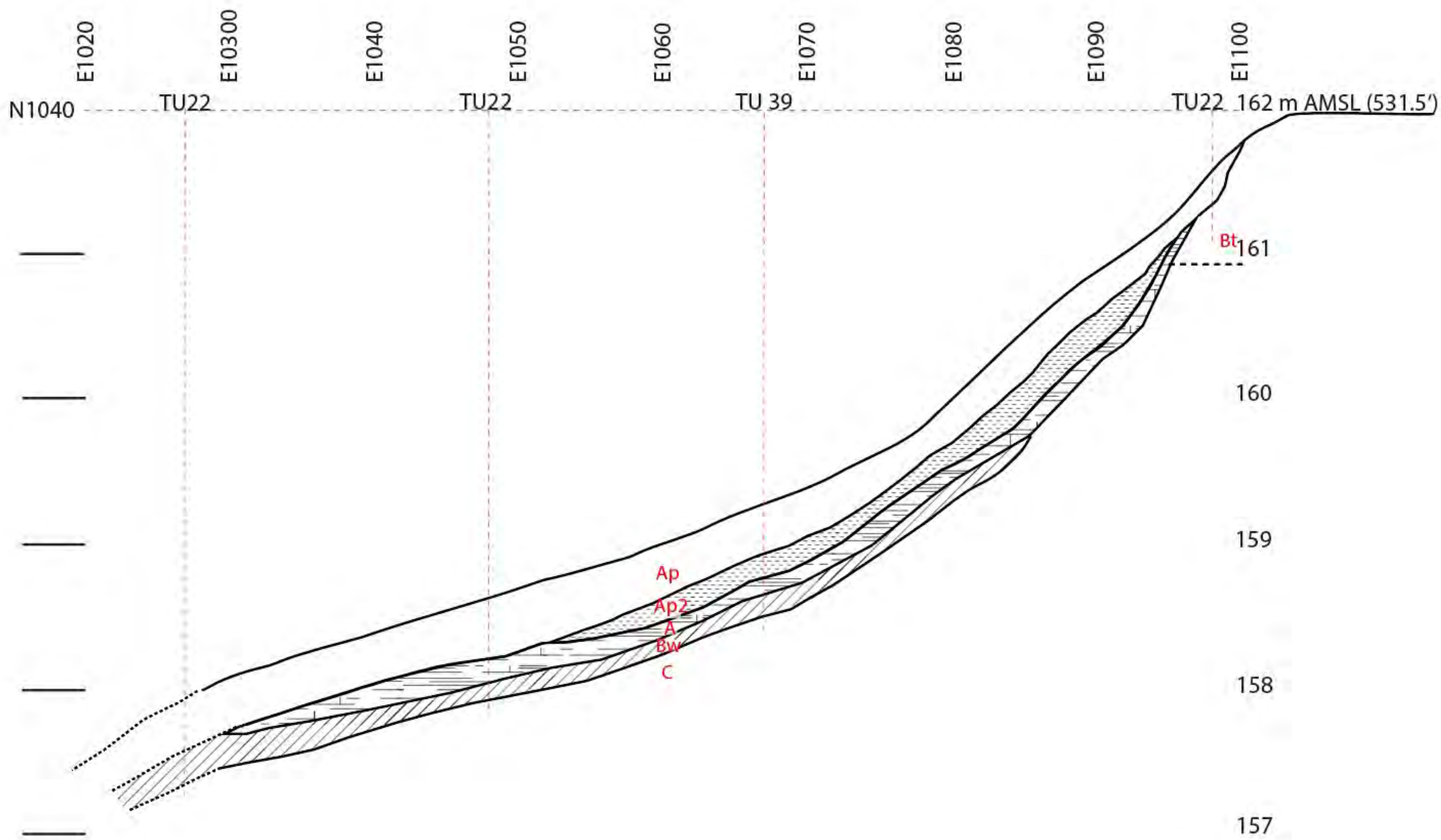


Figure 20. Generalized east to western profile line along the N1040 line at 40Sm274.

Figure 21. S4 Strip southern Soil profile at 40Sm274.

Site 40Sm274 is dissected by paleo channels of the Caney Fork River evidenced by LiDAR mapping of the area. These paleo channels dissect the site along the E1000 and E920 lines. The paleo channels control the development of the series of sinks that exist across 40Sm274. The eastern portion of the site is characterized by one broad sink at the base of the Pleistocene upland and the western portion of the site is characterized by a broad sink at the base of a levee position from the movement of Caney Fork across the landscape.

The eastern portion of the site's stratigraphy mapped along the N1040 line revealed an Ap1-Ap2-A/AE/AB/Bw/1Bt/C sequence (**Error! Not a valid bookmark self-reference.**, Figure 17). The Ap1 is identified in a relative uniform 25 to 30 cm thickness across the site. As mentioned above, an older Ap2 horizon was identified in portions of the site below the Ap1 extending to as deep as 50 cmbs. The Ap2 was not identified on topographically high areas like the crest of the Pleistocene terrace or the eastern ridge above the broad sink depression. Underlying the Ap stratum is a relatively thin A horizon that varies from east to west across the landscape. The A horizon varies from an AE/AB/A from east to west but is vertically consistent across the site but compositionally different due to landform development and differential draining. The eastern extent of the site where the AE is first noted experiences higher amounts of draining due to the slope western sloping of the broad sink. The AE strata contain a much lower percentage of organic content compared to the A strata identified in the middle of the broad sink depression. The A strata represent an intact remnant of the original ground surface. Due to historic modification of the landscape historically the A strata are extremely ephemeral and did not yield much intact diagnostic cultural material. Outside of the crest of the Pleistocene terrace a Bw horizon was identified below the A and is a weakly developed silt loam formed over time through illuviation. The Bw grades into a sandy C horizon representing the partially weathered alluvially deposited sediments. The 1Bt horizon is composed of dense sandy clay and represents, initial Pleistocene terrace formation. These soils are older than occupation of the area and were found to be void of any cultural material. Table 1 represents the stratigraphic sequence identified in the eastern portion of 40Sm274 and See Figure 20 that graphically represents the stratigraphy east to west along N1040.

Table 1. Typical Stratigraphic Sequence at 40Sm274 in east

Horizon	Depth (cm bs)	Description
Ap1	0-30	Brown (10YR4/3) silt loam; very weak fine granular structure; very friable; moderate roots, clear smooth boundary.
Ap2*	30-50	Dark brown (10YR3/3) silt loam; very weak fine granular structure; very friable; few roots; clear wavy boundary.
A / AE / AB**	30-40/ 40-55	Brown (10YR4/3-10YR5/3) silt loam; weak fine subangular blocky structure; clear wavy boundary.
Bw	40-50/ 55-60	Yellowish brown (10YR5/4) silt loam; moderate medium subangular blocky structure; firm; few small to medium depletions; gradual wavy boundary.
1Bt	35-60+	Reddish yellow (5YR6/6) sandy clay; strong blocky structure; abrupt boundary
C	60-90+	Reddish yellow (7.5YR6/6) sandy loam, weak fine granular to very fine subangular blocky structure

**Ap2 stratum was not consistently observed across the site: in isolated spots along the base of the broad sink depressions*

***A / AE or AB stratum represent an intact remnant of the original ground surface seen in low areas of the broad sink depressions. These strata were not represented on terrace or ridge crests. Differential draining and leaching of organics differentiates A/AE/AB.*

The western portion of the site's stratigraphy mapped along the E940 line revealed an Ap1/Fill-Ap2-A-Bw-C sequence (Table 2, Figure 18). The stratigraphy across the western portion of the site is a lot sandier in nature and controlled by erosion of the terrace and the redeposition of a levee position within the broad sink depression. The Ap1 is seen across this portion of the site extending as deep as 50 cmbs. The southern most extent of this landform exhibits a modernly disturbed fill deposit that likely integrates the Ap1 and extends to 30 cmbs. The fill package in this area is result of disturbance from the creation of I-40. On the terrace slope into the sink depression TU42 reveals a thick sandy deposit that likely has been plowed but it is difficult due to the nature of the sand to parse out a plow zone stratum from the alluvial sand package, this stratum extends to 95 cmbs. The alluvial sand package represents the levee position that formed from the movement of Caney Fork seen along the E930 line. The Ap2 is only represented in the southern portion of this area on the site on the top the western portion of the dissected terrace where Features 3, 4, 5, and 6 were identified near the base of the plow. Underlying the Ap stratum is a dark, organic rich, A horizon the was identified in the core of the sink derived depression in the western portion of the site existing at meter to two meters below surface. Above the A in TU 45, which sampled the middle of the sink derived depression in this portion of the site is a thick colluvial fill package that eroded the surrounding terrace and levee faces and infilled the depression. Below the plow on the terrace and levee crests exists a weakly developed, silt loam, Bw horizon that matches the pedogenesis of this stratum in the eastern portion of the site. Below the Bw strata is a sandy C horizon representing the partially weathered alluvially deposited sediments. The C horizon was identified below the A horizon in the center of the sink derived depression. Table 2 represents the stratigraphic sequence identified in the western portion of 40Sm274.

Table 2. Typical Stratigraphic Sequence at 40Sm274 in west

Horizon	Depth (cm bs)	Description
Ap1/Fill*	0-30/95	Brown to dark yellowish brown (10YR4/3 to 10YR4/4) silt loam; very weak fine granular structure; very friable; moderate roots, clear smooth boundary.
Ap2**	30-60	Dark brown (10YR3/3) silt loam; very weak fine granular structure; very friable; few roots; clear wavy boundary.
Colluvium***	50-160	Dark Brown (7.5YR3/4) silt to silt loam; very weak granular structure; very friable; clear wavy boundary
A	95-205	Dark brown (7.5YR3/3) very fine sandy loam; weak fine subangular blocky structure; clear wavy boundary.
Bw	30/60-80	Light brown to yellowish brown (7.5YR6/4 to 10YRr5/4) silt loam; moderate medium subangular blocky structure; few small to medium depletions; gradual wavy boundary.
C	60/205+	Light yellowish brown to yellowish red (10YR6/4 to 5YR5/6) sandy loam, weak fine granular to very fine subangular blocky structure; alluvial pebble inclusions <5%

**Ap1 stratum was grouped with modern road will in southern portion of the site near ROW*
***Ap2 stratum was not consistently observed across the site: identified on southern terrace crest near ROW*
****Colluvium was only present in the center of the sink depression and is eroded fill from surrounding terrace and levee faces*

The generalized soil stratigraphy is graphically represented in Figure 23 drawn north to south along E940 line. Figure 22 shows S45 descending south into the sink depression where TU45 captures the center of the depression.

Figure 22. S45 photograph looking north.

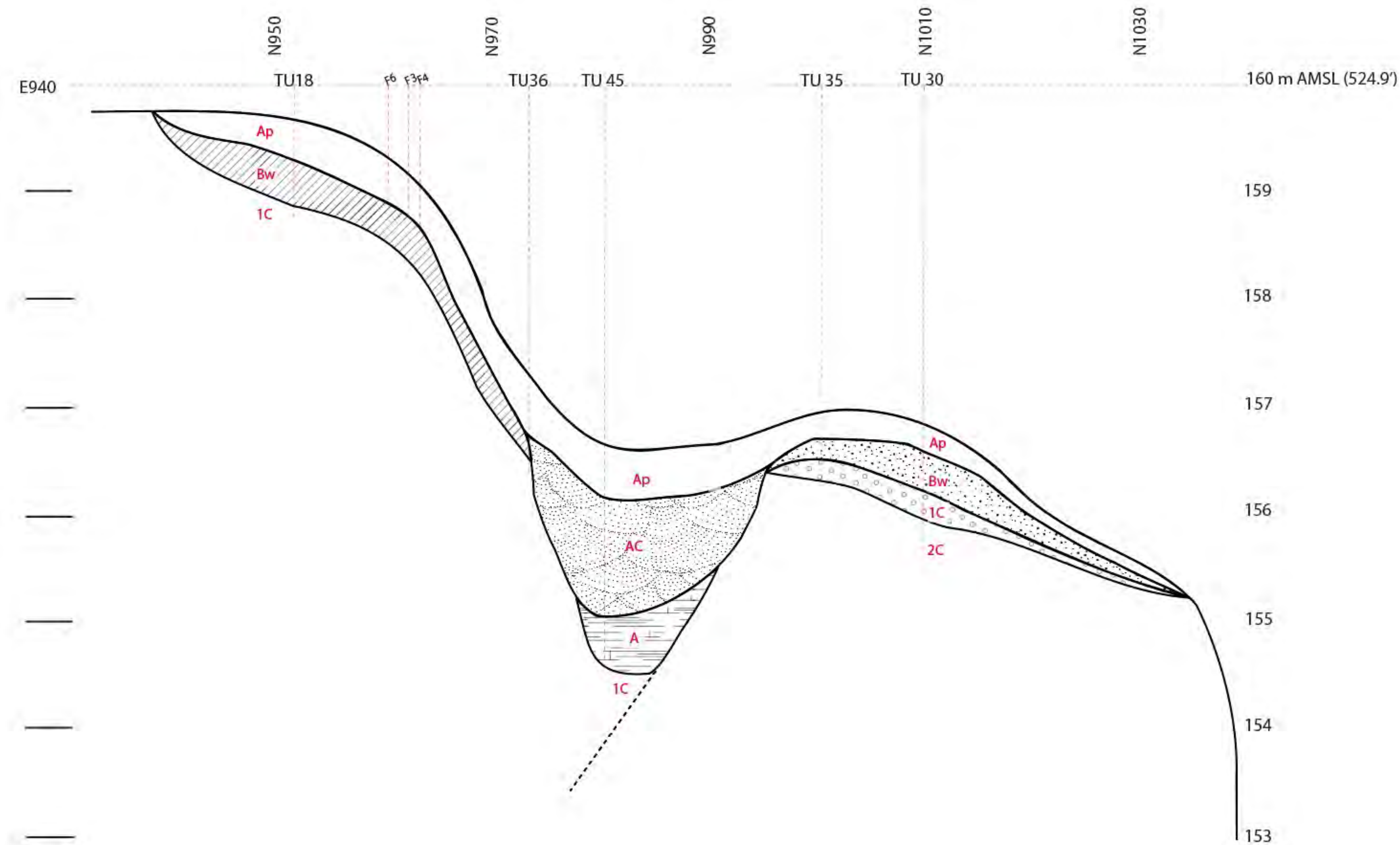


Figure 23. Generalized North to South Soil profile along E940 line.

The mechanical stripping identified cultural material primarily within the plow zone (Table 3). The depth of the Ap-Ap2 sequence varied across the site extending from 20-45 cm in depth. The variability is ascribed to colluvial slope wash accumulation in areas lying down slope of the elevated terrace positions or in the case of the eastern half of the site the layering of two plow zone horizons. In general, most of the strip blocks contained a light scattering of primarily debitage. As a method of understanding general density from across the site only a sample of debitage was recovered if over 5-10 pieces were noted, if less than these amounts the material was left given that it was not diagnostic. If ppks, unifacial tools, or groundstone elements were noted they were all collected, and a piece plot of both horizontal and vertical position taken for individual pieces.

Table 3. 40Sm274 Recovered Artifacts from trenches

Provenience	Depth	Biface	Core	Uniface	Groundstone	Debitage	Total
S 01	30				1		1
S 03	0-20	1	2	2			5
S 04	50	1					1
	0-20			3	1	7	11
S 04	0-40		1	1		1	3
S 04/S 05 Intersection	0-40	1					1
S 05	20	1					1
	40	1					1
	0-40	3	1	6	2	23	35
S 09	0-20			1		1	2
S 11	0-30			1		7	8
S 12	0-30	3		6		5	14
S 13	0-30	2		4		4	10
S 14	0-35		1	5		8	14
S 15	0-35	1		4		4	9
S 16	35	1					1
	0-35	1	2	5		11	19
S 17	20	1					1
	0-25	3		2		16	21
	0-30	1					1
S 18	0-30	1		2		1	4
S 19	0-30	2		10		8	20
	0-35	1					1
S 20	0-30			2		1	3
S 21	0-40	3	1	7		2	13

Provenience	Depth	Biface	Core	Uniface	Groundstone	Debitage	Total
S 22	0-45		1	2		2	5
S 23	40	1					1
	0-40	3	3	7		9	22
S 24	0-35	1	1		1	2	5
S 26	0-40	2	1	7		18	28
S 28	0-30			1		2	3
S 30	0-20			2			2
S 31	0-40			2		1	3
S 32	0-40	2	1			2	5
S 33	0-40		1	1			2
	20-40		3			3	6
S 34	0-27	1					1
	0-35			3		6	9
S 35	0-40		2	3		2	7
S 36	0-35	1					1
S 40	0-40			1			1
S 43	20				1		1
	0-30	1					1
	0-35	1					1
	0-45					1	1
	0-50	8	5	8		22	43
	35-40	1					1
	40-60		1				1
S 44	40					1	1
	0-35	1		1		4	6
	0-45	4		6		18	28
S 47	45	1					1
S 49	0-40		1	1		5	7
S 50	0-40		7	6		3	16
S 51	0-45	1	2	2		3	8
S 52	0-40	1		3		14	18
S 53	0-30			3			3
S 55	0-45			4	1	1	6
Strip Block Total		**58**	**37**	**124**	**7**	**218**	**444**

Of the 55 strip blocks excavated from across the site, only 38 produced materials of sufficient density for collection, and in some cases such as S1, S33, S34, S36, S40, and S47 specific select tools or artifacts were recovered that dictated collection but outside of these isolated artifacts other supporting materials were lacking for more concerted recovery (Table 3). This collection method provided an understanding of the core occupation areas at the site and wherein later test unit excavation were focused as the investigations developed. These core areas were located on the eastern end of the long ridge-like terrace remnant that was sampled within strips S4, S5, S12, S23, S24, S28, and S46-48 (see Figure 17), and on the western end of the site on the terrace above the broad sinkhole-derived depression that was sampled within strips S26, S32, S33, S43, S44, and S49-52 (see Figure 18). While comprising approximately half of the denser strip blocks excavated at the site, these 18 core strip blocks produced over 60 percent of the materials recovered (n=99 eastern concentration and n=174 western concentration) and all the artifacts recovered from sub-plow locations that appeared to be *in situ*. These limited number of artifacts are highlighted in Table 3 and conscribed to bifaces in S4 and S47 within the eastern concentration and a biface, 4 cores, and some sampled debitage from S33 and S43 within the western concentrations. None of these materials were diagnostic of a specific period.

The overall stripping showed that the site has been highly impacted by agricultural activity and associated increased erosion. These practices have destroyed most of the intact deposits at the site outside of the two limited core concentration areas noted above. These two areas were found to contain intact deposits, features, and diagnostic materials that can provide some limited understanding of the occupational sequence at the site. The excavation of test units and features in both areas further assisted in defining the extent of intact deposits and providing further clarification on the occupation sequence that both areas encompass.

6.1.2 Test Unit Excavation

A total of 45 1-x-1-m (3.3-x-3.3-ft) test units were hand excavated across the site. The test units were labeled from TU 1 through TU 45. Unit locations were selected to sample areas that were determined by the Phase I results to have potential for high artifact concentrations and the potential for features. Vertical and horizontal artifact distribution was explored through the excavation of the test units along with finer inspection of soil profiles across the site. All of test units were placed as single or adjoined units. Each unit is discussed individually highlighting the artifact density, both horizontally and vertically, across the site.

6.1.2.1 Test Unit TU 1

Test Unit TU 1 was located at N1028.597 E1020.926 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore previous artifact concentrations identified during the Phase I survey.

A total of four levels were excavated to a depth of 60 cmbs (Figure 24). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a brown (7.5YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is clear and nearly level. The Bw is comprised of a brown (7.5YR 5/4) sandy clay loam and was excavated in levels 2 and 3. Level 4 saw the strata transition fully into the underlying C horizon, a strong brown (7.5YR 5/6) loamy sand.

Figure 24. Site 40Sm274, TU 1, north wall profile.

Materials recovered within TU 1 were primarily contained within the Ap horizon. Table 4 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 36 pieces of debitage, four unifaces, and one biface. Artifact concentration dissipates within the Bw-horizon with one piece of debitage recovered from Level 2 and one piece from Level 4. The artifact recovered from Level 4 likely represents a secondary deposition from bioturbation observed within the level.

Table 4. Recovered Artifacts, TU 1

Level	Depth (cmbs)	Biface	Debitage	Uniface	Total
1	0-30	1	36	4	**41**
2	30-40		1		**1**
4	50/60		1		**1**
Test Unit 1 Total			**38**	**4**	**43**

6.1.2.2 Test Unit TU 2

Test Unit TU 2 was located at N1061.516 E1019.962 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the northern face of the terrace on which the primary eastern portion of the site is focused (see Figure 17). The unit was placed directly north of TU 1 providing a controlled excavation of deposits and stratigraphic assessment of the upper soil deposits.

A total of five levels were excavated to a depth of 70 cmbs (Figure 25). Three stratigraphic horizons were documented in the profile: Ap-Ap2-Bw-C. The upper 25 cm of soil was an Ap-horizon consisting of a brown (7.5YR 4/3) sandy loam and was excavated as a single level. Underlying the Ap, is an Ap2 horizon which is comprised of a dark brown (7.5YR 3/4) sandy clay loam. The Ap2 horizon was excavated with the Ap horizon in Level 1. The boundary between the Ap2 and underlying Bw horizon is clear and nearly level. The Bw is comprised of a brown (7.5YR 5/4) sandy clay loam. The Bw strata transitioned into a strong brown (7.5YR 5/6) loamy sand C horizon.

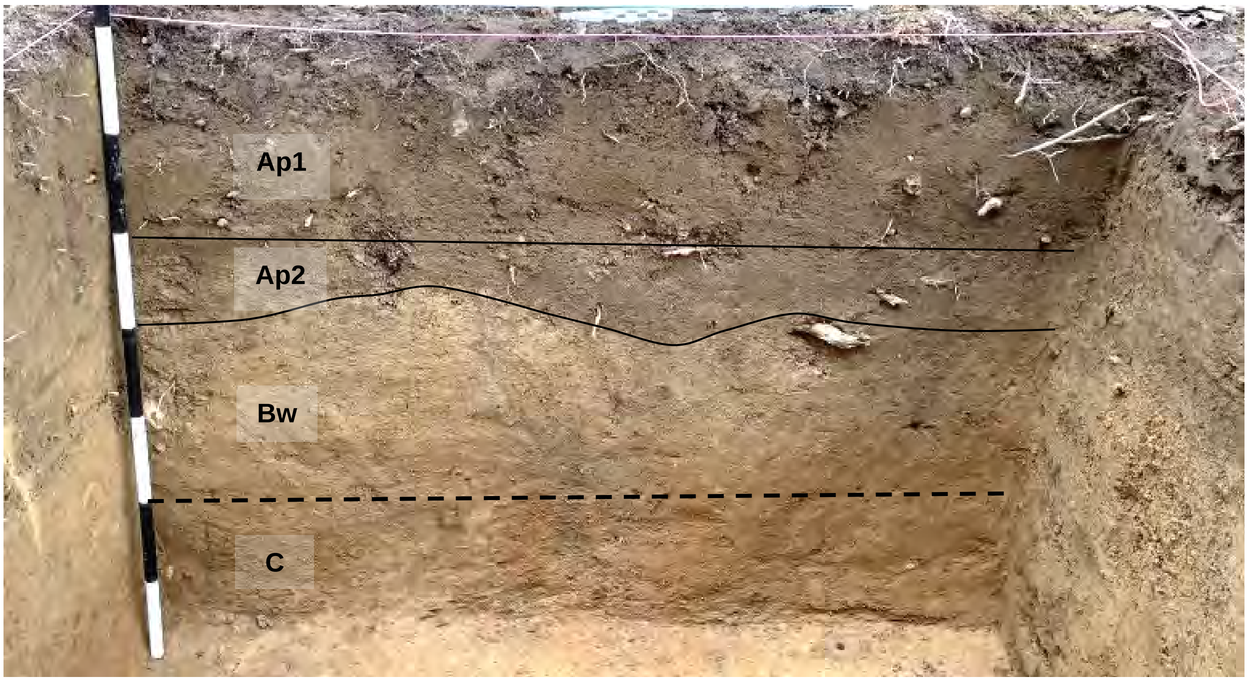


Figure 25. Site 40Sm274, TU 2, east wall profile.

Materials recovered within TU 2 were primarily recovered the Ap and Ap2 horizons. Table 5 presents artifacts recovered during the test unit excavation. The Ap and Ap2-horizons produced 116 pieces of debitage and 14 unifaces. Artifact concentration dissipates within the Bw-horizon within a combined total of 4 artifacts recovered from levels 2 and 3. Levels 4 and 5 were sterile for cultural material.

Table 5. Recovered Artifacts, TU 2

Level	Depth (cmbs)	Debitage	Uniface	Grand Total
1	0-30	102	14	**116**
2	30-40	1		**1**
3	40-50	3		**3**
Test Unit 2 Total		**106**	**14**	**120**

6.1.2.3 Test Unit TU 3

Test Unit TU 3 was located at N1060.254 E992.004 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the extreme northwestern end of the primary eastern ridge section of terrace and just east of the narrow drainage that separates the eastern and western halves of the site (see Figure 18). The unit was placed in this location to explore the potential for alluvially buried deposits to exist at this lower end of the upper terrace.

A total of eight levels were excavated to a depth of 85 cmbs (Figure 26). Four stratigraphic horizons were documented in the profile: Ap-Ap2-Bw-C. The upper 20 cm of soil was an Ap-horizon consisting of a brown (7.5YR 4/3) silt loam and was excavated as a single level. Underlying the Ap horizon is an Ap2 horizon which is comprised of a dark brown (7.5YR 3/4) sandy clay loam. The Ap2 was excavated as Levels 2 and 3. The boundary between the Ap2 and the underlying Bw is clear and nearly level. The Bw is comprised of is comprised of a brown (7.5YR 5/4) sandy clay loam and was excavated in levels 4 and 5. The Bw transitioned into a C horizon comprised of a strong brown (7.5YR 5/6) loamy sand.

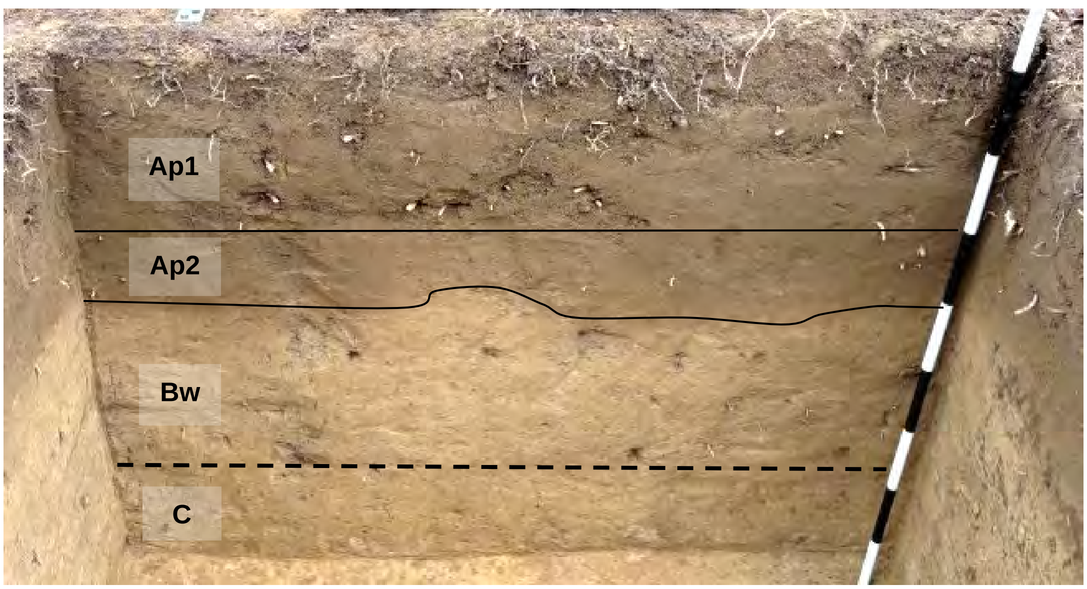


Figure 26. Site 40Sm274, TU 3, north wall profile.

Materials recovered within TU 3 were primarily distributed between the Ap and the Ap2 horizon. Table 6 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 15 pieces of debitage. The Ap2 horizon also produced 15 pieces of debitage and 3 unifaces. Artifact concentration dissipates within the Bw-horizon with a combined total of 10 pieces of debitage and one uniface recovered from Levels 4, 5, and 6.

Table 6. Recovered Artifacts, TU 3

Level	Depth (cmbs)	Debitage	Uniface	Grand Total
1	0-20	15		**15**
2	20-30	12	2	**14**
3	30-35	3	1	**4**
4	35-45	4		**4**
5	45-55	5	1	**6**
6	55-65	1		**1**
Test Unit 3 Total		**40**	**4**	**44**

6.1.2.4 Test Unit TU 4

Test Unit TU 4 was located at N1036.033 E963.017 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed within the older property boundary that runs down the length of the terrace west of the drainage that separates the eastern and western terrace areas within the site (see Figure 18). The unit was placed in this location to explore potentially intact deposits identified within STP 25-12 during the Phase I survey.

A total of eight levels were excavated to a depth of 100 cmbs (Figure 27). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 45 cm of soil was an Ap-horizon with modern disturbance. The Ap consisted of a brown (7.5YR 4/3) silt loam and was excavated in Levels 1, 2, and 3. The boundary between the Ap and the underlying Bw is clear and undulating. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam mottled with a brown (10YR 5/3) sandy clay loam) and was excavated in Levels 4 and 5. The Bw transitioned to a sterile C horizon comprised of a light yellowish brown (10YR 6/4) sand mottled with reddish yellow (7.5YR 6/6) loamy sand.

Materials recovered within TU 4 were primarily distributed between the Ap horizon. Table 7 presents artifacts recovered during the test unit excavation. The Ap-horizon produced six hundred 37 pieces of debitage, eight unifaces, one groundstone, and seven historic artifacts. Artifact concentration dissipates within the Bw-horizon with a combined total of 13 pieces of debitage recovered from Levels 4 and 5.

6.1.2.5 Test Unit TU 5

Test Unit TU 5 was located at N998.922 E995.412 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the eastern face of the western terrace, lying just west of the drainage that separates the two sections of terrace on which the site extends (see Figure 18). The unit was placed in this location to explore potentially intact deposits identified within STP 27-10 during the Phase I survey.

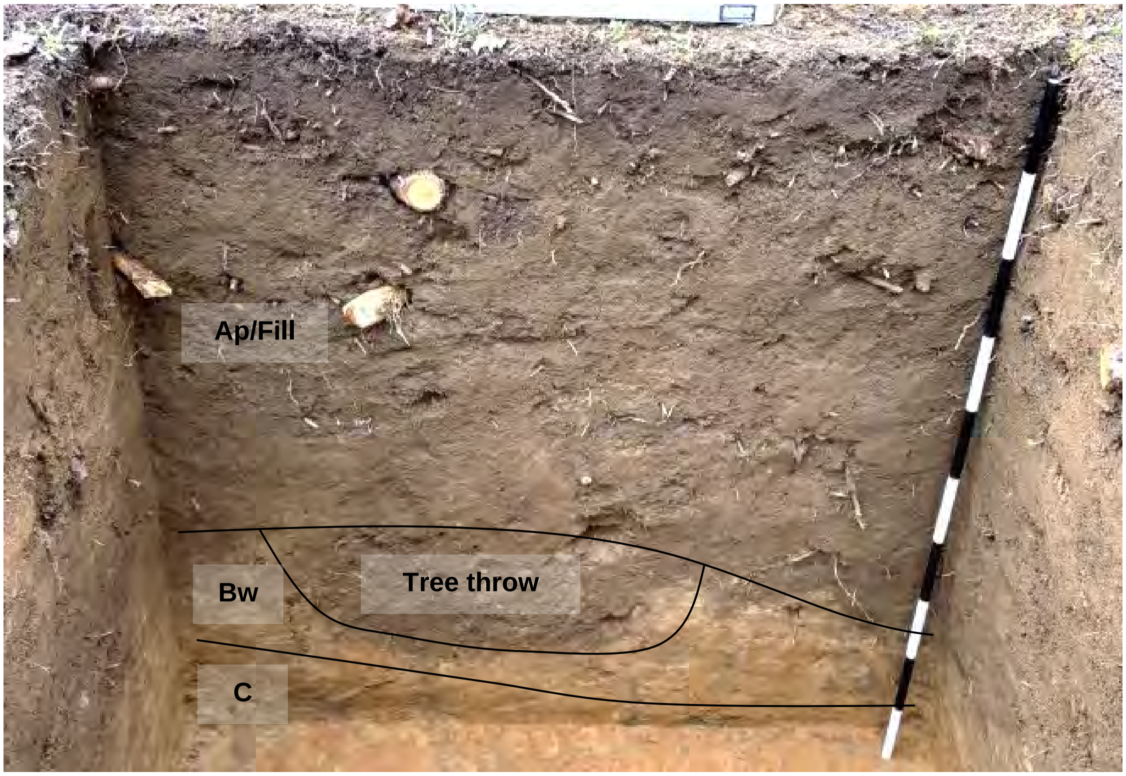


Figure 27. Site 40Sm274, TU 4, west wall profile.

Table 7. Recovered Artifacts, TU 4

Level	Depth (cmbs)	Historic	Debitage	Groundstone	Uniface	Total
1 Ap	0-30	6	23		2	31
2 Ap	30-40		4	1	3	8
3 Ap	40-50	1	10		3	14
4	50-60		5			5
5	60-70		8			8
Test Unit 4 Total		**7**	**50**	**1**	**8**	**66**

A total of eight levels were excavated to a depth of 90 cmbs (Figure 28). Four stratigraphic horizons were documented in the profile: Ap-Ap2-Bw-C. The upper 24 cm of soil was an Ap-horizon consisting of a brown (7.5YR 4/3) silt loam and was excavated in Level 1 and the upper four centimeters of Level 2. Underlying the Ap horizon is an Ap2 horizon which is comprised of a dark brown (7.5YR 3/4) sandy clay loam. The Ap2 was excavated in the lower portion of Level 2 and the upper portion of Level 3. The boundary between the Ap2 and the underlying Bw is clear and nearly level. The Bw is comprised of is comprised of a brown (7.5YR 5/4) sandy clay loam and was excavated in the lower portion of Level 3 and in Levels 4 and 5. The Bw transitioned into a C horizon comprised of a strong brown (7.5YR 5/6) loamy sand.

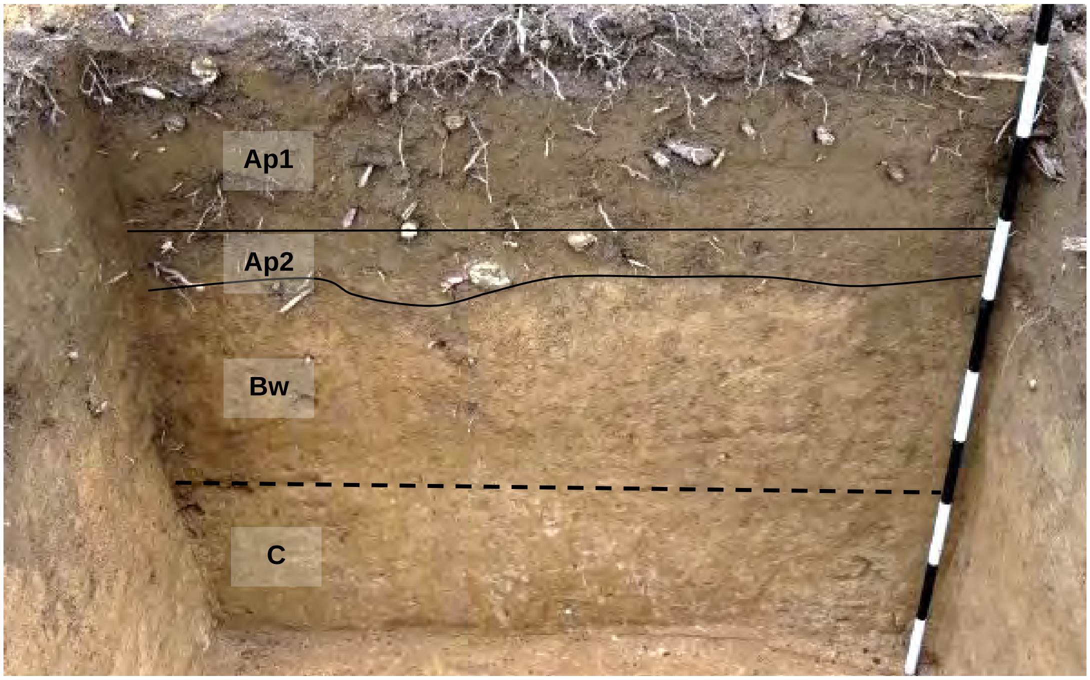


Figure 28. Site 40Sm274, TU 5, north wall profile.

Materials recovered within TU 5 were primarily distributed between the Ap and Ap2-horizons. Table 8 presents artifacts recovered during the test unit excavation. The Ap/Ap2-horizon produced 155 pieces of debitage and eight unifaces. Artifact concentration dissipates within the Bw-horizon with a combined total of 21 artifacts recovered from Levels and 5. An additional eight artifacts were recovered from the C horizon, dispersed in Levels 6, 7, and 8.

Table 8. Recovered Artifacts, TU 5

Level	Depth (cmbs)	Debitage	Uniface	Total
1 ap	0-20	62	5	**67**
2 ap	20-30	68	2	**70**
3 ap	30-40	25	1	**26**
4 bw	40-50	10	1	**11**
5 bw	50-60	10		**10**
6 c	60-70	6		**6**
7 c	70-80	1		**1**
8 c	80-90	2		**2**
Test Unit 5 Total		**184**	**9**	**193**

6.1.2.6 Test Unit TU 6

Test Unit TU 6 was located at N999.484 E1039.770 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed within a broad sinkhole that lies along the southern face of the primary ridgelike section of terrace on which the primary eastern portion of the site is focused (see Figure 17). The unit was placed in this location primarily to explore the potential for burial of precontact deposits within these sinkhole environments noted across the terrace.

A total of eight levels were excavated to a depth of 100 cmbs (Figure 29). Four stratigraphic horizons were documented in the profile: Ap-Ap2-AB-Bw. The upper 50 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam. The upper 30 cm was excavated as a single level; the lower 20 cm was excavated as Levels 2 and 3. Underling the Ap was an Ap2 horizon that consisted of a dark brown (10YR 3/3) silt loam excavated in Levels 4 and 5. The boundary between the Ap2 and the underlying AB is clear and level. The Ab is comprised of a very dark brown (10YR 3/1) silt loam and was excavated in levels 6 and 7. The Ab strata transitioned into the underlying Bw horizon, a yellowish brown (10YR 5/4) silt loam.

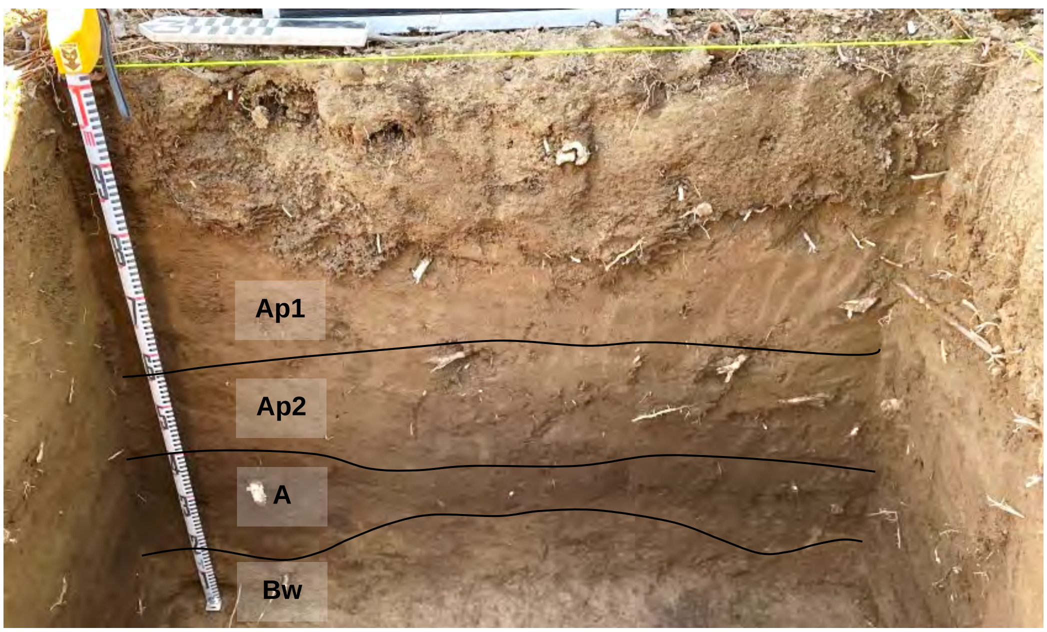


Figure 29. Site 40Sm274 TU 6 east wall profile.

The minimal artifacts recovered from TU 6 were distributed between the Ap, Ap2, and Ab horizons. Table 9 presents artifacts recovered during the test unit excavation. The Ap-horizon produced one piece of debitage from Level 1. Levels 2 and 3 of the Ap horizon were sterile for cultural material. The Ap2 horizon yielded a combined total of one historic, six pieces of debitage, and two unifaces from levels 4 and 5. The Ab horizon yielded a combined total of one biface and three pieces of debitage from levels 6 and 7. The Bw horizon was sterile for cultural material.

Table 9. Recovered Artifacts, TU 6

Level	Depth (cmbs)	Biface	Historic	Debitage	Uniface	Total
1	0-30			1		1
4	50-60		1	3	1	5
5	60-70			3	1	4
6	70-80	1		2		3
7	80-90			1		1
Test Unit 6 Total		**1**	**1**	**10**	**2**	**14**

6.1.2.7 Test Unit TU 7

Test Unit TU 7 was located at N1096.653 E1095.520 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed at the northeastern edge of the site, along the northern face of the upper terrace (see Figure 17). The unit was placed in this location to explore previous artifact concentrations identified within STPs 32-14 and 32-14n during the Phase I survey.

A total of five levels were excavated to a depth of 70 cmbs (Figure 30). Three stratigraphic horizons were documented in the profile: Ap-Bw-Bt. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is clear and level. The Bw is comprised of a dark yellowish brown (10YR 4/6) silt loam and was excavated in levels 2, 3, and 4. The Bw strata transitioned into the underlying Bt, a dark yellowish brown (10YR 4/6) silty clay loam.

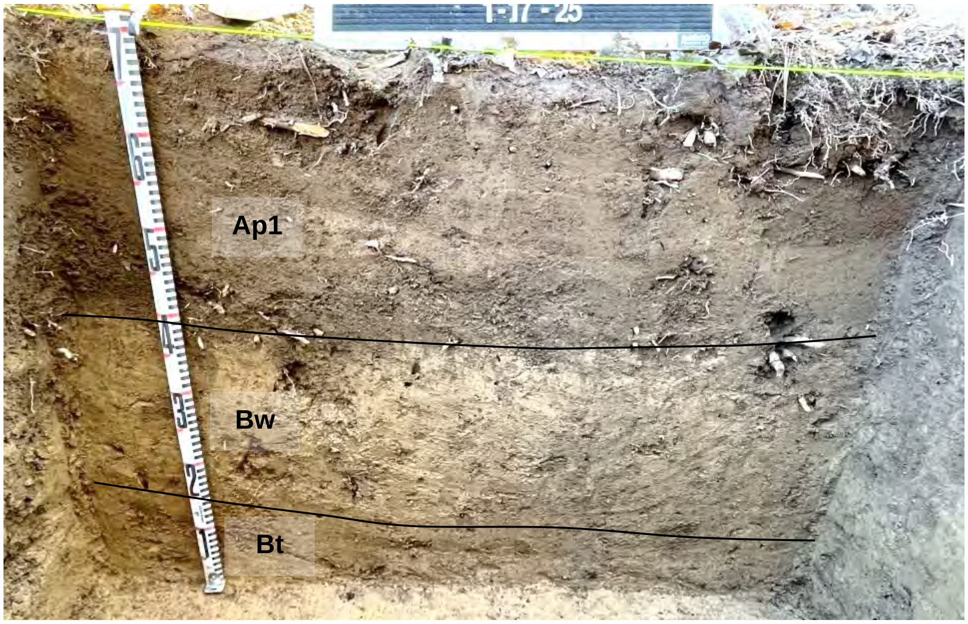


Figure 30. Site 40Sm274, TU 7, south wall profile.

Materials recovered within TU 7 were confined to the Ap horizon. Three pieces of debitage were recovered from Level 1 (0 to 30 cmbs). All subsequent levels in TU 7 were sterile for cultural material.

6.1.2.8 Test Unit TU 8

Test Unit TU 8 was located at N1013.028 E1105.839 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the upper Pleistocene-aged terrace that extends above the lower upper Holocene-aged terrace (see Figure 17). The unit was placed in this location to explore the potential for buried deposits on this much higher and older terrace position.

A total of three levels were excavated to a depth of 40 cmbs (Figure 31). Two stratigraphic horizons were documented in the profile: Ap-Bt. The upper 20 cm of soil was an Ap-horizon consisting of a brown (7.5YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bt is distinct and wavy with large tree roots near the transition between the horizons. The Bt is comprised of a yellowish red (5YR 4/6) sandy clay loam and was excavated in levels 2 and 3.

Figure 31. Site 40Sm274, TU 8, north wall profile.

Materials recovered within TU 8 were confined to the Ap horizon. One historic and 13 pieces of debitage were recovered from Level 1 (0 to 20 cmbs). Levels 2 and 3 were sterile for cultural material.

6.1.2.9 Test Unit TU 9

Test Unit TU 9 was located at N1019.089 E1046.010 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southern face of the ridgelike terrace on which the majority of the precontact occupations are focused within the eastern half of the site (see Figure 17). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 30-11w identified during the Phase I survey.

A total of four levels were excavated to a depth of 75 cmbs (Figure 32). Four stratigraphic horizons were documented in the profile: Ap-Ap2-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Ap2 is distinct and level. The Ap2 is comprised of a dark brown (10YR 3/3) silt loam and was observed between 30 and 40 cmbs, excavated within Level 1. The boundary between the Ap2 and the underlying Bw horizon is diffuse and level. The Bw is comprised of a dark yellowish brown (10YR 4/6) silt loam that transitioned into the underlying C horizon, a yellowish red (5YR 5/6) sandy loam.

Figure 32. Site 40Sm274, TU 9, south wall profile.

Materials recovered within TU 9 were distributed between the Ap / Ap2 and Bw horizons. Table 10 presents artifacts recovered during the test unit excavation. The Ap- and Ap2 horizon produced 65 pieces of debitage, two pieces of FCR, and nine unifaces. Artifact concentration dissipates within the Bw-horizon with 2 pieces of debitage produced from Level 2.

Table 10. Recovered Artifacts, TU 9

Level	Depth (cmbs)	Debitage	FCR	Uniface	Total
1	0-45	65	2	9	**76**
2	45-55	2			**2**
Test Unit 9 Total		**67**	**2**	**9**	**78**

6.1.2.10 Test Unit TU 10

Test Unit TU 10 was located at N1020.089 E1056.010 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southern face of the ridgelike terrace on which the majority of the precontact occupations are focused within the eastern half of the site (see Figure 17). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 30-11 identified during the Phase I survey.

A total of five levels were excavated to a depth of 80 cmbs (Figure 33). Four stratigraphic horizons were documented in the profile: Ap-A-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam. Underlying the Ap is an A horizon comprised of a brown (10YR 4/3) silt loam. Both the Ap and A horizon were excavated as a single level. The boundary between the A and the underlying Bw is indistinct and level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in levels 2 and 3. The Bw transitioned into the underlying C, comprised of a yellowish red (5YR 5/6) sandy loam.

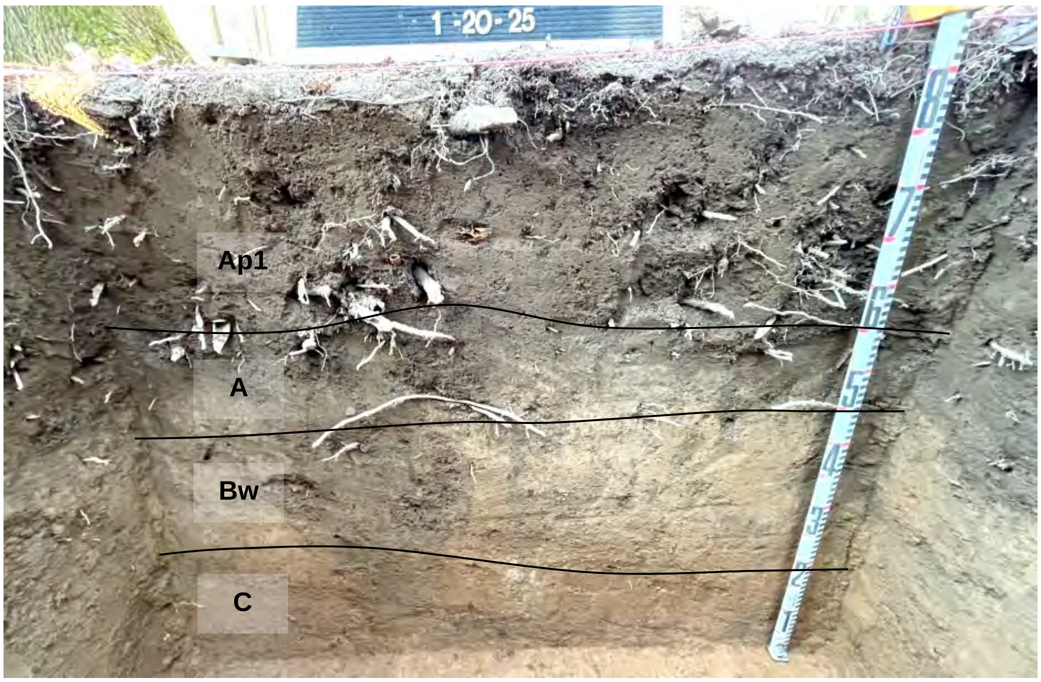


Figure 33. Site 40Sm274, TU 10, north wall profile.

Materials recovered within TU 10 were primarily distributed between the Ap and the upper 10 cm of the Bw horizon. Table 11 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 51 pieces of debitage and four unifaces. Artifact concentration dissipates within the Bw-horizon with one piece of debitage recovered from Level 2.

Table 11. Recovered Artifacts, TU 10

Level	Depth (cmbs)	Debitage	Uniface	Total
1	0-40	51	4	**55**
2	40-50	1		**1**
Test Unit 10 Total		**52**	**4**	**56**

6.1.2.11 Test Unit TU 11

Test Unit TU 11 was located at N978.598 E1059.61 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southern edge of the site above a series of sinkholes (see Figure 15). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 30-9 identified during the Phase I survey.

A total of three levels were excavated to a depth of 50 cmbs (Figure 34). Two stratigraphic horizons were documented in the profile: Ap-Bt. The upper 30 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bt is clear and level. The Bt is comprised of a yellowish brown (10YR 5/6) sandy clay loam and was excavated in levels 2 and 3. Test Unit 11 was sterile for cultural material.

Figure 34. Site 40Sm274, TU 11, north wall profile.

6.1.2.12 Test Unit TU 12

Test Unit TU 12 was located at N980.580 E1099.780 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southeastern edge of the site above a series of sinkholes that define in part the eastern extent of the site (see Figure 17). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 32-9 identified during the Phase I survey.

A total of five levels were excavated to a depth of 70 cmbs (Figure 35). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is clear and level. The Bw is comprised of a yellowish brown (10YR 5/6) silt loam and was excavated in levels 2, 3, and 4. The Bw is underlain by a C horizon comprised of a yellowish brown (10YR 5/8) sandy loam.

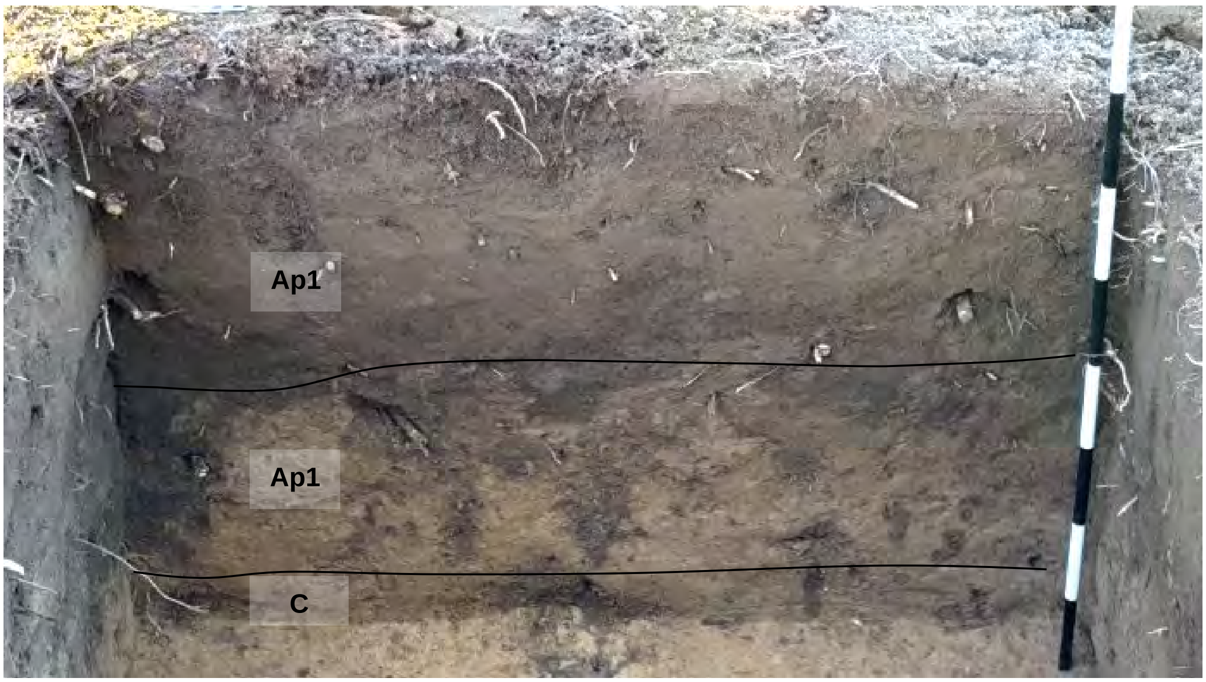


Figure 35. Site 40Sm274, TU 12, east wall profile.

Materials recovered within TU 12 were distributed between the Ap and the upper 10 cm of the Bw horizon. Table 12 presents artifacts recovered during the test unit excavation. The Ap-horizon produced three pieces of debitage and two unifaces. Artifact concentration dissipates within the Bw-horizon with one piece of debitage recovered from Level 2.

Table 12. Recovered Artifacts, TU 12

Level	Depth (cmbs)	Debitage	Uniface	Total
1	0-30	3	2	**5**
2	30-40		1	**1**
Test Unit 12 Total		**3**	**3**	**6**

6.1.2.13 Test Unit TU 13

Test Unit TU 13 was located at N999.81 E1122.570 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the eastern edge of the site within a series of sinkholes that define in part the eastern extent of the site (see Figure 17). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 33-10 identified during the Phase I survey.

A total of five levels were excavated to a depth of 70 cmbs (Figure 36). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 40 cm of soil was an Ap-horizon consisting of a dark brown (10YR 3/3) silt loam and was excavated in Levels 1 and 2. The boundary between the Ap and the underlying Bw is clear and linear. The Bw is comprised of a strong brown (7.5YR 4/6) silt loam and was excavated in levels 3 and 4. The C horizon is a strong brown (7.5YR 5/6) sandy loam exhibiting evidence of leaching.

Figure 36. Site 40Sm274, TU 13, west wall profile.

Materials recovered within TU 13 were recovered from the Ap and Bw horizons (Table 13). One piece of debitage was recovered from level 1 and two unifaces were recovered from level 2.

Table 13. Recovered Artifacts, TU 13

Level	Depth (cmbs)	Debitage	Uniface	Total
1	0-30	1		**1**
2	30-40		2	**2**
Test Unit 13 Total		**1**	**2**	**3**

6.1.2.14 Test Unit TU 14

Test Unit TU 14 was located at N1020.26 E1032.56 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southern face of the ridgelike terrace on which the majority of the precontact occupations are focused within the eastern half of the site (see Figure 17). The unit was placed in this location to explore previous concentrations of precontact artifacts within STP 30-11w+30 identified during the Phase I survey.

A total of five levels were excavated to a depth of 65 cmbs (Figure 37). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 25 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a yellowish brown (10YR 5/6) silt loam and was excavated in levels 2, 3, and 4. The Bw transitioned to a C horizon comprised of a yellowish brown (10YR 5/8) sandy loam. Large roots were observed in the Ap horizon while a rodent burrow extended throughout all levels.

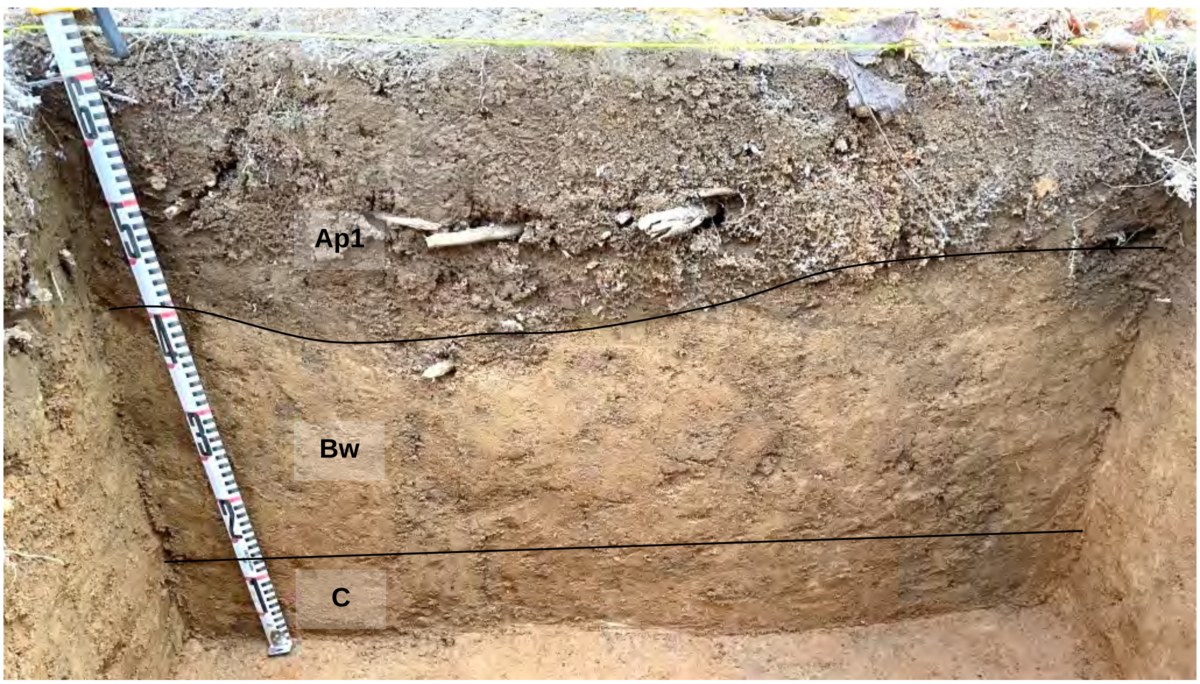


Figure 37. Site 40Sm274, TU 14, east wall profile.

Materials recovered within TU 14 were primarily distributed between the Ap and the upper 20 cm of the Bw horizon. Table 14 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 52 pieces of debitage. An additional 18 pieces of debitage were recovered from the Bw horizon.

Table 14. Recovered Artifacts, TU 14

Level	Depth (cmbs)	Debitage	Total
1	**0-25**	52	52
2	**25-35**	14	14
3	**35-45**	4	4
Test Unit 14 Total		**70**	**70**

6.1.2.15 Test Unit TU 15

Test Unit TU 15 was located at N980.47 E993.23 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the western section of elevated terrace to the south of TU 5 (see Figure 18). The unit was placed in this location to explore previous concentrations of precontact artifacts recovered in STP 26-9e during the Phase I survey.

A total of five levels were excavated to a depth of 70 cmbs (Figure 38). Four stratigraphic horizons were documented in the profile: Ap-AE-Bw-C. The upper 20 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. An AE horizon separated the Ap from the underlying Bw. The AE consisted of a white (10YR 8/1) silt loam that measured only a few centimeters in thickness and was excavated with Level 1. The Bw is comprised of a yellowish brown (10YR 5/6) silt loam and was excavated in lower 10 cm of Level 1, and Levels 2 and 3. The Bw transitioned to a C horizon comprised of a yellowish brown (10YR 5/8) sandy loam.

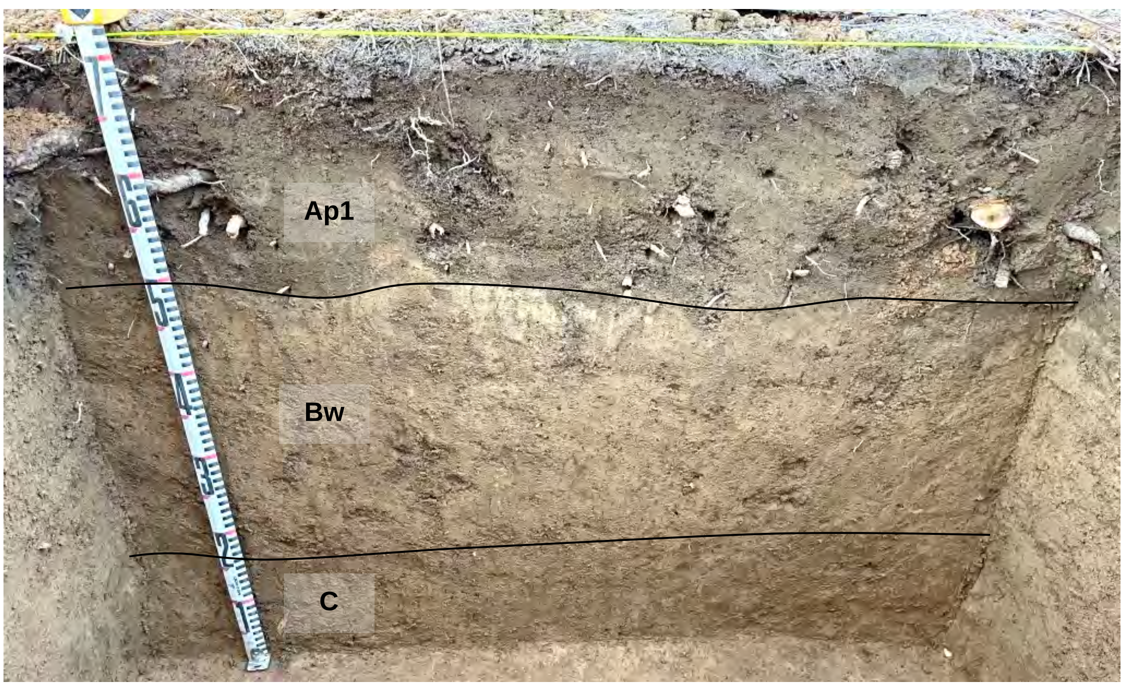


Figure 38. Site 40Sm274, TU 15, west wall profile.

Materials recovered within TU 15 were primarily distributed between the Ap, AE, and the upper 20 cm of the AB horizon. Table 15 presents artifacts recovered during the test unit excavation. Level 1 included the Ap, AE, and upper 10 cm of the Bw horizon. This level produced 21 pieces of debitage and two unifaces. Level 2 was completely within the Bw horizon and produced an additional seven pieces of debitage.

Table 15. Recovered Artifacts, TU 15

Level	Depth (cmbs)	Debitage	Uniface	Total
1	0-30	21	2	**23**
2	30-40	7		**7**
Test Unit 15 Total		**28**	**2**	**30**

6.1.2.16 Test Unit TU 16

Test Unit TU 16 was located at N980.37 E973.07 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the older property line that runs across the elevated terrace (see Figure 18). This area appears to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed in between positive shovel tests STP 26-9 and 26-9w identified during the Phase I survey.

A total of 11 levels were excavated to a depth of 120 cmbs (Figure 39). Six stratigraphic horizons were documented in the profile: Ap-Ap2-A-Bw1-Bw2-C. The upper 40 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated as in Levels 1, 2, and 3. The boundary between the Ap the underlying Ap2 was distinct and level. The Ap2 consists of a very dark grayish brown (10YR 3/2) silt and excavated in Levels 4 and 5. Underlying the Ap2 is an A horizon. The A consists of a dark brown (10YR 3/3) silt loam excavated in Level 6. A diffuse and level boundary separates the A horizon from the underlying Bw1 which consists of a dark yellowish brown (10YR 4/6) silt loam. The Bw1 was excavated in levels 7 and 8. The underlying Bw2 was similar in texture and color to the Bw1 but was dense. The Bw2 was excavated in Level 9 and 10. The subsoil was a C horizon consisting of a dark yellowish brown (10YR 4/6) sandy loam was excavated in Level 11.

Materials recovered within TU 16 were distributed throughout all levels. Most artifacts were recovered from the Ap1 and Ap2 horizons with beginning to dissipate in the A horizon. Table 16 presents artifacts recovered during the test unit excavation. The Ap1-horizon produced two bifaces, two cores, 143 pieces of debitage, three pieces of FCR, one piece of charcoal, and 18 unifaces. The Ap2 horizon produced two bifaces, one core, 152 pieces of debitage, four pieces of FCR, and 12 unifaces. The A horizon produced 51 pieces of debitage and seven unifaces. The Bw1 horizon produced 36 pieces of debitage and three unifaces. The Bw2 produced 15 pieces of debitage. The C horizon produced one piece of debitage and one uniface.

Figure 39. Site 40Sm274, TU 16, south wall profile.

Table 16. Recovered Artifacts, TU 16

Level	Depth (cmbs)	Biface	Core	Debitage	FCR	Charcoal	Uniface	Total
1	0-17			12			6	18
2	14-28	1		71	3	1	7	83
3	26-38	1	2	60			5	67
4	36-48			100	4		8	112
5	46-60	2	1	52			4	59
6	60-70			51			7	58
7	70-80			3				3
8	80-90			33			3	36
9	90-100			10				10
10	100-110			5				5
11	110-120			1			1	2
Test Unit 16 Total		**4**	**3**	**398**	**7**	**1**	**41**	**454**

6.1.2.17 Test Unit TU 17

Test Unit TU 17 was located at N958.21 E969.94 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the older property line that runs across the elevated terrace (see Figure 18). This area appears to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed in between positive shovel tests STP 26-8 and 26-8w identified during the Phase I survey.

A total of nine levels were excavated to a depth of 110 cmbs (Figure 40). Four stratigraphic horizons were documented in the profile: Ap1-Ap2-Bw-C. The upper 40 cm of soil was an Ap1-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated in Levels 1 and 2. The boundary between the Ap1 and the underlying A is indistinct and level. The A is comprised of a dark yellowish brown (10YR 3/4) silt loam and was excavated in Level 3 and the upper five cm of Level 4. The boundary between the A and the underlying Bw is diffuse. The Bw horizon is comprised of a dark yellowish brown (10YR 4/6) silt loam mottled with a yellowish brown (10YR 5/6) silt loam. The Bw was excavated in the lower five cm of Level 4 and Levels 5, 6, 7, 8, and 9. The subsoil was a C horizon consisting of a dark yellowish brown (10YR 4/6) sandy loam.

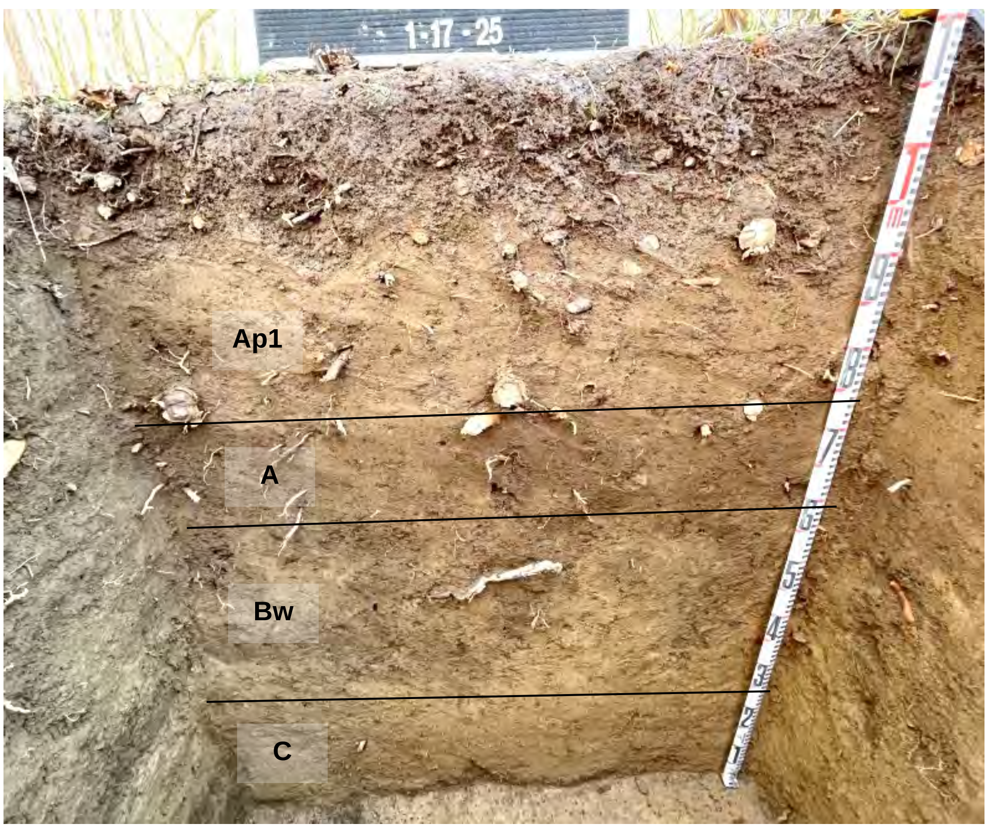


Figure 40. Site 40Sm274, TU 17, east wall profile.

Materials recovered within TU 17 were primarily recovered from the Ap horizon with additional artifacts recovered from the A and Bw horizons. Table 17 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 266 pieces of debitage, 16 unifaces, and one biface. The A horizon, identified in Levels 3 and 4, yielded 49 pieces of debitage, one groundstone, and three unifaces. The Bw horizon yielded 23 pieces of debitage and two unifaces. This material was recovered from Levels 5, 6, and 7.

Table 17. Recovered Artifacts, TU 17

Level	Depth (cmbs)	Biface	Debitage	Groundstone	Uniface	Total
1 Ap	0-30	1	119		10	**130**
2 Ap	30-40		67		6	**73**
3 A	40-50		15		1	**16**
4 A/Bw	50-60		34	1	2	**37**
5 Bw	60-70		14		1	**15**
6 Bw	70-80		8		1	**9**
7 Bw	80-90		1			**1**
Test Unit 17 Total		**1**	**258**	**1**	**21**	**281**

6.1.2.18 Test Unit TU 18

Test Unit TU 18 was located at N960.44 E949.50 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the southwestern edge of the site to the north of an older roadbed (see Figure 18). This portion of the terrace lies directly south of a broad sinkhole that dominates the western half of the site. The unit was placed in this location to explore previous precontact artifact concentrations identified within STP 26-8+30w during the Phase I survey.

A total of six levels were excavated to a depth of 90 cmbs (Figure 41). Three stratigraphic horizons were documented in the profile: Ap-Bw-Bt/C. The upper 40 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and nearly level. The Bw is comprised of a brown (10YR 4/6) silt loam and was excavated in Levels 2, 3, 4, and 5. The boundary between the Bw and underlying Bt / C horizon was distinct and level. The Bt / C horizon is comprised of a dark yellowish brown (1 0YR 4/6) sandy loam.

Materials recovered within TU 18 were primarily within the Ap horizon with artifact density decreasing significantly in the Bw horizon. Table 18 presents artifacts recovered during the test unit excavation. The Ap horizon produced two bifaces, two cores, 148 pieces of debitage, and 22 unifaces. Artifacts were recovered from Levels 2, 3, and 4 of the Bw horizon with artifact density decreasing with depth. This horizon produced a combined total of 37 pieces of debitage and three unifaces. Level 5 of the Bw horizon and the Bt /C horizon were sterile for cultural material.

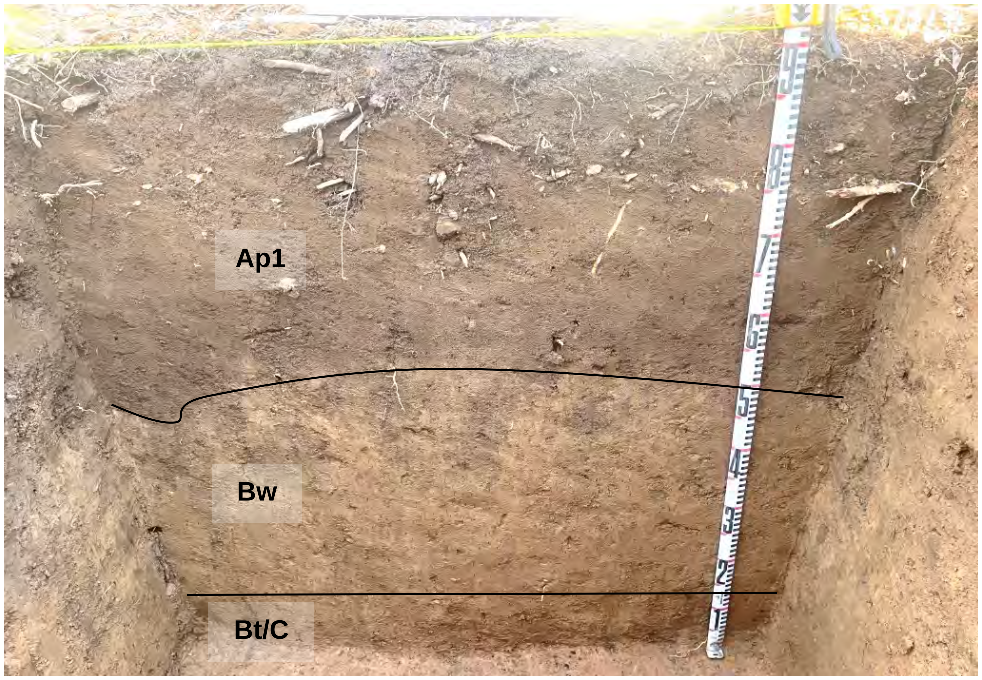


Figure 41. Site 40Sm274, TU 18, east wall profile.

Table 18. Recovered Artifacts, TU 18

Level	Depth (cmbs)	Biface	Core	Debitage	Uniface	Total
1	0-40	2	2	148	22	**174**
2	40-50			23	1	**24**
3	50-60			9	2	**11**
4	60-70			3		**3**
Wall Scrape	0-90			2		**2**
Test Unit 18 Total		**2**	**2**	**185**	**25**	**214**

6.1.2.19 Test Unit TU 19

Test Unit TU 19 was located at N949.51 E980.19 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the southern edge of the site along the older property line and north of the old roadbed that extends across the site just south of the location (see Figure 18). The unit was placed in this location to explore previous precontact artifact concentrations identified in STP 26-8e and 26-7 during the Phase I survey.

A total of seven levels were excavated to a depth of 90 cmbs (Figure 42). Four stratigraphic horizons were documented in the profile: Ap-Bw-Bt-C. The upper 35 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a yellowish brown (10YR 5/6) silt loam and was excavated in Levels 2, 3, and 4. The Bw transitioned into the underlying Bt which is comprised of a yellowish brown

(10YR 5/6) sandy clay loam. The Bt was excavated in Levels 5 and 6. The underlying subsoil is a C horizon comprised of a yellowish brown (10YR 5/8) sandy loam.

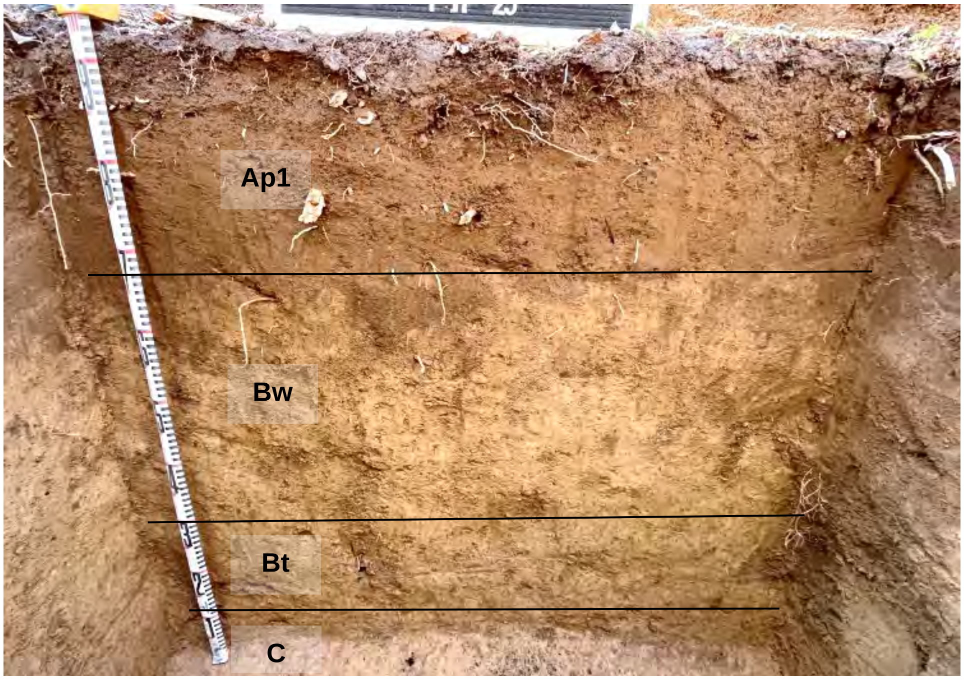


Figure 42. Site 40Sm274, TU 19, south wall profile.

Materials within TU 19 were primarily recovered from the Ap horizon with additional artifacts recovered from the Bw and Bt horizons. Table 19 presents artifacts recovered during the test unit excavation. The Ap horizon (Level 1) produced 56 pieces of debitage and 10 unifaces. Artifact density decreased with depth with seven pieces of debitage and two unifaces recovered from the Bw horizon (Levels 2, 3, and 4). The Bt horizon (Level 5) produced one piece of debitage.

Table 19. Recovered Artifacts, TU 19

Level	Depth (cmbs)	Uniface	Debitage	Total
1	0-35	10	56	66
2	35-45	1	2	3
3	45-55	1	1	2
4	55-65		4	4
5	65-75		1	1
Test Unit 19 Total		**12**	**64**	**76**

6.1.2.20 Test Unit TU 20

Test Unit TU 20 was located at N1010.69 E962.41 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the older property line that runs across the elevated terrace (see Figure 18). This area appears to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed in between positive shovel tests STP 25-10 and 25-11 identified during the Phase I survey.

A total of four levels were excavated to a depth of 65 cmbs (Figure 43). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a yellowish brown (10YR 5/6) silt loam and was excavated in Levels 2 and 3. The subsoil is a C horizon that is comprised of a yellowish brown (10YR 5/6) sandy loam).

Figure 43. Site 40Sm274, TU 20, east wall profile.

Materials recovered within TU 20 were primarily within the Ap horizon. While additional artifacts were recovered from the Bw horizon, artifact density decreased with depth. Table 20 presents artifacts recovered during the test unit excavation. The Ap-horizon (Level 1) produced two cores, 110 pieces of debitage, one fauna, and seven unifaces. The Bw horizon (Level 2) produced 13 pieces of debitage. Level 3 of the Bw horizon and Level 4 of the C horizon were sterile for cultural material.

Table 20. Recovered Artifacts, TU 20

Level	Depth	Core	Debitage	Fauna	Uniface	Total
1	0-35	2	110	1	7	120
2	35-45		13			13
Test Unit 20 Total		**2**	**123**	**1**	**7**	**133**

6.1.2.21 Test Unit TU 21

Test Unit TU 21 was located at N1045.352 E1042.872 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the southern end of S 13.

A total of four levels were excavated to depth of 70 cmbs (Figure 44). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 40 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2 and 3. The underlying subsoil is a C horizon that is comprised of a yellowish red (10YR 5/6) sandy loam.

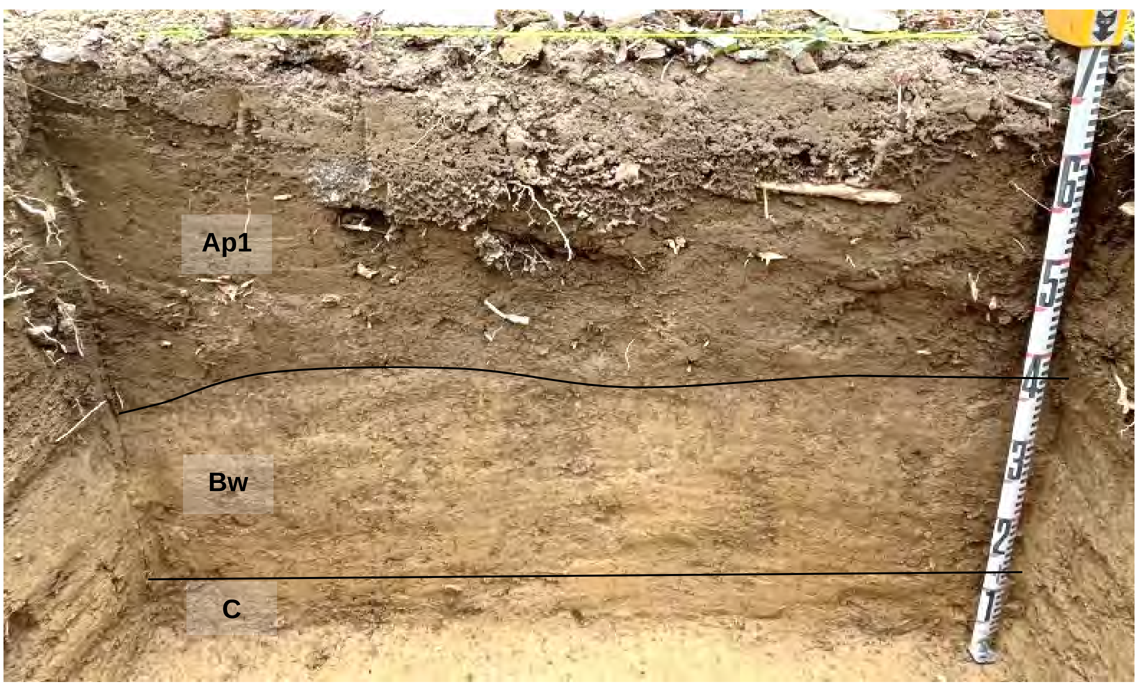


Figure 44. Site 40Sm274, TU 21, south wall profile.

Materials within TU 21 were primarily recovered from the Ap horizon with a discreet number of artifacts recovered from the Bw and C horizons. Table 21 presents artifacts recovered during the test unit excavation. The Ap-horizon (Level 1) produced two bifaces, 117 pieces of debitage, one piece of FCR, and 24 unifaces. One biface recovered from the Ap horizon is an Early Woodland Adena stemmed ppk. The Bw horizon produced two pieces of debitage, and the C horizon produced one piece of debitage.

Table 21. Recovered Artifacts, TU 21

Level	Depth	Biface	Debitage	FCR	Uniface	Total
1	0-40	2	117	1	24	144
2	40-50		2			2
4	60-70		1			1
Test Unit 21 Total		**2**	**120**	**1**	**24**	**147**

6.1.2.22 Test Unit TU 22

Test Unit TU 22 was located at N1044.342 E1026.978 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the southern end of S 16.

A total of four levels were excavated to a depth of 60 cmbs (Figure 45). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and linear. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2 and 3. The underlying subsoil is a C horizon comprised of a brown (7.5YR 5/4) sandy loam.

Materials recovered within TU 22 were distributed between the Ap and the upper 10 cm of the Bw horizon. Table 22 presents artifacts recovered during the test unit excavation. The Ap horizon produced two bifaces, three pieces of debitage, and three unifaces. One biface recovered from the Ap horizon is an Early Archaic Stilwell ppk. The Bw horizon produced one piece of debitage and one uniface.

Figure 45. Site 40Sm274, TU 22, east wall profile.

Table 22. Recovered Artifacts, TU 22

Level	Depth	Biface	Debitage	Uniface	Total
1	0-30	2	3	3	8
2	30-40		1	1	2
Test Unit 22 Total		**2**	**4**	**4**	**10**

6.1.2.23 Test Unit TU 23

Test Unit TU 23 was located at N1053.836 E1025.569 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the northern end of S 16.

A total of five levels were excavated to a depth of 60 cmbs (Figure 46). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and nearly level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2 and 3. The underlying subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam.

Figure 46. Site 40Sm274, TU 23, east wall profile.

Materials recovered within TU 23 were within the Ap horizon (Table 23). The Ap-horizon produced two bifaces, one core, 40 pieces of debitage, and eight unifaces. This material was recovered from Level 1 (0 to 30 cmbs). The remaining levels within TU 23 were sterile for cultural material.

Table 23. Recovered Artifacts, TU 23

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Total
1	0-30	2	1	8	40	51
Test Unit 23 Total		**2**	**1**	**8**	**40**	**51**

6.1.2.24 Test Unit TU 24

Test Unit TU 24 was located at N1056.689 E1041.545 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the northern face of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the center of S 13 above the slope down the northern face of the terrace.

A total of five levels were excavated to a depth of 75 cmbs (Figure 47). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 35 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. Large roots were present throughout the strata. The boundary between the Ap and the underlying Bw is distinct and nearly level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2, 3, and 4. The underlying subsoil is a C horizon comprised of a light yellowish brown (10YR 6/4) sandy loam.

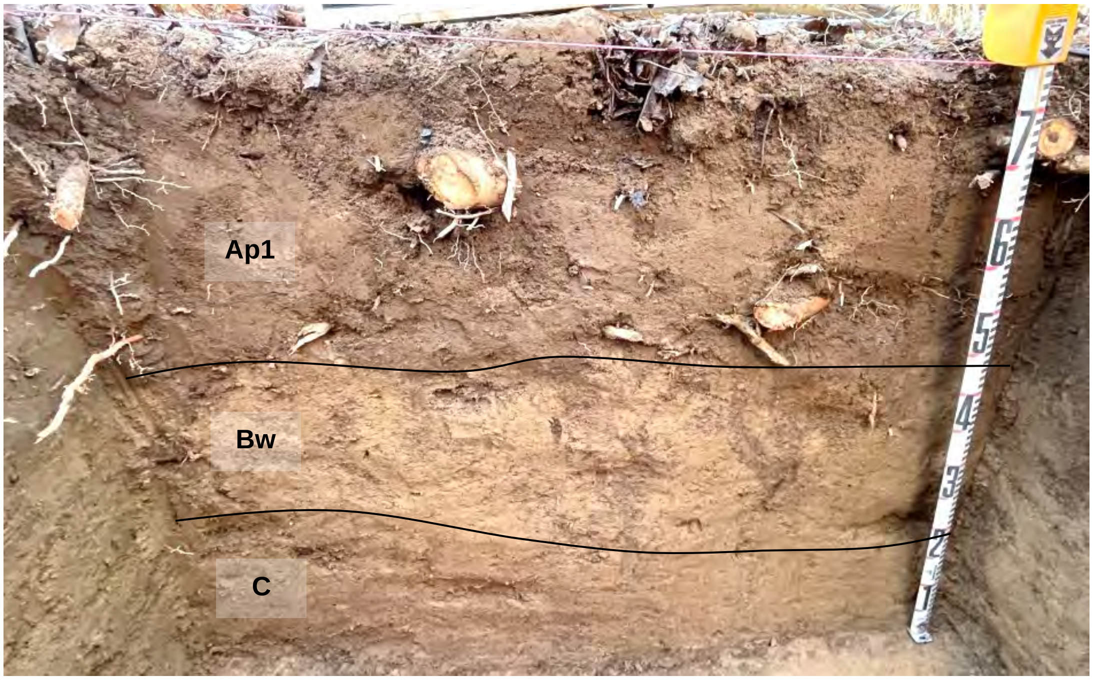


Figure 47. Site 40Sm274, TU 24, west wall profile.

Materials recovered within TU 24 were primarily from the Ap. A discrete number of artifacts was also recovered from the Bw and C horizons. Table 24 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 58 pieces of debitage and nine unifaces. The Bw horizon produced 10 pieces of debitage. The C horizon produced one piece of debitage.

Table 24. Recovered Artifacts, TU 24

Level	Depth	Debitage	Uniface	Total
1	0-35	58	9	67
2	35-45	5		5
3	45-55	4		4
4	55-65	1		1
5	65-75	1		1
Wall Scrape	0-45		1	1
Test Unit 24 Total		**69**	**10**	**79**

6.1.2.25 Test Unit TU 25

Test Unit TU 25 was located at N1033.481 E1062.921 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the southern edge of broad shallow sinkhole that formed along the crest of the ridge like section of terrace (see Figure 17). The stripping of S4, S5, and S12 had identified concentrations of artifacts from the base of the shallow sinkhole, some of which appeared to remain *in situ*. The unit was placed in this location to explore the vertical integrity of the deposits and the potential that some remnant of the precontact occupations may remain intact within and around the shallow sinkhole.

A total of four levels were excavated to a depth of 70 cmbs (Figure 48). Four stratigraphic horizons were documented in the profile: Ap1-Ap2-Bw-C. The upper 40 cm of soil was excavated as a single level and included the Ap1-horizon, consisting of a dark yellowish brown (10YR 4/4), and underlying Ap2, consisting of a very dark grayish brown (10YR 3/2) silt loam. The Ap2 extended into Level 2. The boundary between the Ap2 and the underlying Bw is distinct and wavy. The Bw is comprised of a light yellowish brown (10YR 6/4) silt loam and was excavated in Levels 2 and 3. The subsoil is a C horizon comprised of a light yellowish brown (10YR 6/4) sandy loam.

Figure 48. Site 40Sm274, TU 25, west wall profile.

Materials recovered within TU 25 were primarily within the Ap1 / Ap2 horizon with additional artifacts recovered from the Ap2 and Bw horizons. Table 25 presents artifacts recovered during the test unit excavation. Level 1 consisted of the Ap1and upper 10 cm of the Ap2 horizon. This horizon produced 26 pieces of debitage and one uniface. Level 2 included the lower portion of the Ap2 and the upper 10 cm of the Bw horizon. This level produced seven pieces of debitage and one uniface. The lower 10 cm of the Bw horizon (Level 3) produced 3 pieces of debitage.

Table 25. Recovered Artifacts, TU 25

Level	Depth	Debitage	Uniface	Total
1	0-40	26	1	27
2	40-50	7	1	8
3	50-60	3		3
Test Unit 25 Total		**36**	**2**	**38**

6.1.2.26 Test Unit TU 26

Test Unit TU 26 was located at N1038.657 E1048.298 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the eastern end of S 14.

A total of five levels were excavated to a depth of 70 cmbs (Figure 49). Four stratigraphic horizons were documented in the profile: Ap-AB-Bw-C. The upper 40 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated in Levels 1 and 2. The boundary between the Ap and the underlying AB is distinct and level. The AB is comprised of a dark greyish brown (10YR 4/2) silt loam mottled with a yellowish brown (10YR 5/4) silt loam and was excavated in Level 3. The underlying Bw is comprised of a brownish yellow (10YR 6/6) silt loam that was excavated in Level 4. The subsoil is a C horizon comprised of a reddish yellow (7.5YR 6.6) sandy loam.

Materials recovered within TU 26 were primarily from the Ap horizon with a minimal amount recovered from the AB horizon. Table 26 presents artifacts recovered during the test unit excavation. The Ap horizon produced one biface, 62 pieces of debitage, one groundstone, and 11 unifaces. The AB horizon produced four pieces of debitage and six pieces of FCR.

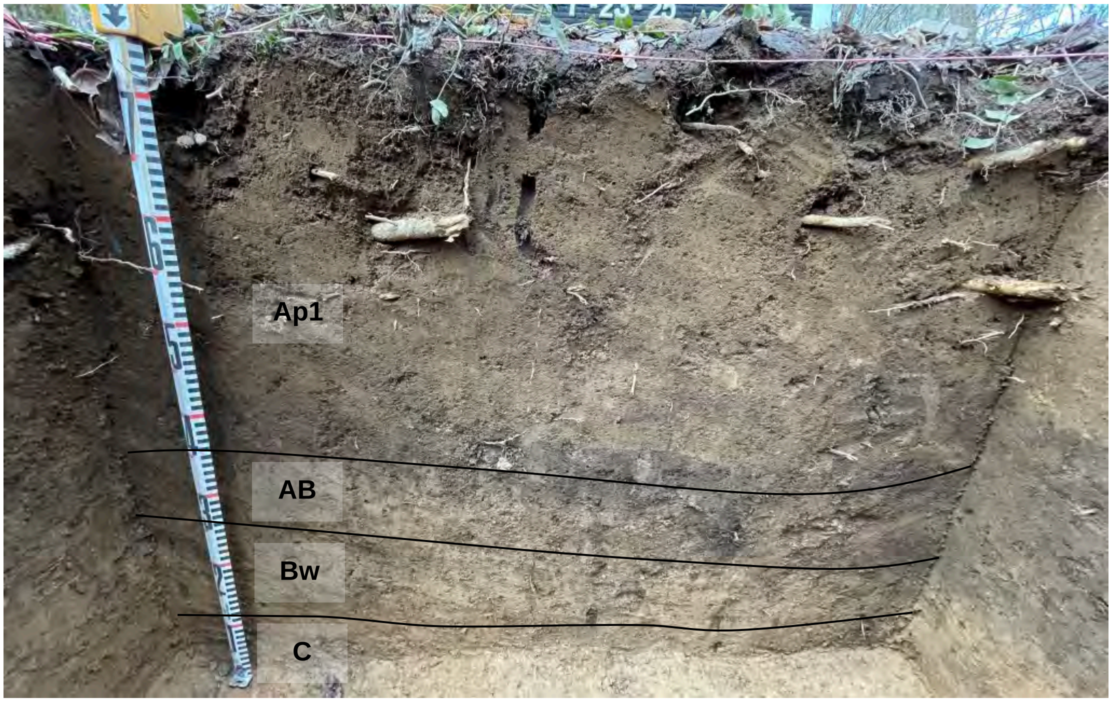


Figure 49. Site 40Sm274, TU 26, north wall profile.

Table 26. Recovered Artifacts, TU 26

Level	Depth	Biface	Debitage	Groundstone	FCR	Uniface	Total
1	0-30	1	46	1		9	57
2	30-40		16			2	18
3	40-50		4		6		10
Test Unit 26 Total		**1**	**66**	**1**	**6**	**11**	**85**

6.1.2.27 Test Unit TU 27

Test Unit TU 27 was located at N1040.541 E1097.792 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the upper Pleistocene-aged terrace that extends above the lower upper Holocene-aged terrace (see Figure 17). The unit was placed in this location to explore a small concentration of artifacts within S 3 and the potential for buried deposits on this much higher and older terrace position.

A total of three levels were excavated to a depth of 55 cmbs (Figure 50). Three stratigraphic horizons were documented in the profile: Ap-Bt-C. The upper 25 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bt is distinct and level. The Bt is comprised of a reddish yellow (5YR 6/6) sandy clay and was excavated in lower 5 cm of Level 1 and Level 2. The Bt horizon became dense in Level 3 where excavations were terminated.

Figure 50. Site 40Sm274, TU 27, west wall profile.

Materials recovered within TU 27 were primarily from the Ap horizon with minimal artifacts recovered from the Bt horizon. Table 27 presents artifacts recovered during the test unit excavation. The Ap-horizon produced 32 pieces of debitage and two unifaces. The Bt horizon produced five pieces of debitage.

Table 27. Recovered Artifacts, TU 27

Level	Depth	Debitage	Uniface	Total
1	0-35	32	2	34
2	35-45	2		2
3	45-55	3		3
Test Unit 27 Total		**37**	**2**	**39**

6.1.2.28 Test Unit TU 28

Test Unit TU 28 was located at N1052.965 E1061.570 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the northern edge of broad shallow sinkhole that formed along the crest of the ridge like section of terrace (see Figure 17). The stripping of S5 had identified concentrations of artifacts from the base of the shallow sinkhole, some of which appeared to remain *in situ*. The unit was placed in this location to explore the vertical integrity of the deposits and the potential that some remnant of the precontact occupations may remain intact within and around the shallow sinkhole.

A total of five levels were excavated to a depth of 80 cmbs (Figure 51). Four stratigraphic horizons were documented in the profile: Ap-AB-Bw-BC. The upper 40 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 3/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying AB is distinct and wavy. The AB is comprised of a dark grayish brown (10YR 4/2) silt loam mottled with a yellowish brown (10YR 5/4) silt loam and was excavated in Level 2. The boundary between the AB and the underlying Bw is distinct and sloped. The Bw is comprised of a brownish yellow (10YR 6/6) silt loam excavated in Levels 3 and 4. The subsoils below the Bw is a BC horizon comprised of a reddish yellow (5YR 6/6) sandy clay.

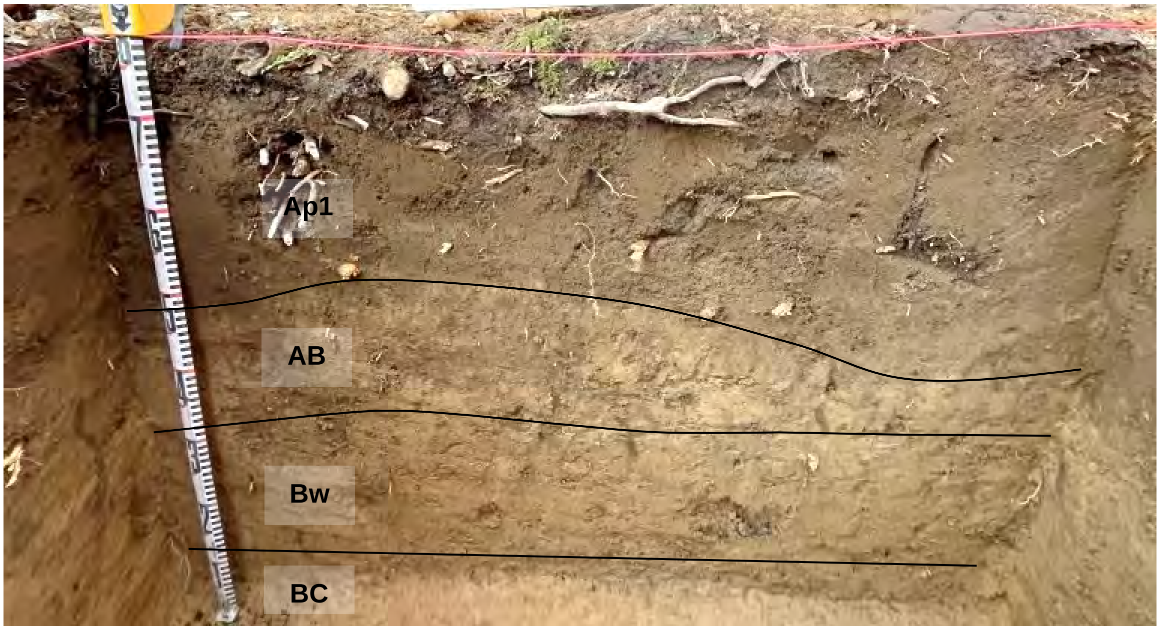


Figure 51. Site 40Sm274, TU 28, north wall profile.

Materials recovered within TU 28 were primarily distributed between the Ap and the AB horizons. A discrete number of artifacts were recovered from the Bw and the BC horizons. Table 28 presents artifacts recovered during the test unit excavation. The Ap-horizon produced two bifaces, 32 pieces of debitage, one piece of FCR, and six unifaces. The AB horizon produced 15 pieces of debitage and one uniface. The upper 10 cm of the Bw horizon (Level 3) was sterile while the lower 10 cm (Level 4) produced one uniface. The BC horizon produced one piece of debitage.

Table 28. Recovered Artifacts, TU 28

Level	Depth	Biface	Debitage	FCR	Uniface	Total
1	0-40	2	32	1	6	41
2	40-50		15		1	16
4	60-70				1	1
5	70-80		1			1
Wall Scrape	0-60		1			1
Test Unit 28 Total		**2**	**49**	**1**	**8**	**60**

6.1.2.29 Test Unit TU 29

Test Unit TU 29 was located at N1048.80 E1013.15 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the crest of the ridge like section of terrace that represents the primary area of occupation within the eastern portion of the site (see Figure 17). The unit was placed in this location to explore artifact concentrations identified within the center of S 17.

A total of three levels were excavated to a depth of 50 cmbs (Figure 52). Two stratigraphic horizons were documented in the profile: Ap-C. The upper 35 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated in Level 1 and the upper 5 cm of Level 2. The boundary between the Ap and the underlying C is distinct and nearly level. The C is comprised of a light yellowish brown (10YR 6/4) coarse sandy loam and was excavated in Levels 2 and 3.

Figure 52. Site 40Sm274, TU 29, north wall profile.

Materials recovered within TU 29 were primarily from the Ap. Table 29 presents artifacts recovered during the test unit excavation. The Ap-horizon produced one biface, 36 pieces of debitage, and four unifaces. Additional artifacts were recovered from Level 2 which consisted of the last 5 cm of the Ap and the upper 5 cm of the C horizon. This boundary level produced five pieces of debitage and one uniface.

Table 29. Recovered Artifacts, TU 29

Level	Depth	Biface	Debitage	Uniface	Total
1	0-30	1	36	4	41
2	30-40		5	1	6
Test Unit 1 Total		**1**	**41**	**5**	**47**

6.1.2.30 Test Unit TU 30

Test Unit TU 30 was located at N1010.70 E953.30 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed just west of the older property line that runs across the elevated terrace (see Figure 18). This area appears to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed west of TU 20 and roughly in between positive shovel tests STP 25-10 and 25-11 identified during the Phase I survey.

A total of 10 levels were excavated to a depth of 120 cmbs (Figure 53). Four stratigraphic horizons were documented in the profile: Ap-BC-C1-C2. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying BC is distinct and slightly sloped. The BC is comprised of a strong brown (7.5YR 5/6) sandy loam and was excavated in Levels 2, 3, 4 and 5. The boundary between the BC and underlying C1 horizon is distinct and level. The C1 horizon is comprised of a yellowish red (5YR 5/6) sandy loam excavated in Levels 5, 6, 7, and 8. The C1 horizon transitioned to a C2 horizon comprised of a yellowish red (5YR 5/6) sand.

Figure 53. Site 40Sm274, TU 30, east wall profile.

Materials recovered within TU 30 were distributed through all levels (Table 30). The Ap-horizon produced four pieces of debitage and one uniface. The BC horizon produced 28 pieces of debitage and three unifaces. Level 5 included the lower 5 cm of the BC and upper 5 cm of the C1 horizons. This level produced seven pieces of debitage and two unifaces. The C1 horizon contained within Levels 6 and 7 produced 7 pieces of debitage and two unifaces. Level 8 included the lower 5 cm of the C1 and upper 5 cm of the C2 horizons. This level produced three pieces of debitage and one uniface. The remainder of the C2 horizon produced six pieces of debitage and one uniface.

Table 30. Recovered Artifacts, TU 30

Level	Depth	Debitage	Uniface	Total
1	0-30	4	1	**5**
2	30-40	19		**19**
3	40-50	4	1	**5**
4	50-60	9	2	**11**
5	60-70	7	2	**9**
6	70-80	1	1	**2**
7	80-90	6	1	**7**
8	90-100	3	1	**4**
9	100-110	3		**3**
10	110-120	3	1	**4**
Test Unit 1 Total		**59**	10	**69**

6.1.2.31 Test Unit TU 31

Test Unit TU 31 was located at N1003.25 E963.10 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the older property line that runs across the elevated terrace (see Figure 18). This area appears to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed approximately mid-way between TU 20 and TU 32, both of which were placed along the crest of the terrace and in proximity to the property line.

A total of five levels were excavated to a depth of 70 cmbs (Figure 54). Four stratigraphic horizons were documented in the profile: Ap-AE-BC-Bt. The upper 25 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying AE is distinct and slightly sloped. The AE is comprised of a white (10YR 8/1) sand and was excavated in the lower 5 cm of Level 1. The underlying BC is comprised of a brownish yellow (10YR 6/6) sandy loam that was excavated in Levels 2, 3, and 4. The subsoil was Bt horizon comprised of a yellowish red (5YR 5/6) sandy clay loam.

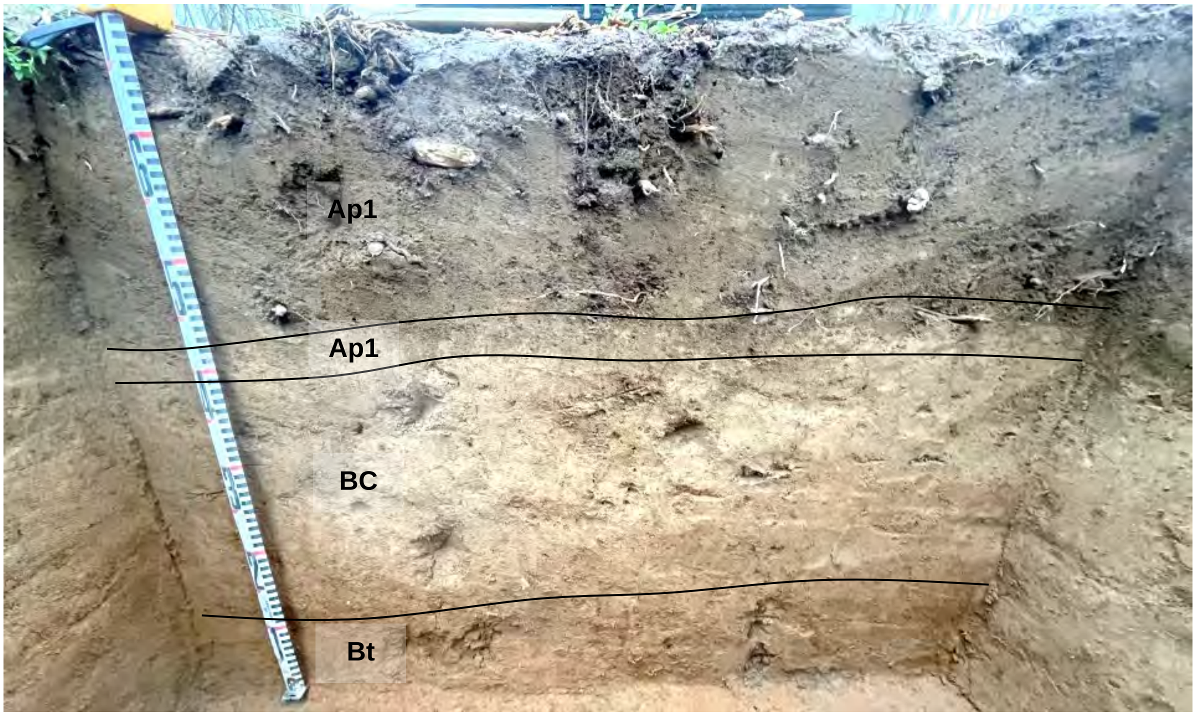


Figure 54. Site 40Sm274, TU 31, north wall profile.

Materials recovered within TU 31 were primarily distributed between the Ap and the upper 20 cm of the BC horizon. Table 31 presents artifacts recovered during the test unit excavation. The Ap-horizon produced one biface, 34 pieces of debitage, and one uniface. The BC horizon produced six pieces of debitage.

Table 31. Recovered Artifacts, TU 31

Level	Depth	Biface	Debitage	Uniface	Total
1 Ap/AE	0-30	1	34	1	36
2 BC	30-40		4	2	6
3 BC	40-50		2		2
Test Unit 31 Total		**1**	**40**	**3**	**44**

6.1.2.32 Test Unit TU 32

Test Unit TU 32 was located at N971.40 E962.50 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed west of the older property line that runs across the elevated terrace, and just north of the I-40 northern ROW boundary fence (see Figure 18). This area appeared to have been less impacted by previous agricultural activity, and the unit was placed here to ascertain if intact strata and archaeological deposits remain. The unit was placed also to the southeast of the large sinkhole-derived depression that appears central to the precontact occupations lodged in the western half of the site.

A total of five levels were excavated to a depth of 75 cmbs (Figure 55). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 25 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in the lower 10 cm of Level and Levels 2, 3, and 4. The subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam.

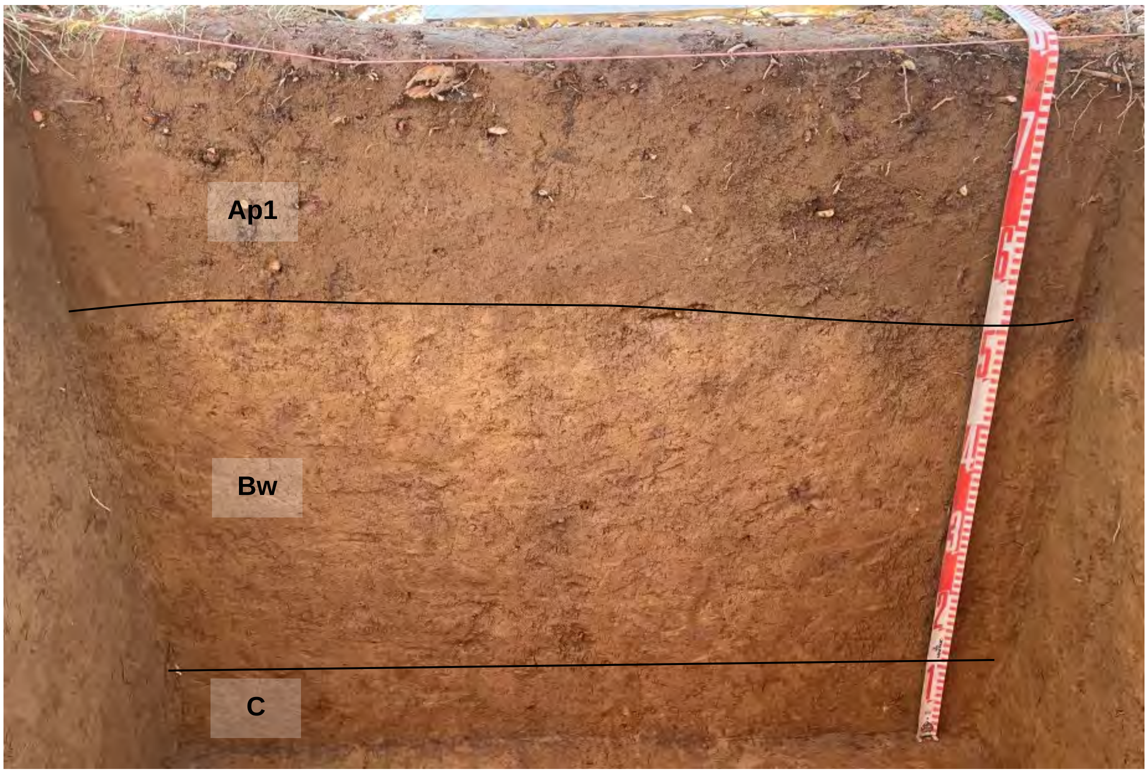


Figure 55. Site 40Sm274, TU 32, south wall profile.

Materials within TU 32 were recovered from Level 1. This level included the Ap horizon and the upper 10 cm of the Bw horizon. Level 1 produced two bifaces, 57 pieces of debitage, one piece of shale, and 10 unifaces (Table 32). All subsequent levels were sterile for cultural material.

Table 32. Recovered Artifacts, TU 32

Level	Depth (cmbs)	Biface	Uniface	Debitage	Misc.	Total
1	0-35	2	10	57	1	70
Test Unit 32 Total		**2**	**10**	**57**	**1**	**70**

6.1.2.33 Test Unit TU 33

Test Unit TU 33 was located at N969.898 E984.013 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the western section of elevated terrace to the south of TU 15 and just north of the I-40 northern ROW boundary fence (see Figure 18). The crest of the elevated terrace was found to contain deeper deposits, and the test unit was placed in this position to provide a greater sample of those deposits.

A total of six levels were excavated to a depth of 85 cmbs (Figure 56). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 25 to 30 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated in Level 1. The lower 5 cm of Level 1 included the underlying Bw horizon which consisted of a yellowish brown (10YR 5/4) silt loam. The Bw was excavated in Levels 2, 3, and 4. The lower 5 cm of Level 4 also included the underlying C horizon which consisted of a yellowish red (5YR 5/6) sandy loam. The C horizon extended to the floor of the unit.

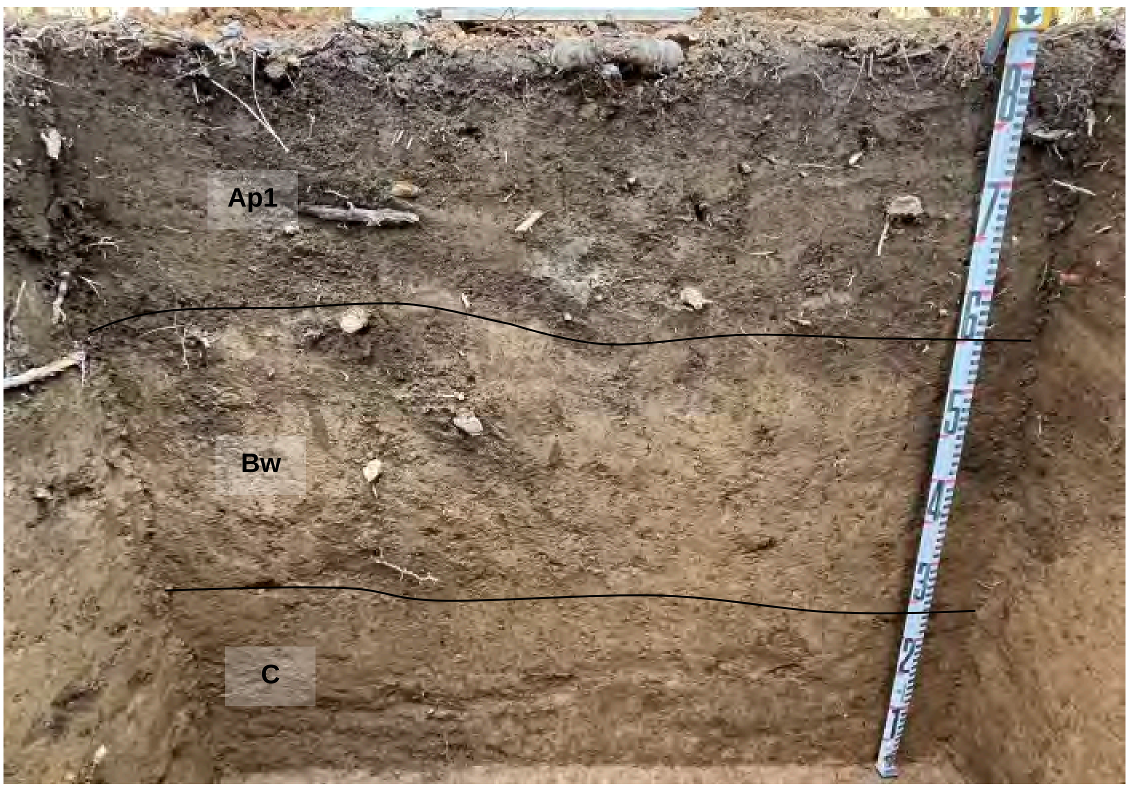


Figure 56. Site 40Sm274, TU 33, east wall profile.

Materials recovered within TU 33 were distributed between the Ap and the upper 25 cm of the Bw horizon. Table 33 presents artifacts recovered during the test unit excavation. The Ap-horizon produced one biface, 80 pieces of debitage, and eight unifaces. The Bw horizon produced six pieces of debitage and one uniface.

Table 33. Recovered Artifacts, TU 33

Level	Depth	Biface	Debitage	Uniface	Total
1	0-35	1	80	8	**89**
2	35-45		5	1	**6**
3	45-55		1		**1**
Test Unit 33 Total		**1**	**86**	**9**	**96**

6.1.2.34 Test Unit TU 34

Test Unit TU 34 was located at N983.40 E901.03 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the far western portion of the site above the central sinkhole-derived depression that dominates the western portion of the site (see Figure 18). Stripping within SB27 and SB34 and SB26 noted artifact concentrations within the general area, and the test unit was placed centrally to all three to provide a controlled sample.

A total of five levels were excavated to a depth of 70 cmbs (Figure 57). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and nearly level. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2 and 3. The subsoils is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam.

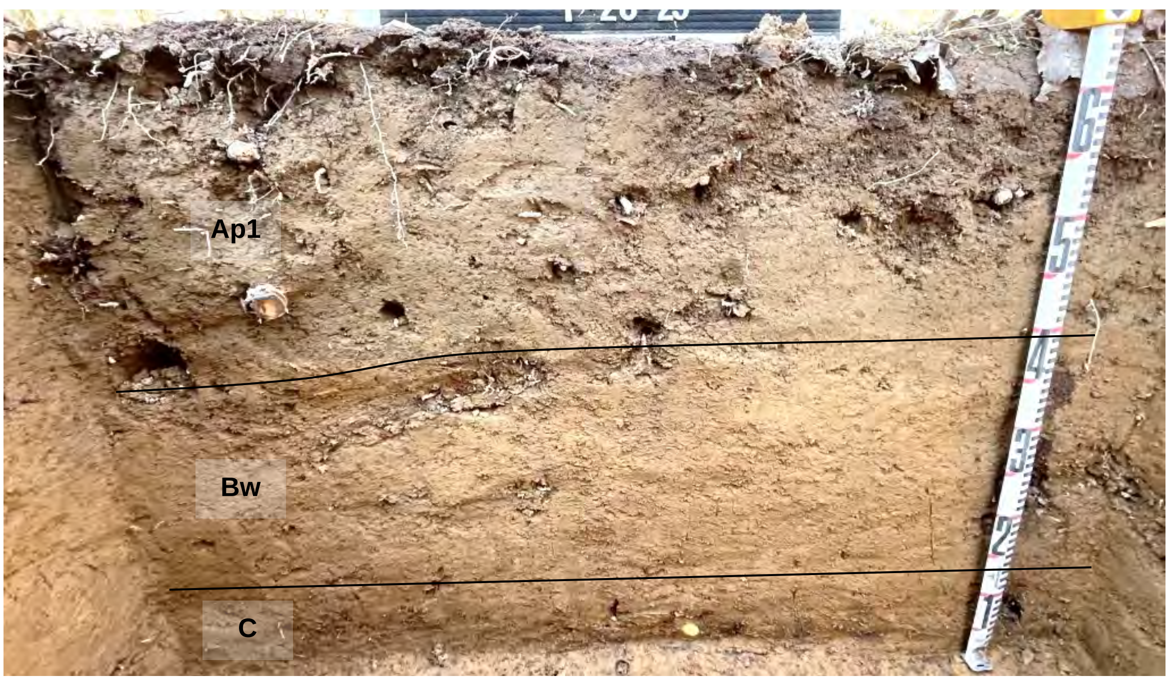


Figure 57. Site 40Sm274, TU 34, north wall profile.

Materials recovered within TU 34 were primarily distributed between the Ap and the upper 10 cm of the Bw horizon. Table 34 presents artifacts recovered during the test unit excavation. The Ap-horizon produced one biface, nine pieces of debitage, and three unifaces. The Bw horizon produced one pieces of debitage and three unifaces.

Table 34. Recovered Artifacts, TU 34

Level	Depth	Biface	Debitage	Uniface	Total
1	0-28	1	9	3	13
2	28-38		1	3	4
Test Unit 34 Total		**1**	**10**	**6**	**17**

6.1.2.35 Test Unit TU 35

Test Unit TU 35 was located at N1000.20 E941.90 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the northern edge of the sinkhole-derived depression that dominates the western portion of the site (see Figure 18). Deeper soils that were unlike other portions of the terraces were noted in TU 30 and this unit was placed in this position to obtain an additional controlled sample along the northern terrace edge.

A total of five levels were excavated to a depth of 60 cmbs (Figure 58). Four stratigraphic horizons were documented in the profile: Ap-Bw-C1-C2. The upper 20 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a light brown (7.5YR 6/4) silt loam and was excavated in Levels 2 and 3. The boundary between the Bw underlying C1 horizon is diffuse and level. The C1 is comprised of a yellowish red (5YR 5/6) sandy clay loam and was excavated in Level 4. The C1 transitioned to a C2 comprised of a yellowish red (5YR 5/6) sandy loam.

Materials recovered within TU 35 were distributed between the Ap and the upper 10 cm of the Bw horizon. Table 35 presents artifacts recovered during the test unit excavation. The Ap-horizon produced two pieces of debitage and two unifaces. The Bw horizon produced four pieces of debitage.

Figure 58. Site 40Sm274, TU 35, west wall profile.

Table 35. Recovered Artifacts, TU 35

Level	Depth	Debitage	Uniface	Total
1	0-20	2	2	4
2	20-30	4		4
Test Unit 35 Total		**6**	**2**	**8**

6.1.2.36 Test Unit TU 36

Test Unit TU 36 was located at N973.65 E944.00 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the southern slope coming down into the broad sinkhole-derived depression in the western portion of the site (see Figure 18). Strip Block SB26 uncovered extensive lithic debris across the base of the depression and extremely deep soil deposits. The unit was placed on the side slope of the depression in a hope of reaching basal soil deposits within the confines of 120 cm maximum excavation depth.

A total of five levels were excavated to a depth of 80 cmbs (Figure 59). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 30 to 50 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated in Levels 1 and 2. The boundary between the Ap and the underlying Bw is distinct and sloped. The Bw is comprised of a yellowish brown (10YR 5/4) silt loam and was excavated in Levels 2, 3, and 4. The subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam excavated to the base of the unit.

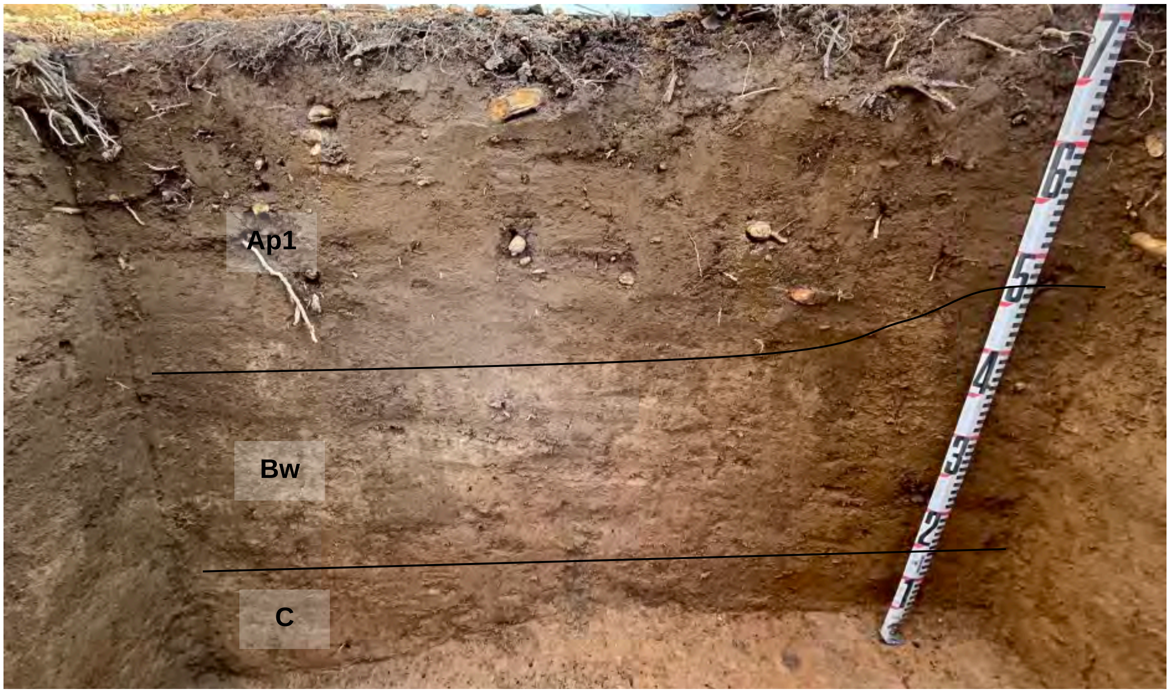


Figure 59. Site 40Sm274, TU 36, east wall profile.

Materials recovered within TU 36 were primarily distributed between the Ap and the upper 10 cm of the Bw horizon. Table 36 presents artifacts recovered during the test unit excavation. Level 1 of the Ap-horizon produced 66 pieces of debitage and 15 unifaces. Level 2 consisted of the lower portion of the Ap horizon and the upper portion of the Bw horizon. This level produced seven pieces of debitage and one uniface. Level 3 consisted of the Bw horizon and produced two pieces of debitage and two unifaces.

Table 36. Recovered Artifacts, TU 36

Level	Depth	Debitage	Uniface	Total
1	0-45	66	15	81
2	45-55	7	1	8
3	55-65	2	2	4
Test Unit 36 Total		**75**	**18**	**93**

6.1.2.37 Test Unit TU 37

Test Unit TU 37 was located at N968.25 E912.57 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the far western portion of the site above the central sinkhole-derived depression that dominates the western portion of the site (see Figure 18). Stripping within SB33 noted artifact concentrations within the general area, and the test unit was placed to the north of this block, placing it between these concentrations and the broad depression.

A total of six levels were excavated to a depth of 90 cmbs (Figure 60). Four stratigraphic horizons were documented in the profile: Ap-A-Bw-C. The upper 35 cm of soil was an Ap-horizon consisting of a brown (10YR 4/3) silt loam and was excavated as a single level. The boundary between the Ap and the underlying A is distinct and level. The A is comprised of a dark yellowish brown (10YR 4/4) silt loam mottled with a light yellowish brown (10YR 6/4) silt loam and was excavated in Levels 1 and 2. The boundary between the A and underlying Bw horizon is diffuse. The Bw is comprised of a light yellowish brown (10YR 6/4) silt loam and excavated in Levels 2, 3, 4, and 5. The sub soil is a C horizon comprised of a reddish yellow (5YR 6/6) sandy loam and excavated to the base of the unit.

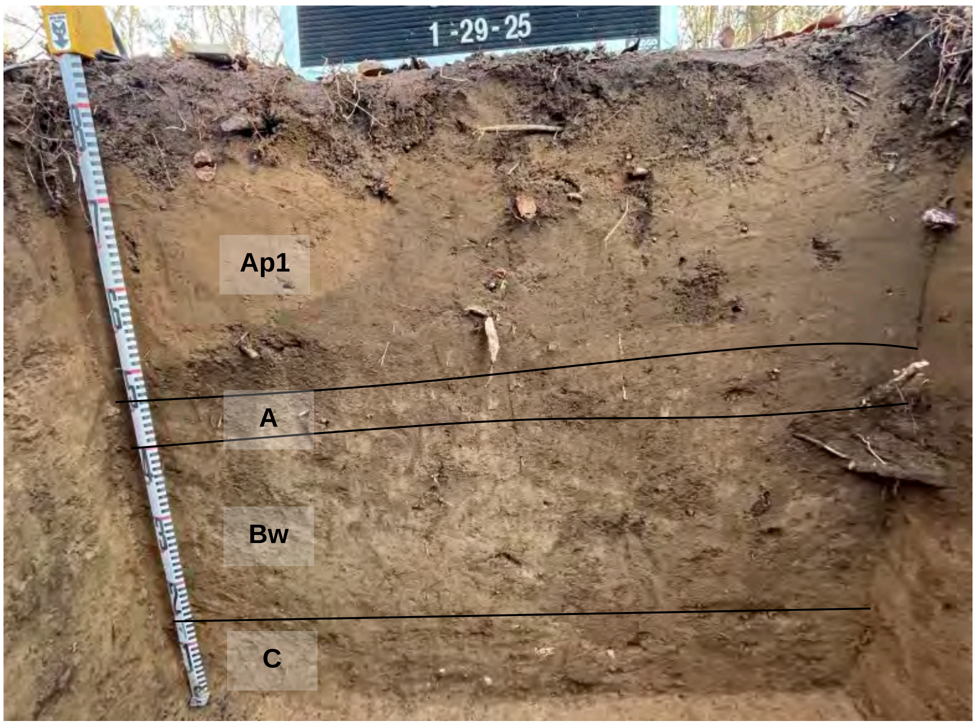


Figure 60. Site 40Sm274, TU 37, north wall profile.

Materials recovered within TU 37 were distributed between the Ap, A, and the upper 15 cm of the Bw horizon. Table 37 presents artifacts recovered during the test unit excavation. Level 1 produced 16 pieces of debitage and seven unifaces. This level includes the Ap horizon and the upper 5 cm of the A horizon. Level 2 produced three pieces of debitage and one biface. This level includes the lower 5 cm of the A horizon and the upper 5 cm of the Bw horizon. Level 3, comprised entirely of the Bw horizon, produced three pieces of debitage.

Table 37. Recovered Artifacts, TU 37

Level	Depth	Biface	Debitage	Uniface	Total
1 Ap	0-40		16	7	23
2 A/Bw	40-50	1	3		4
3 Bw	50-60		3		3
Test Unit 37 Total		**1**	**22**	**7**	**30**

6.1.2.38 Test Unit TU 38

Test Unit TU 38 was located at N1047 E1066.70 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the eastern side of SB5 one meter north of SB5 intersection within SB24 (see Figure 17). The unit was placed within the sinkhole-derived broad depression that dominates this portion of the central ridge like portion of the terrace (Figure 61). Extensive artifact concentrations were noted within the adjacent strip blocks, and the test unit was placed in this location to provide a controlled vertical sample of these materials.

A total of 10 levels were excavated to a depth of 120 cmbs (Figure 62). Five stratigraphic horizons were documented in the profile: Ap-A-Bw1-Bw2-C. The upper 40 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated in Levels 1 and 2. The boundary between the Ap and the underlying A is distinct and level. The A is comprised of a dark yellowish brown (10YR 4/4) silt loam mottled with a light yellowish brown (10YR 6/4) silt loam and was excavated in Level 3. The A horizon is underlaid by a Bw1 horizon. The Bw1 is a light brown (7.5YR 6/4) silt loam excavated in Levels 4, 5, and 6. The Bw1 transitions to a Bw2. Though similar in color and texture, the Bw2 is denser than the Bw1. The Bw2 was excavated in Levels 7, 8, and 9. The subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam that was excavated to the base of the unit.

Materials recovered within TU 38 were primarily distributed between the Ap and the A horizon. Table 38 presents artifacts recovered during the test unit excavation. The Ap-horizon produced two bifaces, 56 pieces of debitage, and 10 unifaces. One biface recovered the Ap horizon is a Late Woodland / Mississippian Madison ppk. The A horizon produced two bifaces, 21 pieces of debitage, and one uniface. Artifact concentration dissipates within the Bw-horizon with a combined total of 17 pieces of debitage recovered from Levels 4, 5, and 6.

Figure 61. Plan view of units placed around the eastern sinkhole.

Figure 62. Site 40Sm274, TU 38, east wall profile.

Table 38. Recovered Artifacts, TU 38

Level	Depth	Biface	Debitage	Uniface	Total
1 Ap	0-30	2	25	2	**29**
2 Ap	30-40	2	31	8	**41**
3 A	40-50	2	21	1	**24**
4 Bw1	50-60		8	1	**9**
5 Bw1	60-70		7		**7**
6 Bw1	70-80		2		**2**
Test Unit 38 Total		**6**	**94**	**12**	**112**

6.1.2.39 Test Unit TU 39

Test Unit TU 39 was located at N1040 E1066.70 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the eastern side of SB5 one meter north of SB5's intersection with SB4 (see Figures 17 and 61). The unit was placed within the sinkhole-derived broad depression that dominates this portion of the central ridge like portion of the terrace. Extensive artifact concentrations were noted within the adjacent strip blocks, and the test unit was placed in this location to provide a controlled vertical sample of these materials. The test unit was encapsulated within SB48 following excavation.

A total of seven levels were excavated to a depth of 90 cmbs (Figure 63). Five stratigraphic horizons were documented in the profile: Ap1-Ap2-A-Bw-C. The upper 35 cm of soil was an Ap1-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated in Levels 1 and 2. The Ap1 is underlain by an Ap2 horizon of a similar color and texture that was excavated in Levels 2 ad 3. The boundary between the Ap2 and the underlying A is distinct and level. The A is comprised of a dark yellowish brown (10YR 4/4) silt loam mottled with a light yellowish brown (10YR 6/4) silt loam that was excavated in Level 4. Underlying the A is a Bw horizon comprised of light brown (7.5YR 6/4) silt loam excavated in Levels 4, 5, and 6. The subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam that was excavated to the base of the unit.

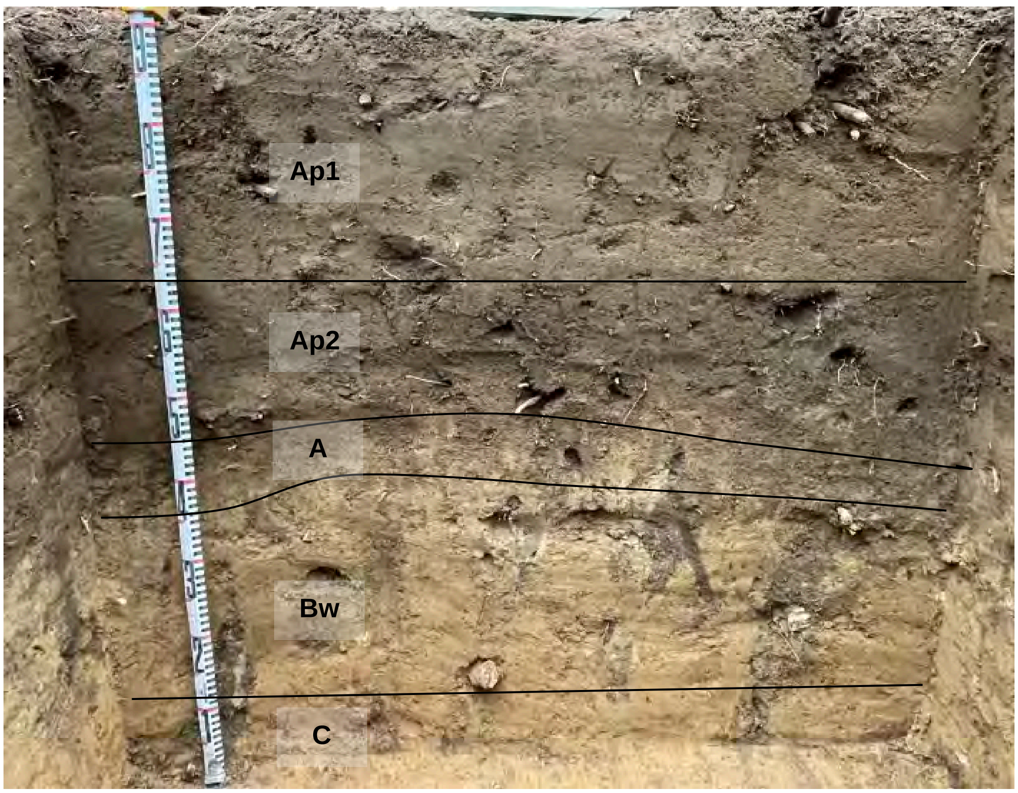


Figure 63. Site 40Sm274, TU 39, east wall profile.

Materials recovered within TU 39 were primarily distributed between the Ap1 and Ap2 horizons. Table 39 presents artifacts recovered during the test unit excavation. The Ap1 and Ap2-horizons produced two cores, 43 pieces of debitage, and 12 unifaces. Artifact concentration dissipates within the Bw-horizon with a combined total of six pieces of debitage recovered from Levels 5 and 6.

Table 39. Recovered Artifacts, TU 39

Level	Depth	Core	Debitage	Uniface	Total
1 Ap1	0-30	1	24	4	29
2 Ap1/Ap2	30-40	1	11	6	18
3 Ap2	40-50		8	2	10
5 Bw	60-70		4		4
6 Bw	70-80		2		2
Test Unit 39 Total		**2**	**49**	**12**	**63**

6.1.2.40 Test Unit TU 40

Test Unit TU 40 was located at N1035 E1070.50 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed 3.5 m east of the intersection of SB4 and SB5 strip blocks and one meter south of the southern wall of SB4 (see Figures 17 and 61). An intact AB/AE horizon was noted at the base of SB4, and the unit was placed in this position to provide a controlled vertical sample of the deposits. The unit is located near the southern extent of the broad sinkhole-derived depression that dominates this portion of the ridge like terrace area.

A total of nine levels were excavated to a depth of 120 cmbs (Figure 64). Five stratigraphic horizons were documented in the profile: Ap1-Ap2-AE-Bw-C. The upper 25 cm of soil was an Ap1-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam. The Ap1 was followed by an Ap2 of a similar texture and color. The Ap1 and Ap2 were excavated in Levels 1, 2, and 3. The boundary between the Ap2 and the underlying AE is distinct and level. The AE is comprised of a white (10YR 8/1) silt loam and was excavated in Level 4. The AE is underlain by a Bw horizon. The Bw is comprised of light brown (7.5YR 6/4) silt loam excavated in Levels 4 through 9. The subsoil is a C horizon comprised of a yellowish red (5YR 5/6) sandy loam that was excavated to the base of the unit.

Materials recovered within TU 40 were primarily distributed between the Ap1, Ap2, and the AE horizons. Table 40 presents artifacts recovered during the test unit excavation. The Ap-horizons produced a combined total of one biface, one core, 47 pieces of debitage, two groundstones, one manuport, and 10 unifaces. The AE horizon produced 21 pieces of debitage and one uniface. Artifact concentration dissipates within the Bw-horizon. Levels 5, 8, and 9 produced a combined total of four pieces of debitage.

Figure 64. Site 40Sm274, TU 40, east wall profile.

Table 40. Recovered Artifacts, TU 40

Level	Depth	Biface	Core	Debitage	Groundstone	Manuport	Uniface	Total
1 Ap1	0-25			20			2	22
2 Ap1/2	25-40			20	2		6	28
3 Ap2	40-50	1	1	7		1	2	12
4 AE	50-60			21			1	22
5 Bw	60-70			2				2
8 Bw	90-100			1				1
9 Bw	100-110			1				1
Test Unit 40 Total		**1**	**1**	**72**	**2**	**1**	**11**	**88**

6.1.2.41 Test Unit TU 41

Test Unit TU 41 consists of eight consecutive 1-x-1-m (3.3-x-3.3-ft) test units that formed a contiguous 2 m wide by 4 m long excavation block set within the base of SB5 (see Figures 17 and 61). The units are identified as 41A through 41H (Figure 65). The northern corner of the 2-x-4-m block aligned with northern wall of TU 38 and extended west two meters and four meters to the south within SB5. The units were placed at the interface of the Ap2 and the underlying AB/AE horizon in which a limited number of tools were noted along the base of SB5. These unit were placed in this orientation to improve the controlled collection of materials from the underlying intact stratum and explore horizontally the density of artifacts that up to that point had been sampled only as single 1-x-1-m units.

Each test unit was excavated from 35 to 45 cmbs (Figure 19). Two stratigraphic horizons were documented in the profile: AE-Bw. The soils consisted of an AE horizon over a Bw horizon. The AE was a strong brown (7.5YR 5/6) silt loam excavated in Level 1. The base of each unit transitioned to a Bw consisting of a strong brown (7.5YR 5/6) silty clay.

Figure 65. Site 40Sm274, TU 41 planview, facing north.

Materials recovered within TU 41 were recovered from the AE horizon. Table 41 presents artifacts recovered during the test unit excavation. A combined total of two bifaces, one core, 119 pieces of debitage, and six unifaces were recovered from TU 41A, TU 41B, TU 41C, TU41D, TU 41F, and TU 41G.

Table 41. Recovered Artifacts, TU 41

Provenience	Level	Depth	Biface	Core	Debitage	Uniface	Total
TU 41A	1	35-45			7		**7**
TU 41B	1	35-45	1		11		**12**
TU 41C	1	35-45			15	2	**17**
TU 41D	1	35-45			44	1	**45**
TU 41F	1	35-45	1		17	2	**20**
TU 41G	1	35-45		1	16		**17**
TU 41H	1	35-45			9	1	**10**
Test Unit 41 Total			**2**	**1**	**119**	**6**	**128**

6.1.2.42 Test Unit TU 42

Test Unit TU 42 was located at N987.11 E943.91 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed along the eastern slope coming down into the broad sinkhole-derived depression in the western portion of the site (see Figure 18). The unit was placed directly north of TU 36 to explore the nature of deposits within the depression moving away from the dense debris noted within Strip Block SB26. The unit was placed on the side slope of the depression in a hope of reaching basal soil deposits within the confines of 120 cm maximum excavation depth.

A total of 10 levels were excavated to a depth of 120 cmbs (Figure 66). Six stratigraphic horizons were documented in the profile: Fill1-Fill2-Ap-A-BC-C. The upper 60 cm of soil was disturbed fill consisting of a dark yellowish brown (10YR 4/4) sandy loam that became denser with depth. The fill horizon was excavated in Levels 1, 2, 3, and 4. A second fill horizon was observed between 60 and 65 cmbs. This fill horizon consisted of a brownish yellow (10YR 6/6) sand. Intact soil horizons were identified underlying the fill horizons consisting of an Ap-A-BC-C sequence that slopes distinctly to the west. The Ap is comprised of a dark yellowish brown (10YR 3/4) sandy loam and excavated in Levels 4, 5, 6, and 7. The A horizon is comprised of a dark yellowish brown (10YR 3/4) very fine sandy loam that was excavated in Levels 7, 8, 9, and 10. The BC horizon is comprised of a light yellowish brown (10YR 6/4) sandy clay loam that was excavated in Levels 9 and 10. The C horizon is comprised of a yellow (10YR 7/6) sand that was excavated in Level 10.

Figure 66. Site 40Sm274, TU 42, west wall profile.

Materials recovered within TU 42 were primarily distributed between the disturbed fill and the Ap horizon. Artifact density decreased with depth Table 42 presents artifacts recovered during the test unit excavation. The fill horizon produced 44 pieces of debitage, one piece of shale, and 11 unifaces. The Ap horizon produced 26 pieces of debitage and three unifaces. The boundary between the Ap and A horizon (Level 7) produced two bifaces, 10 pieces of debitage, and one uniface. The A horizon produced 8 pieces of debitage. Level 9 which included both the A and BC horizons produced 4 pieces of debitage, and two pieces of debitage were produced from Level 10.

Table 42. Recovered Artifacts, TU 42

Level	Depth	Biface	Debitage	Misc.	Uniface	Total
1	0-30		9		2	**11**
2	30-40		7	1	4	**12**
3	40-50		11		1	**12**
4	50-60		17		4	**21**
5	60-70		16		1	**17**
6	70-80		10		2	**12**
7	80-90	2	10		1	**13**
8	90-100		8			**8**
9	100-110		4			**4**
10	110-120		2			**2**
Test Unit 42 Total		**2**	**94**	**1**	**15**	**112**

6.1.2.43 Test Unit TU 43

Test Unit TU 43 was located at N981.78 E962.82 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed west of the older property line that runs across the elevated terrace, and along the eastern edge of the broad sinkhole-derived depression that dominates the western half of the site (see Figure 18). The nearby S43 produced significant artifact concentrations, and the unit was placed in this position to provide a controlled sample.

A total of six levels were excavated to a depth of 80 cmbs (Figure 67). Four stratigraphic horizons were documented in the profile: Ap-AE-Bw-C. The upper 25 cm of soil was an Ap-horizon consisting of a dark yellowish brown (10YR 4/4) silt loam and was excavated as a single level. The boundary between the Ap and the underlying A / E is distinct and level. The AE is comprised of a brown (7.5YR 5/4) silt loam and was excavated along with the Ap horizon in Level 1. The boundary between the AE horizon and the underlying Bw horizon is diffuse and level. The Bw is comprised of a yellowish red (7.5YR 4/6) silt clay loam and excavated in Levels 2, 3, 4, and 5. The subsoil is a C horizon comprised of a a yellowish red (7.5YR 4/6) silt clay loam and excavated to the base of the unit.

Materials recovered within TU 43 were distributed between Level 1 and the upper 20 cm of the Bw horizon. Table 43 presents artifacts recovered during the test unit excavation. Level 1 included the Ap and the A / E horizon, producing one biface, 33 pieces of debitage, and four unifaces. The Bw horizon produced 35 pieces of debitage from Levels 2 and 3.

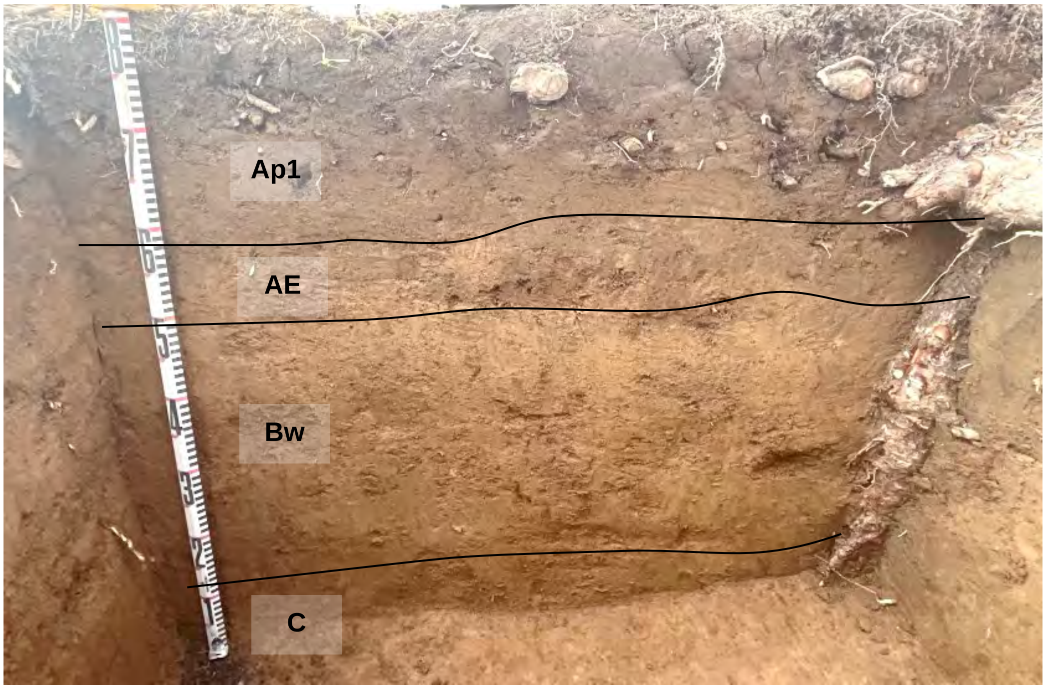


Figure 67. Site 40Sm274, TU 43, east wall profile.

Table 43. Recovered Artifacts, TU 43

Level	Depth	Biface	Debitage	Uniface	Total
1	0-30	1	33	4	**38**
2	30-40		33		**33**
3	40-50		2		**2**
Test Unit 43 Total		**1**	**68**	**4**	**73**

6.1.2.44 Test Unit TU 44

Test Unit TU 44 was located at N958.676 E929.91 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed on the far western portion of the site above the central sinkhole-derived depression that dominates the western portion of the site (see Figure 18). Stripping within SB33 noted artifact concentrations within the general area, and the test unit was placed to the southeast of the block to provide a controlled vertical sample of the deposits.

A total of five levels were excavated to a depth of 95 cmbs (Figure 68). Three stratigraphic horizons were documented in the profile: Ap-Bw-C. The upper 35 cm of soil consisted of disturbed fill that was excavated as a single level. Underlying the fill deposit was an Ap horizon consisting of a dark yellowish brown (7.5YR4/3) silt loam. The Ap horizon extended from 35 to 60 cm and was excavated in Level 2. The boundary between the Ap and the underlying Bw is distinct and level. The Bw is comprised of a brown

(7.5YR 5/4) silt loam and was excavated in Levels 3 and 4. The subsoil was a C horizon comprised of a yellowish red (7.5YR 4/6) silt clay loam.

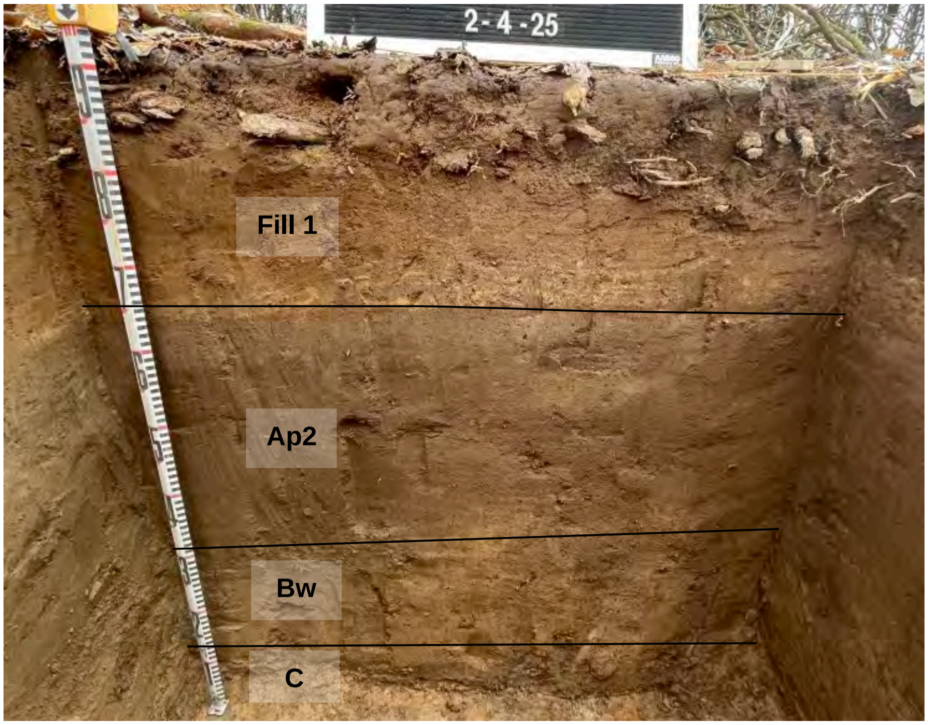


Figure 68. Site 40Sm274 TU 44, south wall profile.

Materials recovered within TU 44 primarily contained within the disturbed fill observed in Level 1. Table 44 presents artifacts recovered during the test unit excavation. The recovered material consisted of one core, 31 pieces of debitage, and four unifaces.

Table 44. Recovered Artifacts, TU 44

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Total
1	0-35		1	4	31	36
2	35-65	1		7	108	116
3	65-75				6	6
4	75-85				4	4
Test Unit 44 Total		**1**	**1**	**11**	**149**	**162**

6.1.2.45 Test Unit TU 45

Test Unit TU 45 was located at N980.41 E937 and measured 1-x-1-m (3.3-x-3.3-ft). This unit was placed within the approximate middle of the broad sinkhole-derived depression that dominates the western portion of the site (see Figure 18). Based upon information gleaned from mechanical excavations across the depression, the depth of deposits would far exceed the maximum depth that any individual test unit could explore, so to sample to greater depths within the depression the unit was placed within SB45 that had been excavated to a maximum depth of 50 cmbs. The unit could provide a controlled vertical sample of 170 cmbs, with a quad unit being excavated in the northeastern corner of the unit allowing for sampling down to a depth of approximately 220 cmbs.

A total of 18 levels were excavated to a depth of 280 cmbs (Figure 69). Three stratigraphic horizons were documented in the profile: AC-A-C. A shovel test was excavated at the base of the test unit at 170 cmbs. Located in the northeast corner, the test unit was excavated to a depth of 280 cmbs. The upper 50 cm of soil was an AC, consisting of a strong brown (7.5YR 4/6) silty clay loam that graded into a brown (7.5YR 4/3) silt loam that were sampled in levels 1-11. The A horizon consisted of a dark brown (7.5YR 3/4) silt loam and was excavated in Levels 12-16. The C horizon consisted of a brown (10YR 4/4) coarse silt that was sampled in Levels 17-18 within the 50 cm extension.

Materials recovered within TU 45 were primarily distributed between the AC and A horizons. Table 45 presents artifacts recovered during the test unit excavation. The AC horizon deposits represent materials that had moved down slope into the depression due to erosion. There are a series of soil zones, but all effectively are combined into a single broad erosional AC horizon that contains all materials recovered from Levels 1 to 11. The A horizon deposits located at the base of the test unit and extending into the small 50 cm quad that were sampled in levels 12-16 appear to represent materials that were deposited during the Precontact period down the broad terrace slope into the base of the depression. While intact from a depositional aspect, the materials would have been deposited down the extant terrace slope and cannot be contextualized based upon the materials recovered across the terrace as the horizon is incorporated into the Ap horizon as it moves upslope out of the depression. The materials recovered from Levels 17-18 were recovered from the C horizon and appear to represent materials that were moved down through natural processes. The recovered materials are primarily debitage, with none of the recovered bifaces or unifacial tools being temporally diagnostic.

Figure 69. Site 40Sm274, TU 45, north wall profile.

Table 45. Recovered Artifacts, TU 45

Level	Depth	Biface	Charcoal	Core	Debitage	Groundstone	Misc.	Uniface	Total
1	0-10				23				**23**
2	10-20				25		2	3	**30**
3	20-30				50			4	**54**
4	30-40				25				**25**
5	40-50				20			1	**21**

Level	Depth	Biface	Charcoal	Core	Debitage	Groundstone	Misc.	Uniface	Total
6	50-60		1		17			1	**19**
7	60-70				14				**14**
8	70-80				13			2	**15**
9	80-90	1			35			2	**38**
10	90-100	2			11			1	**14**
11	100-110	2		1	38			6	**47**
12	110-120	1		1	79			19	**100**
13	120-130				19			2	**21**
14	130-140	1			13			3	**17**
15	140-150				17			4	**21**
16	150-160			1	16				**17**
17	160-170				6	2		3	**11**
18	170-210			1	1			1	**3**
TU 45 Total		**7**	**1**	**4**	**422**	**2**	**2**	**52**	**490**

6.1.3 Feature Excavation

The Phase II investigations at Site 40Sm274 identified six features that were found to be potentially cultural in origin (Table 46). Features F1 and F2 were in the eastern half of the site lying around the perimeter of a shallow sinkhole-derived depression. F3, F4, and F6 were found on the southern edge of the broad sinkhole-derived depression that dominates most of the terrace on the far western edge of the site. F5 was located to the east of this western depression on an older section of the terrace (see Figures 17 and 18).

When features were identified, they were mapped and photographed in planview. After the features were exposed in plan, they were bisected, and the exposed profile was sketched and photographed. If the feature was determined to be cultural, based upon its profile form and contents, then the remaining half of the feature was excavated. All soil was screened through ¼-inch steel hardware cloth to recover artifacts. Flotation samples were recovered from the unexcavated half. Further excavation methodology and interpretation of the identified features can be found below.

Table 46. Features identified at Site 40Sm274

Feature	Provenience	Form & Dimensions	Depth (cmbs)	Interpretation
F1	S12	Circular,55-x-60 cm	35 cmbs	Steep sided, thermal pit
F2	S24	Ovoid, 45-x-55 cm	40 cmbs	Shallow basin, hearth
F3	S32	Circular, 75-x-80 cm	40 cmbs	Bell shaped, hearth
F4	S32	Circular, 88-x-90 cm	40 cmbs	Steep sided
F5	S44	Circular, 44-x-42 cm	45 cmbs	Bell shaped
F6	S49	Circular, 80-x-75 cm	50 cmbs	Steep sided, flat bottom

6.1.3.1 Feature 1 (F1)

Feature 1 (F1) was identified at N1037.99 E1057.64 during excavations of S12 (Figure 70). The feature was found at the base of the Ap (35 cmbs) at the top of the Bt horizon. The feature was identified along the east wall of the strip block with the wall acting as the bisect line, along the north / south axis. The east half was hand excavated to a depth of 47 cmbs (Figure 71). The feature was then profiled and photographed (Figure 72). A 7.0 L flotation sample was collected from the west half of the feature. At just 12 cm deep, the feature represents a steep-sided shallow pit with evidence of thermal activity.

Figure 70. Feature 1 plan view, S12 at 35 cmbs.

The feature produced one core, three pieces of debitage, and two pieces of FCR (Table 47). The recovered material was not temporally diagnostic.

The botanical remains from F1 include one fragment of thick-shelled hickory, nine highly fragmented nutshell of the beech family, and one unidentified nutshell. Two fragments of possible bottle gourd rind and six seeds of possible bedstraw were also recovered. Wood charcoal was not speciated as part of the analysis. A radiocarbon date obtained from wood charcoal recovered from the feature provided a calibrated 2σ date range of 1020 – 1170 CE, affiliating the feature with the Late Wodland to emergent Mississippian periods.

Table 47. Recovered material from F1

Prov. Detail	Depth	Core	Debitage	Botanical	Misc.	Total
F 01 E1/2	35-47	1	3		2	**6**
F 1 W1/2	35-47			1		**1**
F 1 W 1/2 Flot	35-47		5	94	5	**104**
Feature 1 Total		**1**	**8**	**95**	**7**	**111**

Figure 71. Feature 1 (F1) profile following east half bisection.

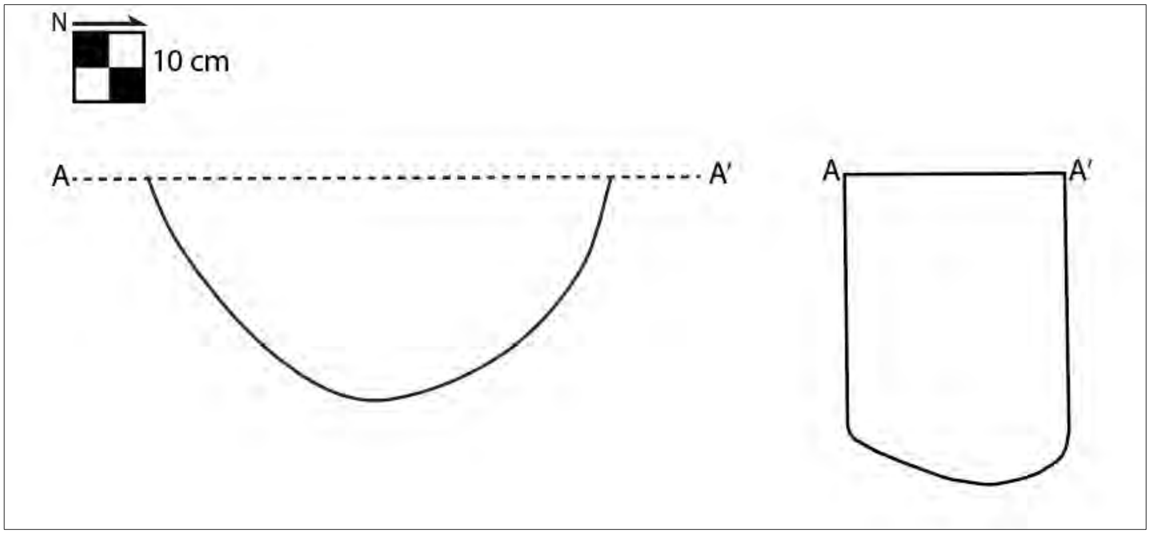


Figure 72. Plan and profile drawing of F1 at Site 40Sm274.

6.1.3.2 Feature 2 (F2)

Feature 2 (F2) was identified during the mechanical stripping of S24, at approximately 40 cmbs (N1046.94 E1073.73) (Figure 73). The feature was found at the base of the Ap2 horizon. The feature was identified entirely inside of the strip and measured 45 cm north / south by 55 cm east / west (Figure 74). The feature presented as a light scatter of charcoal flecking. It was bisected along its north / south axis, and the eastern half removed through hand excavation.

The east half of the feature was excavated in one natural level to a maximum depth of 50 cmbs. The feature was then profiled and photographed (Figure 75). A 6.0 L flotation sample was recovered from the western half of the feature. No artifacts were recovered from the feature. While charcoal was present, the flecks were too small for collection.

The botanical remains from F2 include one seed from the mint family. No nutshell was recovered from this feature. Wood charcoal was also recovered from the feature but was not speciated as part of the analysis. A radiocarbon assay was not processed for the feature due to the probability that the feature represents a natural disturbance, such as a burnt tree or rodent burrow, rather than a cultural derived feature.

Figure 73. Feature 2 plan view, S24 at 40 cmbs.

Figure 74. Feature 2 (F2) profile following east half bisection.

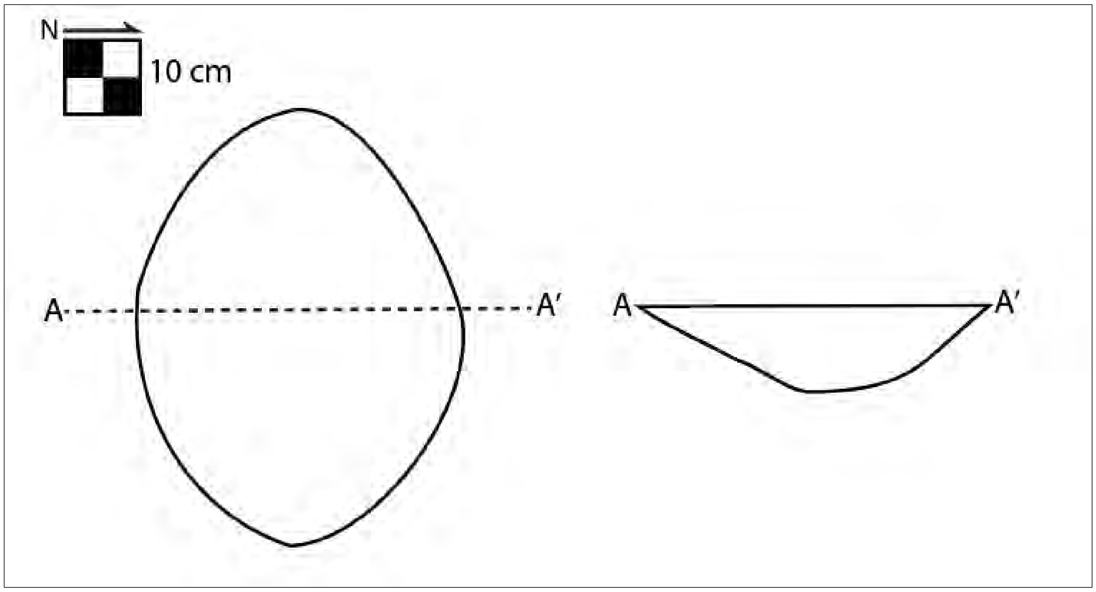


Figure 75. Plan and profile drawing of F2 at Site 40Sm274.

6.1.3.3 Feature 3 (F3)

Feature 3 (F3) was identified during the mechanical stripping of S32, at approximately 40 cmbs (N962.8 E950.38) (Figure 76). The feature was found at the base of the plow. The feature was identified entirely inside of the strip and measured 75 cm north / south by 80 cm east / west (Figure 77). It was bisected along its east / west axis, and the north half removed through hand excavation.

The east half of the feature was excavated in one natural level to a maximum depth of 135 cmbs. The feature was then profiled and photographed (Figure 78). The southern half was excavated in three arbitrary levels with a 4.0 to 5.0 L flotation sample taken from each level: Level 1, 40 to 70 cmbs; Level 2, 70 to 100 cmbs; and Level 3, 100 to 135 cmbs. Based on the size and shape of F3, it is likely a bell-shaped storage pit.

Materials recovered from F3 included a total of seven bifaces, one flora, two cores, 456 debitage, 15 FCR / burnt stone, and 28 unifaces (Table 48). Two of the bifaces were temporally diagnostic. Recovered at 68 cmbs from the north half of the feature was an Early Archaic Kirk Corner notched ppk. A second biface recovered from the north half (40 to 135 cmbs) was a Late Archaic McIntire ppk.

The botanical remains from F3 include 66 fragments of hickory nutshell and two fragments of walnut shell. One seed from the mint family was also recovered. Wood charcoal was recovered from the feature but was not speciated as part of the analysis. A radiocarbon date obtained from burnt nutshell recovered from the feature provided a calibrated 2σ date range of 1450 – 1280 BCE, affiliating the feature with the Late Archaic period.

Table 48. Recovered material from F3

Prov. Detail	Depth	Biface	Core	Uniface	Debitage	Botanical	Fauna	Misc.	Total
F 3 N1/2	40-135	3		13	241			10	**267**
F 3 N1/2	40-135					1			**1**
F 3 N1/2 (S wall 20cm W)	68	1							**1**
F 3 S1/2	100-135			1	6	2			**9**
	40-70	3	2	7	155	2		3	**172**
	70-100			8	60	1		2	**71**
F 3 N1/2 Flot	100-135				41	10		1	**52**
	40-70				128	12	2		**142**
	70-100			1	39	34	2		**76**
Feature 3 Total		**7**	**2**	**30**	**670**	**62**	**4**	**16**	**791**

Figure 76. Feature 3 plan view, S32 at 40 cmbs.

Figure 77. Feature 3 (F3) profile following north half bisection.

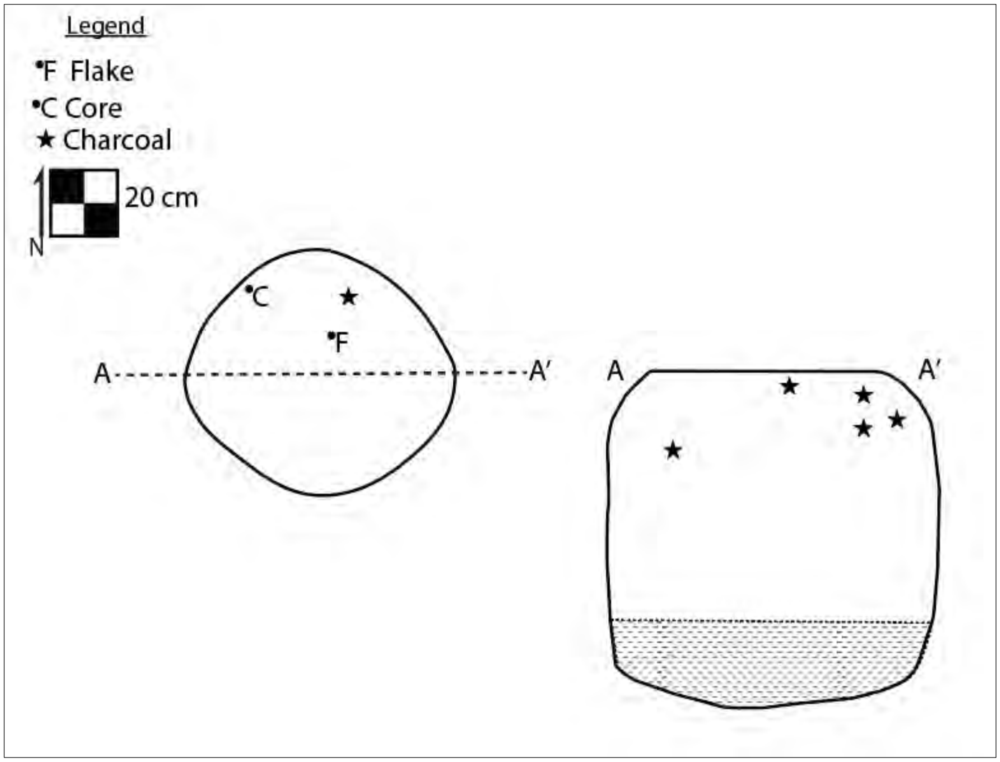


Figure 78. Plan and profile drawing of F3 at Site 40Sm274.

6.1.3.4 Feature 4 (F4)

Feature 4 (F4) was identified during the mechanical stripping of S32, at approximately 40 cmbs (N963.67 E953.32) (Figure 79). The feature was found at the base of the plow and was identified entirely inside of the strip, measuring 88 cm north / south by 90 cm east / west (Figure 80). F4 was bisected along its east / west axis, and the south half removed through hand excavation.

Figure 79. Feature 4 plan view, S32 at 40 cmbs.

The south half of the feature was excavated in one natural level to a maximum depth of 73 cmbs. The feature was then profiled and photographed (Figure 81). A 9.0 L flotation sample taken from the south half. Based on the size and shape of F3, it is likely a steep sided storage pit.

Materials recovered from F4 included a total of six bifaces, four cores, 1103 debitage, one piece of groundstone, 50 unifaces, and two small pieces of fauna (Table 49). In addition to these artifacts, 27 miscellaneous pieces of FCR, burnt clay, and a single hoe flake were recovered, and 141 fragments of burnt organics that were analyzed within the over macrobotanical analysis for the site.

Figure 80. Feature 4 (F4) profile following south half bisection.

Table 49. Recovered material from F4

Prov. Detail	Depth	Biface	Core	Uniface	Groundstone	Debitage	Botanical	Fauna	Misc.	Total
F 4 N1/2	40-73	2	1	23		214	1		7	**248**
F 4 S1/2	40-73	4	2	27	1	194	2		8	**238**
F 4 S1/2 Flot	40-73		1			695	138	2	12	**848**
Feature 4 Total		**6**	**4**	**50**	**1**	**1103**	**141**	**2**	**27**	**1334**

The botanical remains from F4 include 146 fragments of hickory nutshell, three fragments of walnut shell, and one unidentified nutshell fragment. No other seed remains were recovered. Feature 4 yielded the highest numbers of nutshell remains recovered at the site. Wood charcoal was recovered from the feature but was not speciated as part of the analysis. A radiocarbon date obtained from burnt nutshell recovered from the feature provided a calibrated 2σ date range of 1440 – 1270 BCE, affiliating the feature with the Late Archaic period.

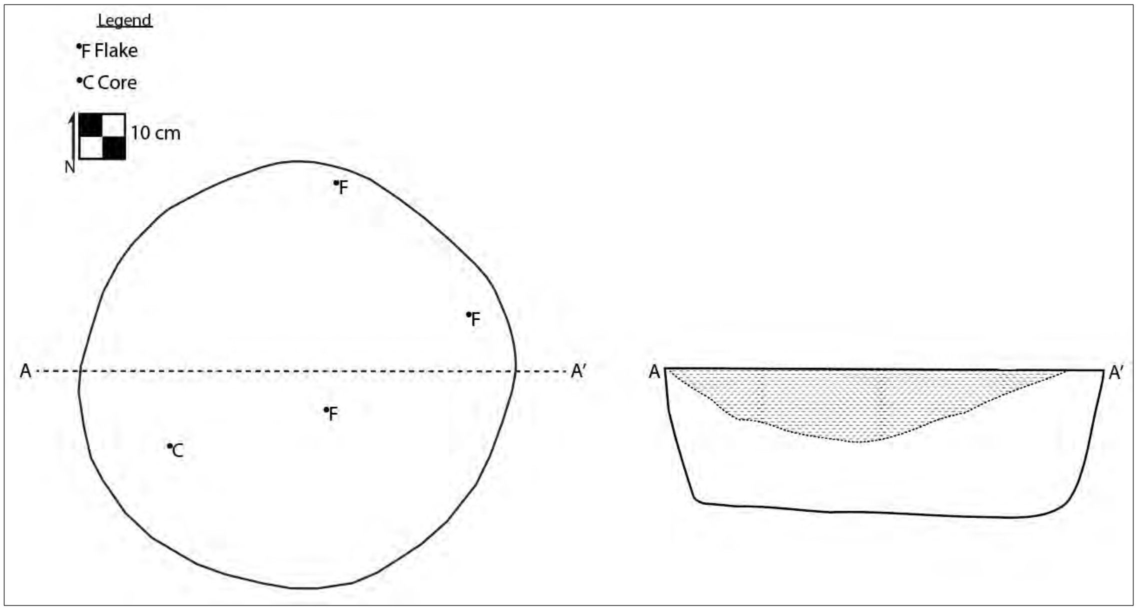


Figure 81. Plan and profile drawing of F4 at Site 40Sm274.

6.1.3.5 Feature 5 (F5)

Feature 5 (F5) was identified during the mechanical stripping of S44, at approximately 45 cmbs (N960.62 E990.1) (Figure 82). The feature was found at the base of the plow. The feature was identified entirely inside of the strip and measured 44 cm north / south by 42 cm east / west (Figure 83). It was bisected along its east / west axis, and the north half removed through hand excavation.

The north half of the feature was excavated in one natural level to a maximum depth of 75 cmbs. The feature was then profiled and photographed (Figure 84). A 4.0 L flotation sample taken from the south half of F5.. Based on the size and shape of F5, it is likely a bell-shaped pit.

Materials recovered from F5 included a total of one biface, seven unifacial tools, and 41 pieces of debitage (Table 50). In addition to these artifacts 5 shale fragments were recovered, and 43 fragments of burnt organics that were analyzed within the over macrobotanical analysis for the site.

The botanical remains from F5 include 52 fragments of hickory nutshell and two fragments of walnut shell. Two fragments of possible bottle gourd and one seed of possible bedstraw were also recovered from this feature. Wood charcoal was recovered from the feature but was not speciated as part of the analysis. A radiocarbon date obtained from burnt nutshell recovered from the feature provided a calibrated 2σ date range of 1500 – 1290 BCE, affiliating the feature with the Late Archaic period.

Figure 82. Feature 5 plan view, S44 at 45 cmbs.

Figure 83. Feature 5 (F5) profile following north half bisection.

Table 50. Recovered material from F5

Prov. Detail	Depth	Biface	Uniface	Debitage	Botanical	Misc.	Total
F 5 N1/2	45-75	1	4	17	1	2	**25**
F 5 S1/2	45-75		3	4			**7**
F 5 W1/2 Flot	45-75			20	42	3	**65**
Feature 5 Total		**1**	**7**	**41**	**43**	**5**	**97**

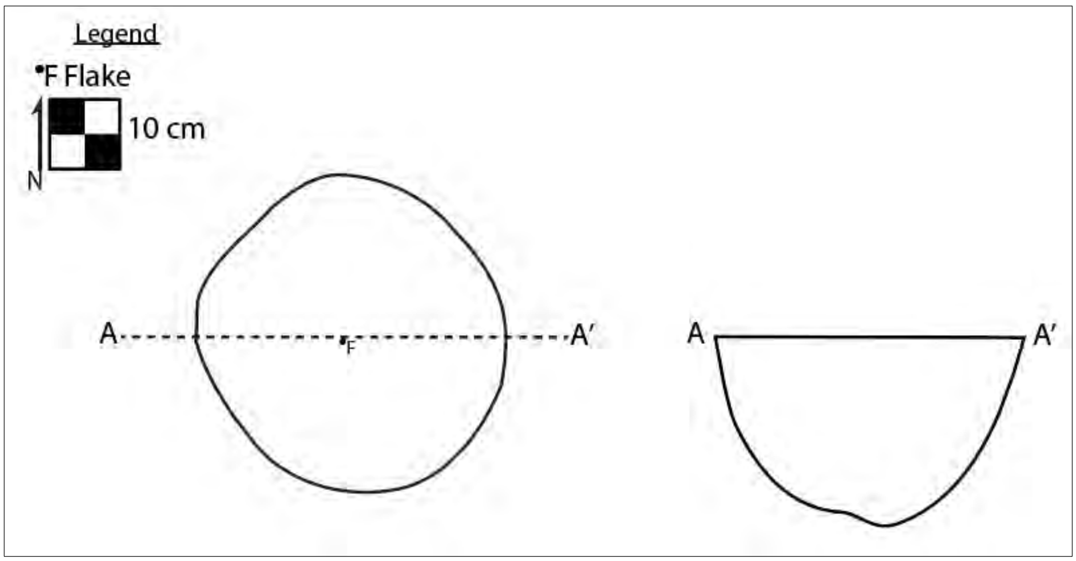


Figure 84. Plan and profile drawing of F5 at Site 40Sm274.

6.1.3.6 Feature 6 (F6)

Feature 6 (F6) was identified during the mechanical stripping of S49, at approximately 50 cmbs (N960.59 E947.66) (Figure 85). The feature was found at the base of the plow. The feature was identified entirely inside of the strip and measured 80 cm north / south by 75 cm east / west (Figure 86). It was bisected along its east / west axis, and the south half removed through hand excavation.

Figure 85. Feature 6 plan view, S49 at 50 cmbs.

F6 was excavated to a maximum depth of 125 cmbs. During this excavation, two distinct use episodes were observed (Figure 87). The upper episode was documented from 50 to 85 cmbs and appeared to be a thermal feature. This was underlain by a lower episode that appeared 75 cm in diameter and extended from 85 to 125 cmbs. Based on the recovered faunal material, the lower episode was likely utilized for cooking. A series of 4.0-5.0 L float samples were taken from the north half of F6, which was excavated in three cultural levels: Zone I, Zone II, and Zone III.

Materials recovered from F6 included a total of 23 bifaces, 70 unifacial tools, seven cores, 1 groundstone element, 24 faunal element fragments, and 1502 pieces of debitage (Table 51). In addition to these artifacts 30 miscellaneous piece of FCR and burned clay were recovered, and 31 fragments of burnt organics that were analyzed within the over macrobotanical analysis for the site. Of the 23 bifaces recovered from the feature, three Late Archaic Motley ppks were identified, one Early Archaic cluster ppk, and four indeterminate probable Late Archaic ppks were recovered. These ppk were found primarily within the upper 35 cm (85 cmbs) of the feature within the context of the intense burning layer running through the central fill zone within the feature (Figure 86).

Figure 86. Feature 6 (F6) profile following south half bisection.

Table 51. Recovered material from F6

Prov. Detail	Depth (cmbs)	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Botanical	Fauna	Misc.	Total
F 6 N1/2	50-70	2		8		176		1		7	**194**
	84	1									**1**
	70-85	5		24	1	260	1	3		10	**304**
	80-85	3									**3**
	85-125	3	4	12		134			2	7	**162**
F 6 S1/2	50-125	8		24		393		2		6	**433**
	85-125							1			**1**
F 6 N1/2 Flot	50-70		1	1		187		14	9		**212**
	70-85		2	1		283		10			**296**
	85-125	1				69			13		**83**
Feature 6 Total		**23**	**7**	**70**	**1**	**1502**	**1**	**31**	**24**	**30**	**1689**

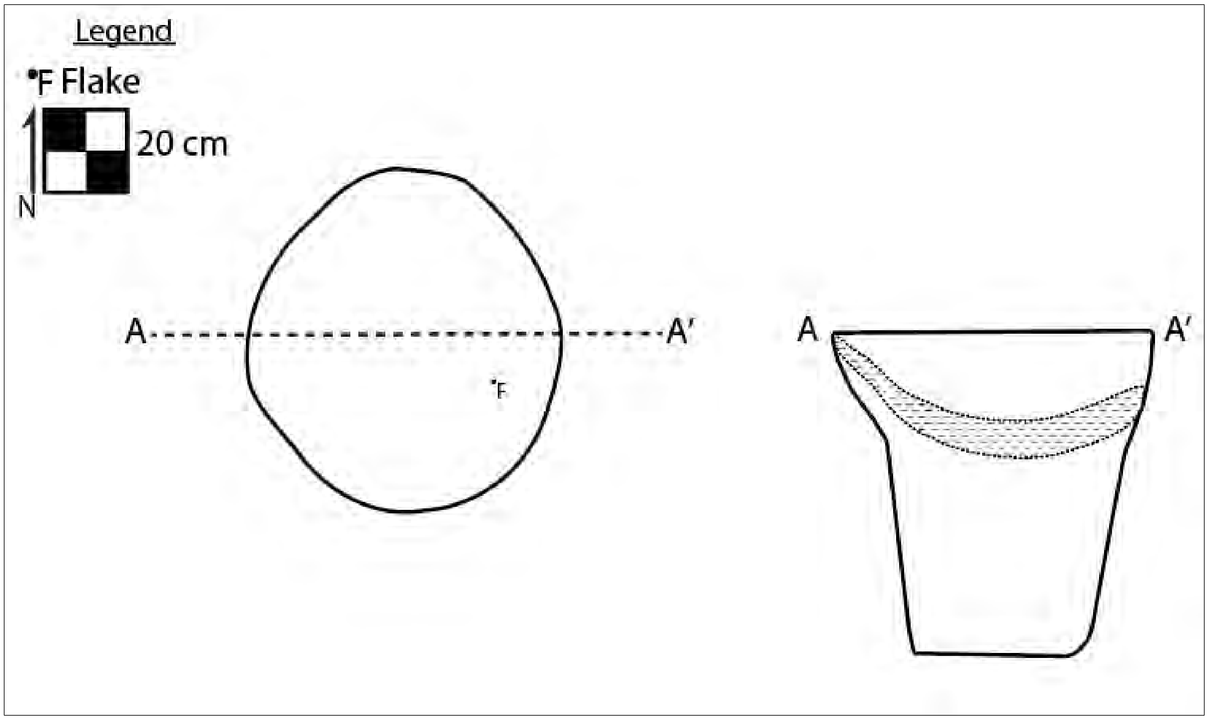


Figure 87. Plan and profile drawing of F6 at Site 40Sm274.

The botanical remains from F6 include 42 fragments of hickory nutshell and four fragments of walnut shell. One seed from the amaranth/goosefoot family, one seed of goosefoot, and four highly fragmented seeds of possible knotweed were also recovered from this feature. The goosefoot seed measures 1.1 mm in diameter with smooth surfaces, rounded to truncate margins, and non-prominent beaks which are generally characteristics associated to early cultivation and eventual domestication of the plant. Wood charcoal was recovered from the feature but was not speciated as part of the analysis. A radiocarbon date obtained from burnt nutshell recovered from the feature provided a calibrated 2σ date range of 1620 – 1450 BCE, affiliating the feature with the Late Archaic period.

6.1.4 Radiocarbon Dates

Five charcoal and burnt nutshell samples recovered from features F1 and F3-F6 were sent to ICA in North Bethesda, Maryland for radiocarbon processing and analysis from site 40Sm274. The samples were found to be sufficient and processed and measured by AMS. Table 52 below provides a summary of the samples sent and the dates obtained. All samples were pretreated in an acid/alkali/acid protocol and all measurements meet all quality control criteria. The date was calibrated using the Calib 8.20 program and the IntCal20 calibration curve (Reimer et al. 2020; Stuiver and Reimer 1993; Stuiver et al. 2021). The following dates were calibrated to common era or before common era CE / BCE dates and expressed in a 2σ date ranges.

Table 52. Radiocarbon Assays obtained from Site 40Sm274

ICA ID	Provenience	Material	Conventional Age	Calibrated 2σ Age
14C-9992	F1,	Wood charcoal (0.18 g)	950± 30 BP	1020 – 1170 CE
14C-9993	F3	Nutshell charcoal (0.19 g)	3110 ± 30 BP	1450 – 1280 BCE
14C-9994	F4,	Nutshell charcoal 0.21 g)	3100 ± 30 BP	1440 – 1270 BCE
14C-9995	F5,	Nutshell charcoal (0.33 g)	3120 ± 30 BP	1500 -1480 BCE (1.5%) 1450 – 1290 BCE (94.0%)
14C-9996	F6,	Nutshell charcoal (0.11 g)	3260 ± 30 BP	1620 – 1450 BCE

*results presented in uncalibrated radiocarbon years before present (BP) and calibrated is Before Common Era/ Common Era using IntCal20.

Features F1 and F2 were located on the eastern end of the site around the perimeter of a broad shallow sinkhole-derived depression that lies along the primary ridge-like section of terrace that appeared to be the focus of most precontact occupation. Feature F1 produced limited amounts of wood and nutshell charcoal, with wood being selected for dating purposes due to its greater ubiquity. The date obtained from the radiocarbon assay is extremely late as compared with the other diagnostic ppks recovered within the general area of the depression, but a nearby shovel test excavated during the Phase I survey did produce a Hamilton ppk that would be consistent with the Late Woodland date returned for the feature. Feature F2 was found to contain only limited amounts of wood charcoal and produced no cultural material. Given these factors, it was deemed potentially natural in origin and not submitted for dating.

Features F3-F6 were all located to the south and above the very large deep sinkhole-derived depression located on the western end of the site. This depression appears to represent the primary focus of occupation throughout the precontact period within the western portion of the site. All four features produced radiocarbon dates indicating construction and use during the terminal end of the Late Archaic period.

Feature F3 produced two temporally diagnostic bifaces: an Early Archaic Kirk Corner notched ppk and a Late Archaic McIntire ppk. Early Archaic ppk types were identified from across the upper terrace around the depression, and it is probable that it had been collected by the Late Archaic occupants and discarded within the feature. The form of the feature is also much more consistent with a Late Archaic period of occupation as compared with an earlier Early Archaic occupation. Feature F4 produced no diagnostic ppks, but it is form is like the inset upper portion of F6. Feature F6 produced three Late Archaic Motley points, as well as a collection of other indeterminate ppks that also may be representative of other Late Archaic types. Feature F5 produced no diagnostics, but the form, organic content, and types of materials recovered would appear consistent with a Late Archaic affiliation. In general, all the features would appear consistent with the forms created during the Late Archaic and the diagnostics recovered from at least two of the features are well within the temporal range proscribed for the Motley and McIntire ppk types (Justice 1995).

7 Results from Site 40Pm184

Site 40Pm184 is located at 4100 2027526.63777 m E, 657641.527361 m N Tennessee State Plane. The site encompasses an area of just over 6.5 ac, of which only approximately 0.5 acres is located within the current I-40 ROW corridor property boundary. It is this smaller portion of the site that is the APE of the Phase II investigations, as the project design was constrained to remain within the current TDOT ROW.

Site 40Pm184 is a multicomponent site with precontact occupations dating from the Early Archaic to the Early Woodland period, with some minor indications of historic period usage of the site as well. The site is located on an elevated section of terrace just north of the confluence of Indian Creek with the Caney Fork River. The site was identified by Stantec in 2024 as part of a survey for the proposed improvements to the I-40 rest area and the replacement of the I-40 bridge over the Caney Fork River (Simpson et al. 2024). The site measures 314 m east-west ×126 m north-south. During the 2024 survey, a total of 72 shovel tests were excavated within the site area at a 20 m interval, of which 60 were found to contain precontact materials. Of the 72 shovel tests used in the site's original definition, nine were located within the TDOT ROW (Figure 88).

Stantec established a 20-meter grid at site 40Pm184 aligning to the current TDOT ROW fence that demarcates the southern edge of the I-40 corridor. The 40Pm184 site datum for Stantec's Phase II investigations is located at the site's N1000 E1000 grid corner which is located near the center of the core of the deposits identified in the western portion of the site (Figure 88).

The portion of Site 40Pm184 that is the focus of this evaluation extends from the I-40 southern ROW fence north toward the existing grade. This portion of the site represents a transition from the alluvially derived terrace soils to the residually developed upland soils that originally covered the hillside prior to being buried by the terrace. The alluvially derived soils are far deeper and hold all the potential for intact cultural deposits to remain intact following road construction and agricultural activity. As such, the primary focus of the Phase II evaluation was to understand the extent and quality of the alluvially derived soil packages contained within the TDOT ROW portion of the site.

The Phase II investigations were initiated with test unit excavation running perpendicular to the Caney Fork River and parallel to the orientation of I-40 corridor. The primary purposed of these test units was to better characterize soil strata and artifact deposits onsite. Test units TU 1, TU 2, TU 3, TU 4, TU 7, and TU 10 were excavated near the western edge of the site in proximity to the densely occupied levee position that runs parallel to the Caney Fork River to the south of the ROW fence (Figure 88). These units were also located in a small woodlot that appeared to have experience fewer potential disturbances than other portions of the ROW. The remaining test units were placed further east or north to characterize the soil strata and artifact deposits further afield from the terrace edge. Test Units TU 5 and TU 6 were both placed in positions that were known to represent the hillside that sloped down toward Indian Creek. Test units TU 8 and TU 9 were placed within a broad sinkhole-derived depression that dominates the south-central portion of the site, in which deeper alluvial soil deposits were noted.

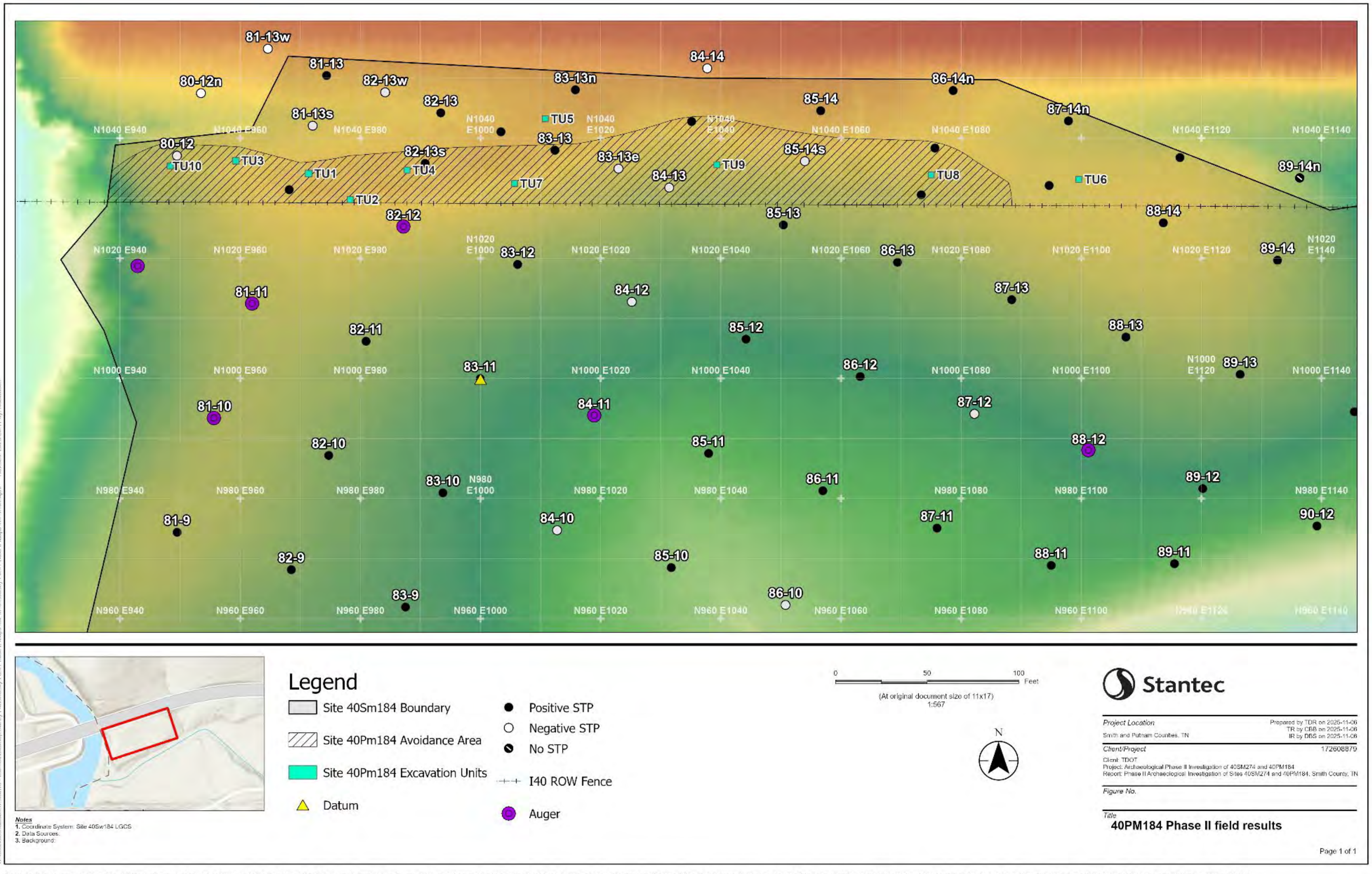


Figure 88. Site 40Pm184 Phase II Field results.

7.1.1 Additional Shovel Testing

As part of the Phase II investigations additional shovel tests spaced at 10 m intervals were placed along the northern and western perimeter of the site to provide a more refined site boundary. As avoidance measures were proposed by TDOT it became necessary to provide a refined concept of the site's actual boundary and the extent of the intact AB horizon that was being identified consistently in proximity to the I-40 ROW boundary fence. A total of 16 additional shovel tests were excavated to provide a refinement of these objectives (Figure 88).

The site boundary was found to extend further upslope toward the I-40 roadbed and as well as further west toward the terrace edge of the Caney Fork River. The majority of these additional shovel tests were found to be comprised of a shallow Ap horizon remnant over the 2Bt residually derived upland soils (refer to the following geomorphology section for definitions of these strata). All the material recovered from these shovel tests were from disturbed contexts and lack depositional integrity (Table 53). A few of the shovel tests (STP 82-13s, 86-14s, and 84-13n) identified thin remnants of the intact AB horizon. A combination of the results from this additional shovel testing and the test units coupled with a review of the ground topography provided an approximate extent of the AB, labeled as the avoidance area within Figure 88.

Table 53. Shovel Test excavated during the Phase II at 40Pm184

Provenience	Depth	Biface	Core	Uniface	Debitage	Total
STP 82-13s	0-17	1			11	12
	17-35				4	4
STP 83-13n	0-14				1	1
STP 83-13w	0-18				3	3
STP 84-13n	0-30			1	6	7
STP 86-14n	0-30		2		9	11
STP 86-14s	0-26	1		2	23	26
STP 87-14n	0-30			1	31	32
STP Total		**2**	**2**	**4**	**88**	**96**

7.1.2 Geomorphology

Mechanical investigations on a limited scale were proposed for the site within the initial workplan but the results obtained from the additional shovel tests as well as the hand excavated units were sufficient to understand the development of the landform on which site 40Pm184 lies without the inclusion of subsequent trenching. As such, the geomorphological discussion of stratigraphy and landform development is built primarily from the test units and augmented by information obtained from the additional shovel tests completed during the Phase II investigation.

The stratigraphic information gathered from the test unit and select shovel tests profiles were used to create two generalized stratigraphic profiles from across the western end of the site, wherein buried stratified deposits were noted (Figures 89 and 90). Together, these profiles provided sufficient stratigraphic information to place all recovered artifacts into correct vertical sequence across the site within the APE.

The investigation documented a relatively consistent stratigraphic sequence across most of the portion of the site constrained within the TDOT ROW. The entire site is blanketed by an Ap plow zone horizon that represents the current surface, except for the extreme western terrace edge, wherein it has been buried under a series of fill episodes that are related to the construction of the I-40. Underlying these disturbed strata are a series of intact strata that have not been disturbed by agricultural plowing or historic period impacts. These strata are comprised by an AB stratum that is underlain either by a 1Bt horizon or a 2Bt horizon stratigraphic sequence. In one instance in TU 3 both the 1Bt and the 2Bt were noted north of the ROW boundary fence, but this appears to be the norm for the stratigraphic sequence to the south within the remainder of the site.

Table 54 provides a description for the stratigraphic sequence as observed within the APE. The depth of the Ap-horizon varied from 10-30 cm in thickness across the site being highly dependent on the degree of deflation that had occurred in specific areas of higher relief or erosion related to I-40 construction. This variability is well documented within the following test unit discussions. The AB horizon represents an older and more weathered A horizon that has been slowly buried over time, with the overlying Ap horizon primarily representing a disturbed and mixed portion of this once thicker stratum. The AB appears to be almost completely derived by alluvial deposition, representing an older terrace soil. The AB stratum was underlain by a well-developed 1Bt horizon. This horizon is comprised of a fine silty clay loam that was deposited alluvially. It is conformable with the overlying AB horizon within test unit TU 3 and within STPs 82-12 and 84-11, wherein it was identified during the Phase I survey, appearing to indicate that it formed in concert with the overlying AB stratum as a gradually deposited alluvial sediment package. The 1Bt horizon appears to be conformably underlain by a 2Bt horizon across the central and northern portions of the site. This stratum contains dense gravel and broken fragments of dolomitic limestone and chert and was conformably identified above areas of exposed bedrock to the eastern end of the APE. This stratum developed residually from degrading bedrock and is identified as a 2Bt as the parent material is obviously different than that of the overlying 1Bt horizon.

The AB and 1Bt horizon are the only strata identified at the site that retain the potential to contain intact cultural deposits. While the Ap horizon appears primarily constructed from the AB stratum, extensive mixing has occurred within this stratum, nullifying any ability to separate isolated occupational areas. The diagnostics ppks recovered from the Ap represent periods spanning from the Early Archaic to Early Woodland period. The underlying AB horizon though was only found to contain Early Archaic forms such as Kirk, Palmer, and Decatur, indicating and ability to isolate this occupational period to the deposits contained within the AB horizon. The limited investigations into the 1Bt horizon within the APE produced almost no material from the horizon, but it may prove possible that more deeply buried deposits are contained within the horizon as it thickens to the south toward Indian Creek.

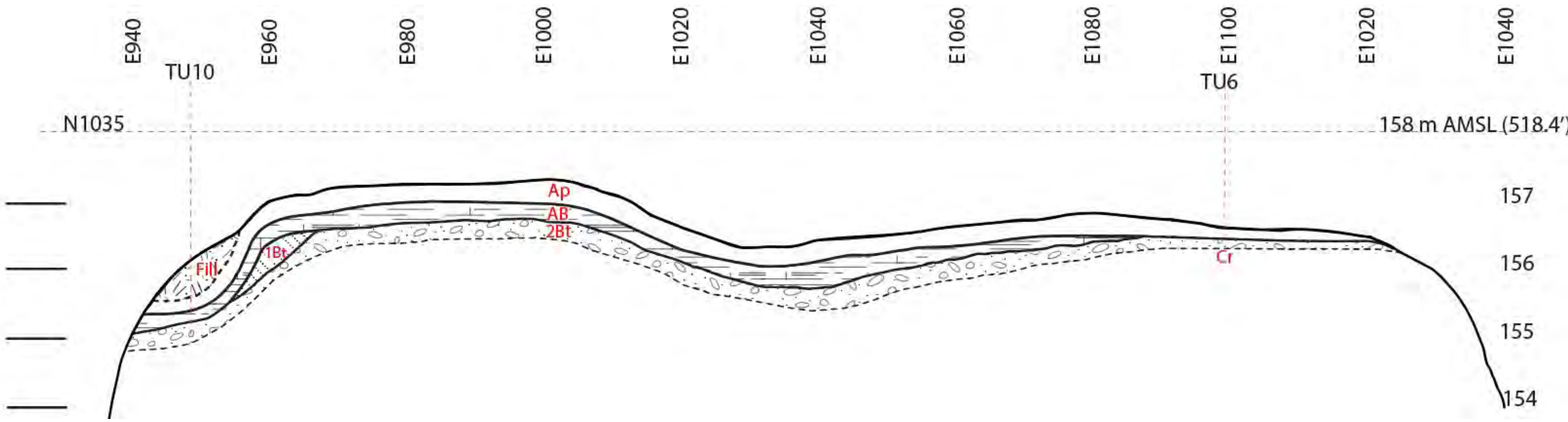


Figure 89. Generalized East to West Soil Profile along the N1035 line at Site 40Pm184.

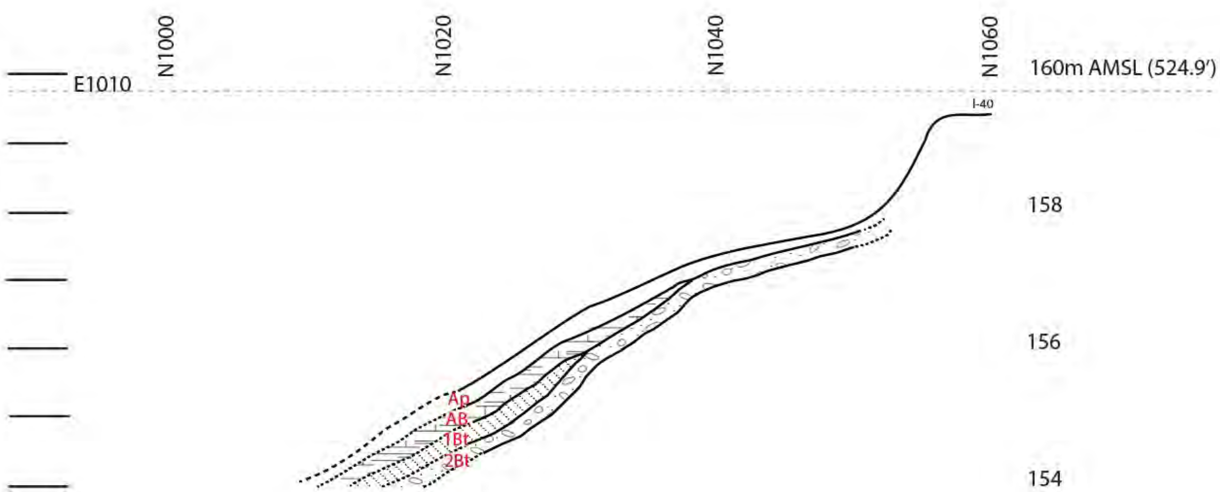


Figure 90. Generalized North to South Soil Profile along the E1010 line at Site 40Pm184.

Table 54. Typical Stratigraphic Sequence at 40Pm184

Horizon	Depth (cmbs)*	Description
Ap	0-30	Brown (7.5YR4/3) silt loam; weak fine granular structure; very friable; distinct smooth boundary.
AB	30-65	Dark Brown (10YR3/3) silt loam; weak fine subangular blocky structure; distinct wavy boundary.
1Bt	60-100	Strong brown (7.5YR4/4) silty clay loam; weak medium subangular blocky structure; firm; few small to medium depletions; distinct to gradual wavy boundary.
2Bt	20-120	Strong brown (7.5YR5/8) silty clay loam with 30-50% inclusions of degrading limestone fragments and chert gravels; very firm medium blocky structure.

**Minimum and maximum depth that each horizon can be found across the APE.*

The elevated landform on which the site extends is a palimpsest of topographic features developed from both residual as well as alluvial deposition. From approximately the E1090 line east, the site lies along the southern end of a broad upland ridge that runs down toward Indian Creek (Figure 88). A deep-set drainage cuts down to the creek along approximately the E1150 line. The soils within this section of the site are shallow rocky and appear to have formed by a combination of colluvial accumulation along the drainage cut and residual breakdown from underlying bedrock. From the E1090 line west to the E970 line, we find a deep, old terrace soil alluvially deposited by a combination of the Caney Fork River and Indian Creek (Figure 88). The terrace has been deposited against the upland ridge blanketing it and creating a gradually sloping surface from north to south that leads to a small drainage around STP 86-10 (Figure 88). All the APE evaluated as part of this Phase II investigations are typified by these older terrace soil deposits that have been conformably laid down over the descending ridge (2Bt soils) as defined in Figure 90. More recent alluvium fronts this older terrace along Indian Creek at the base of the terrace scarp slope that extends down to the northern bank of the creek. The final topographic feature is a levee built along the western end of the terrace by the Caney Fork River. These deposits extend west from approximately the E970 line toward the scarp face. The levee is much coarser in texture than the older terrace and rises 6-10 feet higher than it along the western edge of the landform.

A broad sinkhole-derived depression underlies the central older terrace portion of the site, centered on the E1040 line (Figure 88). This depression sinks dramatically from north to south, as depicted in the north to south profile line in Figure 90. This depression has acted as a depositional sink adding more soils through colluvial erosion and sealing away portion of the AB horizon from being disturbed by previous agricultural activity. This thickening of the horizon can be seen in the excavation at TU 9 that was placed in the base of the depression within the APE. The AB horizon here is at its maximum thickness within the APE and thins as it rises out of the depression both to the east and north (Figures 89 and 90). The avoidance area defined in Figure 88 represents the extent of the intact AB horizon deposits within the APE. The excavations within the AB identified Early Archaic ppks from TU10 east all the way to TU9, indicating that a broad and extensive series of Early Archaic occupations appear to comprise most of the materials recovered within the horizon.

7.1.3 Test Unit Excavation

A total of 10 1-x-1-m test units were hand excavated across site 40PmM184 (Figure 88). Test unit locations were spread across the evaluation area to develop a better understanding of the vertical and horizontal sequence of deposits at a finer detail. Most test units were advantageously placed in the core western end of the site to get a better understanding of the deeply buried deposit identified during the Phase I survey. These units will be documented individually as a means of discussing the artifact density, both horizontally and vertically, across the site.

7.1.3.1 Test Unit TU 1

Test Unit TU 1 was located at N1033.50 E971 and measured 1-x-1-m (3.3-x-3.3-ft). TU 1 was excavated near shovel test STP81-12 that produced a large sample of precontact materials from both the Ap as well as within the underlying intact strata. The test unit was placed approximately 4.5-5 m north of the I-40 ROW boundary fence within a small woodlot.

In all, seven levels were excavated to a total depth of 90 cmbs. Three stratigraphic horizons were documented in the profile: Ap-AB-2Bt (Figure 91). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was excavated to a depth of 35 cmbs. The Ap was excavated in Level 1 and the upper portion of Level 2 which transitioned into the underlying AB horizon. The AB horizon is a brown (7.5YR 4/4) silty clay loam that extended to a depth of 65 cmbs and was excavated in Levels 2, 3, and 4. Level 5 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) silty clay loam that was excavated in Levels 5, 6, and 7. Modern disturbances were observed at the boundary between Level 1 and 2. These disturbances consisted of a buried boundary fence pole and fence post identified in the north west corner of the test unit.

Material densities within TU 1 were extensive throughout the entire test unit from the Ap through the AB horizon. The basal 2Bt horizon contained limited materials that were likely moved downward through natural processes. Disturbances related to the Ap horizon were more extensive within this unit due to the excavation and burial of the original ROW boundary fencing along the northern half of the unit. This disturbance was not realized till well within the excavation of Level 3. While approximately half of the materials recovered from Level 3 were contained within the intact AB horizon they were mixed with the disturbed deposits and as such materials recovered from Level 4 and below were considered intact. The Ap horizon contained the densest concentration of artifacts (Levels 1-3) at 1,880 (Table 55). Artifact density drops off significantly within the AB horizon (50-70 cmbs) within levels 4-5, totaling 85 artifacts including the materials located at the transition with the underlying 2Bt horizon. Two diagnostic ppks were recovered from the upper disturbed deposits: a Late Archaic to Early Woodland Cotaco Creek and an Early Woodland Adena point. No features were noted in TU 1.

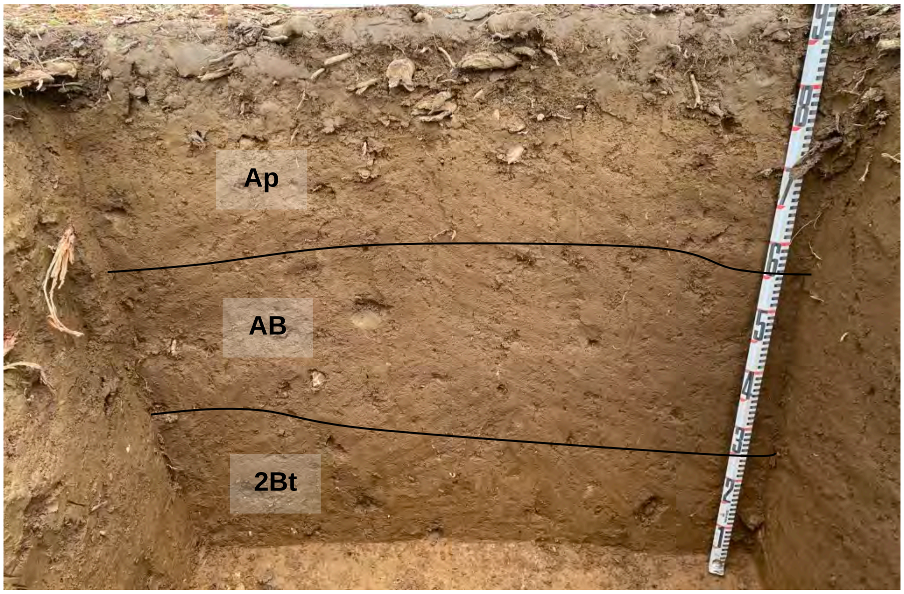


Figure 91: Test Unit TU 1 south wall profile, Site 40Pm184.

Table 55. Recovered Artifacts, TU 1 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Misc.	Total
1	0-30	10	3	47	1008	5	**1073**
	10	2					**2**
	15	1					**1**
2	30-40	1	3	12	481	1	**498**
3	40-50	5	1	18	282		**306**
	42	1					**1**
4	50-60	1		3	62		**66**
5	60-70				11		**11**
6	70-80				8		**8**
Test Unit 1 Total		**21**	**7**	**80**	**1852**	**6**	**1966**

7.1.3.2 Test Unit TU 2

Test Unit TU 2 was located at N1029 E977.80 and measured 1-x-1-m (3.3-x-3.3-ft). TU 2 was excavated approximately between STP 81-12 and 82-12; both of which produced significant amounts of precontact material from intact strata during the preceding Phase I survey. The test unit was placed within less than 50 cm of the I-40 ROW boundary fence.

Seven levels were excavated to a total depth of 90 cmbs. Three stratigraphic horizons were documented in the profile: Ap-Ab-2Bt (Figure 92). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 30 cmbs and was excavated as one level. Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 60 cmbs. The AB horizon was excavated in Levels 2, 3, and 4. Level 5 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) silty clay loam that was excavated in Levels 5, 6, and 7.

Material densities within TU 2 were moderate throughout the entire test unit from the Ap through the AB horizon. The basal 2Bt horizon contained limited materials that were likely moved downward through natural processes. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 243 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon or at its transition with the 2Bt horizon. The AB horizon was sampled within levels 2-5 and contained the densest concentration of artifacts; a total of 525 (Table 56). Diagnostic ppks were recovered in Level 3, an Early Archaic Kirk Corner notch, and in Level 4, an Early Archaic Palmer Corner notch. No features were noted in TU 2.

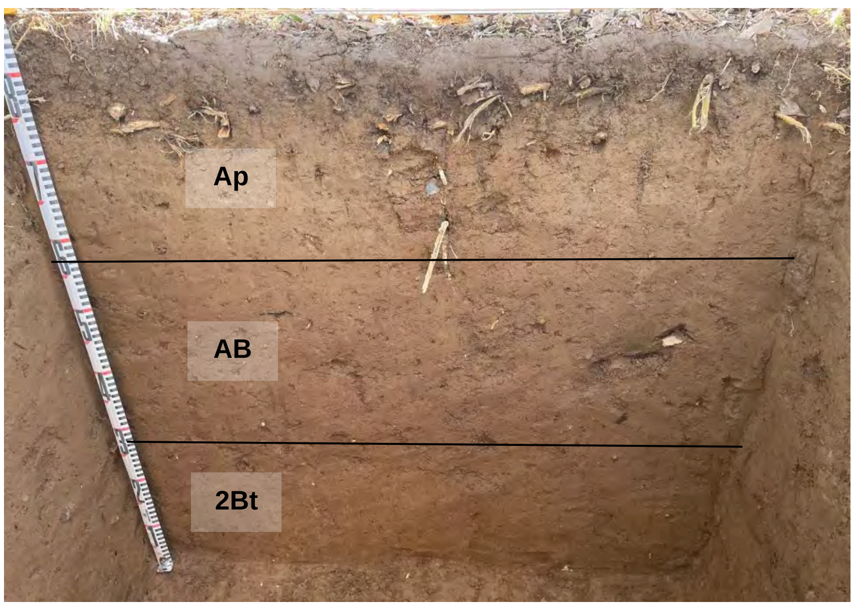


Figure 92: Test Unit TU 2 west wall profile, Site 40PM184.

Table 56. Recovered Artifacts, TU 2 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Misc.	Total
1	0-30	2	1	29	211		**243**
2	30-40		2	2	128		**132**
3	50	1					**1**
	40-50	3	2	7	208	2	**222**
4	60	1					**1**
	50-60			3	132		**135**

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Misc.	Total
5	60-70				31		**31**
6	70-80			2	1		**3**
Test Unit 2 Total		**7**	**5**	**43**	**711**	**2**	**768**

7.1.3.3 Test Unit TU 3

Test Unit TU 3 was located at N1035.65 E958.80 and measured 1-x-1-m (3.3-x-3.3-ft). TU 3 was excavated near the original western boundary of the site and near shovel test STP 81-12 excavated during the preceding Phase I survey. The test unit was excavated approximately 6 m north of the I-40 ROW boundary fence and at the northern edge of the small woodlot that most of the test units were excavated within during the Phase II investigations.

In all, eight levels were excavated to a total depth of 100 cmbs. Four stratigraphic horizons were documented in the profile: Ap-AB-1Bt-2Bt (Figure 93). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 30 cmbs and was excavated as one level. Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 60 cmbs. The AB horizon was excavated in Levels 2, 3, and 4. Level 5 transitioned to a 1Bt horizon consisting of a yellowish red (5YR 4/6) that extended to a depth of 95 cmbs. The 1Bt horizon was excavated in Levels 5, 6, 7, and 8. The 1Bt had a gradual transition to the underlying 2Bt horizon consisting of a yellowish red (5YR 4/6) silty clay loam that was excavated in the lower portion of Level 8.

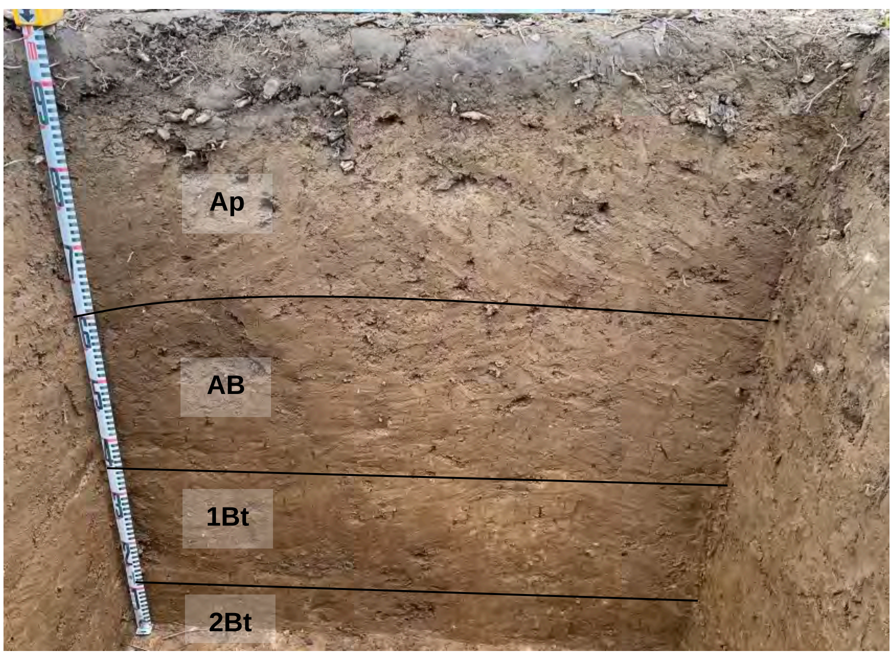


Figure 93: Test Unit TU 3 west wall profile, Site 40Pm184.

Material densities within TU 3 were extensive from the Ap through the AB horizon. The 1Bt horizon contained limited materials that were likely moved downward through natural processes. The underlying 2Bt horizon was completely sterile. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 1,959 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon or at its transition with the 1Bt horizon. The AB horizon was sampled within levels 2-4 and contained a moderate concentration of artifacts, totaling 361 (Table 57). A diagnostic ppk Late Archaic McIntire ppk was recovered from within the Ap horizon, no diagnostic material was recovered from the underlying intact AB horizon deposits. No features were noted in TU 3.

Table 57. Recovered Artifacts, TU 3 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Fauna	Misc.	Total
1	20	1						**1**
	0-30	8	6	111	1826	1	6	**1958**
2	30-40	2	2	25	261			**290**
3	40-50			3	49			**52**
4	50-60	1	1	1	16			**19**
5	60-70				4			**4**
Test Unit 3 Total		**12**	**9**	**140**	**2156**	**1**	**6**	**2324**

7.1.3.4 Test Unit TU 4

Test Unit TU 4 was located at N1034 E987.25 and measured 1-x-1-m (3.3-x-3.3-ft). TU 4 was excavated north of shovel test STP 82-12 and approximately west of STP 82-13s (an additional STP excavated during the Phase II evaluation). The test unit lies approximately 5 m north of the I-40 ROW fence and near the northern edge of the small woodlot.

In all, five levels were excavated to a total depth of 70 cmbs. Three stratigraphic horizons were documented in the profile: Ap-AB-2Bt (Figure 94). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 30 cmbs and was excavated as one level. Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 55 cmbs. The AB horizon was excavated in Levels 2, 3, and 4. The lower portion of Level 4 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) silty clay loam and extended to a depth of 70 cmbs. The 2Bt was excavated in Levels 4 and 5.

Material densities within TU 4 were moderate from the Ap through the AB horizon. The underlying 2Bt horizon was completely sterile. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 611 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon or at its transition with the 2Bt horizon. The AB horizon was sampled within levels 2-4 and contained a light concentration of artifacts, totaling 70 (Table 58). A basal remnant of a diagnostic ppk Early Archaic Stillwell ppk was recovered from the base of

Ap horizon, no other diagnostic material was recovered from the underlying intact AB horizon deposits. No features were noted in TU 4.

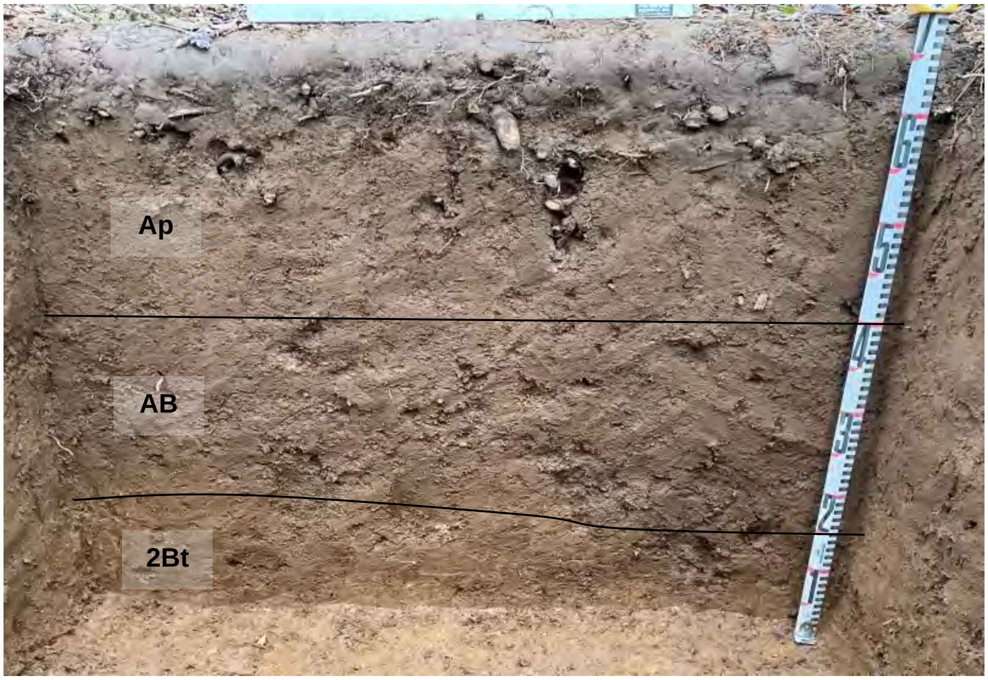


Figure 94: Test Unit TU 4 south wall profile, Site 40Pm184.

Table 58. Recovered Artifacts, TU 4 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Total
1	0-30	6	9	42	554	**611**
2	30-40	1		2	36	**39**
3	40-50			1	25	**26**
4	50-60				5	**5**
Test Unit 4 Total		**7**	**9**	**45**	**620**	**681**

7.1.3.5 Test Unit TU 5

Test Unit TU 5 was located at N1042.75 E1010.25 and measured 1-x-1-m (3.3-x-3.3-ft). TU 5 was excavated on a broad rise lying to the north of the woodlot that appears to represent an undisturbed portion of the original hillside slope. This test unit was placed as far north as possible to determine if any portion of the hillside remained intact following the construction of I-40 in the 1960s. The test unit was placed approximately 14 m north of the ROW boundary fence and 10 m south of the current I-40 roadway edge.

In all, three levels were excavated to a total depth of 30 cmbs. Two stratigraphic horizons were documented in the profile: Ap-2Bt (Figure 95). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 10 cmbs and was excavated as one level. Level 2 transitioned to the underlying 2Bt horizon consisting of a yellowish red (5YR 4/6) silty clay loam that was excavated in Levels 2 and 3.

Material densities within TU 5 were minimal and came from the Ap with some mixing of materials into the underlying 2Bt horizon. Given the unit's placement near the construction of I-40, most of the strata appear to have been disturbed either from road construction or previous agricultural activity. The Ap horizon was sampled within Levels 1 and 2 within the unit, producing a total of 38 artifacts. The remainder of the artifacts recovered from the unit were located within the transition with the underlying 2Bt horizon. The 2Bt horizon was sampled within level 3 and contained a light concentration of artifacts, totaling 12 (Table 59). The unit produced no diagnostic artifacts, and none of the materials are considered intact. No features were noted in TU 5.

Figure 95: Test Unit TU 5 south wall profile, Site 40Pm184.

Table 59. Recovered Artifacts, TU 5 at 40Pm184

Level	Depth	Uniface	Debitage	Total
1	0-10	4	13	**17**
2	10-20	3	18	**21**
3	20-30	2	10	**12**
Test Unit 5 Total		**9**	**41**	**50**

7.1.3.6 Test Unit TU 6

Test Unit TU 6 was located at N1032.6 E1059 and measured 1-x-1-m (3.3-x-3.3-ft). TU 6 was excavated near shovel test STP 87-14 on what was believed to be the original ridgeline that extended to the southeast toward Indian Creek. This area contained thin soils over regolithic bedrock based upon Phase I shovel testing. The test unit was placed in this location to confirm the previous Phase I results and to provide greater vertical context to any cultural materials recovered from this portion of the site.

In all, three levels were excavated to a total depth of 30 cmbs. Two stratigraphic horizons were documented in the profile: Ap-2Bt (Figure 96). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 10 cmbs and was excavated as one level. Level 2 transitioned to the basal remnants of the 2Bt horizon consisting of a dark yellowish brown (10YR 4/6) silty clay loam that was excavated to a depth of 30 cmbs prior to transitioning to the regolithic Cr deposits that represent degrading bedrock.

Material densities within TU 6 were minimal and came from the Ap with some mixing of materials into the underlying 2Bt horizon. The unit was placed along the crest of upland ridgeline that extends off the hillside to the north, and the extremely sallow soils were to be expected in this position. Given the unit's placement near the construction of I-40, most of the strata appear to have been disturbed either from road construction or previous agricultural activity. The Ap horizon was sampled within Level 1 within the unit, producing a total of 142 artifacts. The remainder of the artifacts recovered from the unit were located within the transition with the underlying 2Bt horizon. The 2Bt horizon was sampled within level 2 and contained a moderate concentration of artifacts, totaling 90 (Table 60). The higher number of artifacts recovered within the 2Bt is believed to be related to disturbance and mixing within the shallow rocky deposits rather than in situ deposition. The unit produced no diagnostic artifacts, and none of the materials are considered intact. No features were noted in TU 6.

Figure 96: Test Unit TU 6 west wall profile, Site 40Pm184

Table 60. Recovered Artifacts, TU 6 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Total
1	0-14	1	3	18	120	**142**
2	14-24	1		6	83	**90**
Test Unit 6		**2**	**3**	**24**	**203**	**232**

7.1.3.7 Test Unit TU 7

Test Unit TU 7 was located at N1032 E1005.1 and measured 1-x-1-m (3.3-x-3.3-ft). TU 7 was excavated on a gradual west to east slope that extends into a broad depression caused by an underlying sinkhole that dominates the center of the site to the south. This depression and the shovel tests excavated within it and around its perimeter were found to contain deeper intact strata to the south of the ROW fence during the Phase I survey, and the unit was placed to evaluate this potential within the north portion of the site. The unit was placed approximately 3 m north of the ROW boundary fence and at the eastern edge of the small woodlot that covers the western end of the site area.

In all, five levels were excavated to a total depth of 70 cmbs. Three stratigraphic horizons were documented in the profile: Ap-AB-2Bt (Figure 97). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 30 cmbs and was excavated as one level. Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 50 cmbs. The AB horizon was excavated in Levels 2 and 3. Level 4 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) and was excavated to a depth of 70 cmbs.

Material densities within TU 7 were moderate from the Ap through the AB horizon. The underlying 2Bt horizon was virtually sterile. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 470 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon or at its transition with the 2Bt horizon. The AB horizon was sampled within levels 2-4 and contained a light concentration of artifacts, totaling 27 (Table 61). The Ap horizon was found to contain two diagnostic ppks, an Early Archaic Decatur and a Late Archaic Pickwick. No other diagnostic material was recovered from the underlying intact AB horizon deposits. No features were noted in TU 7.

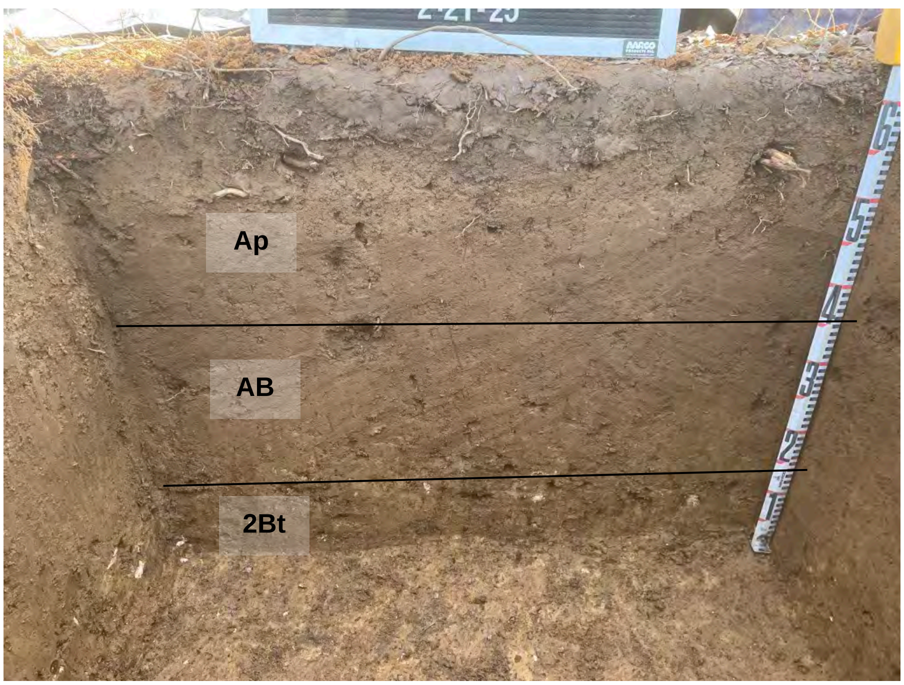


Figure 97: Test Unit TU 7 south wall profile, Site 40Pm184.

Table 61. Recovered Artifacts, TU 7 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Ornament	Total
1	17	1					**1**
	0-29	9	1	61	397	1	**469**
2	30-40				25		**25**
3	40-50			1			**1**
4	50-60				1		**1**
Test Unit 7		**10**	**1**	**62**	**423**	**1**	**497**

7.1.3.8 Test Unit TU 8

Test Unit TU 8 was located at N1033.4 E1074.5 and measured 1-x-1-m (3.3-x-3.3-ft). TU 8 was excavated near the extreme eastern edge of the broad depression that gradually slopes southward toward Indian Creek. Nearby shovel tests STP 85-13 and 86-13 located to the south identified intact strata that were suspected to extend north of the ROW boundary fence. The test unit was placed approximately 4.5 m north of the ROW boundary fence within an open maintained grass pasture.

In all, five levels were excavated to a total depth of 60 cmbs. Three stratigraphic horizons were documented in the profile: Ap-AB-2Bt (Figure 98). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 25 cmbs and was excavated in Levels 1 and 2. The base of Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 40 cmbs. The AB horizon was excavated in Levels 2 and 3. Level 4 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) and was excavated in Levels 4 and 5. The 2Bt was excavated to a depth of 60 cmbs.

Figure 98: Test Unit TU 8 south wall profile, Site 40Pm184.

Material densities within TU 8 were moderate from the Ap through the AB horizon. The underlying 2Bt horizon was virtually sterile. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 320 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon or at its transition with the 2Bt horizon. The AB horizon was sampled within levels 2-4 and contained a light concentration of artifacts, totaling 17 (Table 62). The AB horizon was found to contain one diagnostic ppk, an Early Archaic Kirk Corner notched point. No features were noted in TU 8.

Table 62. Recovered Artifacts, TU 8 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Debitage	Misc.	Total
1	0-20	2	1	15	300	2	**320**
2	30	1					**1**
	20-30			1	14		**15**
3	30-40				1		**1**
Test Unit 8		**3**	**1**	**16**	**315**	**2**	**337**

7.1.3.9 Test Unit TU 9

Test Unit TU 9 was located at N1035 E1039 and measured 1-x-1-m (3.3-x-3.3-ft). TU 9 was excavated near the base of the broad depression and directly north of the small outlet stream that forms out of the sinkhole derived depression to the south. As indicated with the previous test units, this unit was placed to investigate the potential that intact strata extend to the north of the ROW fence within this depression. The test unit was placed approximately 6 m north of the ROW boundary fence.

In all, seven levels were excavated to a total depth of 80 cmbs. Three stratigraphic horizons were documented in the profile: Ap-AB-2Bt (Figure 99). The Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 25 cmbs and was excavated as one level. Level 2 transitioned to an AB horizon consisting of a brown (7.5YR 4/4) silty clay loam that extended to a depth of approximately 60 cmbs. The AB horizon was excavated in Levels 2, 3, 4, and 5. The lower portion of Level 5 transitioned to a 2Bt horizon consisting of a yellowish red (5YR 4/6) and was excavated to depth of 80 cmbs.

Material densities within TU 9 were moderate from the Ap through the AB horizon. The underlying 2Bt horizon was sterile. Disturbance was constrained to the Ap horizon, all of which were contained within Level 1. The Ap horizon produced a total of 126 artifacts. The remainder of the artifacts recovered from the unit were located within the intact underlying AB horizon. The AB horizon was sampled within levels 2-5 and contained a moderate concentration of artifacts, totaling 105 (Table 63). The AB horizon was found to contain one diagnostic ppk, an Early Archaic Kirk Corner notched point. No features were noted in TU 9.

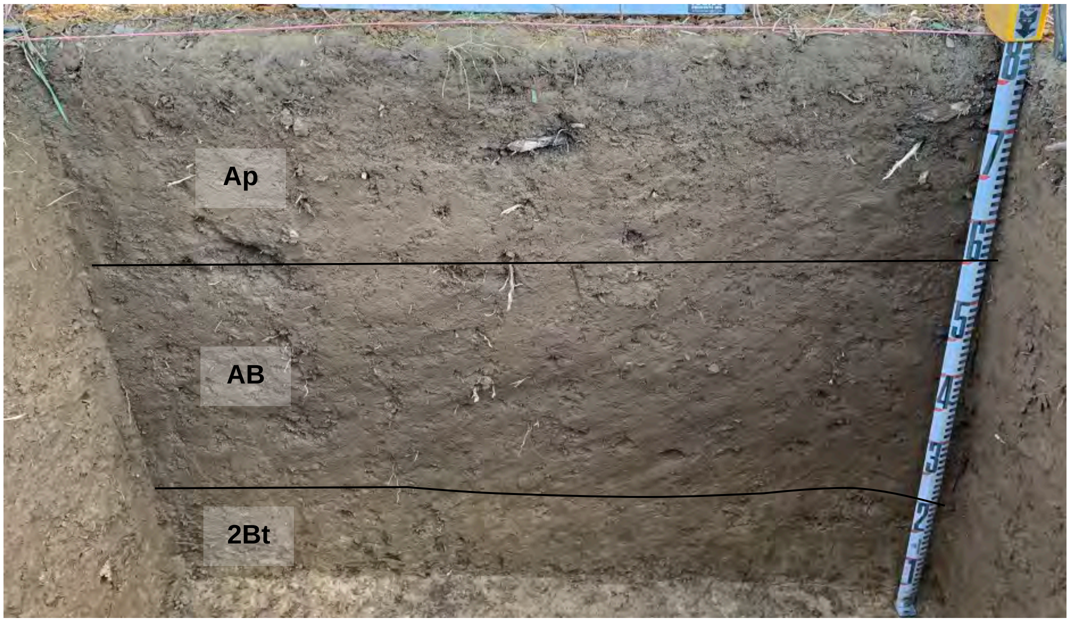


Figure 99: Test Unit TU 9 south wall profile, Site 40Pm184.

Table 63. Recovered Artifacts, TU 9 at 40Pm184

Level	Depth (cmbs)	Biface	Core	Uniface	Groundstone	Debitage	Total
1	**0-22**	2	3	14		107	126
2	**22-32**	1	2	7		31	41
3	**32-42**			3		28	31
4	**42-52**		1	1		13	15
5	**52-62**		1	2	1	14	18
Test Unit 9 Total		**3**	**7**	**27**	**1**	**193**	**231**

7.1.3.10 Test Unit TU 10

Test Unit TU 10 was located at N1034.75 E948 and measured 1-x-1-m (3.3-x-3.3-ft). TU 10 was excavated downslope from TU 3 and outside of the original site boundary. Based upon the results from TU 3 it was expected that deeply buried cultural deposits extended downslope to the edge of the terrace, and the placement of the test unit was positioned to explore that potential. Obvious disturbance was noted 5 m to the north of the test unit location that represented drainage ditching related to the construction of the I-40 bridge. The test unit was placed 5 m north of the I-40 ROW boundary fence.

In all, 12 levels were excavated to a total depth of 130 cmbs. Five stratigraphic horizons were documented in the profile: fill-Ap-A-AB-2Bt (Figure 100). The fill horizon extended to a depth of 50 cmbs and was excavated in Level 1 through Level 5. The underlying Ap horizon consists of a brown (7.5YR 4/3) silt loam that was extended to a depth of 80 cmbs. The Ap horizon was excavated in Levels 6, 7, and 8. Underlying the Ap horizon was an A horizon and a small segment of an AB horizon. The A horizon was a brown (7.5YR 4/3) silty clay loam that extended to a depth of 90 cmbs across the unit except in the northwest corner where the A horizon continued to a depth of 130 cmbs. In the eastern portion of the unit, the A horizon transitioned to an AB horizon. The AB horizon consists of a brown (7.5YR 4/4) silty clay loam that extended to a depth of 95 cmbs. Underlying the A and AB horizons was a 2Bt horizon. The 2Bt horizon consists of a yellowish red (5YR 4/6) silty clay loam that extended to the base of the unit.

Material densities within TU 10 were moderate for the strata underlying the fill deposits that dominate the upper 50-60 cm of the test unit. The fill layers produced a combination of precontact and historic period materials and represent the bulk of the material recovered from the unit. Levels 1-5 represent the bulk of the fill layers that produced a total of 149 artifacts (Table 64). The underlying strata appear to have been formed in place but still have some degree of disturbance from prior construction and agricultural activity. The Ap horizon was sampled in levels 6-9 and found to contain the bulk of the artifacts recovered from the unit. These levels produced a total of 960 artifacts, including an Early Archaic Graham Cave Side notched. The underlying intact AB horizon sampled in Levels 10-11 produced 69 artifacts, including an Early Archaic Kirk Corner notched point. The underlying 2Bt horizon was found to contain 44 artifacts that are believed to have been moved down from the overlying AB horizon through natural processes and do not represent *in situ* deposition. No features were noted in TU 10.

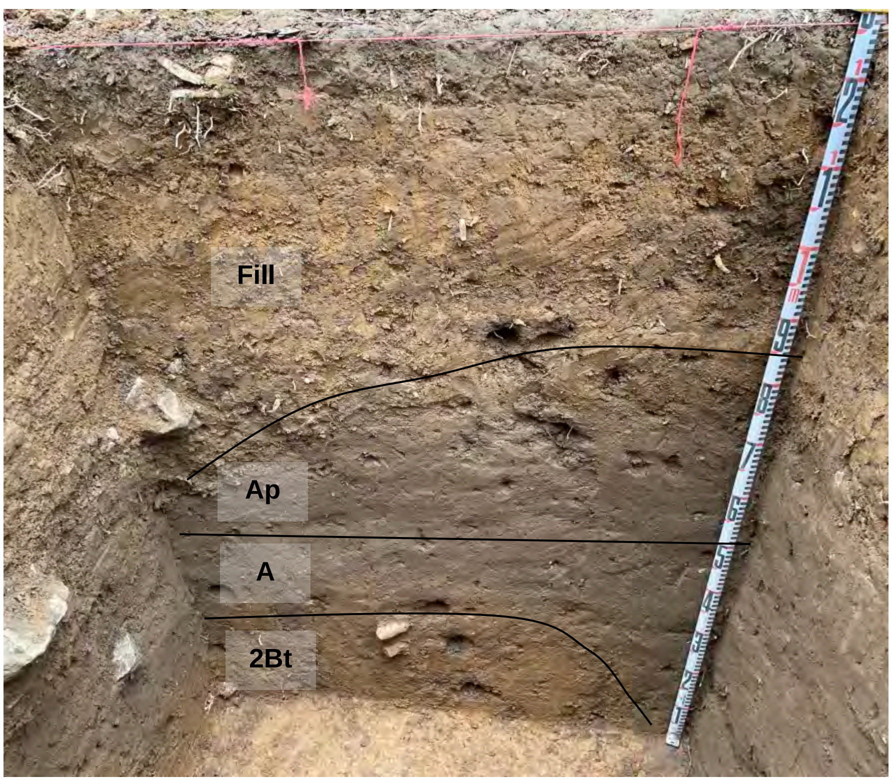


Figure 100: Test Unit TU 10 west wall profile, Site 40Pm184.

Table 64. Recovered Artifacts, TU 10 at 40Pm184

Level	Depth	Biface	Core	Uniface	Groundstone	Debitage	Pottery	Fauna	Total
1	**0-10**	3		1		15			19
2	**10-20**	3		3		75			81
3	**20-30**			1		13			14
4	**30-40**					18			18
5	**40-50**	2		1		14			17
6	**50-60**	5		12		121			138
7	**60-70**	3		9	1	297	1	1	312
8	**80**	1							1
	70-80	4		12		253			269
9	**87**	1							1
	80-90	3	1	12		223			239
10	**90-100**			2		37			39
11	**100-110**	3	1	1		25			30
12	**110-125**			2		42			44
Test Unit 10 Total		**28**	**2**	**56**	**1**	**1133**	**1**	**1**	**1222**

8 Phase II Interpretation and Discussion

The cultural significance and relative importance of Sites 40Sm274 and 40Pm184 can be measured by the archaeological data they have the ability to yield. The Phase II goals below were used to evaluate the breadth and caliber of those data sets and how they can be used to address research questions regarding the precontact cultures of the Caney Fork River area.

The following discussion is focused on five primary research questions or themes outlined within Section 5.0. These themes are then subdivided on a site-by-site basis. In some instances, certain aspects of the excavation of either site were found to be complimentary to the overall interpretation of the broader occupation of the entire Caney Fork River region. In these cases, summary discussions were also added that combine data from both sites to provide a holistic interpretation of the archaeological deposits that developed within the area during the precontact period.

8.1 Archaeological/Contextual Integrity

The discussion of the archaeological and contextual integrity of the deposits observed during the investigations are site specific, and as such each site is discussed independently within this section. The excavations at sites 40Sm274 and 40Pm184 both contained intact remnants of the original ground surface, albeit limited in both cases that can provide a more complete insight to questions of context and integrity.

Depositional integrity of an archaeological site provides an understanding of how close the current position of the artifacts recovered today are to their original depositional context. The Phase II investigations were focused on finding deposits that would have the greatest potential to remain intact. These types of deposits are primarily found in two locations: intact soil strata or features.

Intact soil strata represent previous surface horizons that have become buried overtime and remain sealed away from historic disturbance, such as plowing. These types of strata usually are found within floodplain settings, in which successive flooding will bury older ground surface horizons, sealing them away from later disturbance. In some upland settings soil erosion can move soils downslope, covering previous surfaces and effectively sealing away the base of slopes and occupations focused in those specific areas. The second mechanism was found to play a significant role in the preservation of intact precontact deposits at both sites.

A feature is a permanent construction made by previous inhabitants at a site. During the Precontact period these are primarily represented by pits that have been excavated in the ground to perform a specific activity, such as cooking or storage They can also be the base of posts that were once driven in the ground that may indicate previous house locations. Features can be found in the context of intact strata, wherein they possess the greatest research value as they can be directly associated within nearby artifacts, but they can also be recovered as remnants extending from the base of the disturbed plow zone into underlying subsoil. In sites where plowing has completely disturbed the original ground surface, features represent the only intact remnants of the previous occupations that retain their depositional integrity.

8.1.1 Site 40Sm274 Archaeological/Contextual Integrity

The Phase I surveys that have occurred at site 40Sm274 produced a total of 173 precontact artifacts from 60 shovel tests across a series of terraces of varying age. Artifacts were recovered to a maximum depth of 50 cmbs. The interpretations of the soil stratigraphy based upon the Phase I survey was that as much as 36 percent of the recovered material was recovered from an intact A horizon that had been truncated by the overlying Ap plow zone horizon. The subsequent Phase II investigations though found that this A horizon was in fact an Ap2 horizon that represented isolated patches of the original plowed surface that more than likely developed in the early nineteenth century. Based upon the Phase II results the great majority of the material recovered from the Phase I survey were from the disturbed Ap1-Ap2 plow zone horizons that extend to a maximum combined depth of 45-50 cmbs in most locations. A limited number of the intact materials were recovered from select areas in which remnants of an underlying A or AE horizons remain intact or in features. Approximately half (n=4,023) of the 8,571 artifacts recovered during the Phase II investigations were recovered from disturbed context, with the other half (n=4,971) being retained from either intact strata identified within test units TU 1-TU 6, TU 10, TU 12, TU 14 - TU 22, TU 24, TU 26 – TU 31, TU 33 – TU 45, or within Features F3-F6. The bulk though of the intact materials (n=3,911) were conscribed to the four features excavated within the western core occupation area, leaving the remaining 948 artifacts to be parsed between 38 test units excavated across the site. Most of these artifacts are primarily debitage and appear to have been moved downward through natural processes from the overlying disturbed contexts or represent extremely ephemeral remnants of previous core occupations areas in the east and western sections of the site.

A review of these intact materials indicated that approximately half (n=477) were recovered from three core primary occupation areas of the site. The core occupation areas surrounding the eastern depression, along the western property line and the terrace lying to the southeast of the broad depression or the within the northern levee deposits that were recovered from within TU 30. The artifacts recovered from TU 30 were spaced over a series of BC-C horizon deposits that extend over nine levels and may represent materials being redeposited from the nearby older upper terrace. The units placed along the western property line produced 118 combined artifacts, but these were spread over numerous levels within an A-Bw sequence that remained intact within this confined area. The eastern depression units were placed specifically to sample the A-AE remnant horizon found lying along the base of the depression, with all units combining to produce a total of 139 artifacts, all of which were nondiagnostic. The bulk of this materials was comprised of debitage, with a small collection of bifacial and unifacial tools also being recovered. While intact, the materials recovered represent only a remnant that cannot be easily interpreted due to the lack of diagnostic materials and the mixed nature of the deposits lying above that make definitive interpretations about temporal affiliation difficult.

The four features F3-F6 located to the south and southeast of the deep sinkhole-derived depression in the western end of the site all appeared to be associated with a more intensive Late Archaic occupation of the terrace. Radiocarbon dates obtained from all four features indicate a calibrated 2σ range of approximately 1620-1270 cal. BCE. Feature forms were similar, especially for the three (F3, F4, and F6) clustered directly south of the depression. Recovered diagnostic McIntire and Motley ppks appear consistent with the temporal range assigned for each form (Justice 1995). Additional, Early Archaic ppk were also recovered from these features, and while interpreted as being either curated or randomly deposited artifacts, their recovery within these features speaks to the mixed nature of the deposits on the surface of the terrace and the downslope collection of materials within the depression that characterize the nature of the western occupation area.

Overall site 40Sm274 has marginal depositional integrity, but in a few isolated areas intact occupations supported with cultural features were identified. The eastern occupation area is focused around a shallow sinkhole-derived depression that lies along the crest of the ridge-like terrace remnant. These occupations were primarily focused within the depression with two features being identified around its perimeter. The diagnostic artifacts recovered from within the depression indicate an Early Archaic usage, but most of these materials lie within the Ap-Ap2 sequence above the intact remnant AE horizon. The AE horizon produced only limited artifacts, none of which are diagnostic. Given the lack of other diagnostics being recovered from within the depression, it is probable that some part of the assemblage recovered from this area is affiliated to the Early Archaic, but it cannot be categorically separated. One of the surrounding features was found to be affiliated with Late Woodland occupation of the site and the recovery of nearby Early Woodland and Late Archaic diagnostics indicate the possibility that the mixed deposits contained within the Ap-Ap2 sequence represent multiple periods and occupations.

The western occupation surrounding the broad deep sinkhole-derived depression was found to contain limited materials from a remnant AB horizon underlying the Ap and a dense scree of material that has been displaced downslope into the depression from the above lying terrace. This material appears to lie within an intact A horizon but would have been deposited downslope in more than likely secondary deposit related to multiple occupations that occurred across the terrace. These occupations also contained a series of four features that were all found to date to the Late Archaic period. Diagnostic ppks recovered from the features are consistent with that period of occupation, but two also possess Early Archaic ppks that were included within the feature fill, representing either collected materials discarded by the Late Archaic inhabitants or random inclusion within the features through natural in filling processes. The upper terrace is littered with diagnostic artifacts that indicate occupations spanning at least from the Early Archaic to the Early Woodland period stretching across the terrace, making it difficult to reliably isolate the intact deposits to one specific period or to take the intact features and associate them with the materials covering the terrace. While significant amounts of intact artifacts were recovered within the depression and the features, it is difficult due to the mixing of the upper deposits to reliably interpret or contextualize them to the broader occupations that have occurred above the depression.

8.1.2 Site 40Pm184 Archaeological/Contextual Integrity

The Phase I surveys that have occurred at site 40Pm184 produced a total of 726 from the Ap horizon and 557 from the underlying intact AB horizon found across the older terrace portion of the site, wherein the focus of the current evaluations is centered. Of the 72 shovel tests used in the site’s original definition, only nine were located within the TDOT ROW, the majority of which produced artifacts solely from the disturbed Ap horizon except for a few shovel tests along the southern edge of the ROW. The Phase II investigations produced a total of 8,404 artifacts that were primarily precontact in affiliation. Most of these artifacts were recovered from disturbed context (n=7,130) like the results of the Phase I survey, but limited amount of intact material, which makes up the remaining 15.2 percent of the assemblage (n=1,274), was retained from the intact AB stratum identified within test units TU 1-TU4, TU 7-TU 10.

The occupations contained within the AB to the transition with the top of the 1Bt horizon date to the Early Archaic period, producing diagnostic Kirk Cluster and Decatur ppks from multiple separate locations across the breadth of the APE. These deposits are primarily focused in proximity to the western edge of the older terrace, with the AB horizon conformably sitting above the 2Bt horizon in the remainder of the site. In these cases, all material recovered are from the AB horizon. Of the over 1,200 artifacts recovered within the AB horizon indicate that the Early Archaic occupations were focused on tool creation and refitting, as well as craft specialization tasks and domestic activities. Spatial patterning indicates that isolated occupational clusters exist at the site, indicating that individual Early Archaic occupations may be separated and studied if broader excavation blocks were employed at the site.

Overall, the site has been deflated by agricultural activities and disturbed from construction of the road outside of the intact AB horizon remnants that extend along the southern ROW edge. These more deeply buried deposits remain intact and appear to have excellent depositional integrity. The investigations recovered only Early Archaic diagnostic materials from the AB stratum indicating that not only is the depositional integrity excellent, but data could also be obtained about an isolated period within the Archaic period.

8.2 Determine Geomorphology, Site Stratigraphy and Occupation Sequence

The stratigraphic sequence and occupations that occurred at each site are discussed independently for each site within this section. Both sites 40Sm274 and 40Pm184 have been developed across section of older terrace derived from alluvial overbank deposition from the Caney Fork River, and both are underlain by karst limestone bedrock that has formed sinkholes under each terrace that has led to a usurpation of soils and broad depressions that segment the terraces into a dissected environment that appears more akin to an upland landscape than a broad alluvial terrace. This underlying bedrock variability and the movements of the Caney Fork River channel overtime have created a unique and varied depositional environment that has played a role in the occupational preferences of the precontact inhabitants over time as well as assisting in the preservation of isolated pockets of intact strata across both sites.

8.2.1 Site 40Sm274 Site Stratigraphy, geomorphology, and occupation sequences

Site 40Sm274 extends across a series of terraces developed by the Caney Fork River during the Pleistocene and Holocene periods. The underlying karst bedrock has allowed for the creation of a series of sinkholes that have led to the subsidence of the alluvially deposited terrace sediments. As such, the terraces that were once level are now pockmarked by a series of depression of various depths, creating a variable surface that appears more like a dissected upland landscape than a traditional expansive and level alluvial surface. The degree of deformation due to the underlying sinkholes increases with time, and as such the Pleistocene-aged terrace possess greater relief than the younger Holocene-aged terraces. The position of these sinkholes is dictated by the movement of the Caney Fork River over time.

The site is dissected by paleo channels of the Caney Fork River evidenced by LiDAR mapping of the area. These paleo channels dissect the site along the E1000 and E920 lines. These paleo channels appear to control the development of a series of sinks that exist across 40Sm274. The eastern portion of the site is characterized by one broad sink at the base of the Pleistocene upland and the western portion of the site is characterized by a broad sink at the base of a levee position from the movement of Caney Fork across the landscape.

The eastern portion of the site's stratigraphy mapped along the N1040 line revealed an Ap1-Ap2-A/AE/AB/Bw/1Bt/C sequence running the length of the ridge-like terrace remnant on which the primary eastern occupations exist. The Ap1 is identified in a relative uniform 25 to 30 cm thickness across the site, with an older Ap2 horizon being identified in portions of the site below the Ap1 extending to a depth of as much as 50 cmbs. The Ap2 was not identified on the topographically higher Pleistocene-aged terrace above the broad sink depressions that define the southern flank of the ridge-like terrace remnant. Underlying the Ap strata is a relatively thin A horizon that varies from east to west across the landscape. The A horizon varies from an AE/AB/A from east to west but is vertically consistent across the site but compositionally different due to landform development and differential draining. The stratum represents an intact remnant of the original ground surface. Due to historic modification of the landscape the A/AE/AB stratum is extremely ephemeral and did not yield much intact diagnostic cultural material. A Bw horizon was identified below the A/AE/AB horizon that was a weakly developed silt loam formed over time through illuviation. The Bw grades into a sandy C horizon representing the partially weathered alluvially deposited sediments.

The western portion of the site's stratigraphy mapped along the E940 line revealed an Ap1/Fill-Ap2-A-Bw-C sequence. The stratigraphy across the western portion of the site is a lot sandier in nature and controlled by erosion of the terrace and the redeposition of a levee position within the broad sink depression. The Ap1 is seen across this portion of the site extending as deep as 50 cmbs. The southern most extent of this landform exhibits a modernly disturbed fill deposit that likely integrates the Ap1 and extends to 30 cmbs. The fill package in this area is the result of disturbance from the creation of I-40. On the terrace slope into the sink depression TU42 reveals a thick sandy deposit that likely has been plowed but it is difficult due to the nature of the sand to parse out a plow zone stratum from the alluvial sand package, this stratum extends to 95 cmbs. The alluvial sand package that fronts the northwestern terrace scarp represents the levee position that formed from the movement of Caney Fork seen along the E930 line. The Ap2 is only represented in the southern portion of this area on the site on the top the western portion of the dissected terrace where Features F3-F6 were identified at the base of the plow. Underlying the Ap stratum is a dark, organic rich, A horizon the was identified in the core of the sink derived depression in the western portion of the site existing at meter to two meters below surface. Above the A in TU 45, which sampled the middle of the sink derived depression in this portion of the site, is a thick colluvial fill package that eroded the surrounding terrace, and levee faces and infilled the depression. Below the plow on the terrace and levee crests exists a weakly developed, silt loam, Bw horizon that matches the pedogenesis of this stratum in the eastern portion of the site. Below the Bw strata is a sandy C horizon representing the partially weathered alluvially deposited sediments. The C horizon was identified below the A horizon in the center of the sink derived depression.

Occupation was noted across the landscape of the site, but the only intensively occupied portions of the site lie in conjunction with two sinkhole-derived depressions. The eastern occupations focused on the shallow depression on the ridge-like terrace remnant at the base of the slope off the higher Pleistocene terrace. These deposits were heavily sampled during the Phase II investigations by a series of test units as well as mechanical strip trenches and blocks. A thin remnant of an intact A-AE horizon was found lying below the Ap1-Ap2 sequence that contained limited remains of what appeared to be primarily an Early Archaic occupation based upon the recovery of a series of Stillwell and Kirk ppks from within depression and along the ridgelike terrace remnant. Additionally, two features were excavated around the depression's perimeter, one was found to date to the Late Woodland period. Additional Late Archaic and Early Woodland ppks were also identified along the terrace. While it is believed that the few artifacts recovered from within the intact stratum in the depression are related to the Early Archaic occupations, the bulk of the material lying above in the Ap1-Ap2 sequence represents a palimpsest of ephemeral occupations dating throughout most the Precontact period.

The western occupations are focused above and around a much larger and deeper sinkhole-derived depression. Both the terrace above and within the depression were extensively sampled by a series of test units as well as a series of mechanical strip trenches and blocks. The core of these occupation lies along the top of terrace directly to the south and southeast of the depression, with extensive amounts of debitage and tools fragments being found down the southern slope extending into the depression. Most of the material recovered were collected within the mixed disturbed Ap horizon, with only approximately 100 artifacts recovered from the underlying intact strata. The four features F3-F6 located within these occupations all appeared to be associated with a more intensive Late Archaic occupation of the terrace. Radiocarbon dates obtained from all four features indicate a calibrated 2σ range of approximately 1620-1270 cal. BCE. These features originate from the disturbed surface of the terrace that appears to have been occupied from the Early Archaic to at least the Early Woodland period based upon the diagnostic artifacts recovered from across the terrace surface. Extensive cultural deposits were also recovered down slope within the broad depression, but the intact strata are impossible to relate to any specific temporal period, appearing to represent a palimpsest of materials related to occupations spanning the Precontact period, like those that occur upslope on the terrace tread.

8.2.2 Site 40Pm184 Site Stratigraphy, geomorphology, and occupation sequences

The elevated landform on which site 40Pm184 extends is a palimpsest of topographic features developed from both residual as well as alluvial deposition. The eastern half of the site lies along the southern end of a broad upland ridge that runs down toward Indian Creek. The soils within this section of the site are heavily deflated and comprised of a thin, rocky A-2Bt-Cr stratigraphic sequence that possessed no potential for intact or buried deposits. These deposits characterize approximately a third of the eastern end of the site area evaluated during these investigations. As the landform move west toward the confluence of the Caney

Fork River and Indian Creek a deep, older alluvially deposited terrace soil has developed. The terrace has been deposited against the upland ridge blanketing it and creating a gradually sloping surface from north to south that leads to a small drainage along the south-central flank of the landform. This small outflow drainage has developed from an underlying sinkhole that has slowly usurped the terrace deposits, sinking this portion of the site into a broad depression. The remainder of the site area evaluated as part of this Phase II investigations are typified by these older terrace soil deposits that have been conformably laid down over the descending ridge (2Bt soils). More recent alluvium fronts this older terrace along Indian Creek at the base of the terrace scarp slope that extends down to the northern bank of the creek. The final topographic feature is a levee built along the western end of the terrace by the Caney Fork River. These deposits extend east from the scarp face approximately 30 m paralleling the Caney Fork River channel. The levee is much coarser in texture than the older terrace and rises 2-3 m higher than it along the western edge of the landform. As these younger deposits move north toward the current I-40 bridge seat they narrow, eventually terminating south of the I-40 boundary fence. The current Phase II excavations did not identify any of these younger deposits within the portion evaluated.

The investigation documented a relatively consistent stratigraphic sequence across most of the portion of the site constrained within the TDOT ROW consisting of an Ap-AB-1Bt-2Bt-Cr sequence. This sequence would characterize the older terrace deposits that have developed on top of the original ridge line. The upper Ap-AB-1Bt sequence represents the sediments alluvially deposited on top of the 2Bt-Cr residually developed soils from the breakdown of the underlying limestone bedrock. The entire site is blanketed by an Ap plow zone horizon that represents the current surface, except for the extreme western terrace edge, wherein it has been buried under a series of fill episodes that are related to the construction of the I-40. Underlying these disturbed strata are a series of intact strata that have not been disturbed by agricultural plowing or historic period impacts. These strata are comprised by an AB stratum that is underlain either by a 1Bt horizon or a 2Bt horizon stratigraphic sequence. In one instance in TU 3 both the 1Bt and the 2Bt were noted north of the ROW boundary fence, but this appears to be the norm for the stratigraphic sequence to the south within the remainder of the site.

The intact AB horizon represents an older and more weathered A horizon that has been slowly buried over time, with the overlying Ap horizon primarily representing a disturbed and mixed portion of this once thicker stratum. The AB appears to be almost completely derived by alluvial deposition, representing an older terrace soil. The AB stratum was underlain by a well-developed 1Bt horizon. This horizon is comprised of a fine silty clay loam that was deposited alluvially. It is conformable with the overlying AB horizon, appearing to indicate that it formed in concert with the overlying AB stratum as a gradually deposited alluvial sediment package. The 1Bt horizon appears to be conformably underlain by a 2Bt horizon across the central and northern portions of the site.

The AB and 1Bt horizon are the only strata identified within the portion of the site evaluated during these investigations that retain the potential to contain intact cultural deposits. While the Ap horizon appears primarily constructed from the AB stratum, extensive mixing has occurred within this stratum, nullifying any ability to separate isolated occupational areas. The diagnostics ppks recovered from the Ap represent periods spanning from the Early Archaic to Early Woodland period. The underlying AB horizon though was only found to contain Early Archaic forms such as Kirk, Palmer, and Decatur, indicating that this period could be isolated within the AB horizon. The limited investigations into the 1Bt horizon within the APE produced almost no material from the horizon, but it may prove possible that more deeply buried deposits are contained within the horizon as it thickens to the south toward Indian Creek. The Early Archaic deposits were found to extend within the AB horizon across the entire breadth of the older terrace remnants contained within the portion of the site evaluated during the Phase II investigations. Fluctuations in artifact density recovered across the AB horizon also indicate the potential that isolated individual periods of occupation at the site during the Early Archaic may be possible based on the depositional patterns observed during the Phase II investigations.

8.3 Document Material Culture and Artifact Assemblages

The Phase II investigations completed at both sites produced a total of 17,030 artifacts. Of which, 16,975 were affiliated with the precontact components and 55 were affiliated with the historic components. The stratigraphic and contextual analysis of the cultural deposits recovered at both sites was varied but stratigraphic or spatial patterning within each site can be generally used to separate the materials recovered into different temporal components in some instances. It is this more refined separation of the materials that will be used to analyze and characterize the cultural materials recovered during the Phase II evaluations.

8.3.1 Site 40Sm274 Material Culture and Artifact Assemblages

The Phase II investigations at 40Sm274 produced a total of 8,571 precontact period artifacts (Table 65). Most of the material was retained from the below the plow zone (n=4, 023) with almost 50% of the total artifacts from features (n=4,917). The intact material was retained from test units TU 1-TU 6, TU 10, TU 12, TU 14 - TU 22, TU 24, TU 26 – TU 31, TU 33 – TU 45, and Features F 2 – F 6 (Table 65). A small assemblage (n=13) was also collected from strips S 4, S 43, S 44, and S 47. While a significant amount of the material was recovered from intact positions, these were predominantly collected from the features located on the extreme western end of the site. The bulk of the investigative units and strip blocks produced materials solely from the disturbed Ap-Ap2 horizons that blanket the site, providing a picture of a very lightly occupied landscape with certain areas having increased occupations. Based upon the limited diagnostic materials recovered from the investigations, the two primary periods of occupation appear to lie within the Early and Late Archaic periods, with even more ephemeral occupations occurring in the Early and Late Woodland periods as well.

Table 65. Precontact Materials recovered from site 40Sm274.

Provenience	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Botanical	Fauna	Misc.	Total
TU 01	1		4		38					43
TU 02			14		106					120
TU 03			4		40					44
TU 04			8	1	50					59
TU 05			9		184					193
TU 06	1		2		10					13
TU 07					3					3
TU 08					12					12
TU 09			9		67				2	78
TU 10			4		52					56
TU 12			3		3					6
TU 13			2		1					3
TU 14					70					70
TU 15			2		28					30
TU 16	4	3	41		398		1		9	456
TU 17	1		21	1	258					281
TU 18	2	2	25		185					214
TU 19			12		65					77
TU 20		2	7		123			1		133
TU 21	2		24		120		2		1	149
TU 22	2		4		4					10
TU 23	2	1	8		40					51
TU 24			10		69					79
TU 25			2		36					38
TU 26	1		11		66				7	85
TU 27			2		37					39
TU 28	2		8		49				1	60
TU 29	1		5		41					47
TU 30			10		59					69
TU 31	1		3		40					44

Provenience	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Botanical	Fauna	Misc.	Total
TU 32	2		10		57				1	70
TU 33	1		9		86					96
TU 34	1		6		10					17
TU 35			2		6					8
TU 36			18		75					93
TU 37	1		7		22					30
TU 38	6		12		94					112
TU 39		2	12		49					63
TU 40	1	1	11	2	72				1	88
TU 41A					7					7
TU 41B	1				11					12
TU 41C			2		15					17
TU 41D			1		44					45
TU 41F	1		2		17					20
TU 41G		1			16					17
TU 41H			1		9					10
TU 42	2		15		94				1	112
TU 43	1		4		68					73
TU 44	1	1	11		149					162
TU 45	6	2	39		350		1		2	400
TU 45 NE1/4	1	2	13	2	72					90
F 1		1			3				2	6
F 1 W1/2					5		95		5	105
F 2 W1/2							1			1
F 3 N1/2	4		14		449		57	4	11	549
F 3 S1/2	3	2	16		221		5		5	252
F 4 N1/2	2	1	23		214		1		7	248
F 4 S1/2	4	3	27	1	889		140	2	20	1086
F 5 N1/2	1		4		17		1		2	25
F 5 S1/2			3		4					7
F 5 W1/2					20		42		3	65
F 6 N1/2	12	3	34	1	975	1	28	24	17	1095

Provenience	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Botanical	Fauna	Misc.	Total
F 6 S1/2	8		24		393		3		6	434
F6 N1/2	3	4	12		134				7	160
S 01				1						1
S 03	1	2	2							5
S 04	1		3	1	7					12
S 04		1	1		1					3
S 04/S 05 Intersection	1									1
S 05	5	1	6	2	23					37
S 09			1		1					2
S 11			1		7					8
S 12	3		6		5					14
S 13	2		4		4					10
S 14		1	5		8					14
S 15	1		4		4					9
S 16	2	2	5		11					20
S 17	5		2		16					23
S 18	1		2		1					4
S 19	3		10		8					21
S 20			2		1					3
S 21	3	1	7		2					13
S 22		1	2		2					5
S 23	4	3	7		9					23
S 24	1	1		1	2					5
S 26	2	1	7		18					28
S 28			1		2					3
S 30			2							2
S 31			2		1					3
S 32	2	1			2					5
S 33		4	1		3					8
S 34	1		3		6					10
S 35		2	3		2					7

Provenience	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Botanical	Fauna	Misc.	Total
S 36	1									1
S 40			1							1
S 43	11	6	8	1	23					49
S 44	5		7		23					35
S 47	1									1
S 49		1	1		5					7
S 50		7	6		3					16
S 51	1	1	2		4					8
S 52	1		3		14					18
S 53			3							3
S 55			4	1	1					6
Total	140	67	710	15	7120	1	377	31	110	8571

Six features were identified within the site boundaries of 40Sm274 (F1-F6). Features F1 and F2 are in relation to the eastern occupational cluster. Feature F1 produced minimal artifacts and F2 produced nothing. A radiocarbon assay recovered from F1 indicates a Late Woodland affiliation for the feature. The remaining four features are located within the western occupational cluster. These four features produced the bulk of the intact materials recovered from the site. All four were radiocarbon dated to the Late Archaic period, with at least two of the features producing complementary Late Archaic diagnostic ppks. But as with most of the mixed deposits noted at the site, each of these two features also produced Early Archaic ppks that appear to either have been collected and discarded in the features by later Late Archaic groups or were simply included in soil from the surrounding area that backfilled each feature over time.

Bifacial tools represented a marginal but important portion of each horizon assemblage. A total of 140 bifaces, whole or fragmentary, were recovered between the ground surface and 140 cmbs (Table 65). Bifaces from blanks to finished projectile points and drills were identified at site 40Sm274. The bifaces are primarily formed from a variety of Fort Payne and St. Louis cherts, with lesser amounts of Bigby-Cannon, Chalcedony, and Quartz. Much of the material utilized was readily available within the Caney Fork bedload or locally available from outcrops. The debitage analysis supports complete production of bifaces from earliest to latest stage creation occurring at the site although there appears to be more emphasis on early stage. This assertion corroborates with the finding that most of the material was all locally sourced.

A total of 34 blanks and 10 preform I artifacts were identified (Figure 101). Blanks represent the earliest stage of bifacial reduction sequence. Over 70 percent of the blanks and preform I bifaces were within the

Ap horizon or Colluvium from in TU 45. Spatially, the blanks and Preform I bifaces were recovered in strips S3, S5, S12, S13, S16, S17, S19, S21, S23, S32, S34, S36, S43, S44, S51, S52 and test units TU 1, TU 18, TU 38, TU 40, TU 42 , TU 45 as well as features F 4 and F 6 representing a random distribution across the site.

A total of 32 finished and preform II bifaces were recovered from site 40Sm274 (Figure 102). Preform II bifaces are the last step in the bifacial reduction refinement process before becoming a finished biface. Preform II bifaces are generally thinner, have little to no cortex on either face, and their lateral margins have begun to straighten as opposed to earlier stage bifaces. Overall, the shape of preform II bifaces start to take on the appearance of a formal tool that they can later be used to produce. Finished bifaces are a biface that has all the characteristics of a completed projectile point but has not been hafted. The finished bifaces and preform II bifaces retained were identified in the Ap and AE horizons and the majority were produced from locally available cherts.

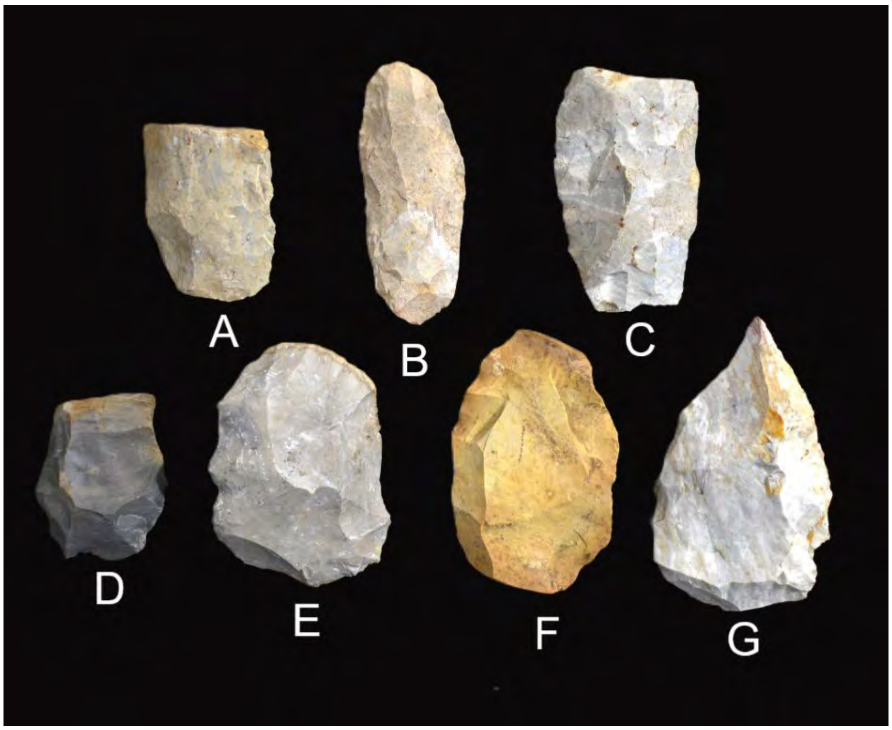


Figure 101. Representative Preform I and Blanks recovered from Site 40Sm274.

A. Preform I, (TU 45, 90-100cmbs), B. Preform I, (S 43, 35-40cmbs), C. Preform I, (S 43, 0-50cmbs), D. Blank, (S 12, 0-30cmbs), E. Blank, (S 23 N1/2, 0-40cmbs), F. Blank, (S 32, 40-73cmbs), G. Blank, (S 49, 70-85cmbs).

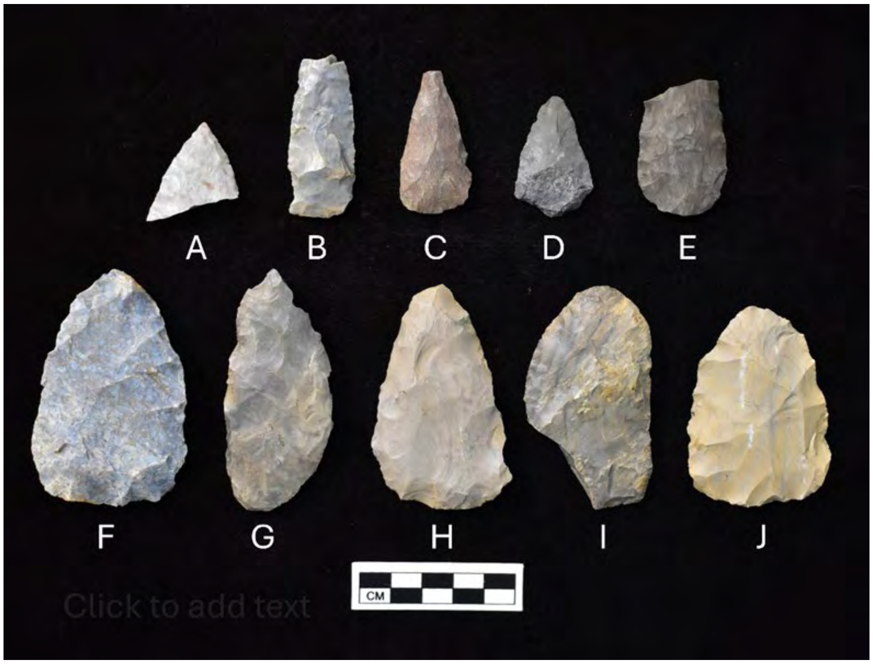


Figure 102. Finished and Preform II bifaces recovered at site 4Sm274.

A. Finished biface, (TU 6, 70-80cmbs), B. Finished biface, (S 4/5 Intersection, 0-40cmbs), C. Finished biface, (S 17, 0-30cmbs), D. Finished biface, (S 43, 0-50cmbs), E. Finished biface, (F 6 N1/2, 50-70cmbs), F. Preform II, (TU 38, 30-40cmbs), G. Preform II, (S 23 N1/2, 0-40cmbs), H. Preform II, (S 17, 20cmbs). I. Preform II, (S 19, 0-35cmbs), J. Preform II, (S 21, 0-40cmbs).

The remainder or the bifacial tools were classified as formal or finished projectile points (n=28). The projectile points identified at 40Sm274 indicate a series of occupations by multiple populations that extend from the Early Archaic to the Early Woodland (Figure 103). The points primarily represent Late Archaic types such as Motley, McIntire, or Savannah River and earlier Early Archaic types, such as Kirk Corner Notched and Stillwell. There are a few that are like a variety of types, predominantly within these two time periods, but could not be reliably classified to a specific type and were left as indeterminate. Most of the points were made of locally available Fort Payne and St. Louis cherts from the Caney Fork River. A knife, one axe, drills and several groundstone tools, including an abrader, a hammerstone, hoe fragments and two celts, were also recovered onsite suggesting specialized or specific functions including woodworking activities were taking place (Figure 104). An engraved river pebble also found during excavations highlights a more personal aspect of the inhabitants (Figure 105).

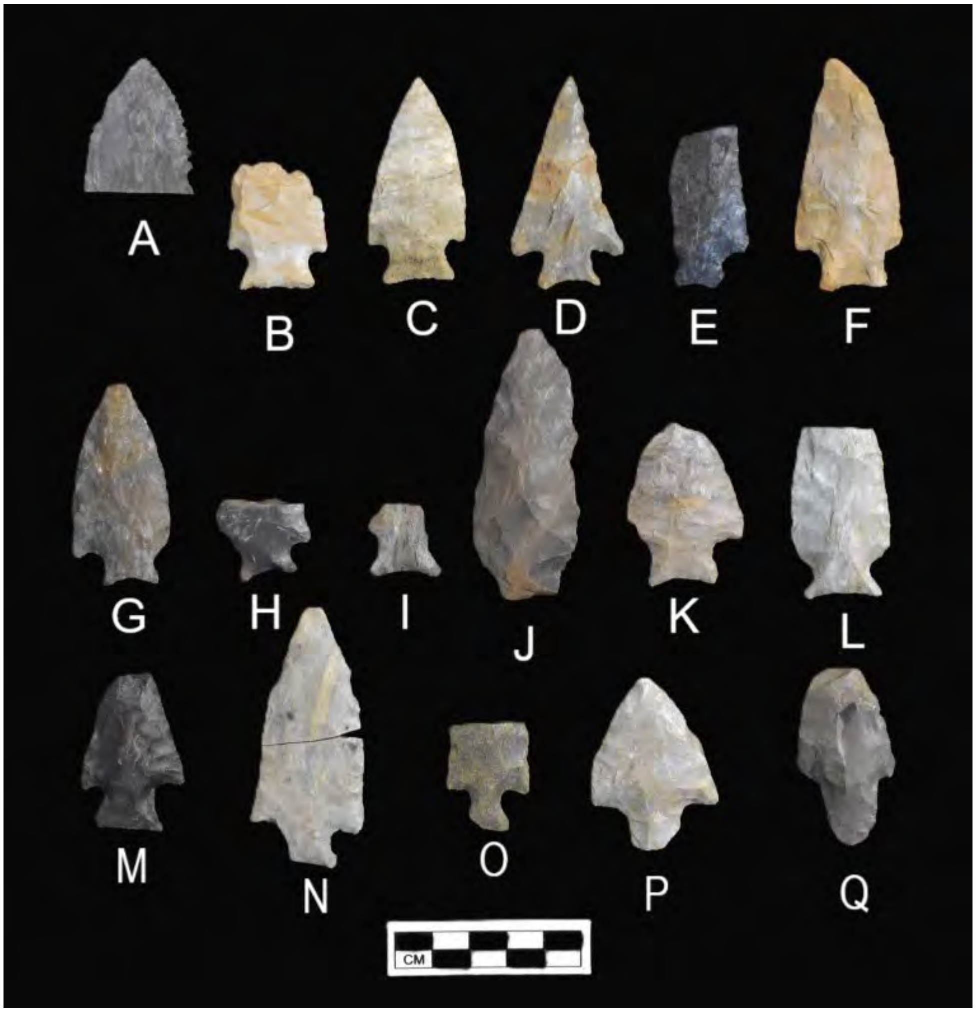


Figure 103. Early Archaic to Early Woodland projectile points recovered at site 40Sm274.

A. Early Archaic indeterminate, (S 23, 40cmbs), B Kirk Corner Notched, (S 43, 0-50), C. Kirk Corner Notched, (F 3 N1/2, 68cmbs), D. Early Archaic Variant, (S 49, 80-85cmbs), E. Stilwell, (TU 22, 0-30cmbs), F. Stilwell, (S 5, 20cmbs),G. Stilwell, (S 5, 40cmbs), H. Stilwell, (S 16, 35cmbs), I. Indeterminate PPK, (F 6 N1/2, 80-85cmbs), J. Savannah River Stemmed, (S 43, 0-30cmbs), K. McIntire, (S 43, 0-35cmbs), L. McIntire, (F 3 N1/2, 40-135cmbs), M. Motely, (F 6, 80-85cmbs), N. Motely, (F 6 N1/2, 84cmbs), O. Motely, (F 6 S1/2, 50-125cmbs), P. Wade, (S 44, 0-45cmbs), Q. Adena, (TU 21, 0-40cmbs).

Figure 104. Groundstone tools recovered at site 40Sm274.

A. Hammerstone, (F 6 N1/2, 70-85cmbs), B. Axe, (F 6 N1/2, 70-85cmbs), C. Hoe fragment, (S5 S1/2, 0-40cmbs), D. Celt fragment, (S 3, 0-30cmbs), E. Celt, (S 43, 20cmbs).

Figure 105. Stone pendant recovered form Strip 49 70-85 cmbs at site 40Sm274.

Unifacial tools were diverse and abundant across the site, primarily in the form of utilized flakes. Additional tool types include flake scrapers, gravers, perforators, denticulate and spokeshaves (Figure 106). In total, 710 unifacial tools were collected onsite, of which 67 percent were collected from the Ap plow zone horizon or colluvium in TU 45 (n=479). Those recovered in TU 45 represent a palimpsest of materials discarded down slope or from the dominant occupations focused to the south of the broad sinkhole-derived depression that dominates the western core of the site. These materials appear mixed and in a secondary context even though they were recovered at great depth.

Figure 106. Unifacial tools recovered at site 40Sm274.

A. Graver, (TU 19, 0-35cmbs), B. Graver, (TU 44, 0-35cmbs), C. Graver, (S 13, 0-30cmbs), D. Perforator, (TU 16, 0-17cmbs), E. Perforator, (TU 44, 35-65cmbs), F. Perforator, (S 49, 50-125cmbs), G. Chisel, (TU 45, 110-120cmbs), H. Chisel, (S 12, 0-30cmbs), I. Denticulate, (TU 45, 110-120cmbs), J. Endscraper, (S 19, 0-30cmbs), K. Sidescraper, (TU 36, 0-45cmbs), L. Spokeshave, (TU16, 26-38cmbs), M. Spokeshave, (F 4 S1/2, 40-73cmbs), N. Angled Flake Scraper, (TU 24, 0-35cmbs), O. Angled Flake Scraper, (TU 23, 0-30cmbs), P. Flake Scraper, (TU 16, 80-90cmbs), Q. Flake Scraper, (TU 23, 0-30).

Sixty-seven cores and tested cobbles identified at the site were recovered in greatest volume within the Ap plow zone horizon (n=50), or 75 percent of the assemblage (Figure 107). The cores were representative of all the material identified at the site being made of St. Louis and Ft. Payne cherts. The cores primarily show an amorphous reduction pattern (94 percent). Two bifacial cores and two tested cobbles were also recovered from the collection. No patterned cores were recovered from the assemblage. Approximately one-third of the cores were heat altered displaying evidence of heat treatment or heat damage with the remaining cores showing no identifiable heat treatment.

Figure 107. Cores recovered at site 40Sm274.

A. Tested Cobble, (TU 16, 46-60cmbs), B. Amorphous, (TU 39, 0-30cmbs), C. Amorphous, (TU 44, 0-35cmbs), D. Bifacial, (S 16, 35cmbs), E. Bifacial, (S 33, 20-40cmbs), F. Amorphous, (S 35, 0-40cmbs), G. Amorphous, (S 49, 0-40cmbs), H. Amorphous, (S 50, 0-40cmbs).

Debitage constituted the largest artifact class collected at site 40Sm274. A total of 7,120 pieces were collected at the site. For this analysis, debitage was divided into smaller than and greater than ¼”. The debitage less than ¼” was counted and weighed. Then the debitage greater than ¼” was separated into shatter and flakes. Flakes and broken flakes were analyzed using an aggregate trend analysis developed by Bradbury and Carr (2004) to investigate the general trends associated with core reduction and/or tool production at the site. Over 40 percent of the debitage (n=3,003) was retained from the Ap horizon or colluvium from TU 45. Fifty percent (n=3,103) of the debitage measured less the ¼”. Flakes greater than ¼” (45 percent, n=3,224) was divided by size (0.25”, 0.50”, 1.0”) then analyzed for the percentage of cortex, platform scar count, and heat treatment. Fifty eight percent (n=1,857) of the flakes had no cortex and 62 percent (n=1,988) showed evidence of heat treatment or heat damage. This overall trajectory indicates the full reduction sequence was being completed at the site.

The assemblage contains a low percentage, 18 percent, of late-stage flakes having two or greater facets on the platform. This in tandem with the high percentage of cortex (42 percent) on the debitage appears to be a result of the primarily utilization of Ft. Payne and St. Louis cherts acquired from the Caney Fork River in the form of small cobbles. The collection of cores and tested cobbles recovered from the site indicate that tool production was taking place at the site in concert with tool maintenance. Broadly, all aspects of the chert reduction sequence are represented onsite. However, with most of the assemblage recovered from the Ap horizon, the disturbed nature of the depositional context limits further interpretation.

Of the artifacts recovered at the site, 477 were found within undisturbed strata. Of these 477 artifacts, approximately 65 percent were recovered from units placed around and in the eastern depression (TU 26, TU28, TU38, TU40, and TU 41A-H), along the western property line (TU 16, TU 17, and TU43) or the within the northern levee deposits (TU 30). The 53 artifacts recovered from TU 30 were spaced over a series of BC-C horizon deposits that extend over nine levels and may represent materials being redeposited from the nearby older upper terrace. The units placed along the western property line produced 118 combined artifacts, but these were spread over numerous levels within an A-Bw sequence that remained intact within this confined area.

The eastern depression units were placed specifically to sample the A-AE remnant horizon found lying along the base of the depression, with all units combining to produce a total of 139 artifacts, all of which were nondiagnostic. The bulk of this materials was comprised of debitage, with a small collection of bifacial and unifacial tools also being recovered. Of the debitage analyzed, 57 percent exhibited no cortex. A total of 16 percent of the debitage retained from intact deposits exhibited two or more facets on the platform. Flake size is consistent within this lower series of occupations as is heat treatment of cores as well as early-stage bifaces. Nearly eighty percent of the flakes contain none or just one facet on the platform. The high frequency of cortex on flakes is similar as what was found in the Ap horizon and likely due to the main source of chert coming from the river. The debitage appears to be representative the early stage of the tool production sequence occurring within these deeper deposits along with tool maintenance and sharpening represented by the micro debitage.

Historic artifacts were collected onsite, though they do not appear to correspond to any primary deposits or associated, intact features (Table 66). The artifacts were primarily contained within the plow zone Ap horizon in Test Units 4 and 8, and isolated secondary deposits contained in Test Unit 4 and 6 (Figure 108). The relatively low density of artifacts along with types of artifacts collected which include a stoneware vessel fragment, bottle glass and a machine bolt likely refuse associated with past agriculture or recreational activities within the Caney Fork River terrace.

Table 66. Historic Materials recovered from site 40Sm274.

Provenience	Depth cmbs	Artifact	Description	Date	Reference	Total
TU 06	50-60	Bolt, Machine	Machine-made	Post 1900	-	1
Activity Total						**1**
TU 04	0-30	Liquor bottle	Machine-made	Post 1895	Jones & Sullivan 1989	6
	40-50	Bottle/jar indeterminate	Stippled	Post 1940	Lindsey 2025	1
TU 08	0-20	Stoneware	Bristol Glaze		Greer 2005	1
Kitchen Total						**8**
Total						9

Figure 108. Representative sample of historic artifacts recovered from site 40Sm274.

A. Machine bolt, machine-made, (TU67, 50-60cmbs), B. Hollow ware utilitarian, stoneware, Bristol glaze, (TU 8, 0-20cmbs).

8.3.2 Site 40PM184 Material Culture and Artifact Assemblages

Excavations at 40Pm184 produced a total of 8,450 precontact and historic period artifacts. Of the 8,450 artifacts recovered, 8,404 were affiliated with the precontact occupations (Table 67), and 46 with the later historic period, primarily recovered from test units located along I-40. The remaining historic artifacts that were recovered from TU 1, TU 2, TU 3, TU 4, TU 7 and TU 10 in Ap horizon or disturbed fill associated with road construction along I-40.

The bulk of the precontact materials were recovered from the disturbed Ap horizon from across the site (n=6,890; 82 percent). There is a total of 1,514 precontact artifacts (18 percent) that were identified in underlying, buried, intact deposits. Artifacts were identified within an intact AB horizon extending to the top of the 1Bt or 2Bt horizons from 30 to 100 cmbs. The AB horizon produced only Early Archaic diagnostics and appeared to represent a series of occupations constrained to that period.

Table 67. Precontact Materials recovered from site 40Pm184.

Provenience	Biface	Core	Uniface	Groundstone	Debitage	Ornament	Pottery $<4cm^2$	Fauna	Misc.	Total
STP 82-135	1				15					16
STP 83-13N					1					1
STP 83-13W					3					3
STP 84-13N			1		6					7
STP 86-14N		2			9					11
STP 86-14S	1		2		23					26
STP 87-14N			1		31					32
TU 01	21	7	80		1852				6	1966
TU 02	7	5	43		711				2	768
TU 03	10	9	140		2158			1	6	2324
TU 04	7	9	45		620					681
TU 05			9		41					50
TU 06	2	3	24		203					232
TU 07	10	1	62		423	1				497
TU 08	3	1	16		315				2	337
TU 09	3	7	27	1	193					231
TU 10	28	2	56	1	1133		1	1		1222
Total	93	46	506	2	7737	1	1	2	16	8404

Bifacial tools were well represented in the assemblage, with a total of 93 whole or fragmentary pieces of bifaces being recovered (Table 68). Projectile Points were found in nine of the ten test units placed within the project area. However, diagnostic projectile points recovered from intact deposit were found in highest frequency in the western most portion of the site in TU 2 and TU 10 (Table 68).

Table 68. Precontact Bifaces recovered from site 40Pm184.

Provenience	Depth	PPK	Finished Biface	Preform II	Late-Stage Biface	Preform I	Blank	Early-Stage Biface	Indeterminate Preform	Indeterminate Biface	Total
STP 82-135	0-17			1							1
STP 86-14S	0-26			1							1
TU 01	10	1	1								2
	15				1						1
	42	1									1
	0-30			1	2	1				6	10
	30-40						1				1
	40-50	1	1		2		1				5
	50-60	1									1
TU 02	50	1									1
	60	1									1
	0-30		1		1						2
	40-50				1		2				3
TU 03	20	1									1
	0-30			4	1		1				6
	30-40			2							2
	50-60						1				1
TU 04	0-30	1		2	1		1		1		6
	30-40						1				1
TU 06	0-14				1						1
	14-24	1									1
TU 07	17	1									1
	0-29	3	1	2	1	1				1	9
TU 08	30	1									1
	0-20				1			1			2
TU 09	0-22	1				1					2
	22-32	1									1
TU 10	80		1								1

Provenience	Depth	PPK	Finished Biface	Preform II	Late-Stage Biface	Preform I	Blank	Early-Stage Biface	Indeterminate Preform	Indeterminate Biface	Total
	87	1									1
	10-20				1		1			1	3
	0-10			1		1				1	3
	100-110	1				1				1	3
	40-50	1		1							2
	50-60	1		1	2					1	5
	60-70				1		1	1			3
	70-80	1		1			1			1	4
	80-90	1			2						3
Total		22	5	17	18	5	11	2	1	12	93

A total of 11 blanks and 5 preform I artifacts were identified (Figure 109). Sixty-nine percent (n=11) of the blank and preform I tools were recovered from the Ap horizon, with the remaining early-stage biface found in intact deposits in the west half of the site in TU 2, TU 3, TU 4 and TU 10. An example of blanks and preform Is recovered are pictured in Figure 109. The various examples recovered from the site are made primarily of St. Louis or Fort Payne chert, both of which were locally available within the Caney Fork River. Given the ease of recovery, it is probable that the majority, if not all, of the examples pictured in Figure 109 were produced on site and discarded. The debitage analysis supports early biface creation and thinning occurring on the site that would be indicative of Blank, and Preform I stage of production.

Preform II and late-stage finished biface were as equally well represented at the site as early-stage bifaces although, unlike the early-stage bifaces most late-stage bifaces were found in the Ap horizon (Figure 110). The distribution of late-stage bifaces recovered from intact deposits was isolated to TU 2, TU 3 and TU 10 in the most western portion of the site. During the analysis, a difference between the levels of heat treatment of early-stage and late-stage bifaces was discovered. The early-stage bifaces showed a lower frequency (31 percent) of heat alteration while the overall percentage of late-stage bifaces displayed over twice the amount totaling 68 percent. This would appear to indicate heat preparation of preform II to finished stage bifaces occurring prior to finishing and hafting the tool. Additionally, later-stage pieces were commonly prepared from locally available cherts and most likely produced on site.

A total of 22 finished and preform II bifaces were recovered from site 40Pm184 (Figure 110). Preform II bifaces are the last step in the bifacial reduction refinement process before becoming a finished biface.

Preform II bifaces are generally smoother, thinner, and have little to no cortex on either face as opposed to earlier stage bifaces. Overall, the shape of preform II bifaces start to take on the appearance of a formal tool that they can later be used to produce.

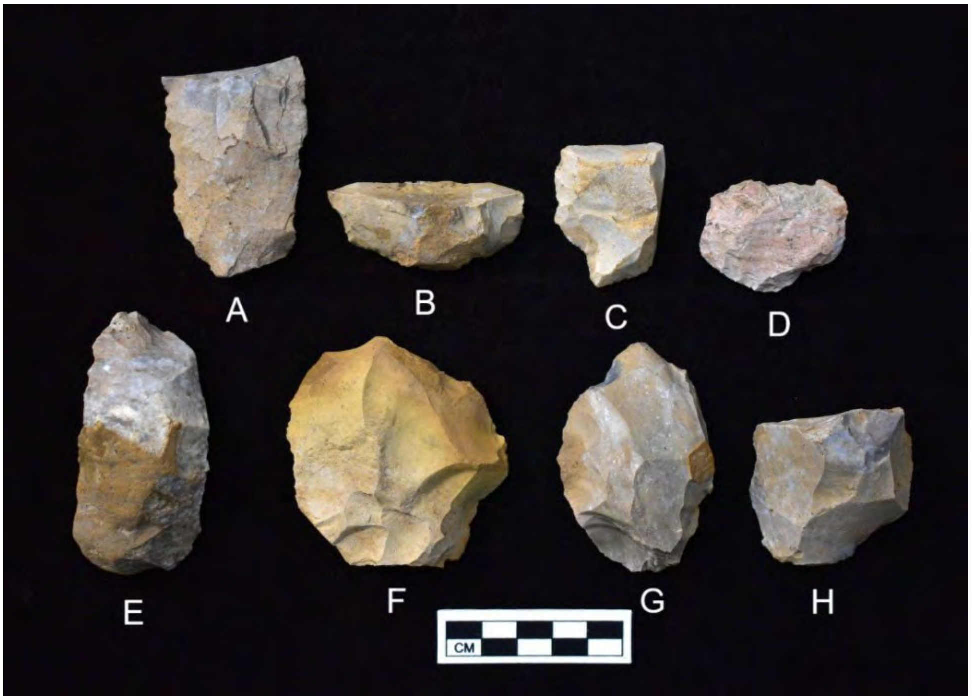


Figure 109. Representative Preform I and Blanks recovered from Site 40Pm184.

A. Preform I, (TU 1,0-30cmbs), B. Preform II, (TU 3, 0-30cmbs), C. Preform I, (TU 7, 0-29cmbs), D. Preform I, (TU 10, 0-10cmbs), E. Blank, (TU 1, 40-55cmbs), F. Blank, (TU 3, 50-60cmbs), G. Blank, (TU 4, 30-40cmbs), H. Blank, (TU 10, 10-20cmbs).

The remainder or the bifacial tools were classified as formal or finished projectile points. Six of the formal tools could not be classified to a specific type or period. They are made of regionally available cherts, such as Fort Payne and St. Louis, broke either through use or during maintenance activities, and discarded. Fourteen projectile points could be classified to a specific diagnostic type (Table 69) while two others could be categorized based on distinctive characteristics attributed to a specific period (Figure 111). The assemblage contains projectile points spanning from the Early Archaic to the Early Woodland Periods. The Early Archaic points include Kirk Corner Notched, Stilwell, Decatur, Graham Cave, and Palmer. Additionally, the assemblage contains Late Archaic point types such as Pickwick and McIntire and younger Cotaco Creek and Adena Stemmed.

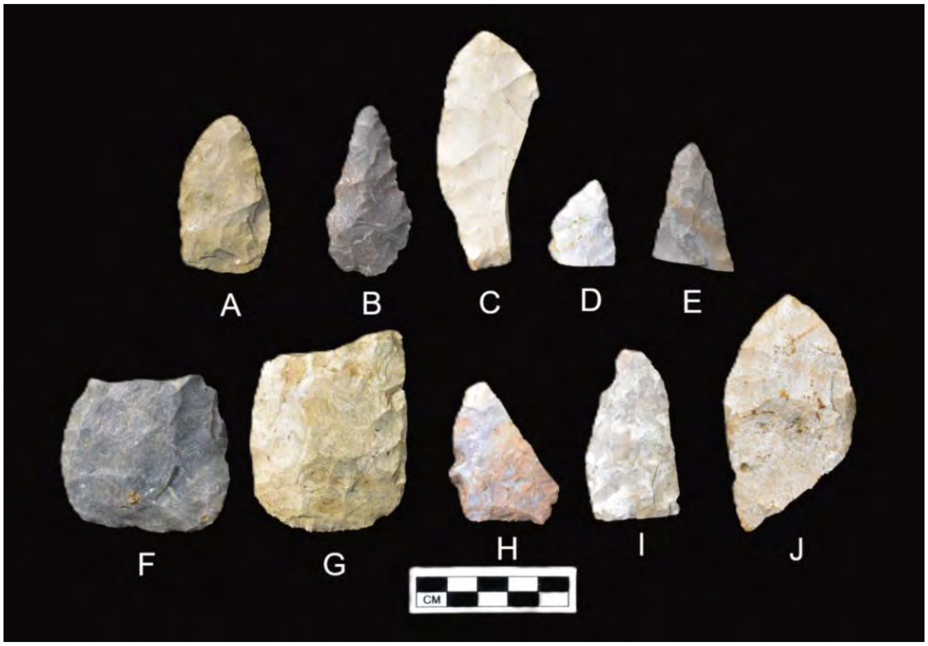


Figure 110. Finished and Preform II bifaces recovered at site 40Pm184.

A. Finished Biface, (TU 1, 10cmbs), B. Finished Biface, (TU 1, 40-55cmbs), C. Finished Biface, (TU 2, 0-30cmbs), D. Finished Biface, (TU 10, 50-60cmbs), E. Finished Biface, (TU 10, 80cmbs), F. Preform II, (TU 3, 0-30mcbs), G. Preform II, (TU 3, 30-40cmbs), H. Preform II, (TU 4, 0-30cmbs), I. Preform II, (TU 7, 0-29cmbs), J. Preform II, (TU 10, 50-60cmbs).

Table 69. Diagnostic PPKs recovered from site 40Pm184.

Provenience	Depth	PPk Type	Date	Total
TU 01	10	Adena Stemmed	LA-EW	1
	42	Cotaco Creek	LA-EW	1
	40-50	Elk River	MA-LA	1
TU 02	50	Palmer	EA	1
	60	Kirk Cluster	EA	1
TU 03	20	McIntire	LA	1
TU 04	0-30	Stilwell	EA	1
TU 07	17	Poss. Cotaco Creek	LA-EW	1
	0-29	Decatur	EA	1
		Pickwick	LA	1
TU 08	30	Kirk Corner Notched	EA	1
TU 09	22-32	Early Archaic - Kirk Like	EA	1

Provenience	Depth	PPk Type	Date	Total
TU 10	87	Graham Cave Side Notched	EA	1
	100-110	Kirk Corner Notched	EA	1
	40-50	Early Archaic Side Notched	EA	1
	50-60	Pickwick	LA	1
Total				16

Figure 111. Diagnostic projectile points recovered at site 40Pm184.

A. Graham Cave Side Notched, (TU 10, 87cmbs), B. Kirk Corner Notched, (TU 8, 30cmbs), C. Kirk Cluster, (TU 2, 60cmbs), D. Kirk Corner Notched, (TU 9, 22-32cmbs), E. Kirk Corner Notched Cluster, (TU 10, 100-110cmbs), F. Palmer, (TU 2, 50cmbs), G. Stilwell, (TU 4, 0-30cmbs), H. Decatur, (TU 7, 0-29cmbs), I. Early Archaic Side Notched, (TU 10, 40-50cmbs), J. Elk River, (TU 1, 40-55cmbs), K. Pickwick, (TU 7, 0-29cmbs), L. Pickwick, (TU 10, 50-60cmbs), M. Cotaco Creek, (TU 1, 42cmbs), N. McIntire, (TU 3, 20cmbs), O. Indeterminate PPK, reworked, (TU 7, 17cmbs), P. Adena Stemmed, (TU 1, 10cmbs).

Unifacial tools were recovered in greater proportion than bifacial tools at the site, with 506 being collected from both test units and shovel tests (Table 70). Most unifaces were found during excavations were collected from the Ap horizon (84 percent, n=423) Unifacial tool types found in the highest density at site 40Pm184 were flake scrapers and utilized flakes. Unmodified utilized flakes were also discovered in larger quantity than other unifacial tools, representing flakes that showed simple usewear with no specific edge preparation that was observed on the utilized flakes or definable functional classes of tools. Other unifacial tools represented in the assemblage included denticulates, endscrapers, gravers, perforators and spokeshaves (Figure 112; Table 70). These tools were expediently produced and lightly used prior to their disposal. A greater proportion of unifacial tools showed evidence of heat alteration consistent with the patterns observed within the debitage class. It does not appear that purposeful heat treatment was being applied to certain cores to improve tool creation, and rather unifacial tool creation was more advantageous in nature than specifically designed or planned. This practice appears to be consistent over the span of occupations that produced the site’s assemblage.

Table 70. Precontact Unifaces recovered from site 40Pm184.

Provenience	Depth	Angled Flake Scraper	Chisel	Combination Tool	Denticulate	Endscraper	Flake Scraper	Graver	Notched Cutting Tool	Perforator	Spokeshave	Unmodified Utilized Flake	Utilized flake	Total
STP 84-13N	0-30	1												1
STP 86-14S	0-26						1						1	2
STP 87-14N	0-50												1	1
TU 01	0-30			3			12	5			4		23	47
	30-40			1			4	1				2	4	12
	40-50			1			5	2			1		9	18
	50-60	1					1					1		3
TU 02	0-30			1			7	2			1	2	16	29
	30-40						2							2
	40-50			2			2	1					2	7
	50-60						2	1						3
	70-80											1	1	2
TU 03	0-30	5	1	9	3		34	5		3	4	27	20	111
	30-40	1		1			6			1		11	5	25
	40-50	1										1	1	3
	50-60											1		1
TU 04	0-30			7			12	2		2	1	12	6	42

Provenience	Depth	Angled Flake Scraper	Chisel	Combination Tool	Denticulate	Endscraper	Flake Scraper	Graver	Notched Cutting Tool	Perforator	Spokeshave	Unmodified Utilized Flake	Utilized flake	Total
	30-40						1						1	2
	40-50											1		1
TU 05	10-20	1										2		3
	0-10			1			3							4
	20-30											2		2
TU 06	0-14	2	2		1		2					9	2	18
	14-24						3					3		6
TU 07	0-29			10	3	2	10	3	1	2	4	19	7	61
	40-50			1										1
TU 08	0-20			1			6	2			1		5	15
	20-30												1	1
TU 09	0-22			2				4			1	6	1	14
	22-32	1										4	2	7
	32-42											1	2	3
	42-52											1		1
	52-62						1	1						2
TU 10	10-20							1					2	3
	0-10												1	1
	100-110							1						1
	110-125						2							2
	20-30												1	1
	40-50			1										1
	50-60			2			4					1	5	12
	60-70			1			2	2				1	3	9
	70-80			2			3				1	3	3	12
	80-90			1			3	1		1	1	2	3	12
	90-100									1		1		2
Total		13	3	47	7	2	128	34	1	10	19	114	128	506

Figure 112. Unifacial Tools Recovered from Site 40Pm184.

A. Graver, (TU 1, 40-55cmbs), B. Graver, (TU 3, 0-30cmbs), C. Perforator, (TU 10, 90-100cmbs), D. Perforator, (TU 3, 0-30cmbs), E. Spoke shave, (TU 1, 0-30cmbs), F. Notched Cutting Tool, (TU 7, 0-29cmbs), G. Flake Scraper, (TU 1, 0-30cmbs), H. Flake Scraper, (TU 6, 14-24cmbs), I. Angled Flake Scraper, (TU 9, 22-32cmbs), J. Angled Flake Scraper, (STP 84-13N, 0-30cmbs), K. End Scraper, (TU 7, 0-29cmbs), L. Denticulate, (TU 6,0-14cmbs).

Unifacial tools by nature are expedient, formed by the alteration of readily available materials to serve a specific purpose and then discarded. Some of the more formal tools such as the end scraper and side scrapers may have greater use lives and possibly may have been curated tools that were transported into the site, but in general these tools were also created for specific, short-term use. Given this use-life trajectory, these artifacts have some of the greatest interpretative power for us to understand specific tasks that may have been occurring at a site during individual occupations or over periods of time.

The collection of materials recovered from 40Pm184 represents a full range of unifacial tool types indicating a wide assortment of task were being completed across the site over time, but this is to be expected given the time depth and array of occupations that sites assemblage represents. Unifacial tools were collected in similar volumes across the entirety of the site.

Occupation ranging from Early Archaic to Early Woodland Periods would appear to include the full array of tasks surrounding food procurement, hide preparation, sewing, tool creation, and tool maintenance. The utilized flakes represent simple cutting tools, probably used primarily for an assortment of task. The recovery of end scrapers would indicate hide preparation. Perforators and gravers indicate tool creation activities, clothing production, and an array of other processing tasks. Spokeshaves indicate wood processing, and manufacture of shafts for hunting activities. As can be seen by the scope of these tasks, the occupations that occurred within this specific portion of the site represent a full array of task that would be indicative of concerted periods of occupation.

The cores and test cobbles were recovered from the site in moderately low frequencies, with a total of 17 being recovered (Table 71). The highest proportion of cores were recovered from the Ap horizon (76 percent, n=13). The cores were made from primarily Fort Payne and St. Louis chert, both of which are readily available within Caney Fork. Most of the cores were classified as amorphous in form, with flakes scar randomly placed along one face of the original element (Figure 113). Two cores were classified as tested cobbles, possessing just a few scars that appear to indicate exploration of individual cobbles for knapping qualities that were discarded prior to any significant initiation of reduction activities. A single core appeared to have been utilized for some purpose. Cores appear to have been primarily recovered from alluvial sources, exhibiting smooth brown patina produce by tumbling in the riverbed.

Table 71. Precontact Cores recovered from site 40Pm184.

Provenience	Depth	Amorphous	Tested Cobble	Utilized Amorphous	Total
STP 86-14N	0-30	2			2
TU 01	0-30	2	1		3
	30-40	1	2		3
	40-50		1		1
TU 02	0-30	1			1
	30-40	1	1		2
	40-50	1	1		2
TU 03	0-30	5	1		6
	30-40	2			2
	50-60	1			1
TU 04	0-30	5	4		9
TU 06	0-14	3			3
TU 07	0-29	1			1
TU 08	0-20	1			1
TU 09	0-22	1	2		3
	22-32	1	1		2
	42-52			1	1
	52-62	1			1
TU 10	100-110	1			1
	80-90	1			1
Total		31	14	1	46

The excavations produced two groundstone tools, a fire-cracked hammerstone fragment and a hoe fragment (Figure 114). The hammerstone appears to have been used within the knapping process or from cracking nuts. The hammerstones represent battered river cobbles likely collected from the Caney Fork. A slate fragment found in the AB horizon displayed evidence of shaping along its outer margin appears to be a hoe fragment. Stone hoes were use for agricultural purposes such as preparing and planting. This fragment could have been fractured off the main body of the tool during manufacture or while in use. One unique flat river stone drilled on one end to create a pendant was found in TU 7 (Figure 115).

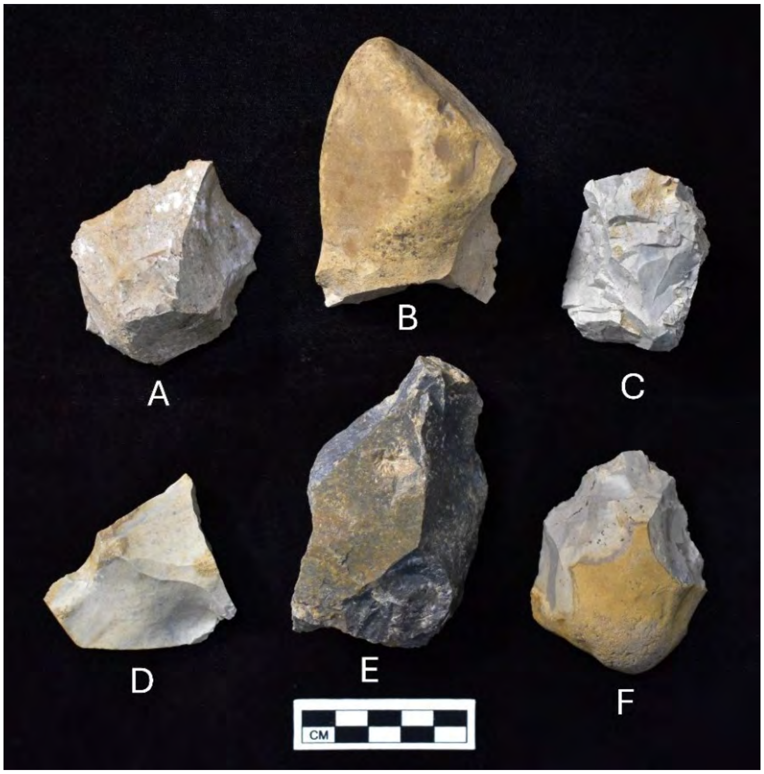


Figure 113. Representative sample of Cores Recovered from Site 40Pm184.

A. Amorphous, (STP 86-14N, 0-30cmbs), B. Tested Cobble, (TU 1, 0-30cmbs), C. Amorphous, (TU 9, 22-32cmbs), D. Amorphous, (TU 9, 52-62cmbs), E. Amorphous, (TU 10, 80-90cmbs), F. Amorphous, (TU 10, 100-110cmbs).

Debitage constituted the largest artifact class collected at site 40Pm184 comprising 92 percent of the assemblage. A total of 6,340 pieces of debitage was retained from the Ap horizon or fill and an additional 1,397 pieces of debitage was identified below the plow for a total of 7,737 pieces of debitage collected (Table 67). Forty percent (n=3,103) of the debitage measured less the ¼” and was not submitted to the full analysis but was counted and weighed. While flakes greater than ¼” (55 percent) was divided by size (0.25”, 0.50”, 1.0”) then analyzed for the percentage of cortex, platform scar count, and heat treatment. Sixty-five percent (2,759) of the flake had no cortex and 62 percent (n=2,650) percent showed evidence of heat alteration. This overall trajectory indicates the full reduction sequence was being completed at the site with a strong focus on biface shaping and thinning within the late stages of reduction indicated by the abundance of micro debitage.

Figure 114. Groundstone artifacts recovered at site 40Pm184.

A. Hammerstone, (TU 10, 60-70cmbs), B. Hoe fragment, (TU 9, 52-62cmbs).

Figure 115. Pendant Recovered from Test Unit 7, 0-29cmbs at Site 40Pm184.

A review of the platforms scars on heat-treated flakes indicates 18 percent had between 0-1 facets, four percent having 2 facets, and 10 percent having more than 3 facets or a ground platform. A review of the platform scars on non-heat-treated flakes indicates 29 percent had between 0-1 facets, 4 percent having 2 facets, and 17 percent having more than 3 facets or ground platform. Again, like the cortex analysis, these percentages point toward the full trajectory of reduction taking place but with an emphasis on biface reduction and thinning. The percentage of shatter, flakes 0.25" in size and the percentage of platform facets with 2 or more recovered from the collection indicate that biface production in the early to mid-stages was taking place at the site. Purposeful heat treatment, excluding heat damaged materials, was analyzed to determine the methods within the production sequences practiced by the inhabitants of the site.

Heat treatment was noted on approximately 37 percent of all the flakes analyzed. Heat treated materials were found in almost equal amounts as unheated flakes. If heat damaged flakes were to be added to the intentionally heated material the frequency would 1.25 to 1.5 times as many as those that showed not heat alteration. Heat treated flakes tended to be found in higher percentages than non-heated materials at the late stages of reduction. This may be indicative of the higher percentages of Preform II and finished bifaces that were heat treated as comparable to the early-stage pieces and may point toward larger percentages of the Preform II bifaces being created or further reduced on site than initially expected. Broadly all aspects of the chert reduction sequence are represented within the Ap horizon, but this has only limited interpretative use given the mixed and disturbed nature of the depositional context of these materials

The spatial analysis of the artifact concentrations noted at the site identified what appears to be two separate occupations an older, buried, Early Archaic habitation, and a series of younger occupations that appear to span from the Late Archaic to the Early Woodland period. A separate review was completed on the intact Early Archaic material to see if there were any significant differences noted in the debitage pattering as compared to the rest of the collected materials (Table 72) A total of 1,174 pieces of Early Archaic affiliated debitage was assessed. A review of the facets counts indicated 24 percent retained 0-1 facets, five percent 2 facets and 10 percent possessed more than 3 facets or a ground platform. This pattern is like the later components representing the full trajectory of biface production. Cortex was found on over one-third (38 percent) of the entire flake assemblage, with 62 percent of the assemblage containing no cortex at all. The amount of cortex is believed related to the high frequency of the chert sourced from cobbles acquired from the Caney Fork River. Intentionally heat-treated material was observed in approximately half the collection of artifacts from buried deposits, comprising less than 39 percent, but higher than the pattern noted within the upper younger deposits. This higher percentage of heat treatment appears related to selection criteria by Early Archaic groups that visited the site and the potential that a more fully formed tool production scheme would be expected in relation to the various Early Archaic occupations spread across the terrace during the Early Archaic period.

Table 72. Precontact artifacts recovered from Intact Deposits from 40Pm184.

Provenience	Level	Depth	Zone	Biface	Core	Uniface	Groundstone	Debitage	Misc.	Total
TU 01	5	60-701	AB					11		11
	6	70-80	Bt2					8		8
TU 02	2	30-40	AB		2	2		128		132
	3	50	AB	1						1
		40-50	AB	3	2	7		208	2	222
	4	60	AB	1						1
		50-60	AB			3		132		135
	5	60-70	Bt2					31		31
	6	70-80	Bt2			2		1		3
TU 03	2	30-40	AB	2	2	25		261		290
	3	40-50	AB			3		49		52
	4	50-60	AB/Bt1	1	1	1		16		19
	5	60-70	Bt1					4		4
TU 04	2	30-40	AB	1		2		36		39
	3	40-50	AB/Bt2			1		25		26
	4	50-60	AB/Bt2					5		5
TU 05	2	10-20	Ap/Bt2			3		18		21
	3	20-30	Bt2			2		10		12
TU 07	2	30-40	AB					25		25
	3	40-50	AB			1				1
	4	50-60	Bt2					1		1
TU 08	2	30	Ap/AB	1						1
		20-30	Ap/AB			1		14		15
	3	30-40	AB					1		1
TU 09	2	22-32	Ap/AB	1	2	7		31		41
	3	32-42	AB			3		28		31
	4	42-52	AB		1	1		13		15
	5	52-62	AB		1	2	1	14		18
TU 10	10	90-100	A/Bt2			2		37		39
	11	100-110	A/Bt2	3	1	1		25		30
	12	110-125	A/Bt2			2		42		44
				14	**12**	**71**	**1**	**1174**	**2**	**1274**

Historic artifacts were collected onsite, though they do not appear to correspond to any primary deposits or associated, intact features (Table 73). All the historic material was contained in disturbed fill found in TU 1, TU 2, TU 3, TU 4, TU 7 and TU 10, used to raise the ground surface during construction of the I-40 bridge (Figure 116). As it is impossible to determine the origins of the deposit in which the of the artifacts are confined their significance is of no effect.

Table 73. Historic artifacts recovered from site 40Pm184.

Provenience	Depth	Artifact	Description	Material	Date	Reference	Total
TU 03	0-30	Bolt, Indeterminate	Manufacture Indeterminate	Fragment	-	-	1
TU 10	60-70	Bolt, Indeterminate	Manufacture Indeterminate	Fragment	-	-	1
Activity Total							**2**
TU 01	30-40	Wire nail	Clinched	20d	Post 1880	Nelson 1968	1
TU 03	0-30	Wire nail	Fragment	(blank)	Post 1880	Nelson 1968	2
			Pulled	6d	Post 1880	Nelson 1968	1
TU 07	0-29	Wire nail	Pulled	16d	Post 1880	Nelson 1968	1
TU 10	50-60	Cut nail unspecified	Fragment	(blank)	1790-1880	Nelson 1968	1
		Wire nail	Fragment	(blank)	Post 1880	Nelson 1968	1
			Pulled	20d	Post 1880	Nelson 1968	1
				6d	Post 1880	Nelson 1968	1
	60-70	Cut nail unspecified	Fragment	(blank)	1790-1880	Nelson 1968	1
		Indeterminate nail	Fragment	(blank)			1
Architecture Total							**11**
TU 03	0-30	Cartridge	Centerfire	Brass, 38 cal.	Post 1829	Logan 1959	1
			Rimfire	Brass, 22 cal.	Post 1855	Logan 1959	1
Firearms Total							**2**
TU 01	0-30	Whiteware	Undecorated	Fragment	Post 1830	Miller 1991	1
TU 02	0-30	Redware	Clear Lead Glaze	Ext./Int.	1750-1850	Ketchum 1983	1
TU 03	0-30	Blue-gray Ironstone	Molded	Fragment	1842-1880	Majewski & O'Brien 1987	1

Provenience	Depth	Artifact	Description	Material	Date	Reference	Total
		Bottle/jar, indeterminate	Manufacture Indeterminate	Solarized			1
		Canning jar	Mold blown	Light Blue	1820-1920	Jones & Sullivan 1989	1
		Stoneware	Salt glazed/ Undecorated	Exterior/ Interior	1800-1860	Greer 2005	1
		White granite/Ironstone	Undecorated	Fragment	Post 1842	Majewski & O'Brien 1987	2
		Whiteware	One side exfoliated	Fragment	Post 1830	Miller 1991	1
			Shell edge, unscalloped w/ simple repetitive pattern	Blue			1
			Transfer Print	Light Blue			1
			Undecorated	Fragment	Post 1830	Miller 1991	3
TU 04	0-30	Whiteware	One side exfoliated	Fragment	Post 1830	Miller 1991	1
TU 10	10-20	Whiteware	Shell edge, unscalloped w/ simple repetitive pattern	Blue			1
	50-60	Stoneware	Salt glazed/ Undecorated	Fragment	1800-1860	Greer 2005	1
		Whiteware	Undecorated	Fragment	Post 1830	Miller 1991	3
	70-80	Stoneware	Salt glazed/ Undecorated	Exterior/ Interior	1800-1860	Greer 2005	1
		Whiteware	Undecorated	Fragment	Post 1830	Miller 1991	1
	80-90	Whiteware	Undecorated	Fragment	Post 1830	Miller 1991	1
Kitchen Total							**23**
TU 03	0-30	Indeterminate glass	Manufacture Indeterminate	Colorless	-	-	2
TU 04	0-30	Indeterminate glass	Manufacture Indeterminate	Colorless	-	-	1
TU 10	40-50	Metal, Indeterminate	Manufacture Indeterminate	Fragment	-	-	4
Miscellaneous Total							**7**
TU 03	0-30	Jewelry	Cut stone setting	Amethyst	-	-	1
Personal Total							**1**
Total							46

Figure 116. Representative sample of historic artifacts recovered at site 40Pm184.

A. Unspecified Cut Nail, fragment, (TU 10, 60-70cmbs), B. Wire Nail, pulled, 16d (TU 7, 0-29cmbs), C. Bolt, indeterminate fragment, (TU 10, 60-70cmbs), D Cartridge, Center Fire, .38 cal., (TU 3, 0-30cmbs), E. Holloware Utilitarian, Redware, clear lead glaze, (TU 2, 0-30cmbs), F. Holloware Utilitarian, Stoneware, Salt glaze/Unglazed, (TU 10, 50-60cmbs), G. Plate, whiteware, shell edge, blue, (TU 3, 0-30cmbs), H. Serving, whiteware, transfer print, blue, (TU 3, 0-30cmbs), I. Plate, white granite, undecorated, (TU 3, 0-30cmbs), Hollow ware serving, whiteware, undecorated, (TU 10, 50-60cmbs).

8.4 Subsistence

The research questions were posed for subsistence for both sites, but only site 40Sm274 produced any concentration of burnt organic material sufficient to analyze. Excavations at 40Pm184 did not identify and cultural features or burnt organics within the intact strata explored during the Phase II investigations. To better understand the subsistence practices of the precontact inhabitants at 40Sm274 a sample of feature fill was collected for flotation during excavation and submitted for analysis. The flotation sampling was aimed at recovery of charred/cultural floral remains. The resulting floral and faunal assemblage were investigated for elements that shed light on the diet of the people inhabiting site 40Sm274 over time. A total of six samples from 40Sm274 (Features F1-6) were submitted for botanical analysis. The results are summarized in Table 55. All the flotation samples were processed with standard flotation methods discussed in Chapter 4. Dr. Renee Bonzani completed the analysis of the samples and provided the following discussion of her results. One note, given that the analysis was focused on subsistence aspects of the inhabitant's wood charcoal was not analyzed beyond being noted within the samples

8.4.1 40Sm274

For the study of the ten samples from six features (F1, F2, F3, F4, F5, and F6) from excavations at Site 40Sm274, 19 carbonized seeds (less than 0.1 grams) were recovered as well as were four insect/invertebrate remains, ten shells/fossil shells, 23 uncarbonized seeds, and greater than 125 unidentified carbonized less than 1 mm spheres (less than 0.1 grams) (Tables 1, 2, and 3). The uncarbonized seeds most likely represent modern-day contamination and did not undergo further analysis (Lopinot and Brussell 1982). Two hundred and ninety-six fragments (8.69 grams) of thick-shelled hickory (*Carya* spp.), 11 fragments (<0.9 grams) of walnut (*Juglans* spp.), and nine fragments from the beech family (Fagaceae including the oaks [*Quercus* spp.] and beech [*Fagus* spp.]) were also recovered (Tables 74 and 75). Nutshell was recovered from every feature except for F2. Most of the nutshell, however, was recovered from F4. One hundred and forty-five fragments (4.14 grams) of carbonized wood were also recovered. Of the seeds/fruits and nutshell identified at the site, eight families, six genera, and one possible species were identified.

The diversity index of seed and nutshell remains from Site 40Sm274 is 0.22 (with 1 of the highest diversity) indicating a low diversity of plant use. The low diversity is due to the large number of hickory remains recovered. The recovery of large amounts of nutshell remains is identified as a common characteristic of Archaic period sites in the Midwest (Simon 2009). Hickory occurred in 83 percent of the features analyzed while walnut occurred in 67 percent and fragments from the beech family in 17 percent of the features analyzed. Although walnut is not as ubiquitous as hickory nutshell, these data recall Zeanah's (2017:3) suggestion that increases in walnut shell are related to early seed cultigens: "foragers intensified their use of local, anthropogenic vegetation communities as populations grew, stimulating development of horticultural economies." Indeed, as discussed below, seeds and rind of three possible early cultigens (*Chenopodium* sp., cf. *Polygonum* sp., and cf. *Lagenaria siceraria*) were recovered from the site during this study, though in quantities that indicate they probably do not represent domesticated specimens except for bottle gourd. Bottle gourd (*Lagenaria siceraria*) has origins believed to be in Africa and when identified at archaeological sites in North America is assumed to have been cultivated by humans (Heiser 1979; Pearsall 1992).

The botanical remains do have common characteristics with other Archaic period and perhaps Early Woodland sites in the Midwest such as having much more nutshell than wood remains recovered (Simon 2009). For instance the wood to nutshell ratio for Site 40Sm274 (0.44) is similar to Archaic sites such as the Late Archaic Hedden Site (15McN81)(ratio of 0.03) located in McCracken County, Kentucky, and the Late Archaic Campbell Hollow Site in the lower Illinois Valley (ratio of 1.90) as well as the Middle Archaic upland Site 11Mg423 (ratio of 0.10) in Morgan County, Illinois. In these cases, nutshell remains greatly outnumber those of carbonized wood. By Late Woodland and Mississippian times the opposite occurs and wood remains greatly outnumber those of nutshell (Asch and Asch 1985; Bonzani et al. 2006; Bradbury et al. 2011; Rossen 2000a: Table 4; also see Wiant et al. 2009) such as at the Newcomb Site (12CL2), located in Clark County, Indiana which has a wood to nut ratio of 6.1 in contexts dated to 760 +/- 30 BP (Bonzani 2021, 2018a, 2018b; Creasman, pers. comm. Feb. 5, 2018). The density measure (Table 76) of nutshell based on the volume of soils floated was relatively high (6.31 fragments per liter) indicating that their processing was an important activity amongst other activities carried on throughout the site. These data may indicate that the site was focused on the special purpose collecting and processing of nuts. However other activities such as incipient cultivation may also have been conducted in the area. The quantities, ubiquity, and density of nutshell do indicate the importance of nut use and the diverse types of nut trees utilized and growing in the area at the time of site occupation(s) (Tables 74, 75, and 76).

Feature 1

The botanical remains from F1 include one fragment of thick-shelled hickory, nine highly fragmented nutshell of the beech family, and one unidentified nutshell. Two fragments of possible bottle gourd rind and six seeds of possible bedstraw were recovered (Table 74). Rind cells do not appear to be isodiametric in configuration indicating an identification of possible bottle gourd (*Lagenaria siceraria*) and not squash (*Cucurbita* sp.) (Ford 1986).

Hickory is brown to reddish-brown, heavy to very heavy, very hard wood. It is well known for its use for tool handles and especially for those like hammers, axes, picks and sledges that take strong impacts. It is also used for ladders, furniture, flooring, woodenware and novelties, and for smoking meat and as fuel wood (Panshin and de Zeeuw 1980: 540-543). Hickories (*Carya* spp.) grow in a variety of conditions, often common in bottomlands but they do follow streams well up into the mountains (Grimm 1983:121-134). For instance, shagbark hickory (*Carya ovata*) grows on a variety of soils but prefers well-drained and rich loams. It does occur on bottomlands but is more common on hill slopes and is often found on rocky hillsides. Shagbark hickory ranges from Maine and Quebec west to Minnesota and south to northern Florida and eastern Texas (Grimm 1983:127-128).

Oak of the beech family is a brown to reddish brown, heavy to very heavy and hard to very hard wood. It is used for tight and slack cooperage, fence posts, poles, piling, timber, firewood, lumber for flooring, furniture, boxes, crates, boat building and agricultural implements (Panshin and de Zeeuw 1980:564-571). Oaks grow well on well-drained soils in bottomlands but are also found on upland ridges. Oaks can range from Nova Scotia to Minnesota south to northern Georgia and Oklahoma, with some of the southern oak types ranging as far south as northern Florida and Texas (Grimm 1983:159-210).

American beech of the beech family has a whitish with a reddish tinge to reddish-brown heartwood and is heavy and hard. It is used for charcoal production, railroad ties, pulp, slack cooperage (vegetable and fruit barrels), veneer, crates, baskets, and fruit containers, and fuel wood (of high value). As lumber, it is used for boxes and crates, pallets, furniture, handles and brush backs, woodenware and novelties and planning-mill products especially flooring (Panshin and de Zeeuw 1980: 557-559). Beech (*Fagus grandifolia*) is a large tree that sends up suckers and is often found in thickets. It prefers rich, fertile, and well-drained bottomlands but can be found in a variety of situations. It is a common component associated to Sugar Maple in the Beech-Birch-Maple Forest Association and is often found with hemlock and white pine. Beechnuts are also edible, but nut production is not dependable (Grimm 1983:151-152).

Feature 2

The botanical remains from F2 include one seed from the mint family. No nutshell was recovered from this feature (Table 74).

Feature 3

The botanical remains from F3 include 66 fragments of hickory nutshell and two fragments of walnut shell. One seed from the mint family was recovered (Table 74).

Species of walnut range from moderately light and moderately soft (*J. cinerea*) to heavy and hard woods (*J. nigra*). Walnut wood is used as a dye and food (the hulls and nuts) and sugar and syrup can be made from the sap. The wood of black walnut (*J. nigra*) is considered the finest domestic cabinet wood. The wood is also used for veneer, lumber for furniture, especially tables and desks, fixtures, caskets and coffins, millwork (doors, sash, frames and interior finish), sewing machines, boxes and crates, and woodenware and novelties (Panshin and de Zeeuw 1980:537-540). Walnut is most common on bottomlands, but it is also frequently found on hillsides with fairly rich soils. The black walnut ranges from Massachusetts to Minnesota south to northern Florida and Texas (Grimm 1983: 116-120).

Feature 4

The botanical remains from F4 include 146 fragments of hickory nutshell, three fragments of walnut shell, and one unidentified nutshell. No other seed remains were recovered (Table 74). Feature 4 yielded the highest numbers of nutshell remains at the site.

Feature 5

The botanical remains from F5 include 52 fragments of hickory nutshell and two fragments of walnut shell. Two fragments of possible bottle gourd and one seed of possible bedstraw were also recovered from this feature (Table 74). Rind cells do not appear to be isodiametric in configuration indicating an identification of possible bottle gourd (*Lagenaria siceraria*) and not squash (*Cucurbita* sp.) (Ford 1986).

Feature 6

The botanical remains from F6 include 42 fragments of hickory nutshell and four fragments of walnut shell. One seed from the amaranth/goosefoot family, one seed of goosefoot, and four highly fragmented seeds of possible knotweed were also recovered from this feature (Table 74). The goosefoot seed measures 1.1 mm in diameter with smooth surfaces, rounded to truncate margins, and non-prominent beaks which are generally characteristics associated to early cultivation and eventual domestication of goosefoot (Belcher et al. 2023; Gremillion 1993; Smith 1992).

Table 74. Results of Macrobotanical analysis from Site 40Sm274

Feature Information & Metrics							Total Carbonized Wood		Total Carbonized Nutshell		Nutshell (g)				Seeds						
Feature	Depth (cmbs)	Liters of Flotation Samples	Total Light Fraction Weight (g)	Analyzed Light Fraction Weight (g)	Total Heavy Fraction Weight (g)	Analyzed Heavy Fraction Weight (g)	Count > 2 mm	Weight > 2 mm (g)	Count > 2 mm	Weight > 2 mm (g)	Fagaceae (Beech Family)	Juglandaceae *Carya* spp. (Thick-shelled Hickory)	Juglandaceae *Juglans* spp. (Walnut)	Unidentified Nutshell	Amaranthaceae/Chenopodiaceae (Amaranth/Goosefoot Family)(Type 6)	Chenopodiaceae *Chenopodium* sp. (Goosefoot)(Type 5)	Cucurbitaceae cf. *Lagenaria siceraria* sp. rind (Possible Bottle gourd)(Type 2)	Labiatae (Mint Family)(Type3)	Polygonaceae cf. *Polygonum* spp. (Possible Knotweed)(Type 4)	Rubiaceae cf. *Galium* sp. (Possible Bedstraw)(Type 1)	**Total Carbonized Seeds**
1	35-47	7	8.2	8.2	127.82	127.82	11	0.2	11	<0.1	9 (<0.1)[2]	1 (<0.1)		1 (<0.1)			2 (<0.1)			6	8
2	40-50	6	7.38	7.38	64.25	64.25	28	0.4	0	0								1			1
3	40-70	5	3.07	3.07	61.32	61.32	8	0.3	24	1.1		23 (1.1)	1 (<0.1)								-
3	70-100	4	1.36	1.36	44.79	44.79	2	0.1	35	<0.57		24 (<0.5)	1 (<0.1)					1			1
3	100-135	4	0.93	0.93	36.85	36.85	4	<0.34	9	0.39		9 (0.39)									0
4	40-73	9	4.37	4.37	114.32	114.32	16	<0.5	150	<3.6		146 (3.2)	3 (<0.3)	1 (<0.1)							0
5	45-75	4	3.6	3.6	30.97	30.97	24	0.5	53	1.8		51 (1.8)	2 (<0.1)				2 (<0.1)			1	3
6	50-70	5	2.8	2.8	32.96	32.96	4	<0.3	11	<0.3		10 (<0.3)	1 (<0.1)						4[3]		4
6	70-85	4	5.18	5.18	61.14	61.14	32	1.1	34	1.4		31 (1.2)	3 (0.2)		1	1[4]					2
6	85-125	4	1.28	1.28	52.43	52.43	16	0.4	1	<0.1		1 (<0.1)									0
	Total		**38.17**	**38.17**	**626.85**	**626.85**	**145**	**4.14**	**328**	**<9.36**	**9 (<0.1)**	**296 (8.69)**	**11 (<0.9)**	**2 (<0.2)**	**1**	**1**	**4**	**2**	**4**	**7**	**19**

Table 75. Ubiquity Measures for Site 40Sm274

Scientific Identifications	Ubiquity Score (6 Features)
Nutshell (grams):	
Fagaceae (Beech Family)	**17%**
Juglandaceae *Carya* spp. (Thick-shelled Hickory)	**83%**
Juglandaceae *Juglans* spp. (Walnut)	**67%**
Unidentified Nutshell	**33%**
Seeds:	
Amaranthaceae/Chenopodiaceae (Amaranth/Goosefoot Family)(Type 6)	**17%**
Chenopodiaceae *Chenopodium* sp. (Goosefoot)(Type 5)	**17%**
Cucurbitaceae cf. *Lagenaria siceraria* sp. rind (Possible Bottle gourd)(Type 2)	**33%**
Labiatae (Mint Family)(Type3)	**33%**
Polygonaceae cf. *Polygonum* spp. (Possible Knotweed)(Type 4)	**17%**
Rubiaceae cf. *Galium* sp. (Possible Bedstraw)(Type 1)	**33%**

Table 76. Density Measures for Site 40Sm274

Total Liters Floated: 52 L [1]	Number	Number Density	Weight	Weight Density
Wood	145	2.79	4.14	0.08
Nutshell	328	6.31	<9.36	0.18
Seeds	19	0.37	<0.1	<0.1

1 Density measures are calculated by taking the number or weight divided by liters floated.

Analysis of Floral Remains

The recovery of large amounts of nutshell remains is identified as a common characteristic of Archaic period sites in the Midwest (Simon 2009). The wood to nutshell ratio for Site 40Sm274 (0.44) is like that of other Archaic sites. The density measure of nutshell based on the volume of soils floated was relatively high (6.31 fragments per liter). These data may indicate that the site was focused on the special purpose collecting and processing of nuts. However, other activities such as incipient cultivation may also have been conducted in the area.

Hickory nutshell is recorded to have been a major component of the paleobotanical record from at least the Middle Archaic through Fort Ancient time periods in the Ohio River Valley and midwestern United States. However, nutshell recovery of the walnut family (Juglandaceae including Juglans spp.) does experience a trend of decreased use in the Middle Woodland in the area as starchy seed crop use increases. By the Late Woodland walnut family use has again increased in relation to starchy seeds at sites in the Ohio River Valley (Scarry 2003: 61, 82-85; also see Ison 1988: 209; Jefferies 1990: 143-246; Jefferies 1996: 39-77;

see also Bonzani 2017, 2014, 2004, 2003, 2002a, 2002b, 2002c; Crawford 1982; Crothers 1999; Gardner 1997, 1994; Gremillion 1997; Simon 2000, 2009; Wymer 1992; Wagner 1996; Watson 1974). Interestingly, black walnut is a shade intolerant species and must have direct sunlight for optimal growth (https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_juni.pdf).

The hickories and walnuts have fruit ripening dates that run from September to November and seed dispersal dates from September to December. Species of beech have fruits that ripen generally from September to November and species of oak have fruit ripening and seed dispersal dates from late August to early December (Young and Young 1992: 74-77, 118-119, 150-152, 184-186, 289-294). This information indicates probable seasons of occupations for the site in the mid- to late summer into the fall and possibly early winter. However, these nuts could have been stored for use at other times of the year as may be indicated by a small number of the other botanical remains recovered at the site such as members of the mint family (*Labiatae*) (late spring through summer flowering and fruiting genera) (Muenscher 1980).

Hickory trees are recorded ethnobotanically, as for instance among the Cherokee, as having many uses including wood for fuel and to make hunting and fishing implements, bark fibers for basketry, nuts for food, soup and beverages and various parts of the tree for medicinal purposes (Moerman 2000: 140-141). The walnuts also have many uses including as a food source, dye, medicinal plant, for fibers and others (Moerman 2000: 279-281). American beech nuts also can be used to make a beverage, bread and cakes, pies, puddings, sauces, relishes, and soups. The nuts and bark are also used for numerous medicinal purposes including as a dermatological aid and hair treatment, anthelmintic, pulmonary issues, to treat burn or scalding wounds, and others. The wood is also used for lumber, snowshoe making, and cooking tools (Moerman 2000: 231-232). *Quercus* species are also used for many purposes by many Native American indigenous groups. Different parts of the tree can be used to make numerous types of food, for medicine, for fiber, for dye including red, black, gray, and yellow (for buckskins) dyes, toys and games, construction, and for other uses (Moerman 2000: 458-467).

Besides the nutshell, the other botanical remains recovered from the site include a member of the amaranth/goosefoot family (*Amaranthaceae/Chenopodiaceae*), goosefoot (*Chenopodium* sp.), possible bottle gourd rind (cf. *Lagenaria siceraria*), members of the mint family (*Labiatae*), possible knotweed (cf. *Polygonum* spp.), and possible bedstraw (cf. *Galium* sp.). The origins of bottle gourd (*Lagenaria siceraria*) are still uncertain though wild species are found in Africa (Heiser 1985a, 1985b, 1979). Early remains of bottle gourd have been reported for highland Peru and Bolivia at the Ayacucho Caves dated about 7750 B. P. (5800 BCE) (Pearsall 1992). At the Windover Site on the east coast of Florida direct dating of recovered Lagenaria gourds yielded a date of 7300 B.P. (Doran et al. 1990; Smith 1992), indicating an early use of this species in the Americas. This plant as well as the hard-shelled squashes was probably utilized as utensils such as for bowls or drinking cups.

As indicated, some of these plants are part of those considered to be cultigens of the Eastern Agricultural Complex of the Midwest and Eastern Woodlands. These include goosefoot and possible knotweed (Chapman and Shea 1981; Ford 1985; Keegan 1987; Yarnell 1986). Both taxa were recovered from F6. The recovery of seeds of these plants could indicate the possibility that they were being cultivated although their low numbers most likely point to wild or free-living collection strategies or even accidental inclusions in the archaeological record.

Further the goosefoot seed measures 1.1 mm in diameter with smooth surfaces, rounded to truncate margins, and non-prominent beak. It does appear to have the morphology of truncate margins that indicate possible cultivation and domestication (Belcher et al. 2023; Smith 1992; Gremillion 1993). Goosefoots are small seeded herbaceous plants that have fruits in the late summer to mid-fall (Muenscher 1980). As indicated, it is included in lists of plants known as early cultigens in eastern North America (see Smith 2001, 1992, 1987, 1984; Watson 1969; Asch, Ford, and Asch 1972; Gremillion 1997, 1993; Lopinot 1997, 1994; Simon 2000; Struever and Vickery 1973; Wymer 1992; Yarnell 1986; Cowan et al. 1981 for information on chenopod remains found in the midwestern United States). Recent DNA evidence also confirms an eastern North American origin of domestication for certain species of *Chenopodium* (Kistler and Shapiro 2011).

Ethnobotanically, species of *Chenopodium* are utilized for numerous purposes including as food, medicine, soap, dye, fragrance and insecticide (Gilmore 1977; Moerman 2000). One of its most common uses medicinally is as an anthelmintic. The seeds, leaves and stems of chenopods are utilized for food. The leaves and stems are usually boiled and eaten alone, with other foods or included in soups. Young plants can also be eaten raw. The leaves are reported to be good sources of vitamins A and C and of potassium and magnesium (Oshodi et al. 1999). For the use of seeds as food, the seeds can be ground and made into a mush; they can be parched, ground, and made into a mush; or they can be ground into flour and made into bread. Seeds are also reportedly stored for winter use by some indigenous groups (Moerman 2000).

Four seeds were highly fragmented and tentatively identified as *Polygonum*. The specific species' identifications, however, could not be made at this time. It should be noted that erect knotweed (*Polygonum erectum*) has previously been identified as a cultivated plant by Native Americans (Mueller 2018; Yarnell 1986). Ethnobotanically, knotweed is listed as a food and a drug. It is used to treat colds, as an analgesic, antidiarrheal, gastrointestinal aid, gynecological aid, oral aid, urinary aid and as a poultice for swelling (Moerman 2000: 422-424). These plants may, therefore, have been utilized as food or medicine. However given the recovery of only four fragmented seeds, they may also have been accidental inclusions at the site during its occupation.

Bedstraw is recovered from numerous archaeological sites in the Midwest including the Childers Site (46Ms121) located on the Ohio River between Pittsburgh, Pennsylvania, and Huntington, West Virginia (Wymer 1990) and from Site 46Mr155 located in Marshall County, West Virginia (Bonzani 2013). Bedstraw has also been recovered from Hardin Village, a series of Fort Ancient Period sites located along the Ohio River in Kentucky (Lansaw et al. 2015). Bedstraw, as its name implies, was used as bedding, and has a number of other uses as well. It has a variety of medicinal uses, is used for making soap, incense, and fragrance, used to make red dye out of its root, and it has also been cited as a cleaning agent, source of fuel, and a ceremonial emetic (Moerman 2000: 241-242). Bedstraw grows in meadows, pastures and waste places and has flowers and fruits/seeds from June to August and may also be interpreted as representing accidental inclusions in the archaeological record and indicate the environmental setting of the location (Muenscher 1980).

The recovery of the majority of the botanical remains from Site 40Sm274 comes from plants which generally have mid-summer to late fall and early winter availability (hickory, walnut, goosefoot). This seasonality points to occupation(s) of the site that may have extended from the middle of summer through the fall to early winter months of the year or at least included visits to the location during those times of year.

8.5 Site Function and Spatial Patterning

These research themes are discussed independently for each site within this section, as spatial patterning is a very site-specific aspect of research. In most cases, site function is also similarly site-specific, but in the case of these investigations, there is the potential for some broader interpretation of how each site's precontact inhabitants may have chosen to use the Caney Fork River valley differently due to landscape differences that shifted over time.

8.5.1 Site 40Sm274 Function and Spatial Patterning

The occupations of the site represent a series of ephemeral to moderate periods of habitation that span from the Early Archaic to the Late Woodland/Mississippian period and was focused within the Ap/Ap2 horizons, with a few select areas maintaining some remnant of intact A-AE horizons. These occupations lie primarily in two concentrated areas of the site: the first is along the small ridge-like terrace remnant on the eastern end of the site and the second is the terrace remnant on the west that surrounds the broad deep sinkhole-derived depression. The eastern occupations are also partly focused on a small shallow depression that lies on the extreme eastern end of the ridge-like section of terrace at the base of the slope off the higher older Pleistocene terraces that lie adjacent to the southeast.

The eastern occupations focused on the shallow depression were heavily sampled during the Phase II investigations by a series of test units (TU 25, 28, and 38-41) as well as a series of mechanical strip trenches and blocks (S4, S5, S12, S23, S24, and S46-48). A thin remnant of an intact A-AE horizon was found lying below the Ap1-Ap2 sequence that contained limited remains of what appeared to be primarily an Early Archaic occupation based upon the recovery of a series of Stillwell and Kirk ppks from within depression and along the ridgelike terrace remnant. A set of two features were excavated around the depression's perimeter, one was found to date to the Late Woodland period and the other was believed to be natural in origin based upon the lack of artifact recovery and the botanical sample collected. Additional Late Archaic and Early Woodland ppks were also identified along the terrace. While it is believed that the few artifacts recovered from within the intact stratum in the depression are related to the Early Archaic occupations, the bulk of the material lying above in the Ap1-Ap2 sequence represents a palimpsest of ephemeral occupations dating throughout most the Precontact period. Based upon this mixed nature of deposits and the very light usage of the site it is difficult to determine any level of site function related to the eastern concentration area beyond the precontact occupations appear focused on the retooling and creation of stone tools from chert cobbles recovered from the river. The diversity of unifacial stone tools recovered from this area are varied in form and function and again speak to the differing types of occupations that have occurred at the site throughout the breadth of the Precontact period.

The western occupations are focused above and around a much larger and deeper sinkhole-derived depression. Both the terrace above and within the depression were extensively sampled by a series of test units (TU 16-18, 31, 32, 36, 37, 42 and 45) as well as a series of mechanical strip trenches and blocks

(S26, S27, S32, S33, S24, S43, S44, and S49-53). The core of these occupation lies along the top of terrace directly to the south and southeast of the depression, with extensive amounts of debitage and tools fragments being found down the southern slope extending into the depression. Most of the material recovered were collected within the mixed disturbed Ap horizon, with only approximately 100 artifacts recovered from the underlying intact strata. Based upon the bulk of the materials being recovered from mixed deposits it is difficult to determine any level of site function related to the western concentration area beyond the precontact occupations appear focused on the retooling and creation of stone tools from chert cobbles recovered from the river. The diversity of unifacial stone tools recovered from this area are varied in form and function and again speak to the differing types of occupations that have occurred at the site throughout the breadth of the Precontact period. Extensive cultural deposits were also recovered down slope within the broad depression, but the intact strata are impossible to relate to any specific temporal period, appearing to represent a palimpsest of materials related to occupations spanning the Precontact period.

Cultural features that appear to be related to cooking and food processing were found in concert with the western concentration. Most of these features possess diagnostic materials consistent with the Late Archaic radiometric assays recovered. Additionally, Early Archaic diagnostics were also recovered within some of these features, and while believed to represent either materials collected by later Late Archaic inhabitants or random materials included within the natural infilling processes that sealed these features, their inclusion within these feature matrices speak to the mixed and heavily used area above the depression throughout the Precontact period.

Overall, the site is densely plowed and besides the two areas addressed above the remainder of the site possesses poor depositional integrity. The deposition integrity within these two intact occupation areas is fair as no vertical separation was noted between occupational components indicating the probability that successive occupations may have led to mixing of deposits. This type of mixing appears to be more of a problem along the western concentration area, but that is only because the eastern concentration area is so lightly used that defining the degree of mixing is difficult due to a lack of more diagnostic artifacts.

8.5.2 Site 40Pm184 Function and Spatial Patterning

The occupations of the site represent a series of ephemeral to moderate periods of habitation that span from the Early Archaic to the Early Woodland period. These occupations are primarily focused within the disturbed Ap horizon or within the underlying intact AB horizon. Diagnostic ppks recovered from the portion of the site investigated relate primarily to the Early Archaic period, with more ephemeral occupations occurring within the Late Archaic and into the Early Woodland periods as well. The intact AB horizon excavations produced solely Early Archaic diagnostics within the Kirk Cluster and Decatur types that indicate an approximate 7500-6900 BCE temporal age range (Justice 1995). These points were collected from across the entire breadth of the intact AB horizon evaluated as part of these investigations. Coupled with the diagnostic ppks was a collection of 1,174 pieces of debitage, 12 cores, and 71 unifacial tools. An analysis of the debitage indicates that the full trajectory of biface production was taking place within the component. Cortex analysis indicated the collection of cobbles from the Caney Fork River bedload, a pattern consistent with Early Archaic materials recovered at 40Sm274. Intentionally heat-treated material was observed in approximately half the collection of artifacts from Early Archaic component that was nearly double that seen within the disturbed Ap deposits, indicating that purposefully heat-treatment was more than likely taking place on site during the reduction process. The 71 unifacial tools include simple utilized flakes and flake scrapers, as well as more formal gravers, perforators, and spokeshaves, indicating a wide variety of expedient tasks being completed in concert with tools production. The more formal unifacial tools indicate a focus on potential craft production of clothes or wood working, with the expedient tools appearing more focused on food processing and potentially procurement of plant materials. The varied patterning noted from across the site within the AB horizon would indicate that the Early Archaic occupations were sporadic, utilizing different portions of the terrace over countless occupations, but the primary focus would appear to be the Caney Fork River based upon the increased density in artifacts seen from east to west across the site.

Overall, the site has been deflated by agricultural activities and disturbed from construction of the road outside of the intact AB horizon remnants that extend along the southern ROW edge. These more deeply buried deposits remain intact and appear to have excellent depositional integrity. The investigations recovered only Early Archaic diagnostic materials from the AB stratum indicating that not only is the depositional integrity excellent, but data could also be obtained about an isolated period within the Archaic period. This vertical distribution coupled with the auger information obtained from the site during the Phase I survey indicates the probability that stratified deposits exist with the levee position to the south of the I-40 ROW. The Early Archaic diagnostics provide a concept that occupations begin within at least that period and extend upward within the levee probably to at minimum the Early Woodland period, based upon the diagnostic ppks recovered to date at the site.

Page Left Intentionally Blank

9 Summary of Results and Management Recommendations

In response to a request from the TDOT, Stantec conducted Phase II cultural resource investigations at sites 40Sm274 and 40Pm184 for the proposed I-40 truck parking and bridge replacement over the Caney Fork River project in Smith and Putnam Counties, Tennessee (PIN: 131552.01, PE: 80I040-S1-006). Both sites are potentially eligible for listing in the NRHP under Criterion D of 36CFR 60.4 and will be unavoidably impacted by construction of the parking area and the I-40 bridge replacement. The APE is defined by the extent of the site boundary of each site. Site 40Sm274 measures approximately 5.77 ac (23,365 m^2) in size, all of which is contained within the overall proposed project area related to the expansion of the trucking parking area within the I-40 rest area. The bridge replacement portion of the project was constrained to the current extent of the TDOT ROW. The portion of Site 40Pm184 lying within the current ROW measures approximately 0.5 acres (2,305 m^2) and represents the extent of the APE in relation to the site.

Site 40Sm274 lies west of the Caney Fork River on the active interior depositional bend. Site 40Pm184 lies east of the Caney Fork River on the upland above the confluence of the Caney Fork and Indian Creek. Site 40Sm274 is characterized by a pine and mixed deciduous forest that was planted by the early 1980s. The area has been impacted by previous agricultural use of the area since at least the 1950s, the construction of the I-40 between 1958 and 1980s, and the construction of the Tennessee Welcome Center that began in the 1980s and was ongoing into the mid-2000s. The area around 40Pm184 was impacted by the development of I-40 around 1959 east of Caney Fork and agricultural use prior to the construction of the road. The entire area is underlain by karst limestone geology which has significantly affected the depositional patterns and usage of the landscape throughout the precontact period. The subsequent subsidence of bedrock across both sites has acted to preserve as well as erode the soils deposited across either site throughout the Holocene period, playing a significant role in the results obtained during the Phase II investigations at both sites.

9.1 Summary of Results and Recommendations: Site 40Sm274

Site 40Sm274 encompasses an area of just over 5.7 ac of forested terraces lying within an interior bend of the Caney Fork River. The terraces are heavily dissected by a series of depressions and sinkholes that have given it the impression of an upland ridge, but testing at the site indicates that it is comprised of a series of older alluvial terraces built up in the Pleistocene and early Holocene periods. The site represents a palimpsest of precontact occupations that span from at least the Early Archaic to approximately the Late Woodland period, with more intensive occupation appearing to have occurred during the Early and Late Archaic periods.

The Phase II investigations included the hand excavation of 45 test units and the mechanical excavation of 55 strip trenches and blocks that exposed a total area of approximately 3,100 m^2. The Phase II investigations at 40Sm274 produced a total of 8,571 precontact period artifacts that were lightly distributed across the site, with a few clusters of occupation occurring around specific sinkhole-derived depressions on the east and west ends of the site.

The eastern occupations focused on the shallow depression that was heavily sampled during the Phase II investigations by a series of test units and mechanical strip trenches and blocks. A thin remnant of an intact A-AE horizon was found lying below the plowed surface soils that contained limited remains of what appeared to be primarily an Early Archaic occupation based upon the recovery of a series of Stillwell and Kirk ppks from within the depression and the surrounding terrace. Two features were excavated on the perimeter of the depression, with one feature dating to the Late Woodland period. Additional Late Archaic and Early Woodland ppks were also identified along the terrace. While it is believed that the few artifacts recovered from within the intact stratum in the depression are related to the Early Archaic occupations, the bulk of the material lying above in the plow zone represents a palimpsest of ephemeral occupations dating throughout most of the Precontact period. Based upon this mixed nature of deposits and the very light usage of the site it is difficult to determine any level of site function related to the eastern concentration area beyond the precontact occupations appear focused on the retooling and creation of stone tools from chert cobbles recovered from the river.

The western occupations are focused above and around a much larger and deeper sinkhole-derived depression. Both the terrace above and within the depression were extensively sampled by a series of test units and mechanical strip trenches and blocks. The core of these occupations lies along the top of the terrace directly to the south and southeast of the depression, with extensive amounts of debitage and tools fragments being found down the southern slope extending into the depression. Most of the material recovered were collected within the mixed disturbed Ap horizon. Four features F3-F6 were located on the terrace, all appearing to be associated with a more intensive Late Archaic occupation focused within this western concentration. Radiocarbon dates obtained from all four features indicate a calibrated 2σ range of approximately 1620-1270 cal. BCE. Feature forms were similar, especially for the three (F3, F4, and F6) clustered directly south of the depression. Recovered diagnostic McIntire and Motley ppks are consistent with the radiocarbon dates obtained. Early Archaic ppks were also recovered from these features, and while interpreted as being either curated or randomly deposited artifacts, their recovery within these features speaks to the mixed nature of the deposits on the surface of the terrace and the downslope collection of materials within the depression that characterize the western occupational area.

Overall, the site is densely plowed and besides the two areas addressed above the remainder of the site possesses poor depositional integrity. The depositional integrity within these two intact occupations areas is fair as no vertical separation was noted between occupational components indicating the probability that successive occupations may have led to mixing of deposits. This type of mixing appears to be more of a problem along the western concentration area, but that is only because the eastern concentration area is so lightly used that defining the degree of mixing is difficult due to a lack of more diagnostic artifacts. While intact artifacts were recovered from some limited remnant deposits and features, it is difficult due to the mixing and disturbance to reliably interpret or contextualize them to specific periods of occupation reliably. Based upon an inability to isolate and interpret specific occupations or periods of precontact use at the site, Stantec recommends that site 40Sm274 be considered not eligible for listing on the NRHP under Criterion D. No further work at the site is recommended.

9.2 Summary of Results and Recommendations: Site 40Pm184

Site 40Pm184 is a multicomponent site with precontact occupations dating from the Early Archaic to the Early Woodland period, with some minor indications of historic period usage of the site as well. The site encompasses an area of just over 6.5 ac, of which only approximately 0.5 acres is located within the current I-40 ROW corridor property boundary. It is this smaller portion of the site that was evaluated as part of these Phase II investigations, as the project design was constrained to remain within the current TDOT ROW. The Phase II investigations were comprised by the excavation of ten (10) test units and 16 shovel tests. These additional shovel tests spaced at 10 m intervals were placed along the northern and western perimeter of the site to provide a more refined site boundary. Mechanical investigations on a limited scale were proposed for the site within the initial workplan but the results obtained from the additional shovel tests and the hand excavated units were sufficient to understand the development of the landform on which site 40Pm184 lies and define the extent of intact soil deposits without the inclusion of subsequent trenching.

Phase II investigations at 40Pm184 produced a total of 8,450 precontact and historic period artifacts. Of the 8,450 artifacts recovered, 8,404 were affiliated with the precontact occupations and 46 with the later historic period. These precontact materials were primarily recovered within the disturbed Ap horizon or within the underlying intact AB horizon. Diagnostic ppks recovered relate primarily to the Early Archaic period, with more ephemeral occupations occurring within the Late Archaic and into the Early Woodland periods as well. An intact AB horizon identified during the excavations produced solely Early Archaic diagnostics within the Kirk Cluster and Decatur types, indicating an approximate temporal age range of from 7500-6900 BCE (Justice 1995). These points were collected from across the entire breadth of the intact deposits identified at the site. Coupled with the diagnostic ppks was a collection of 1,174 pieces of debitage, 12 cores, and 71 unifacial tools. An analysis of the debitage indicates that the full trajectory of biface production was taking place within the component from cobbles obtained from the nearby Caney Fork River. Intentionally heat-treated material was observed in approximately half the collection of artifacts from the Early Archaic component, indicating that purposeful heat-treatment was more than likely taking place on site during the reduction process. The 71 unifacial tools include simple utilized flakes and flake scrapers, as well as more formal gravers, perforators, and spokeshaves, indicating a wide variety of expedient tasks being completed in concert with bifacial tool production. The unifacial tools indicate a focus on potential craft production of clothes or wood working, with the expedient tools appearing more focused on domestic activities and potentially processing of plant materials. The varied depositional patterning noted from across the site within the AB horizon would indicate that the Early Archaic occupations were sporadic, utilizing different portions of the terrace over countless occupations. It may prove possible with broader block excavation methods to isolate individual occupations from within the Early Archaic period to further refine our understanding of changing patterns of usage throughout the period by precontact groups.

The overall depositional integrity for the precontact materials recovered from 40Pm184 ranges from fair to excellent across the site. The deposits lying in the eastern third of the APE and along the slope up toward the current I-40 roadbed have been deflated and destroyed by a combination of previous road construction and subsequent erosion related to agricultural activity. The portions of the APE located along the southern edge of the ROW contain an intact AB stratum that possesses significant deposits that remain intact and have excellent depositional integrity. These intact deposits appear to date wholly to the Early Archaic period based upon diagnostic ppks recovered from across the entire breadth of the site. These occupations appear to be the densest in proximity to the Caney Fork River, but isolated deposits lying further east within proximity to a broad sinkhole-derived depression were also heavily used by Early Archaic groups. These areas of the site contain the greatest research potential and should be avoided. Shovel testing completed to the south of the I-40 boundary fence identified similar intact deposits, indicating that the information gleaned from these limited investigations could be applied to most of the site south of the current I-40 corridor. Stantec recommends that site 40Pm184 be considered eligible for listing on the NRHP under Criterion D, and that the intact deposits identified during these investigations be avoided during subsequent construction of the proposed bridge.

Current plans are to avoid the sensitive intact areas identified at the site, by moving the proposed fill limits related to the I-40 bridge replacement to northern half of the APE as defined in Figure 117. The fill limits will encompass all activities related to the construction and replacement of the bridge contained within the boundaries of the site as currently defined. It is Stantec’s opinion that as the project is designed currently it will avoid the intact deposits and not adversely affect the eligibility of the site for nomination to the NRHP. Given these plans, no further work is recommended at site 40Pm184.

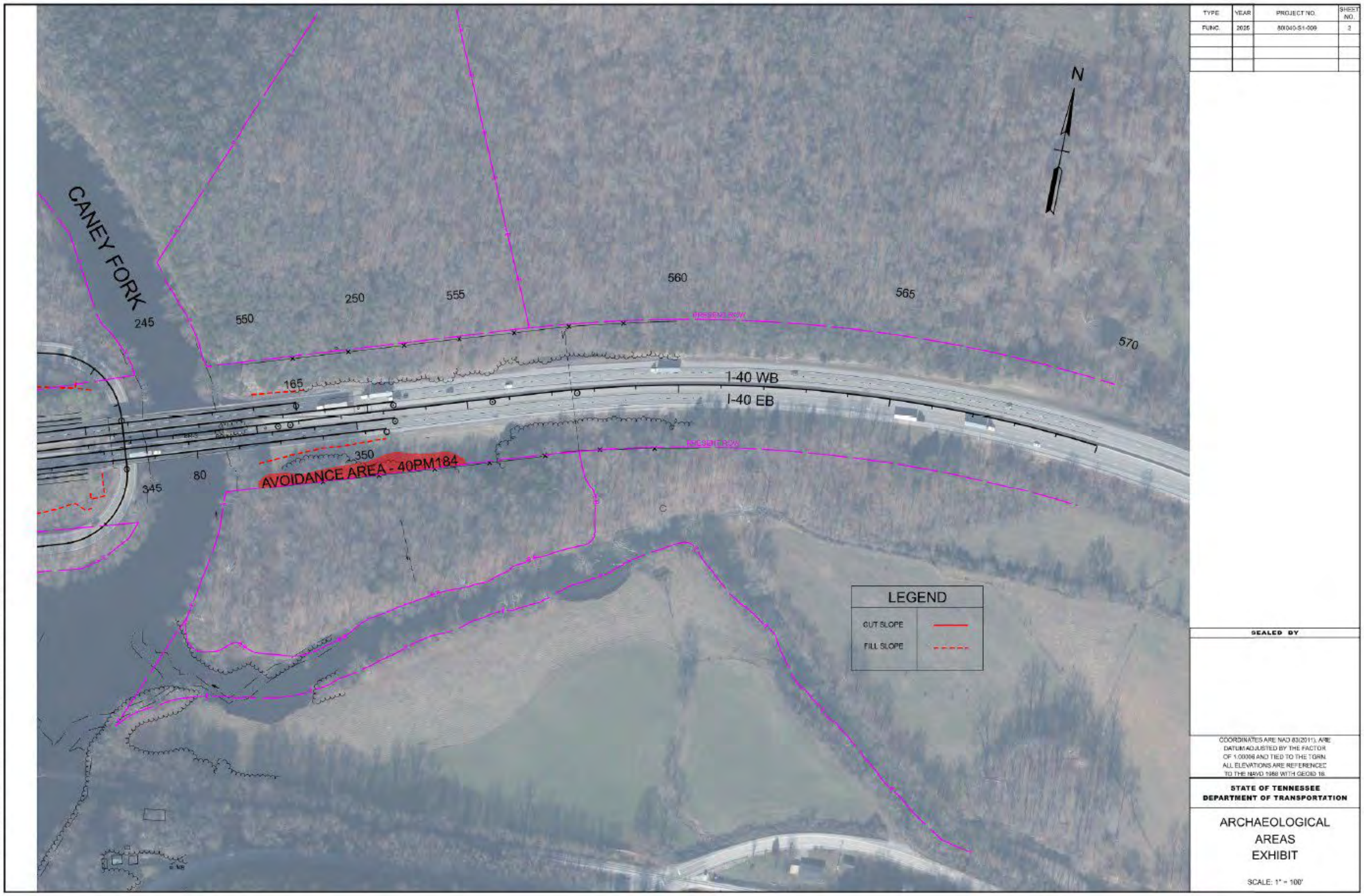


Figure 117. Proposed Revisions to I-40 Bridge Replacement to avoid Intact area identified at 40Pm184.

Page Left Intentionally Blank

10 References Cited

Amick, Daniel

1984 Lithic Raw Material Variability in the Central Duck River Basin: Reflections of Middle and Late Archaic Organizational Strategies. Report of Investigations 46. Department of Anthropology, University of Tennessee, Knoxville, Tennessee.

1986 Excavations at the Fattybread Branch Site (40MU408): Late Archaic Floodplain Adaptations. In *Cultural Adaptations in the Shelby Bend Archaeological District,* edited by Daniel S. Amick, Mary Ellen Fogarty, and Joseph M. Herbert, pp. 271-395. Department of Anthropology, The University of Tennessee, Knoxville. Submitted to National Park Service, Tallahassee, Florida, Contract No. NPS CX-5000-4-0624

1987 Lithic Raw Material variability in the Central Duck River Basin: Reflections of Middle and Late Archaic Organizational Strategies. Tennessee Valley Authority Publications in Anthropology No. 50. University of Tennessee, Department of Anthropology, Report of Investigations, No. 46, Knoxville, TN.

Anderson, David G.

1996 Models of Paleo-Indian and Early Archaic Settlement in the Lower Southeast. The Paleo-Indian and Early Archaic Southeast, edited by D.G. Anderson and K.E. Sassaman, pp. 29-57. The University of Alabama Press, Tuscaloosa.

Andrefsky, William, Jr.

2005 *Lithics: Macroscopic approaches to analysis*. Cambridge University Press, Cambridge.

Asch, Nancy B. and David L. Asch

1985 Archaeobotany of the Campbell Hollow Archaic Occupations. In *The Campbell Hollow Archaic Occupations: A Study of Intrasite Spatial Structure in the Lower Illinois Valley*, edited by C. Russell Stafford, pp. 82-107. Kampville Archaeological Center Research Report No. 4. Center for American Archaeology, Kampsville, Illinois.

1981 Archeobotany of Newbridge, Carlin and Weitzer Sites – The White Hall Components. Appendix B. In *Faunal Exploitation and Resource Selection: Early Late Woodland Subsistence in the Lower Illinois Valley*, by Bonnie Whatley Styles, pp. 275-291. Northwestern University Archeological Program Scientific Papers, Number 3. Evanston, Illinois.

Ash, Nancy B., Richard I. Ford, and David L. Ash

1972 *Paleoethobotany of the Koster Site: The Archaic Horizons.* Illinois State Museum Reports of Investigations 24, Springfield.

Baden, W.W.

1985 Evidence of Changing Settlement Patterns in the Little Tennessee River Valley of East Tennessee. Exploring Tennessee Prehistory. Edited by Thomas Whyte, C. Clifford Boyd, Jr., and Brett H. Riggs. University of Tennessee, Department of Anthropology: No. 42 (pages 135-156).

Belcher, Megan E., Daniel Williams, and Natalie G. Mueller

2023 Turning Over a New Leaf: Experimental Investigations into the Role of Developmental Plasticity in the Domestication of Goosefoot (*Chenopodium berlandieri*) in Eastern North America. *American Antiquity*: 1-16. https://doi.org/10.1017/aaq.2023.54

Binford, L. R.
1983 *Working at Archaeology*. Academic Press, New York.

1980 Willow smoke and dog's tails: hunter-gatherer settlement systems and archaeological site formation. *American Antiquity* 45(1):4-20.

Bonzani, Renée M.
2021 Botanical Analysis. Section in Investigations of Sites 12FL203 and 12FL73B, Floyd County, Indiana. Cultural Resource Analysts, Inc., Lexington, KY.

2018a Chapter 4. Macrobotanical Analysis. In *Analysis and Report of Collections for the Newcomb Site (12CL2) in Clarksville, Clark County, Indiana* by Jonathan P. Kerr, Renée M. Bonzani, Brian DelCastello, Tayna Faberson, Richard Herndon, pp. 67-94. Contract Publications Series 18-044. For Engineering Consulting Services, Inc., Metairie, Louisiana. Prepared by CRA, Inc., Lexington, Kentucky.

2018b Botanical Analysis for Sites 12FL195 and 12FL73, Floyd County, Indiana. Cultural Resource Analysts, Inc., Lexington, KY.

2017 Botanical and Wood Analysis. Section in Investigations of Site 40SV232 in Sevier County, Tennessee. Cultural Resource Analysts, Inc. Lexington, KY.

2014 People, Plants, and Caves: Discerning Plant and Cave Use from the Late Archaic/Early Woodland to Historic Time Periods at Mammoth Cave, Kentucky. Paper to be presented in the session "Pre-colonial and Colonial Southeastern U. S." at "The Energy of People, Places, and Life" 2014 joint meetings of the Society of Ethnobiology and Society of Economic Botany, Cherokee, North Carolina, May 11-14.

2013 Botanical Analysis from Flotation. In *The Sun Fish Site: Archaeological Data Recovery at 46MR155, a Late Woodland Period Site in Franklin District, Marshall County, West Virginia*, Vol. I: Text, by Jamie S. Meece, Stevan C. Pullins, Christopher L. Nelson, Todd Grote, and Renee Bonzani, pp. 306–336. Contract Publication Series WV11-061. Cultural Resource Analysts, Inc., Hurricane, West Virginia.

2004 Botanical Analysis. Section in Investigations of the Cranks Creek Site, Harlan County, Kentucky (15HL58). Cultural Resource Analysts, Inc., Lexington, KY.

2003 Botanical Analysis. Section in Phase III Investigations at Site 15Mm140, Montgomery County, Kentucky. Cultural Resource Analysts, Inc., Lexington, KY.

2002a Botanical Analysis. In *An Archaeological Assessment of Site 12Fl-73 in Floyd County, Indiana,* by Sheldon R. Burdin, pp. 113-120. Indiana Department of Natural Resources, Department of Historic Preservation and Archaeology and the National Park Service.

2002b Appendix: Botanical Analysis for the Ward Site (15McL11), Green River Valley, Western Kentucky. In *Cyprus Creek Archaeological Project: Archaic Adaptive Strategies in West Central Kentucky*, by Richard W. Jefferies, Victor D. Thompson, and George R. Milner. National Park Service, U.S. Department of the Interior, Washington.

2002c Botanical Analysis of the Hart Site (15La183), Lawrence County, Kentucky. In Phase III Investigations of the Hart Site (15La183), Lawrence County, Kentucky. Manuscript on file at the Cultural Resource Analysts, Inc. Lexington, KY.

1997 Plant Diversity in the Archaeological Record: A Means Toward Defining Hunter-Gatherer Mobility Strategies. *Journal of Archaeological Science* 24: 1129-1139.

Bonzani, Renee M., Andrew Bradbury, and Scott Jones
2006 Non-local and Non-native Plant Cultivation in Late Archaic through Late Woodland Contexts at the Cranks Creek Site (15Hl58), Harlan County, and Site 15Cu110, Cumberland County, Kentucky. Paper presented at the Twenty-Third Annual Kentucky Heritage Council Archaeological Conference. Bowling Green, Kentucky. March 10-12.

Bonzani, Renée M. and Michael B. Steenken
2020 *Manual of Ethnobotany and Paleoethnobotany: Case Study from San Jacinto, Colombia.* Rylan Books, Ronkonkoma, NY.

Bradbury, Andrew P. and Phillip J. Carr
1995 Flake Typologies and Alternative Approaches: An Experimental Assessment. *Lithic Technology* 20(2): 100-115.

2004 Combining Aggregate and Individual Methods of Flake Debris Analysis: Aggregate Trend Analysis. *North American Archaeologist 25(1):65-90.*

Bradbury, Andrew P., Brian G. Del Castello, Renée M. Bonzani, Flora Church, Linda Scott-Cummings, Sarah C. Sherwood, Chad Yost, and Melissa Logan
2011 Data Recovery Excavations of 11MG423: A Middle Archaic Upland Site in Morgan County, Illinois. *Illinois Archaeologist* 23: 23-63.

Brandon, Jamie C. and Robert C. Mainfort
1995 Textile Impressed Ceramics from the Oliver Site, Obion County, Tennessee. *Tennessee Anthropologist* 20(1):58-73.

Burchard, Ernest F.
1927 *The Brown Iron Ores of West Middle Tennessee*. Contributions to Economic Geology, part 1. United States Department of the Interior, U.S. Geological Survey, Washington, D.C.

Carr, P. J. and A. P. Bradbury
2004 Exploring Mass Analysis, Screens, and Attributes. In *Aggregate Analysis in Chipped Stone,* edited by Christopher T. Hall and Mary Lou Larson. pp. 21-44. The University of Utah Press, Salt Lake City.

Chapman, Jefferson and Andrea Brewer Shea
1981 The Archaeobotanical Record: Early Archaic Period to Contact in the Lower Little Tennessee River Valley. *Tennessee Anthropologist*: VI (1): 61-84.

Clark, Jerry E.
2017 *Shawnees* The Tennessee Historical Commission. Electronic document, https://tennesseeencyclopedia.net/entries/shawnees/, accessed April 2022

Cowan, C. Wesley, H. E. Jackson, K. Moore, A. Nickelhoff, and T. Smart
1981 The Cloudsplitter Rockshelter, Menifee County, Kentucky: Preliminary Report. *Southeastern Archaeological Conference Bulletin* 24: 60-75.

Crabtree, D.
1971 *Experiments in Flintworking*. Idaho State University Museum. Pocatello.

1982 *An Introduction to Flintworking*. Idaho Museum of Natural History. Pocatello, Idaho.

Crawford, Gary W.
1982 Late Archaic Plant Remains from West-Central Kentucky: A Summary. *Midcontinental Journal of Archaeology* 7(2):205-224.

Creasman, Steven
1994 *Upper Cumberland Archaic and Woodland Period Archaeology at the Main Site (15BL35), Bell County, Kentucky*. Contract Publications Series 94-56. Cultural Resource Analysts, Inc. Lexington.

Crothers, George Martin
1999 Precontact Hunters and Gatherers, and the Archaic Period Green River Shell Middens of Western Kentucky. Ph. D dissertation for the Department of Anthropology, Washington University. Saint Louis, Missouri.

Deiss, R. W.
1981 *The Development and Application of a Chronology for American Glass*. Midwestern Archaeological Research Center, Illinois State University, Normal.

Delcourt, Paul A., and Hazel R. Delcourt
1981 Vegetation Maps for Eastern North America: 40,000 YR B.P. to the Present. In *Geobotany II*, edited by R.C. Romans, Plenum Publishing Corp., pp. 123-165.

1984 Late Quaternary Palaeoclimates and Biotic Responses in Eastern North America and the Western North Atlantic Ocean. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 48(1984):263-284.

Deter-Wolf, Aaron and Tanya M. Peres
2012 Recent Research in the Middle Cumberland River Valley, Introduction to a Special Volume. 2012, *Tennessee Archaeology*: Volume 6, Issues 1-2, pages 5-17.

Deter-Wolf, Aaron, Marc Wampler, and Ted Karpynec
2005 *Phase I Archaeological Survey of the Proposed TVA Cumberland-Montgomery 500-kV Transmission Line Routes B and D, and Phase I Cultural Resources Survey of Route D Subalternates Stewart and Montgomery Counties, Tennessee.* TRC, Inc. Nashville, Tennessee.

Doran, G., D. Dickel, and L. Newsom
1990 A 7,290-Year-Old Bottle Gourd from the Windover Site, Florida. *American Antiquity* 55:354-60.

Driskell, Boyce, Scott Meeks, and Sarah Sherwood
2021 The Transition from Paleoindian to Archaic in the Middle Tennessee Valley. In *From the Pleistocene to the Holocene: Human Organization and Cultural Transformations in Precontact North America*, edited by C. Britt Bousman and Bradly J. Vierra, pp. 253-272.Texas A&M Press, College Station.

Faulker, Charles H.
2002 Woodland Cultures of the Elk and Duck River Valleys, Tennessee. In *The Woodland Southeast*, edited by D.G. Anderson and R.C. Mainfort, Jr., pp.185-203. University of Alabama Press, Tuscaloosa.

Ford, Richard I.
1986 Reanalysis of Cucurbits in the Ethnobotanical Laboratory, University of Michigan. *The Missouri Archaeologist* 47:13-32.

1985 The Process of Plant Food Production in Precontact North America. In *Precontact Food Production in North America*, edited by Richard I. Ford, pp. 1-18. Museum of Anthropology, University of Michigan Anthropological Papers No. 75. Ann Arbor, Michigan.

Franklin, Jay D., Michelle L. Hammett, and Renee B. Walker
2008 The Nelson Site: A Late Middle Woodland Habitation Locale on the Nolichucky River, Washington County, Tennessee. In *Tennessee Archaeology*, Vol. 3, No. 2.

Gardner, Paul S.
1997 The Ecological Structure and Behavioral Implications of Mast Exploitation Strategies. In *People, Plants, and Landscapes Studies in Paleoethnobotany*, edited by Kristen Gremillion, pp. 161-178. The University of Alabama Press, Tuscaloosa.

1994 Carbonized Plant Remains from Flotation Samples Identification and Report. Appendix D of The Archaic Settlement System of the Middle Green River Valley, Kentucky by Christine Kay Hensley. Ph. D. dissertation for the Department of Anthropology, Washington University. Saint Louis, Missouri.

Gavin, Michael
2018 Iron Industry. Tennessee Encyclopedia. URLhttp://tennesseeencyclopedia.net/entries/iron-industry/. Accesses April 2022.

Gilbert, B. Miles
1990 *Mammalian Osteology*, Missouri Archaeological Society Inc., Columbia.

Gilmore, Melvin R.
1977 *Uses of Plants by the Indians of the Missouri River Region*. University of Nebraska Press, Lincoln. Originally published in the Thirty-third Annual Report of the Bureau of American Ethnology (Washington DC: Government Printing Office, 1919).

Gremillion, Kristen J.
1997 *People, Plants, and Landscapes Studies in Paleoethnobotany*. The University of Alabama Press, Tuscaloosa.

1993 Crop and Weed in precontact Eastern North America: the Chenopodium example. *American Antiquity* 58(3): 496-510.

Griffin, John W.
1974 *Investigations at Russell Cave*. Publications in Archaeology 13, US Department of the Interior, National Park Service, Washington, D.C.

Griffith, Glenn E., James Omernik, and Sandra Azevedo

1997 *Ecoregions of Tennessee*. Collaboration between the Tennessee Department of Environment and Conservation, Environmental Protection Agency, United State Geological Survey, and the USDA Natural Resources Conservation Services, Corvallis, Oregon.

Grimm, William Carey
1983 *The Illustrated Book of Trees*. Third edition. Stackpole Books. Mechanicsburg, PA.

Haag, William G.
1942 A Description and Analysis of the Pickwick Pottery. In *An Archaeological Survey of the Pickwick Basin in the Adjacent Portion of the States of Alabama, Mississippi, and Tennessee,* pp 513-524. Smithsonian Institution, Bureau of American Ethnology, Bulletin 129, Washington, D.C.

Hastorf, Christine A. and Virginia S. Popper (editors)
1988 *Current Paleoethnobotany: Analytical Methods and Cultural Interpretations of Archaeological Plant Remains*. University of Chicago Press, Chicago.

Heiser, Charles B., Jr.
1985a Some botanical considerations of the early domesticated plants north of Mexico. In *Precontact food production in North America*, ed. R. I. Ford, pp. 149-203. Museum of Anthropology, Anthropological Paper No. 75. University of Michigan, Ann Arbor.

1985b *Of Plants and People*. University of Oklahoma Press, Norma.

1979 *The Gourd Book*. University of Oklahoma Press. Norman.

https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_juni.pdf, USDA Plant Fact Sheet Black Walnut *Juglans nigra* L., accessed 10/13/2021

https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_nysy.pdf, USDA Plant Fact Sheet Blackgum *Nyssa sylvatica* Marsh, accessed 10/13/2021

Hillson, Simon
1996 *Mammal Bones and Teeth: An Introductory Guide to Methods of Identification*, Institute of Archaeology, University College London, London.

Hofman, Jack L.
1985 Exploring Tennessee Prehistory: A Dedication to Alfred K. Guthe. Edited by Whyte, Thomas R., C. Clifford Boyd Jr., and Brett H. Riggs. The University of Tennessee, Department of Anthropology. Report of Investigations No. 42.

Hollenbach, Kandace D.
2009 *Foraging in the Tennessee River Valley, 12,500 to 8,000 Years Ago*. The University of Alabama Press, Tuscaloosa.

Hudson, Charles
1976 *Southeastern Indians*. University of Tennessee Press, Knoxville.

Ison, Cecil R.

1988 The Cold Oak Shelter: Providing a Better Understanding of the Terminal Archaic. In *Paleoindian and Archaic Research in Kentucky*, edited by Charles D. Hockensmith, David Pollack, and Thomas N. Sanders, pp. 205-219. Kentucky Heritage Council, Frankfort, KY.

Jackson, George E.
2018 Tennessee Encyclopedia: *Dickson County*. Electronic document, https://tennesseeencyclopedia.net/entries/dickson-county/, accessed April 2022.

Jamaldin, Sophia A., Andrew P. Bradbury, Dustin L. Lawson, Jason Ross, Desiree Marcel, Meagan E. Dennison, Samantha Upton, Tracy Jenkins and Victoria Swenson
2022 Phase I Archaeological Survey for the Proposed Ridgeline Expansion Project in Trousdale, Smith, Jackson, Putman, Overton, Fentress, Morgan and Roane Counties, Tennessee. Cultural Resource Analysts. Knoxville, TN.

Jefferies, Richard W.
1996 Hunters and Gatherers After the Ice Age. In *Kentucky Archaeology*, edited by R. Barry Lewis, pp. 39-77. The University Press of Kentucky, Lexington.

1990 Archaic Period. In *The Archaeology of Kentucky: Past Accomplishments and Future Directions. Volume I,* edited by David Pollock, pp. 143-246. Kentucky Heritage Council, Frankfort, KY.

Jenkins, Ned J., David H. Dye, and John A. Walthall
1986 Early Ceramic Development in the Gulf Coast Plain. In Early Woodland Archaeology. Edited by K. Farnsworth and T.E. Emerson, pp. 546-563. Kampsville Seminars in Archaeology No. 2, Center for American Archaeology, Kampsville, Illinois.

Johannessen, Sissel
1984 Paleoethnobotany. In *American Bottom Archaeology*, edited by C. J. Bareis and J. W. Porter, pp. 197-214. University of Illinois Press, Urbana, IL.

Johnson, Jay K.
1989 The Utility of Production Trajectory Modeling as a Framework for Regional Analysis. In *Alternative Approaches to Lithic Analysis*, edited by D.O. Henry and G.H. Odell, pp. 119-138. Archaeological Papers of the American Anthropological Association No. 1, American Anthropological Association, Washington, D.C.

Jones, Glynis, Kenneth Wardle, Paul Halstead, and Diane Wardle
1986 Crop storage at Assiros. *Scientific American* 254(3): 96-103.

Jones, O. and C. Sullivan
1989 *Glass Glossary for the Description of Containers, Tableware, Flat Glass, and Closures.* Studies in Archaeology, Architecture, and History, National Historic Parks and Sites Branch, Parks Canada, Ottawa.

Jones, James Scott
2018 *Late Pleistocene Adaptations in the MidSouth: The PaleoIndian Occupation of the Carson-Conn-Short Site and the Lower Tennessee River Valley*. Theses and Dissertations – Anthroplogy. University of Kentucky.

Justice, Noel
1995 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press. Bloomington, Indiana.

Keegan, William F. (editor)
1987 *Emergent Horticultural Economies of the Eastern Woodlands*. Southern Illinois University at Carbondale. Center for Archaeological Investigations, Occasional Paper No. 7. Carbondale, IL.

Keepax, Carole
1977 Contamination of Archaeological Deposits by Seeds of Modern Origin with Particular Reference to Use of Flotation Machines. *Journal of Archaeological Science* 4:221-229.

Kelly, Robert L.
1995 *The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways*. Smithsonian Institution Press, Washington, DC.

Kerr, Jonathan P.
2010 Prehistory of the Upper Cumberland River Drainage in the Kentucky, Virginia, and Tennessee Border Region. CRAI. Electronic document, http://crai-ky.com/wp-content/uploads/2013/08/Prehistory-of-the-Upper-Cumberland.pdf, accessed April 2022.

Killebrew, J.B.
1881 Iron and Coal of Tennessee. Tavel and Howell, Printers to the State, Nashville.

Kistler, Logan and Beth Shapiro
2011 Ancient DNA confirms a local origin of domesticated chenopod in eastern North America. *Journal of Archaeological Science* 38(12): 3549-3554.

Kricher, J.C.
1988 *A Field Guide to Eastern Forests North America*. Houghton Mifflin Company, Boston.

Kuehn, Steve R.
2006 Zooarchaeological Analysis of Eight Sites along the S.T.H. 23 Corridor, Fond du Lac and Sheboygan Counties, Wisconsin. In *Archaeological Investigations along S.T.H. 23 and Alternate Corridors from C.T.H. K in Fond du Lac County to C.T.H. P in Sheboygan County Wisconsin.* By Adam Marshall et al., pp. 761-771. Research Report in Archaeology Number 188. Museum Archaeology Program, Wisconsin Historical Society, Madison.

Lansaw, Lacey, Matthew Davidson, and Renée Bonzani
2015 Botanical Analysis of Hardin Site: A Series of Fort Ancient Villages along the Ohio River in Greenup County, KY. Proceedings of The National Conference On Undergraduate Research (NCUR) 2015. Eastern Washington University, Cheney, WA April 16-18, 2015.

Ledbetter Jerald
1992 Archaeological Investigations at the Pumpkin Pile Site, Polk County, Georgia. Prepared for the Soil Conservation Service, Southeastern Archaeological Services, Inc. Athens, GA.

Lennstrom, Heidi A. and Christine A. Hastorf
1992 Testing old wives' tales in plaeoethnobotany: a comparison of bulk and scatter sampling schemes from Pancan, Peru. *Journal of Archaeological Science* 19: 205-229.

1995 Interpretation in context: sampling and analysis in paleoethnobotany. *American Antiquity* 60(4): 701-722.

Lewis, R. Barry
1996 Mississippian Farmers. In *Kentucky Archaeology*, edited by R. Barry Lewis, pp. 127-160. The University Press of Kentucky, Lexington, Kentucky.

Lindsey, Bill
2020a Bottle Body Characteristics & Mold Seams, *BLM/SHA Historic Glass Bottle Identification & Information Website.* Bill Lindsey 26 December 2020, https://sha.org/bottle/body.htm#Machine-made%20body%20features. Accessed April 2022.

2020b Bottle Bases, *BLM/SHA Historic Glass Bottle Identification & Information Website.* Bill Lindsey 26 December 2020, https://sha.org/bottle/bases.htm#Stippling . Accessed April 2022.

2020c 2022c "Bottle/Glass Colors", *BLM/SHA Historic Glass Bottle Identification & Information Website.* Bill Lindsey 27 Jan. 2020, https://sha.org/bottle/colors.htm. Accessed April 2022

Lockhart, Bill
2006 The Color Purple: Dating Solarized Amethyst Container Glass. Historical Archaeology, 40(2):45-56.

Lofstrom, T., J. P. Tordoff, and D. C. George.
1982. A Seriation of Historic Earthenwares in the Midwest, 1780–1870. Minnesota Archaeologist 41(1):3–29.

Lopinot, Neal H.
1997 Cahokian Food Production Reconsidered. In *Cahokia: Domination and Ideology in the Mississippian World*, edited by Timothy R. Pauketat and Thomas E. Emerson, pp. 52-68. University of Nebraska Press, Lincoln.

1994 A New Crop of Data on the Cahokian Polity. In *Agricultural Origins and Development in the Midcontinent,* edited by William Green, pp. 127-153. Report 19. Office of the State Archaeologist, The University of Iowa, Iowa City.

Lopinot, Neal and David E. Brussell
1982 Assessing Uncarbonized Seeds from Open-Air Sites in Mesic Environments: An Example from Southern Illinois. *Journal of Archaeological Science 9:95-108.*

Lopinot, Neal H., Lucretia S. Kelly, George R. Milner, and Richard Paine
1991 *The Archaeology of the Cahokia Mounds ICT-II: Biological Remains*. Illinois Cultural Resources Study No. 13. Illinois Historic Preservation Agency, Springfield.

Lovelady, Charles and Nina Finley
2018 Houston County. Tennessee Encyclopedia. URL http://tennesseeencyclopedia.net/entries/houston-county/. Accessed April 2022.

Magne, MPR
1983 *Lithics and Livelihood: Stone Tool Technologies of Central and Southern Interior B.C.* The

Magne, M. and D. Pokotylo
1981 A Pilot Study in Bifacial Lithic Reduction Sequences. In *Lithic Technology*, Volume 10.

Magurran, Anne E.

1988 *Ecological Diversity and Its Measurement.* Princeton University Press, Princeton, New Jersey.

Mainfort, Robert C., Jr.
1986 *Pinson Mounds: A Middle Woodland Ceremonial Center*. Tennessee Department of Conservation, Division of Archaeology Research Series No.7.

1994 Archaeological Investigation in the Obion River Drainage: The west Tennessee Tributaries Project. Tennessee Department of Environment and Conservation, Division of Archaeology, Research Series No. 10. Nashville, TN.

Mainfort, Robert C., Jamie C. Brandon, Emanuel Breitburg, Shawn Chapman, Mary L. Kwas, William L. Lawrence, June E. Mirecki, and Andrea Shea
1994 *Archaeological Investigations in the Obion River Drainage: The West Tennessee Tributaries Project*. Tennessee Department of Environment and Conservation, Division of Archaeology, Research Series No. 10. Nashville.

Marcher, Melvin V.
1962 Geology of the Dover Area, Stewart County, Tennessee. Report of Investigations No.16. Tennessee Division of Geology, Nashville.

Majewski, T. and M. J. O'Brien
1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory*, M. B. Schiffer, editor, Academic Press, Inc., New York, pp.97-207.

Martin, Alexander C. and William D. Barkley
2000 *Seed Identification Manual*. The Blackburn Press.

Mauldin, Raymond P. and Daniel S. Amick
1989 *Investigating Patterning in Debitage from Experimental Core Reduction.* Experiments in Lithic Technology, pp. 67-88. ResearchGate, https://www.researchgate.net/publication/284603047.

McClung Museum of Natural History and Culture (McClung Museum)
2009 Precontact American Indians in Tennessee. Electronic document, https://mcclungmuseum.utk.edu/2009/01/01/precontact-american-indians/, accessed April 2022.

McKearin, H. and G. McKearin
1950 Two Hundred Years of American Blown Glass. Crown Publishers, New York, NY.

Miller, G. L.
1980 Classification and Economic Scaling of Nineteenth-Century Ceramics. Historic Archaeology 14:1-40.

1991 A Revised Set of CC Index Values for Classification and Economic Scaling of English Ceramics from 1787 to 1880. *Historical Archaeology*, 25(1): 1-25.
Miller, George. L., Patricia Samford, Ellen Shlasko and Andrew Madsen
2000 Telling Time for Archaeologist. *Northeast Historic Archaeology* 29:1-22.

Miller, G. and C. Sullivan

1984 Machine-Made Glass Containers and the End of Production for Mouth-Blown Bottles. *Historical Archaeology* 18(2)

Minnis, Paul E.
1981 Seeds in Archaeological Sites: Sources and Some Interpretive Problems. *American Antiquity 46:143-152*.

Moerman, Daniel E.
2000 *Native American Ethnobotany.* Third edition.Timber Press, Inc., Portland, Oregon.

Montgomery, F. H.
1977 *Seeds and Fruits of Plants of Eastern Canada and Northeastern United States.* University of Toronto Press, Toronto.

Mueller, Natalie G.
2018 The earliest occurrence of a newly described domesticate in Eastern North America: Adena/Hopewell communities and agricultural innovation. *Journal of Anthropological Archaeology* 49: 39-50.

Muenscher, Walter Conrad
1980 *Weeds*. Second edition. Cornell University Press, Ithaca.

Munsell Soil Color Charts
1994 *Munsell Soil-Color Charts with genuine Munsell color chips.* Munsell Color, Grand Rapids.

Nelson, L. H.
1968 Nail Chronology as an Aid to Dating Old Buildings. *History News* 19(2): 25-27.

Noël Hume, Ivor
1969 *Historical Archaeology* Alfred A. Knopf, New York.

Odell, George H.
1989 Experiments in Lithic Reduction. In *Experiments in Lithic Technology*, edited by D. Amick and R. Mauldin, pp. 163-198. BAR International Series 528, Oxford, England.

2003 *Lithic Analysis.* Springer Science+Business Media, Inc. New York.

Oshodi, A. A., H. N. Ogungbenle and M. O. Oladimeji
1999 Chemical composition, nutritionally valuable minerals and functional properties of benniseed (Sesamum radiatum), pearl millet (Pennisetum typhoides) and quinoa (Chenopodium quinoa) flours*. International Journal of Food Sciences and Nutrition* 50: 325-331.

Oyuela-Caycedo, Augusto
1998 Seasonality in the tropical lowlands of northwest South America: the case of San Jacinto 1, Colombia. In *Seasonality and Sedentism: Archaeological Perspectives from Old and New World Sites*, edited by Tom R. Rocek and Ofer Bar-Yosef, pp. 165-180. Peabody Museum Bulletin 6, Peabody Museum of Archaeology and Ethnology. Harvard University, Cambridge, MA.

Pacheco, P. J.

1996 Ohio Hopewell Regional Settlement Patterns. In *A View From the Core: A Synthesis of Ohio Hopewell Archaeology*, edited by P. J. Pacheco, pp. 18-35. Ohio Archaeological Council, Columbus.

Panshin, A. J. and Carl de Zeeuw
1980 *Textbook of Wood Technology: Structure, Identification, Properties and Uses of the Commercial Woods of the United States and Canada*. Fourth edition. McGraw-Hill Publishing Co., New York.

Parish, Ryan
2009 The Application of Geographic Information Systems in Precontact Quarry Research; A Case Study of the Dover Chert Quarries, Stewart County Tennessee. 26th Annual Kentucky Heritage Council Meeting: Murray, KY, March 2009.

Parry, W.J. and R.L. Kelley
1987 Expedient Core Technology and Sedentism. In *The Organization of Core Technology*, edited by J.K. Johnson and C.A. Morrow, pp. 285-304. Westview Press, Boulder, Colorado.

Pearsall, Deborah M.
2000 *Paleoethnobotany: A Handbook of Procedures*. Second edition. Academic Press, New York.

1992 The Origins of Plant Cultivation in South America. In *The Origins of Agriculture: An International Perspective*, edited by C. Wesley Cowan and Patty Jo Watson, pp. 173-206. Smithsonian Institution Press, Washington DC.

1983 Evaluating the stability of subsistence strategies by use of paleoethnobotanical data. *Journal of Ethnobiology* 3(2): 121-137.

Peres, Tanya and Aaron Deter-Wolf (editors)
2019 *The Cumberland River Archaic of Middle Tennessee*. University of Florida Press, Gainesville FL.

Peres, Tanya, Aaron Deter-Wolf, Kelly Ledford, Joey Keasler, Ryan Robinson, and Andrew Wyatt
2019 Archaeological Investigations at 40DV7. In *The Cumberland River Archaic of Middle Tennessee*, edited by T. Peres and A. Deter-Wolf, pp.56-74. University of Florida Press, Tallahassee, FL.

Phillips, Philip
1970 *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955*. Papers of eh Peabody Museum of Archaeology and Ethnology, Vol. 60. Cambridge

Phillips, Philip, James A. Ford, and James B. Griffin
1951 *Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947*. Papers of the Peabody Museum of Archaeology and Ethnology 25. Cambridge.

Pollack, David
2008 Mississippi Period. *In The Archaeology of Kentucky: An Update*, edited by David Pollack, pp. 605-738. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.

Rafferty, Janet
2002 Woodland Period Settlement Patterning in the Northern Gulf Coastal Plain of Alabama, Mississippi, and Tennessee. *The Woodland Southeast*. Edited by David G. Anderson and Robert C. Mainfort, Jr. University of Alabama Press. Tuscaloosa and London.

Reaux, Derek, Duane Simpson, Kim Simpson, Michael Loughlin, and Tyler Donaldson
2022 Phase II Archaeological Investigation of Site 40HO83, for the Cumberland Project, Houston and Stewart Counties, Tennessee. Submitted to the Tennessee Gas Pipeline Company. Stantec, Louisville, KY.

Reimer, P.J., W.E.N. Austin, E. Bard, et al. (39 more authors)
2020 The IntCal20 Northern Hemisphere Raidocarbon Age Calibration Curve (0-55 cal kBP). *Radiocarbon* 62(4):725-757.

Rolater, Fred S.
2017a *Chickamaugas*. The Tennessee Historical Commission. Electronic document, https://tennesseeencyclopedia.net/entries/chickamaugas/, accessed April 2022.

2017b *Treaties*. The Tennessee Historical Commission. Electronic document, https://tennesseeencyclopedia.net/entries/treaties/, accessed April 2022.

Rossen, Jack
2000 Archaic Plant Utilization at the Hedden Site, McCracken County, Kentucky. In *Current Archaeological Research in Kentucky, Volume Six,* edited by David Pollack and Kristen J. Gremillion, pp. 1-24. Kentucky Heritage Council, Frankfort, Kentucky.

Samford, Patricia and George L. Miller
2002a Post-Colonial Ceramics: North American Stoneware, Diagnostic Artifacts in Maryland. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/PostColonial%20Ceramics/NorthAmericanStoneware/index-NorthAmericanStoneware.html. Accessed April 2022.

2002b "Post-Colonial Ceramics: Yellow Ware." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/PostColonial%20Ceramics/Less%20Commonly%20Found/YellowWare/index-YellowWare.html. Accessed May 2022

2002c "Porcelain Ceramics: Soft Paste Porcelain." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/Porcelain/PorcelainWareDescriptions/SoftPastePorcelain-intro.html. Accessed May 2022

2002d "Porcelain Ceramics: Porcelain Ceramics." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/Porcelain/Index-Porcelain.html. Accessed May 2022

2002e "Porcelain Ceramics: Bone China." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/Porcelain/PorcelainWareDescriptions/BoneChina-intro.html. Accessed May 2022

2002f "Post-Colonial Ceramics: Japanese Porcelain." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory.

https://apps.jefpat.maryland.gov/diagnostic/Porcelain/PorcelainWareDescriptions/JapanesePorcelain-intro.html. Accessed May 2022

2002g "Porcelain Ceramics: Chinese Porcelain." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/Porcelain/PorcelainWareDescriptions/ChinesePorcelain-intro.html. Accessed May 2022

2002h "Porcelain Ceramics: European Hard Paste Porcelain." Diagnostic Artifacts in Maryland. 2002. Maryland Archaeological Conservation Laboratory. https://apps.jefpat.maryland.gov/diagnostic/Porcelain/PorcelainWareDescriptions/EuropeanHardPastePorcelain-intro.html . Accessed May 2022

Sassaman, Kenneth E.
2010 *The Eastern Archaic, Historicized*. Altamira Press, United Kingdom.

Satz, Ronald N.
1979 *Tennessee's Indian Peoples: From White Contact to Removal, 1540-1840*. The Tennessee Historical Commission. The University of Tennessee Press, Knoxville.

Scarry, C. Margaret
2003 Patterns of Wild Plant Utilization in the Precontact Eastern Woodlands. In *People and Plants in Ancient Eastern North America*, edited by Paul E. Minnis, pp. 50-104. Smithsonian Books, Washington.

Schroedel, Gerald F. and C. Clifford Boyd, Jr.
1991 Late Woodland Period Culture in East Tennessee. In Stability, Transformation, and Variation: The Late Woodland Southeast, edited by M.S. Nassaney and C.R. Cobb, pp. 69-90. Plenum Press, New York.

Shaffer, Lynda Norene
1992 Native Americans Before 1492: The Moundbuilding Centers of the Eastern Woodlands. M.E. Sharpe, New York.

Simpson, Duane, Tyler Donaldson, and Kim Simpson
2024 Phase I Archaeological Survey of I-40 truck Parking and Bridge Replacement over the Caney Fork River Improvement Project, Smith and Putnam Counties, Tennessee. Prepared for Federal Highways Administration and Tennessee Department of Transportation, Nashville, Tennessee. Stantec, Louisville, KY.

Simon, Mary L.
2009 A Regional and Chronological Synthesis of Archaic Period Plant Use in the Midcontinent. In *Archaic Societies: Diversity and Complexity across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier, pp. 81-114. SUNY Press, Albany, New York.

2000 Regional Variations in Plant Use Strategies in the Midwest during the Late Woodland. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier, pp. 37-75. University of Nebraska Press, Lincoln.

Smallwood, Ashley M., Tomas Jennings, David Anderson, and Jerald Ledbetter
2015 Testing For Evidence of Paleo-Indian Responses to Environmental Changes During the Younger Dryas Chronozone in Georgia. *Southeastern Archaeology*: 34(1):23-45.

Smith, Bruce D.
2001 Low-Level Food Production. *Journal of Archaeological Research* 9(1):1-43.

1992 *Rivers of Change: Essays on Early Agriculture in Eastern North America*. Smithsonian Institution Press, Washington.

1987 Independent Domestication of Indigenous Seed-Bearing Plants in Eastern North America. In *Emergent Horticultural Economies of the Eastern Woodlands*, edited by W. F. Keegan, pp. 3-47. Occasional Paper No. 7. Center for Archaeological Investigations, Southern Illinois University, Carbondale.

1984 Chenopodium as a precontact domesticate in Eastern North America: evidence from Russell Cave, Alabama. *Science* 226: 165-168.

Smith, Samuel D., Charles P. Stripling, and James M. Brannon
1988 *A Cultural Resource Survey of Tennessee's Western Highland Rim Iron Industry, 1790s-1930s*. Tennessee Department of Conservation, Division of Archaeology, Research Series No. 8, Nashville.

South, Stanley.
1977 *Method and Theory in Historical Archaeology*. Academic Press, Inc., New York.

Spillman, Jane S.
1983 *The Knopf Collectors' Guides to American Antiques: Volume 2 Glass Bottles, Lamps & Other Objects*. Alfred A. Knopf, New York.

Stein, Julie K.
1983 Earthworm Activity: A source of Potential Disturbance of Archaeological Sediments, *American Antiquity* 48:277-289.

Stelle, Lenville
2001 An Archaeological Guide to Historic Artifacts of the Upper Sangamon Basin. Center for Social Research, Parkland College, Champaign. Electronic document, http://virtual.parkland.edu/lstelle1/len/archguide/documents/arcguide.htm.

Steyermark, Julian A.
1963 *Flora of Missouri*. The Iowa State University Press, Ames, Iowa.

Struever, Stuart and Kent D. Vickery
1973 The Beginnings of Cultivation in the Midwest-Riverine Area of the United States. *American Anthropologist* 75(5):1147-1220.

Stuiver, Minze, and Paula J. Reimer
1993 Extended C-14 Database and Revised Calib Radiocarbon Calibration Program. *Radiocarbon* 35(215-230).

Sullivan, Lynne and Shannon Koerner
2010 New Perspectives on Late Woodland Architecture and Settlement in Eastern Tennessee: Evidence form the DeArmond Site (40RE12). *Tennessee Archaeology*: 5(1):31-50.

Tennessee State Historic Preservation Office (TN SHPO)

2018 Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies. Electronic document, https://www.tn.gov/content/dam/tn/environment/archaeology/documents/arch_shpo_sg.pdf, accessed April 2022.

Thompson, G. B.
1994 Wood charcoals from tropical sites: a contribution to methodology and interpretation. In *Tropical Archaeobotany: Applications and New Developments,* edited by Jon G. Hather, pp. 9-33. Routledge, New York.

United States Department of Agriculture
n.d. *Census of Agriculture Historical Archive*, 1910-2002. Census Publications. http://agcensus.mannlib.cornell.edu/AgCensus/homepage.do. Accessed online in September 2021.

1948 *Woody-Plant Seed Manual.* Miscellaneous Publication No. 654. The Blackburn Press, Caldwell, New Jersey.

Venable, C.L., E.P. Denker, K.C. Grier, and S.G. Harrison
2000 *China and Glass in America 1880-1980: From Tabletop to TV Tray*. Dallas Museum of Art, Dallas.

Wagner, G.
1996 Botanizing along Green River. In *Of Caves and Shell Mounds*, edited by Kenneth C. Carstens and Patty Jo Watson, pp. 89-93. The University of Alabama Press, Tuscaloosa.

1982 Testing Flotation Recovery Rates. *American Antiquity* 47:127-132.

Watson, Patty Jo
1974 *Archaeology of the Mammoth Cave Area*. Academic Press, New York.

1969 *The Prehistory of Salts Cave, Kentucky*. Illinois State Museum Reports of Investigations 16.

Wellborn, Heather, Stephen Yerka, and Clay Barry
2013 Early Woodland: 1000 B.C.-200 B.C. (3000 B.P.-2200 B.P.). *In Tennessee Archaeology: A Synthesis*. Edited by D.G. Anderson and L.P. Sullivan. Electronic document, http://anthropology.utk.edu/wp-content/uploads/2016/03/07_Early_Woodland.pdf, accessed April 2022.

Whittaker, John C.
1994 *Flintknapping: Making and Understanding Stone Tools*. University of Texas Press, Austin.

Wiant, Michael D., Kenneth B. Farnsworth, and Edwin R. Hajic
2009 The Archaic Period in the Lower Illinois River Basin. In *Archaic Societies: Diversity and Complexity across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier, pp. 229-285. SUNY Press, Albany, New York.

Winters, Donald L.
2018 Agriculture. *Tennessee Encyclopedia* http://tennesseeencyclopedia.net/entries/agriculture/. Accesses April 2022.

Wymer, Dee Anne

1992 Trends and Disparities: The Woodland Paleoethnobotanical Record of the Mid-Ohio Valley. In *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*, edited by Mark F. Seeman, pp. 65-76. MCJA Special Paper No. 7. The Kent State University Press, Kent, Ohio.

1990 Archaeobotany. In *Childers and Woods: Two Late Woodland Sites in the Upper Ohio Valley, Mason County, West Virginia, Volume II*, by Michael J. Shott, pp. 487-616. Program for Cultural Resource Assessment, University of Kentucky, Lexington.

Yarnell, Richard A.
1986 A Survey of Precontact Crop Plants in Eastern North America. *The Missouri Archaeologist* 47: 47-59.

1964 Aboriginal Relationships between Culture and Plant Life in the Upper Great Lakes Region. *Museum of Anthropology, University of Michigan* 23.

Yerka, Stephen, Heather E. Wellborn, Clay Barry, and Kandace Hollenbach
n.d. SECTION III HORTICULTURALISTS (WOODLAND). Chapter 8 Middle Woodland: 200 B.C - 400 A.D (2200BP – 1600BP). In *Tennessee Archaeology: A Synthesis*. Edited by David G. Anderson and Lynn P. Sullivan. https://anthropology.utk.edu/wp-content/uploads/2016/03/08_Middle_Woodland.pdf. accessed December 2022.

2013a Middle Woodland: 200 B.C - 400 A.D (2200BP – 1600BP). *In Tennessee Archaeology: A Synthesis*. Edited by D.G. Anderson and L.P. Sullivan. Electronic document, http://anthropology.utk.edu/wp-content/uploads/2016/03/08_Middle_Woodland.pdf, accessed April 2022.

2013b Late Woodland/Mississippian Transition: 400 A.D. - 900 A.D. (1600 B.P.-1100 B.P.). In Tennessee Archaeology: A Synthesis, edited by D.G. Anderson and L.P. Sullivan. Electronic document, http://anthropology.utk.edu/wp-content/uploads/2016/03/09_Late_Woodland.pdf, accessed April 2022.

Young, James A. and Cheryl G. Young
1992 *Seeds of Woody Plants in North America.* Dioscorides Press, Portland, Oregon.

Zvelebil, Marek and Peter Rowley-Conwy
1986 Foragers and farmers in Atlantic Europe. In *Hunters in Transition. Mesolithic Societies of Temperate Eurasia and Their Transition to Farming*, edited by M. Zvelebil, pp. 67-93. Cambridge University Press, Cambridge.

Zeanah, David W.
2017 Foraging Models, Niche Construction, and the Eastern Agricultural Complex. *American Antiquity* 82(1): 3-24.

Appendix A TDOA Archaeology Permit

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF ARCHAEOLOGY
Cole Building #3, 1216 Foster Avenue
NASHVILLE, TN 37243
(615) 741-1588

ARCHAEOLOGICAL PERMIT

NO. 001664
AFTER-THE-FACT

IN ACCORDANCE WITH THE PROVISIONS OF TENNESSEE CODE ANNOTATED SECTION 11-6-101 ET SEQ. PERMISSION IS HEREBY GRANTED TO:

DUANE SIMPSON

REPRESENTING:

STANTEC

FOR ARCHAEOLOGICAL INVESTIGATION ON THE FOLLOWING DESIGNATED STATE-OWNED OR CONTROLLED LANDS:

PHASE II ARCHAEOLOGICAL TESTING OF 40PM184 AND 40SM274,
PUTNAM AND SMITH COUNTIES

IN ACCORDANCE WITH THE APPLICATION FILED JUNE 16, 2025 IN THE OFFICE OF THE DIVISION OF ARCHAEOLOGY AND IN CONFORMITY WITH THE DATA SUBMITTED THEREIN WHICH IS CONSIDERED AS A PART OF THIS PERMIT.

ISSUED THIS 3RD DAY OF JANUARY 2025

TO EXPIRE THE 1ST DAY OF JULY 2025

ADDITIONAL TERMS TO PERMIT APPLICATION: ARTIFACTUAL REMAINS AND PROJECT RECORDS ARE THE PROPERTY OF THE STATE OF TENNESSEE. THIS PERMIT IS SUBJECT TO PERIODIC REVIEW AND/OR CANCELLATION BY THE DIVISION OF ARCHAEOLOGY SHOULD CONDITIONS WARRANT SAME.

Phillip R. Hodge
DIRECTOR/STATE ARCHAEOLOGIST

APPLICANT

CN-0939

Appendix B Artifact Catalog

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
1.1	TU 01	1	Ap1	0-30	Preform I	St. Louis	None	-	-	-	1
1.2	TU 01	1	Ap1	0-30	Flake Scraper	St. Louis	None	-	-	-	1
1.3	TU 01	1	Ap1	0-30	Graver	Ft. Payne	None	-	-	-	1
1.4	TU 01	1	Ap1	0-30	Utilized flake	St. Louis	Heat Treated	-	-	-	1
1.5	TU 01	1	Ap1	0-30	Utilized flake	Ft. Payne	None	-	-	-	1
1.6	TU 01	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
1.7	TU 01	1	Ap1	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	1
1.8	TU 01	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
1.9	TU 01	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
1.10	TU 01	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Present	0.50"	1
1.11	TU 01	1	Ap1	0-30	Broken Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
1.12	TU 01	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
1.13	TU 01	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
1.14	TU 01	1	Ap1	0-30	Flake Frament	St. Louis	Heat Damaged	-	Absent	0.50"	1
1.15	TU 01	1	Ap1	0-30	Flake Frament	St. Louis	Heat Damaged	-	Present	0.25"	1
1.16	TU 01	1	Ap1	0-30	Flake Frament	St. Louis	Heat Treated	-	Present	0.50"	1
1.17	TU 01	1	Ap1	0-30	Flake Frament	Ft. Payne	None	-	Absent	0.25"	3
1.18	TU 01	1	Ap1	0-30	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	2
										0.50"	1
1.19	TU 01	1	Ap1	0-30	Flake Frament	Ft. Payne	None	-	Present	0.50"	2
1.20	TU 01	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
2	TU 01	2	Bw	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
3	TU 01	4	C	50/60	Flake	Ft. Payne	None	0-1	Present	0.25"	1
4.01	TU 02	1	Ap1	0-30	Graver	Ft. Payne	Heat Damaged	-	-	-	1

40Pm274											
Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
4.02	TU 02	1	Ap1	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	2
4.03	TU 02	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
4.04	TU 02	1	Ap1	0-30	Flake Scraper	Ft. Payne	None	-	-	-	2
4.05	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	Chalcedony	Heat Damaged	-	-	-	1
4.06	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
4.07	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
4.08	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
4.09	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
4.10	TU 02	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
4.11	TU 02	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
4.12	TU 02	1	Ap1	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
4.13	TU 02	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
4.14	TU 02	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
4.15	TU 02	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
4.16	TU 02	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	1
4.17	TU 02	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Present	0.25"	1
4.18	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	None	Ground	Absent	0.25"	1
										0.50"	1
4.19	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
4.20	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
4.21	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
4.22	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
4.23	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
										0.50"	1
4.24	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	None	0-1	Present	0.25"	2
4.25	TU 02	1	Ap1	0-30	Broken Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
4.26	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	3
4.27	TU 02	1	Ap1	0-30	Broken Flake	St. Louis	Heat Treated	3+	Absent	0.50"	1
4.28	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
4.29	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	None	3+	Absent	0.25"	1
4.30	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Damaged	3+	Present	0.25"	1
4.31	TU 02	1	Ap1	0-30	Broken Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
4.32	TU 02	1	Ap1	0-30	Broken Flake	St. Louis	Heat Damaged	Ground	Absent	0.25"	1
4.33	TU 02	1	Ap1	0-30	Flake Frament	St. Louis	Heat Damaged	-	Absent	0.25"	4
4.34	TU 02	1	Ap1	0-30	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	2
4.35	TU 02	1	Ap1	0-30	Flake Frament	St. Louis	Heat Treated	-	Absent	0.25"	2
4.36	TU 02	1	Ap1	0-30	Flake Frament	Ft. Payne	Heat Treated	-	Absent	0.25"	1
										0.50"	2
4.37	TU 02	1	Ap1	0-30	Flake Frament	Ft. Payne	Heat Damaged	-	Present	0.25"	3
4.38	TU 02	1	Ap1	0-30	Flake Frament	Ft. Payne	Heat Treated	-	Present	0.25"	3
										0.50"	1
4.39	TU 02	1	Ap1	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
4.40	TU 02	1	Ap1	0-30	Shatter	Ft. Payne	None	-	-	-	2
4.41	TU 02	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	50
5	TU 02	2	Ap2	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
6	TU 02	3	Bw	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
10.01	TU 03	4	Bw	35-45	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	1
									Present	0.25"	1
10.02	TU 03	4	Bw	35-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1
10.03	TU 03	4	Bw	35-45	Broken Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
11.01	TU 03	5	Bw	45-55	Flake Scraper	Ft. Payne	None	-	-	-	1
11.02	TU 03	5	Bw	45-55	Flake	Ft. Payne	None	0-1	Present	1.0"	1
11.03	TU 03	5	Bw	45-55	Broken Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
11.04	TU 03	5	Bw	45-55	Flake Frament	Ft. Payne	Heat Damaged	-	Present	0.25"	1
11.05	TU 03	5	Bw	45-55	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
11.06	TU 03	5	Bw	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
12	TU 03	6	C	55-65	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
7.01	TU 03	1	Ap1	0-20	Broken Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
7.02	TU 03	1	Ap1	0-20	Broken Flake	St. Louis	None	0-1	Absent	0.25"	1
7.03	TU 03	1	Ap1	0-20	Broken Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
7.04	TU 03	1	Ap1	0-20	Flake Frament	Ft. Payne	None	-	Absent	0.50"	1
7.05	TU 03	1	Ap1	0-20	Flake Frament	St. Louis	Heat Damaged	-	Absent	0.25"	1
7.06	TU 03	1	Ap1	0-20	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	3
7.07	TU 03	1	Ap1	0-20	Flake Frament	St. Louis	None	-	Absent	0.25"	3
7.08	TU 03	1	Ap1	0-20	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
7.09	TU 03	1	Ap1	0-20	Shatter	Ft. Payne	None	-	-	-	1
7.10	TU 03	1	Ap1	0-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
8.01	TU 03	2	Ap2	20-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
8.02	TU 03	2	Ap2	20-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
8.03	TU 03	2	Ap2	20-30	Broken Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
8.04	TU 03	2	Ap2	20-30	Broken Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
8.05	TU 03	2	Ap2	20-30	Broken Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
8.06	TU 03	2	Ap2	20-30	Broken Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
8.07	TU 03	2	Ap2	20-30	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	1
8.08	TU 03	2	Ap2	20-30	Flake Frament	Ft. Payne	Heat Treated	-	Absent	0.25"	1
8.09	TU 03	2	Ap2	20-30	Flake Frament	Ft. Payne	Heat Damaged	-	Present	0.50"	1
8.10	TU 03	2	Ap2	20-30	Flake Frament	Ft. Payne	None	-	Present	0.50"	1
8.11	TU 03	2	Ap2	20-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
8.12	TU 03	2	Ap2	20-30	Shatter	Ft. Payne	None	-	-	-	1
8.13	TU 03	2	Ap2	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
9.01	TU 03	3	Ap2	30-35	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
9.02	TU 03	3	Ap2	30-35	Broken Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
9.03	TU 03	3	Ap2	30-35	Flake Frament	St. Louis	Heat Damaged	-	Absent	0.25"	1
9.04	TU 03	3	Ap2	30-35	Flake Frament	Ft. Payne	None	-	Absent	0.25"	1
13.01	TU 04	1	Ap/Fill	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
13.02	TU 04	1	Ap/Fill	0-30	Broken Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
13.03	TU 04	1	Ap/Fill	0-30	Broken Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
										0.50"	1
13.04	TU 04	1	Ap/Fill	0-30	Broken Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
13.05	TU 04	1	Ap/Fill	0-30	Broken Flake	Ft. Payne	None	2	Present	0.25"	1
13.06	TU 04	1	Ap/Fill	0-30	Flake Frament	St. Louis	Heat Damaged	-	Absent	0.25"	4

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
13.07	TU 04	1	Ap/Fill	0-30	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	1
13.08	TU 04	1	Ap/Fill	0-30	Flake Frament	St. Louis	Heat Treated	-	Absent	0.25"	1
13.09	TU 04	1	Ap/Fill	0-30	Flake Frament	Ft. Payne	Heat Treated	-	Absent	0.25"	1
13.10	TU 04	1	Ap/Fill	0-30	Flake Frament	Ft. Payne	None	-	Absent	0.25"	1
13.11	TU 04	1	Ap/Fill	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	1
13.12	TU 04	1	Ap/Fill	0-30	Shatter	St. Louis	None	-	-	-	1
13.13	TU 04	1	Ap/Fill	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
13.disc	TU 04	1	Ap/Fill	0-30	Machine-made	Colorless	-	-	-	-	6
14.01	TU 04	2	Ap/Fill	30-40	Graver	St. Louis	Heat Treated	-	-	-	1
14.02	TU 04	2	Ap/Fill	30-40	Perforator	St. Louis	Heat Damaged	-	-	-	1
14.03	TU 04	2	Ap/Fill	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
14.04	TU 04	2	Ap/Fill	30-40	Flake Frament	Ft. Payne	None	-	Absent	0.25"	1
14.05	TU 04	2	Ap/Fill	30-40	Flake Frament	Ft. Payne	None	-	Present	0.25"	1
14.06	TU 04	2	Ap/Fill	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
14.07	TU 04	2	Ap/Fill	30-40	Abrader	Sandstone	None	-	-	-	1
15.01	TU 04	3	Ap/Fill	40-50	Flake Scraper	Ft. Payne	None	-	-	-	2
15.02	TU 04	3	Ap/Fill	40-50	Graver	Ft. Payne	Heat Damaged	-	-	-	1
15.03	TU 04	3	Ap/Fill	40-50	Flake	Ft. Payne	None	3+	Absent	0.25"	1
15.04	TU 04	3	Ap/Fill	40-50	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
15.05	TU 04	3	Ap/Fill	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
15.06	TU 04	3	Ap/Fill	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
15.07	TU 04	3	Ap/Fill	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
15.08	TU 04	3	Ap/Fill	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
15.disc	TU 04	3	Ap/Fill	40-50	Stippled	Colorless	-	-	-	-	1
16.01	TU 04	4	Bw	50-60	Flake	Ft. Payne	None	0-1	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
16.02	TU 04	4	Bw	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
16.03	TU 04	4	Bw	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
17.01	TU 04	5	Bw	60-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
17.02	TU 04	5	Bw	60-70	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
17.03	TU 04	5	Bw	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
17.04	TU 04	5	Bw	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
17.05	TU 04	5	Bw	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
18.01	TU 05	1	Ap1	0-20	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
18.02	TU 05	1	Ap1	0-20	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
18.03	TU 05	1	Ap1	0-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
18.04	TU 05	1	Ap1	0-20	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
18.05	TU 05	1	Ap1	0-20	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
18.06	TU 05	1	Ap1	0-20	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
18.07	TU 05	1	Ap1	0-20	Flake	Ft. Payne	None	0-1	Present	0.25"	4
18.08	TU 05	1	Ap1	0-20	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
18.09	TU 05	1	Ap1	0-20	Flake	Ft. Payne	None	Absent	Present	0.50"	1
18.10	TU 05	1	Ap1	0-20	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
18.11	TU 05	1	Ap1	0-20	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
18.12	TU 05	1	Ap1	0-20	Flake	Ft. Payne	None	2	Absent	0.25"	1
18.13	TU 05	1	Ap1	0-20	Flake	Ft. Payne	None	2	Present	0.25"	1
18.14	TU 05	1	Ap1	0-20	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	3
18.15	TU 05	1	Ap1	0-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
18.16	TU 05	1	Ap1	0-20	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
18.17	TU 05	1	Ap1	0-20	Flake Frament	Ft. Payne	None	-	Absent	0.25"	3
18.18	TU 05	1	Ap1	0-20	Flake Frament	Ft. Payne	Heat Damaged	-	Present	0.25"	3
										0.50"	1
18.19	TU 05	1	Ap1	0-20	Flake Frament	St. Louis	Heat Treated	-	Present	0.25"	1
										0.50"	1
18.20	TU 05	1	Ap1	0-20	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
18.21	TU 05	1	Ap1	0-20	Shatter	Ft. Payne	None	-	-	-	1
18.22	TU 05	1	Ap1	0-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	30
19.01	TU 05	2	Ap2	20-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
19.02	TU 05	2	Ap2	20-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
19.03	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
19.04	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	7
19.05	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	1
19.06	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	0-1	Present	0.25"	3
										0.50"	1
19.07	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	5
19.08	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	3+	Absent	0.25"	1
19.09	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	3+	Present	0.50"	1
19.10	TU 05	2	Ap2	20-30	Flake	St. Louis	None	0-1	Present	0.25"	1
19.11	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	2	Absent	0.25"	1
19.12	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
										0.50"	2
19.13	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
19.14	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	5
19.15	TU 05	2	Ap2	20-30	Flake	St. Louis	None	Absent	Absent	0.50"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
19.16	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
19.17	TU 05	2	Ap2	20-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
19.18	TU 05	2	Ap2	20-30	Flake	Ft. Payne	None	Absent	Present	0.25"	2
19.19	TU 05	2	Ap2	20-30	Flake	St. Louis	None	Absent	Present	0.50"	1
19.20	TU 05	2	Ap2	20-30	Shatter	Bigby-Cannon	None	-	-	-	1
19.21	TU 05	2	Ap2	20-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
19.22	TU 05	2	Ap2	20-30	Shatter	Ft. Payne	None	-	-	-	1
19.23	TU 05	2	Ap2	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	23
20.01	TU 05	3	Bw	30-40	Combination Tool	Ft. Payne	None	-	-	-	1
20.02	TU 05	3	Bw	30-40	Flake	Ft. Payne	None	Ground	Absent	0.50"	1
20.03	TU 05	3	Bw	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
20.04	TU 05	3	Bw	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
20.05	TU 05	3	Bw	30-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
20.06	TU 05	3	Bw	30-40	Broken Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
20.07	TU 05	3	Bw	30-40	Broken Flake	Ft. Payne	None	0-1	Present	0.25"	1
20.08	TU 05	3	Bw	30-40	Flake Frament	Ft. Payne	Heat Treated	-	Absent	0.25"	2
20.09	TU 05	3	Bw	30-40	Flake Frament	Ft. Payne	None	-	Present	0.25"	1
20.10	TU 05	3	Bw	30-40	Shatter	St. Louis	Heat Damaged	-	-	-	1
20.11	TU 05	3	Bw	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	15
21.01	TU 05	4	Bw	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
21.02	TU 05	4	Bw	40-50	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
21.03	TU 05	4	Bw	40-50	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
21.04	TU 05	4	Bw	40-50	Flake	Ft. Payne	None	2	Absent	0.25"	1
21.05	TU 05	4	Bw	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
21.06	TU 05	4	Bw	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
21.07	TU 05	4	Bw	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
21.08	TU 05	4	Bw	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
21.09	TU 05	4	Bw	40-50	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
22.01	TU 05	5	Bw	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
22.02	TU 05	5	Bw	50-60	Flake	Ft. Payne	None	Absent	Present	0.25"	1
22.03	TU 05	5	Bw	50-60	Flake	Ft. Payne	None	3+	Absent	0.25"	1
22.04	TU 05	5	Bw	50-60	Shatter	Ft. Payne	None	-	-	-	1
22.05	TU 05	5	Bw	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
23.01	TU 05	6	C	60-70	Flake	Ft. Payne	None	0-1	Present	0.50"	1
										1.0"	1
23.02	TU 05	6	C	60-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
23.03	TU 05	6	C	60-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
23.04	TU 05	6	C	60-70	Flake Frament	Ft. Payne	None	-	Absent	0.25"	2
24	TU 05	7	C	70-80	Flake Frament	Ft. Payne	None	-	Present	0.25"	1
25.01	TU 05	8	C	80-90	Flake	Ft. Payne	None	0-1	Present	0.25"	1
25.02	TU 05	8	C	80-90	Flake Frament	Ft. Payne	None	-	Present	0.25"	1
26	TU 06	1	Ap1	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1
27.01	TU 06	4	Ap2	50-60	Machine-made	Complete	-	-	-	-	1
27.02	TU 06	4	Ap2	50-60	Utilized flake	Ft. Payne	Heat Treated				1
27.03	TU 06	4	Ap2	50-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
27.04	TU 06	4	Ap2	50-60	Shatter	St. Louis	None	-	-	-	1
28.01	TU 06	5	AB	60-70	Utilized flake	Ft. Payne	None	-	-	-	1
28.02	TU 06	5	AB	60-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
28.03	TU 06	5	AB	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
28.04	TU 06	5	AB	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
29.01	TU 06	6	AB	70-80	Finished Biface	St. Louis	Heat Treated	-	-	-	1
29.02	TU 06	6	AB	70-80	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
29.03	TU 06	6	AB	70-80	Flake	Ft. Payne	None	0-1	Present	1.0"	1
30	TU 06	7	Bw	80-90	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
31.01	TU 07	1	Ap1	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	1
31.02	TU 07	1	Ap1	0-30	Flake	Chalcedony	None	0-1	Present	0.25"	1
31.03	TU 07	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Absent	-	1
32.01	TU 08	1	Ap1	0-20	Bristol Glaze	Ext./Int.	-	-	-	-	1
32.02	TU 08	1	Ap1	0-20	Flake	Ft. Payne	None	0-1	Present	0.50"	1
32.03	TU 08	1	Ap1	0-20	Flake	St. Louis	Heat Treated	2	Absent	0.50"	1
32.04	TU 08	1	Ap1	0-20	Broken Flake	St. Louis	None	Absent	Absent	0.50"	1
32.05	TU 08	1	Ap1	0-20	Broken Flake	Ft. Payne	None	0-1	Present	0.25"	1
32.06	TU 08	1	Ap1	0-20	Broken Flake	St. Louis	Heat Treated	3+	Absent	0.50"	1
32.07	TU 08	1	Ap1	0-20	Broken Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
32.08	TU 08	1	Ap1	0-20	Flake Frament	Ft. Payne	Heat Damaged	-	Absent	0.25"	1
32.09	TU 08	1	Ap1	0-20	Flake Frament	Ft. Payne	Heat Treated	-	Absent	0.50"	1
32.10	TU 08	1	Ap1	0-20	Flake Frament	Ft. Payne	Heat Treated	-	Present	0.25"	1
32.11	TU 08	1	Ap1	0-20	Flake Frament	St. Louis	None	-	Present	0.25"	1
32.12	TU 08	1	Ap1	0-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
33.01	TU 09	1	Ap1	0-45	FCR	Sandstone	Heat Damaged	-	-	-	1
33.02	TU 09	1	Ap1	0-45	FCR	Quartzite	Heat Damaged	-	-	-	1
33.03	TU 09	1	Ap1	0-45	Shatter	Ft. Payne	None	-	-	-	3
33.04	TU 09	1	Ap1	0-45	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
33.05	TU 09	1	Ap1	0-45	Shatter	St. Louis	Heat Damaged	-	-	-	2
33.06	TU 09	1	Ap1	0-45	Utilized flake	Ft. Payne	None	-	-	-	2
33.07	TU 09	1	Ap1	0-45	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
33.08	TU 09	1	Ap1	0-45	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
33.09	TU 09	1	Ap1	0-45	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
33.10	TU 09	1	Ap1	0-45	Flake Scraper	Ft. Payne	None	-	-	-	1
33.11	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
33.12	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
33.13	TU 09	1	Ap1	0-45	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
33.14	TU 09	1	Ap1	0-45	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	1
33.15	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
33.16	TU 09	1	Ap1	0-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
										0.50"	1
33.17	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
33.18	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
33.19	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
33.20	TU 09	1	Ap1	0-45	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
										0.50"	1
33.21	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
33.22	TU 09	1	Ap1	0-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1
33.23	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
33.24	TU 09	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
33.25	TU 09	1	Ap1	0-45	Flake	Ft. Payne	None	3+	Present	0.25"	1
33.26	TU 09	1	Ap1	0-45	Debitage undivided	Chert/Mix	-	-		<1/4"	34
34.01	TU 09	2	Ap2	45-55	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
34.02	TU 09	2	Ap2	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
35.01	TU 10	1	Ap/A	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
35.02	TU 10	1	Ap/A	0-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
35.03	TU 10	1	Ap/A	0-40	Graver	Ft. Payne	Heat Treated	-	-	-	1
35.04	TU 10	1	Ap/A	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	5
35.05	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
35.06	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
35.07	TU 10	1	Ap/A	0-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
35.08	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	None	Absent	Present	0.25"	2
35.09	TU 10	1	Ap/A	0-40	Flake	St. Louis	None	Absent	Present	0.50"	1
35.10	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
35.11	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
35.12	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
35.13	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
35.14	TU 10	1	Ap/A	0-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	2
35.15	TU 10	1	Ap/A	0-40	Flake	St. Louis	None	0-1	Present	0.25"	1
35.16	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	None	0-1	Present	0.50"	1
35.17	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	2
35.18	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
35.19	TU 10	1	Ap/A	0-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
35.20	TU 10	1	Ap/A	0-40	Shatter	St. Louis	Heat Damaged	-	-	-	1
35.21	TU 10	1	Ap/A	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	18
36	TU 10	2	A/Bw	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
37.01	TU 12	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
37.02	TU 12	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
37.03	TU 12	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	-	1
37.04	TU 12	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
38	TU 12	2	Bw	30-40	Graver	Ft. Payne	Heat Treated	-	-	-	1
39	TU 13	1	Ap1	0-30	Flake	Bigby-Cannon	Heat Treated	0-1	Present	0.25"	1
40.1	TU 13	2	Ap1	30-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
40.2	TU 13	2	Ap1	30-40	Flake Scraper	Bigby-Cannon	Heat Treated	-	-	-	1
41.01	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
41.02	TU 14	1	Ap1	0-25	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
41.03	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
41.04	TU 14	1	Ap1	0-25	Flake	St. Louis	None	Absent	Absent	0.25"	1
41.05	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
41.06	TU 14	1	Ap1	0-25	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
41.07	TU 14	1	Ap1	0-25	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
41.08	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
41.09	TU 14	1	Ap1	0-25	Flake	Ft. Payne	None	Absent	Present	0.25"	1
41.10	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
41.11	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
41.12	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	2
41.13	TU 14	1	Ap1	0-25	Flake	Ft. Payne	None	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										0.50"	1
41.14	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	2	Present	0.25"	1
41.15	TU 14	1	Ap1	0-25	Flake	St. Louis	None	2	Present	0.25"	1
41.16	TU 14	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
41.17	TU 14	1	Ap1	0-25	Flake	Ft. Payne	None	3+	Absent	0.25"	1
41.18	TU 14	1	Ap1	0-25	Shatter	Ft. Payne	None	-	-	-	8
41.19	TU 14	1	Ap1	0-25	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
41.20	TU 14	1	Ap1	0-25	Debitage undivided	Chert/Mix	-	-	-	<1/4"	21
42.01	TU 14	2	Ap/Bw	25-35	Shatter	Ft. Payne	None	-	-	-	2
42.02	TU 14	2	Ap/Bw	25-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
42.03	TU 14	2	Ap/Bw	25-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
42.04	TU 14	2	Ap/Bw	25-35	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
42.05	TU 14	2	Ap/Bw	25-35	Flake	Ft. Payne	None	0-1	Present	0.25"	2
42.06	TU 14	2	Ap/Bw	25-35	Flake	Ft. Payne	None	2	Present	0.50"	1
42.07	TU 14	2	Ap/Bw	25-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
43.01	TU 14	3	Bw	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
43.02	TU 14	3	Bw	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
44.01	TU 15	1	Ap/Bw	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
44.02	TU 15	1	Ap/Bw	0-30	Combination Tool	Ft. Payne	Heat Damaged	-	-	-	1
44.03	TU 15	1	Ap/Bw	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
44.04	TU 15	1	Ap/Bw	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
44.05	TU 15	1	Ap/Bw	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
44.06	TU 15	1	Ap/Bw	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
44.07	TU 15	1	Ap/Bw	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
44.08	TU 15	1	Ap/Bw	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
44.09	TU 15	1	Ap/Bw	0-30	Flake	Ft. Payne	Heat Damaged	3+	Present	0.50"	1
44.10	TU 15	1	Ap/Bw	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
45.01	TU 15	2	Bw	30-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
45.02	TU 15	2	Bw	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
45.03	TU 15	2	Bw	30-40	Shatter	Ft. Payne	None	-	-	-	2
45.04	TU 15	2	Bw	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
46.01	TU 16	1	Ap1	0-17	Rock	Shale	None	-	-	-	1
46.02	TU 16	1	Ap1	0-17	Perforator	Ft. Payne	Heat Treated	-	-	-	1
46.03	TU 16	1	Ap1	0-17	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	2
46.04	TU 16	1	Ap1	0-17	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
46.05	TU 16	1	Ap1	0-17	Utilized flake	Chalcedony	None	-	-	-	1
46.06	TU 16	1	Ap1	0-17	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
46.07	TU 16	1	Ap1	0-17	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
46.08	TU 16	1	Ap1	0-17	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
46.09	TU 16	1	Ap1	0-17	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
										0.50"	1
46.10	TU 16	1	Ap1	0-17	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
46.11	TU 16	1	Ap1	0-17	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
46.12	TU 16	1	Ap1	0-17	Flake	Ft. Payne	None	Absent	Present	0.25"	1
46.13	TU 16	1	Ap1	0-17	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
46.14	TU 16	1	Ap1	0-17	Flake	St. Louis	None	0-1	Absent	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
46.15	TU 16	1	Ap1	0-17	Flake	Ft. Payne	None	0-1	Present	1.0"	1
46.16	TU 16	1	Ap1	0-17	Flake	Chalcedony	None	3+	Absent	0.25"	1
47.01	TU 16	2	Ap1	17-28	Charcoal	Wood	-	-	-	-	1
47.02	TU 16	2	Ap1	17-28	Late Stage Biface	St. Louis	None	-	-	-	1
47.03	TU 16	2	Ap1	17-28	Perforator	St. Louis	Heat Treated	-	-	-	1
47.04	TU 16	2	Ap1	17-28	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
47.05	TU 16	2	Ap1	17-28	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
47.06	TU 16	2	Ap1	17-28	Utilized flake	Ft. Payne	None	-	-	-	2
47.07	TU 16	2	Ap1	17-28	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
47.08	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
47.09	TU 16	2	Ap1	17-28	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
47.10	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	5
47.11	TU 16	2	Ap1	17-28	Flake	Chalcedony	None	Absent	Absent	0.25"	3
47.12	TU 16	2	Ap1	17-28	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
47.13	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
									Present	0.25"	1
47.14	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
47.15	TU 16	2	Ap1	17-28	Flake	St. Louis	None	Absent	Present	0.25"	1
47.16	TU 16	2	Ap1	17-28	Flake	Ft. Payne	None	Absent	Present	0.25"	1
47.17	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
47.18	TU 16	2	Ap1	17-28	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
47.19	TU 16	2	Ap1	17-28	Flake	St. Louis	None	0-1	Absent	0.25"	1
47.20	TU 16	2	Ap1	17-28	Flake	Chalcedony	None	0-1	Absent	0.50"	1
47.21	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
47.22	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
47.23	TU 16	2	Ap1	17-28	Flake	St. Louis	Heat Treated	0-1	Present	1.0"	1
47.24	TU 16	2	Ap1	17-28	Flake	Ft. Payne	None	0-1	Present	0.25"	2
47.25	TU 16	2	Ap1	17-28	Flake	St. Louis	None	0-1	Present	0.50"	1
47.26	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
47.27	TU 16	2	Ap1	17-28	Flake	St. Louis	None	2	Present	0.25"	1
47.28	TU 16	2	Ap1	17-28	Flake	Ft. Payne	None	2	Present	0.25"	1
47.29	TU 16	2	Ap1	17-28	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
47.30	TU 16	2	Ap1	17-28	Flake	Chalcedony	None	3+	Absent	0.25"	1
47.31	TU 16	2	Ap1	17-28	Flake	St. Louis	None	3+	Present	0.50"	1
47.32	TU 16	2	Ap1	17-28	Flake	Ft. Payne	None	3+	Present	0.25"	1
47.33	TU 16	2	Ap1	17-28	Shatter	St. Louis	None	-	-	-	2
47.34	TU 16	2	Ap1	17-28	Shatter	Ft. Payne	None	-	-	-	2
47.35	TU 16	2	Ap1	17-28	FCR	Quartzite	Heat Damaged	-	-	-	1
47.36	TU 16	2	Ap1	17-28	FCR	Limestone	Heat Damaged	-	-	-	2
47.37	TU 16	2	Ap1	17-28	Debitage undivided	Chert/Mix	-	-	-	<1/4"	25
48.01	TU 16	3	Ap1	28-38	Rock	Shale	None	-	-	-	1
48.02	TU 16	3	Ap1	28-38	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
48.03	TU 16	3	Ap1	28-38	Amorphous	St. Louis	None	-	-	-	2
48.04	TU 16	3	Ap1	28-38	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
48.05	TU 16	3	Ap1	28-38	Graver	Ft. Payne	Heat Treated	-	-	-	1
48.06	TU 16	3	Ap1	28-38	Flake Scraper	Ft. Payne	None	-	-	-	1
48.07	TU 16	3	Ap1	28-38	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
48.08	TU 16	3	Ap1	28-38	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
48.09	TU 16	3	Ap1	28-38	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
48.10	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
										0.50"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
48.11	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
48.12	TU 16	3	Ap1	28-38	Flake	St. Louis	None	Absent	Absent	0.25"	1
48.13	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	Absent	Absent	0.25"	5
48.14	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
48.15	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	Absent	Present	0.25"	2
48.16	TU 16	3	Ap1	28-38	Flake	St. Louis	None	Absent	Present	0.50"	1
48.17	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
48.18	TU 16	3	Ap1	28-38	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
48.19	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
48.20	TU 16	3	Ap1	28-38	Flake	St. Louis	None	0-1	Absent	0.25"	1
48.21	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
48.22	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
48.23	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
48.24	TU 16	3	Ap1	28-38	Flake	St. Louis	None	0-1	Present	0.25"	1
48.25	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	0-1	Present	0.25"	2
48.26	TU 16	3	Ap1	28-38	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
48.27	TU 16	3	Ap1	28-38	Flake	St. Louis	None	3+	Absent	0.25"	1
48.28	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	3+	Absent	0.25"	2
48.29	TU 16	3	Ap1	28-38	Flake	Ft. Payne	None	3+	Present	0.25"	1
48.30	TU 16	3	Ap1	28-38	Shatter	Bigby-Cannon	None	-	-	-	1
48.31	TU 16	3	Ap1	28-38	Shatter	St. Louis	None	-	-	-	1
48.32	TU 16	3	Ap1	28-38	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
48.33	TU 16	3	Ap1	28-38	Shatter	Ft. Payne	None	-	-	-	1
48.34	TU 16	3	Ap1	28-38	Debitage undivided	Chert/Mix	-	-	-	<1/4"	18
49.01	TU 16	4	Ap2	38-48	Rock	Shale	None	-	-	-	2
49.02	TU 16	4	Ap2	38-48	Spokeshave	Ft. Payne	Heat Damaged	-	-	-	1
49.03	TU 16	4	Ap2	38-48	Flake Scraper	Chalcedony	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
49.04	TU 16	4	Ap2	38-48	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1
49.05	TU 16	4	Ap2	38-48	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
49.06	TU 16	4	Ap2	38-48	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
49.07	TU 16	4	Ap2	38-48	Utilized flake	Bigby-Cannon	None	-	-	-	1
49.08	TU 16	4	Ap2	38-48	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
49.09	TU 16	4	Ap2	38-48	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
49.10	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	13
										0.50"	1
49.11	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	5
										0.50"	1
49.12	TU 16	4	Ap2	38-48	Flake	St. Louis	Heat Treated	Absent	Absent	0.50"	1
49.13	TU 16	4	Ap2	38-48	Flake	Chalcedony	None	Absent	Absent	0.25"	1
49.14	TU 16	4	Ap2	38-48	Flake	Ft. Payne	None	Absent	Absent	0.25"	6
49.15	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
										0.50"	1
49.16	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	3
49.17	TU 16	4	Ap2	38-48	Flake	St. Louis	None	Absent	Present	0.25"	1
49.18	TU 16	4	Ap2	38-48	Flake	Ft. Payne	None	Absent	Present	0.25"	3
										0.50"	1
49.19	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	1
49.20	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
										0.50"	1
49.21	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	2
										0.50"	1
49.22	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
49.23	TU 16	4	Ap2	38-48	Flake	Ft. Payne	None	0-1	Present	0.25"	5
										0.50"	1
										1.0"	1
49.24	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
49.25	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
49.26	TU 16	4	Ap2	38-48	Flake	Ft. Payne	None	3+	Absent	0.25"	2
49.27	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
49.28	TU 16	4	Ap2	38-48	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1
49.29	TU 16	4	Ap2	38-48	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
49.30	TU 16	4	Ap2	38-48	Shatter	Ft. Payne	Heat Damaged		-	-	1
49.31	TU 16	4	Ap2	38-48	FCR	Limestone	Heat Damaged	-	-	-	1
49.32	TU 16	4	Ap2	38-48	FCR	Quartzite	Heat Damaged	-	-	-	1
49.33	TU 16	4	Ap2	38-48	Debitage undivided	Chert/Mix	-	-	-	<1/4"	33
50.01	TU 16	5	Ap2/A	48-60	Tested Cobble	Ft. Payne	None	-	-	-	1
50.02	TU 16	5	Ap2/A	48-60	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
50.03	TU 16	5	Ap2/A	48-60	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
50.04	TU 16	5	Ap2/A	48-60	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
50.05	TU 16	5	Ap2/A	48-60	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
50.06	TU 16	5	Ap2/A	48-60	Utilized flake	St. Louis	None	-	-	-	1
50.07	TU 16	5	Ap2/A	48-60	Utilized flake	Ft. Payne	None	-	-	-	1
50.08	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
50.09	TU 16	5	Ap2/A	48-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
50.10	TU 16	5	Ap2/A	48-60	Flake	St. Louis	None	Absent	Absent	0.25"	1
50.11	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										0.50"	1
50.12	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
										0.50"	2
50.13	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
50.14	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	None	Absent	Present	0.25"	2
										0.50"	2
50.15	TU 16	5	Ap2/A	48-60	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
50.16	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
50.17	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	Ground	Present	0.25"	1
50.18	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
50.19	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	None	0-1	Present	0.25"	2
										0.50"	3
50.20	TU 16	5	Ap2/A	48-60	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
50.21	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
50.22	TU 16	5	Ap2/A	48-60	Flake	St. Louis	None	2	Absent	0.25"	1
50.23	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	None	2	Absent	0.50"	1
50.24	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
50.25	TU 16	5	Ap2/A	48-60	Flake	Ft. Payne	None	2	Present	1.0"	1
50.26	TU 16	5	Ap2/A	48-60	Flake	Bigby-Cannon	Heat Treated	3+	Absent	0.25"	1
50.27	TU 16	5	Ap2/A	48-60	Shatter	Ft. Payne	None	-	-	-	2
50.28	TU 16	5	Ap2/A	48-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	4
50.29	TU 16	5	Ap2/A	48-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	12
51.01	TU 16	6	A/Bw1	60-70	Utilized flake	St. Louis	Heat Treated	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
51.02	TU 16	6	A/Bw1	60-70	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
51.03	TU 16	6	A/Bw1	60-70	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
51.04	TU 16	6	A/Bw1	60-70	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
51.05	TU 16	6	A/Bw1	60-70	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
51.06	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	4
51.07	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
										0.50"	1
51.08	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	None	Absent	Present	0.25"	1
51.09	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
										0.50"	1
51.10	TU 16	6	A/Bw1	60-70	Flake	St. Louis	None	0-1	Absent	0.50"	1
51.11	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
51.12	TU 16	6	A/Bw1	60-70	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
51.13	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	None	0-1	Present	0.25"	2
51.14	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
51.15	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
51.16	TU 16	6	A/Bw1	60-70	Flake	Ft. Payne	None	2	Present	0.25"	1
51.17	TU 16	6	A/Bw1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	24
52.01	TU 16	7	Bw1	70-80	Flake	St. Louis	None	Absent	Absent	0.25"	1
52.02	TU 16	7	Bw1	70-80	Flake	Ft. Payne	None	0-1	Present	0.50"	1
52.03	TU 16	7	Bw1	70-80	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
53.01	TU 16	8	Bw1/Bw2	80-90	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
53.02	TU 16	8	Bw1/Bw2	80-90	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
53.03	TU 16	8	Bw1/Bw2	80-90	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
53.04	TU 16	8	Bw1/Bw2	80-90	Flake	St. Louis	None	Absent	Absent	0.25"	1
53.05	TU 16	8	Bw1/Bw2	80-90	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
53.06	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
53.07	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
53.08	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
53.09	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
53.10	TU 16	8	Bw1/Bw2	80-90	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
53.11	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	None	0-1	Present	0.25"	1
53.12	TU 16	8	Bw1/Bw2	80-90	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
53.13	TU 16	8	Bw1/Bw2	80-90	Debitage undivided	Chert/Mix	-	-	-	<1/4"	24
54.01	TU 16	9	Bw2	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
54.02	TU 16	9	Bw2	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
54.03	TU 16	9	Bw2	90-100	Flake	Ft. Payne	None	0-1	Present	0.25"	1
54.04	TU 16	9	Bw2	90-100	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
54.05	TU 16	9	Bw2	90-100	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
55.01	TU 16	10	Bw2/C	100-110	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
55.02	TU 16	10	Bw2/C	100-110	Flake	St. Louis	Heat Damaged	3+	Absent	0.50"	1
55.03	TU 16	10	Bw2/C	100-110	Shatter	St. Louis	None	-	-	-	1
55.04	TU 16	10	Bw2/C	100-110	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
56.01	TU 16	11	C	110-120	Utilized flake	St. Louis	None	-	-	-	1
56.02	TU 16	11	C	110-120	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
57.01	TU 17	1	Ap1	0-30	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
57.02	TU 17	1	Ap1	0-30	Combonation Tool	St. Louis	Heat Treated	-	-	-	1
57.03	TU 17	1	Ap1	0-30	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
57.04	TU 17	1	Ap1	0-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
57.05	TU 17	1	Ap1	0-30	Graver	St. Louis	Heat Treated	-	-	-	1
57.06	TU 17	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
57.07	TU 17	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
57.08	TU 17	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
57.09	TU 17	1	Ap1	0-30	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
57.10	TU 17	1	Ap1	0-30	Utilized flake	St. Louis	None	-	-	-	1
57.11	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
										0.50"	2
57.12	TU 17	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
57.13	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	8
57.14	TU 17	1	Ap1	0-30	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
57.15	TU 17	1	Ap1	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	2
57.16	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
57.17	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
										0.50"	1
57.18	TU 17	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
57.19	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	7
57.20	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	5
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
57.21	TU 17	1	Ap1	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
57.22	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
57.23	TU 17	1	Ap1	0-30	Flake	Bigby-Cannon	None	0-1	Absent	0.25"	1
57.24	TU 17	1	Ap1	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	1
57.25	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
57.26	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
										0.50"	2
57.27	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
57.28	TU 17	1	Ap1	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1
57.29	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	4
										0.50"	2
57.30	TU 17	1	Ap1	0-30	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
57.31	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
										0.50"	1
57.32	TU 17	1	Ap1	0-30	Flake	Chalcedony	None	2	Absent	0.25"	1
57.33	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	2	Absent	0.25"	1
57.34	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
57.35	TU 17	1	Ap1	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
57.36	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
57.37	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	3
										0.50"	1
57.38	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	3+	Present	0.25"	1
57.39	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Present	0.25"	1
57.40	TU 17	1	Ap1	0-30	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
57.41	TU 17	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Ground	Present	0.25"	1
57.42	TU 17	1	Ap1	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	3

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
57.43	TU 17	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	42
58.01	TU 17	2	Ap1	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
58.02	TU 17	2	Ap1	30-40	Flake Scraper	Ft. Payne	None	-	-	-	1
58.03	TU 17	2	Ap1	30-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
58.04	TU 17	2	Ap1	30-40	Utilized flake	Ft. Payne	None	-	-	-	1
58.05	TU 17	2	Ap1	30-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
58.06	TU 17	2	Ap1	30-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
58.07	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	7
58.08	TU 17	2	Ap1	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
58.09	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	5
58.10	TU 17	2	Ap1	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	2
58.11	TU 17	2	Ap1	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
										0.50"	1
58.12	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
58.13	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	3
58.14	TU 17	2	Ap1	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
58.15	TU 17	2	Ap1	30-40	Flake	St. Louis	None	Absent	Present	0.50"	1
58.16	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
58.17	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
										0.50"	1
58.18	TU 17	2	Ap1	30-40	Flake	St. Louis	None	0-1	Present	0.25"	2
58.19	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
58.20	TU 17	2	Ap1	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
58.21	TU 17	2	Ap1	30-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
58.22	TU 17	2	Ap1	30-40	Flake	St. Louis	None	2	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
58.23	TU 17	2	Ap1	30-40	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
58.24	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
58.25	TU 17	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
58.26	TU 17	2	Ap1	30-40	Shatter	St. Louis	None	-	-	-	1
58.27	TU 17	2	Ap1	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	24
59.01	TU 17	3	A	40-50	Utilized flake	St. Louis	Heat Treated	-	-	-	1
59.02	TU 17	3	A	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
59.03	TU 17	3	A	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
59.04	TU 17	3	A	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
59.05	TU 17	3	A	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
59.06	TU 17	3	A	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	2
										0.50"	1
59.07	TU 17	3	A	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
59.08	TU 17	3	A	40-50	Flake	St. Louis	None	0-1	Present	0.25"	1
59.09	TU 17	3	A	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
59.10	TU 17	3	A	40-50	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
59.11	TU 17	3	A	40-50	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
59.12	TU 17	3	A	40-50	Flake	Ft. Payne	None	3+	Absent	0.25"	1
59.13	TU 17	3	A	40-50	Flake	Ft. Payne	None	3+	Present	0.25"	1
60.01	TU 17	4	A/Bw1	50-60	Poss. Hoe Flake	Shale	None	-	-	-	1
60.02	TU 17	4	A/Bw1	50-60	Graver	Ft. Payne	Heat Treated	-	-	-	1
60.03	TU 17	4	A/Bw1	50-60	Combonation Tool	Ft. Payne	None	-	-	-	1
60.04	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
60.05	TU 17	4	A/Bw1	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
60.06	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
60.07	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
60.08	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
60.09	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	None	Absent	Present	0.50"	1
60.10	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
60.11	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
60.12	TU 17	4	A/Bw1	50-60	Flake	St. Louis	None	0-1	Present	0.50"	1
60.13	TU 17	4	A/Bw1	50-60	Flake	St. Louis	None	2	Absent	0.25"	1
60.14	TU 17	4	A/Bw1	50-60	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
60.15	TU 17	4	A/Bw1	50-60	Shatter	St. Louis	None	-	-	-	2
60.16	TU 17	4	A/Bw1	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	16
61.01	TU 17	5	Bw1	60-70	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
61.02	TU 17	5	Bw1	60-70	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
										0.50"	1
61.03	TU 17	5	Bw1	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
61.04	TU 17	5	Bw1	60-70	Flake	Ft. Payne	None	3+	Absent	0.25"	1
61.05	TU 17	5	Bw1	60-70	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
61.06	TU 17	5	Bw1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
62.01	TU 17	6	Bw1	70-80	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
62.02	TU 17	6	Bw1	70-80	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
62.03	TU 17	6	Bw1	70-80	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
62.04	TU 17	6	Bw1	70-80	Flake	Ft. Payne	None	Absent	Present	0.25"	1
62.05	TU 17	6	Bw1	70-80	Flake	Ft. Payne	None	0-1	Present	0.25"	1
62.06	TU 17	6	Bw1	70-80	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
63	TU 17	7	Bw1	80-90	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
64.01	TU 18	1	Ap1	0-40	Blank	Ft. Payne	None	-	-	-	1
64.02	TU 18	1	Ap1	0-40	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
64.03	TU 18	1	Ap1	0-40	Amorphous	Ft. Payne	None	-	-	-	1
64.04	TU 18	1	Ap1	0-40	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
64.05	TU 18	1	Ap1	0-40	Endscraper	Ft. Payne	Heat Treated	-	-	-	1
64.06	TU 18	1	Ap1	0-40	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
64.07	TU 18	1	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
64.08	TU 18	1	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	1
64.09	TU 18	1	Ap1	0-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	5
64.10	TU 18	1	Ap1	0-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
64.11	TU 18	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
64.12	TU 18	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	5
64.13	TU 18	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
64.14	TU 18	1	Ap1	0-40	Graver	Ft. Payne	Heat Treated	-	-	-	2
64.15	TU 18	1	Ap1	0-40	Shatter	Ft. Payne	None	-	-	-	1
64.16	TU 18	1	Ap1	0-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	5
64.17	TU 18	1	Ap1	0-40	Shatter	St. Louis	Heat Damaged	-	-	-	2
64.18	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
										0.50"	1
64.19	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
64.20	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	8
64.21	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	11
										0.50"	3

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
64.22	TU 18	1	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	4
										0.50"	1
64.23	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	6
64.24	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
64.25	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	0.25"	3
										0.50"	1
64.26	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	6
										0.50"	2
64.27	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
64.28	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	3
64.29	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
64.30	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
64.31	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	1
64.32	TU 18	1	Ap1	0-40	Flake	St. Louis	None	0-1	Absent	0.25"	3
64.33	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	0-1	Present	0.25"	3
										0.50"	1
64.34	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	5
										0.50"	1
64.35	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
64.36	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	3
64.37	TU 18	1	Ap1	0-40	Flake	St. Louis	None	2	Absent	0.25"	3
64.38	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
64.39	TU 18	1	Ap1	0-40	Flake	Ft. Payne	None	3+	Present	0.50"	1
64.40	TU 18	1	Ap1	0-40	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
64.41	TU 18	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	3
64.42	TU 18	1	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	54

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
65.01	TU 18	2	Bw1	40-50	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
65.02	TU 18	2	Bw1	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
65.03	TU 18	2	Bw1	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
65.04	TU 18	2	Bw1	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
65.05	TU 18	2	Bw1	40-50	Flake	St. Louis	None	0-1	Absent	0.25"	1
65.06	TU 18	2	Bw1	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
65.07	TU 18	2	Bw1	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
65.08	TU 18	2	Bw1	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	17
66.01	TU 18	3	Bw1	50-60	Flake Scraper	Ft. Payne	None	-	-	-	1
66.02	TU 18	3	Bw1	50-60	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
66.03	TU 18	3	Bw1	50-60	Flake	Ft. Payne	None	0-1	Present	0.50"	1
66.04	TU 18	3	Bw1	50-60	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
66.05	TU 18	3	Bw1	50-60	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
66.06	TU 18	3	Bw1	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
66.07	TU 18	3	Bw1	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
67	TU 18	4	Bw1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
69.01	TU 18	Wall Scrape	NA	0-90	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
69.02	TU 18	Wall Scrape	NA	0-90	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
70.01	TU 19	1	Ap1	0-35	Utilized flake	Chalcedony	None	-	-	-	1
70.02	TU 19	1	Ap1	0-35	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
70.03	TU 19	1	Ap1	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	4
70.04	TU 19	1	Ap1	0-35	Graver	Ft. Payne	Heat Treated	-	-	-	1
70.05	TU 19	1	Ap1	0-35	Graver	St. Louis	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
70.06	TU 19	1	Ap1	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
70.07	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	6
70.08	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
70.09	TU 19	1	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
70.10	TU 19	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
70.11	TU 19	1	Ap1	0-35	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
70.12	TU 19	1	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
70.13	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
70.14	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	2
70.15	TU 19	1	Ap1	0-35	Flake	St. Louis	None	0-1	Present	0.25"	1
70.16	TU 19	1	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.50"	1
70.17	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
70.18	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
70.19	TU 19	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	1
70.20	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
70.21	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
70.22	TU 19	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
70.23	TU 19	1	Ap1	0-35	Shatter	St. Louis	Heat Damaged	-	-	-	2
70.24	TU 19	1	Ap1	0-35	Shatter	Bigby-Cannon	Heat Treated	-	-	-	1
70.25	TU 19	1	Ap1	0-35	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
70.26	TU 19	1	Ap1	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	22

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
71.01	TU 19	2	Bw1	35-45	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
71.02	TU 19	2	Bw1	35-45	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
71.03	TU 19	2	Bw1	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
72.01	TU 19	3	Bw1	45-55	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
72.02	TU 19	3	Bw1	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
73.01	TU 19	4	Bw1	55-65	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
73.02	TU 19	4	Bw1	55-65	Flake	Ft. Payne	None	0-1	Present	0.25"	1
73.03	TU 19	4	Bw1	55-65	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
74	TU 19	5	Bt	65-75	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
75	TU 19	Wall Scrape	NA	0-75	Flake	St. Louis	Heat Treated	3+	Absent	0.50"	1
76.01	TU 20	1	Ap1	0-35	Amorphous	St. Louis	Heat Damaged	-	-	-	1
76.02	TU 20	1	Ap1	0-35	Amorphous	Ft. Payne	None	-	-	-	1
76.03	TU 20	1	Ap1	0-35	Utilized flake	Ft. Payne	None	-	-	-	2
76.04	TU 20	1	Ap1	0-35	Graver	Ft. Payne	Heat Damaged	-	-	-	1
76.05	TU 20	1	Ap1	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
76.06	TU 20	1	Ap1	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
76.07	TU 20	1	Ap1	0-35	Flake	St. Louis	Heat Treated	Ground	Absent	0.25"	1
76.08	TU 20	1	Ap1	0-35	Flake	Ft. Payne	None	Absent	Present	0.25"	4
76.09	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
76.10	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
										0.50"	1
76.11	TU 20	1	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
76.12	TU 20	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
76.13	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
76.14	TU 20	1	Ap1	0-35	Flake	St. Louis	None	Absent	Absent	0.25"	2
76.15	TU 20	1	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.25"	2
76.16	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
76.17	TU 20	1	Ap1	0-35	Flake	Ft. Payne	None	2	Absent	0.25"	1
76.18	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
76.19	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
76.20	TU 20	1	Ap1	0-35	Flake	Ft. Payne	None	3+	Absent	0.25"	2
76.21	TU 20	1	Ap1	0-35	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1
76.22	TU 20	1	Ap1	0-35	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
76.23	TU 20	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
76.24	TU 20	1	Ap1	0-35	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
76.25	TU 20	1	Ap1	0-35	Shatter	Ft. Payne	None	-	-	-	2
76.26	TU 20	1	Ap1	0-35	Shatter	St. Louis	Heat Damaged	-	-	-	2
76.27	TU 20	1	Ap1	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	73
76.28	TU 20	1	Ap1	0-35	Testudines, Unknow Turtle	Possible Ischium Fragment	Scorched	-	-	-	1
77.01	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
77.02	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
77.03	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
77.04	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
77.05	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
77.06	TU 20	2	Bw1	35-45	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
77.07	TU 20	2	Bw1	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
02C	TU 21	3	-	60	Charcoal	Wood	-	-	-	-	1
03C	TU 21	3	-	50	Charcoal	Wood	-	-	-	-	1
78.01	TU 21	1	Ap1	0-40	PPK, Adena Stemmed	Ft. Payne	Heat Treated	-	-	-	1
78.02	TU 21	1	Ap1	0-40	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
78.03	TU 21	1	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	5
78.04	TU 21	1	Ap1	0-40	Utilized flake	St. Louis	Heat Treated	-	-	-	2
78.05	TU 21	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	6
78.06	TU 21	1	Ap1	0-40	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
78.07	TU 21	1	Ap1	0-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	6
78.08	TU 21	1	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	2
78.09	TU 21	1	Ap1	0-40	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
78.10	TU 21	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
78.11	TU 21	1	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	3
78.12	TU 21	1	Ap1	0-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	4
78.13	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	12
										0.50"	1
78.14	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	6
78.15	TU 21	1	Ap1	0-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	3
78.16	TU 21	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	0.25"	2
										0.50"	1
78.17	TU 21	1	Ap1	0-40	Flake	St. Louis	None	Absent	Present	0.25"	1
										0.50"	1
78.18	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	9

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
78.19	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
78.20	TU 21	1	Ap1	0-40	Flake	St. Louis	None	0-1	Absent	0.25"	2
78.21	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
78.22	TU 21	1	Ap1	0-40	Flake	Ft. Payne	None	0-1	Present	0.25"	3
78.23	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	2
78.24	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
78.25	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
78.26	TU 21	1	Ap1	0-40	Flake	St. Louis	None	2	Present	0.50"	1
78.27	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
										0.50"	1
78.28	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
78.29	TU 21	1	Ap1	0-40	Flake	Ft. Payne	None	3+	Present	0.25"	1
										0.50"	1
78.30	TU 21	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	2
78.31	TU 21	1	Ap1	0-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
78.32	TU 21	1	Ap1	0-40	Shatter	Ft. Payne	None	-	-	-	1
78.33	TU 21	1	Ap1	0-40	FCR	Quartz	Heat Damaged	-	-	-	1
78.34	TU 21	1	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	47
79.01	TU 21	2	Bw1	40-50	Flake	Ft. Payne	None	2	Absent	0.25"	1
79.02	TU 21	2	Bw1	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
80	TU 21	4	C	60-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	1
81.01	TU 22	1	Ap1	0-30	PPK, Stilwell	Ft. Payne	Heat Damaged	-	-	-	1
81.02	TU 22	1	Ap1	0-30	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
81.03	TU 22	1	Ap1	0-30	Utilized flake	St. Louis	Heat Treated	-	-	-	1
81.04	TU 22	1	Ap1	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	1
81.05	TU 22	1	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
81.06	TU 22	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
81.07	TU 22	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
81.08	TU 22	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
82.01	TU 22	2	Bw1	30-40	Flake Scraper	Ft. Payne	None	-	-	-	1
82.02	TU 22	2	Bw1	30-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
83.01	TU 23	1	Ap1	0-30	Finished Biface	St. Louis	Heat Treated	-	-	-	1
83.02	TU 23	1	Ap1	0-30	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
83.03	TU 23	1	Ap1	0-30	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
83.04	TU 23	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
83.05	TU 23	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	3
83.06	TU 23	1	Ap1	0-30	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
83.07	TU 23	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
83.08	TU 23	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
83.09	TU 23	1	Ap1	0-30	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
83.10	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
										0.50"	1
83.11	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
83.12	TU 23	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
83.13	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
83.14	TU 23	1	Ap1	0-30	Flake	St. Louis	None	Absent	Present	0.50"	1
83.15	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	4
										0.50"	1
83.16	TU 23	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.50"	1
										1.0"	1
83.17	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
83.18	TU 23	1	Ap1	0-30	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
83.19	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
83.20	TU 23	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
83.21	TU 23	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	19
84.01	TU 24	1	Ap1	0-35	Utilized flake	St. Louis	Heat Treated	-	-	-	1
84.02	TU 24	1	Ap1	0-35	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
84.03	TU 24	1	Ap1	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
84.04	TU 24	1	Ap1	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	4
84.05	TU 24	1	Ap1	0-35	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
84.06	TU 24	1	Ap1	0-35	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
84.07	TU 24	1	Ap1	0-35	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
84.08	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	6
84.09	TU 24	1	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
84.10	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
84.11	TU 24	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
84.12	TU 24	1	Ap1	0-35	Flake	St. Louis	None	Absent	Present	0.25"	1
84.13	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
84.14	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
84.15	TU 24	1	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.50"	1
84.16	TU 24	1	Ap1	0-35	Flake	St. Louis	None	0-1	Present	0.25"	1
84.17	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	2
84.18	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
84.19	TU 24	1	Ap1	0-35	Flake	Ft. Payne	None	2	Absent	0.25"	1
84.20	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
84.21	TU 24	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
84.22	TU 24	1	Ap1	0-35	Shatter	Ft. Payne	Heat Damaged	-	-	-	5
84.23	TU 24	1	Ap1	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	26
85.01	TU 24	2	Bw1	35-45	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
85.02	TU 24	2	Bw1	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
85.03	TU 24	2	Bw1	35-45	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
85.04	TU 24	2	Bw1	35-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
85.05	TU 24	2	Bw1	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
86.01	TU 24	3	Bw1	45-55	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
86.02	TU 24	3	Bw1	45-55	Flake	Ft. Payne	None	Absent	Absent	0.50"	1
86.03	TU 24	3	Bw1	45-55	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
86.04	TU 24	3	Bw1	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
87	TU 24	4	Bw1/C	55-65	Flake	Ft. Payne	None	2	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
88	TU 24	5	C	65-75	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
89	TU 24	Wall Scrape	NA	0-45	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
90.01	TU 25	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
90.02	TU 25	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
90.03	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
90.04	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
90.05	TU 25	1	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	2
90.06	TU 25	1	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
90.07	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
90.08	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
90.09	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
90.10	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
90.11	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
90.12	TU 25	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
90.13	TU 25	1	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	11
91.01	TU 25	2	Ap2	40-50	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
91.02	TU 25	2	Ap2	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
91.03	TU 25	2	Ap2	40-50	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	1
91.04	TU 25	2	Ap2	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
91.05	TU 25	2	Ap2	40-50	Flake	St. Louis	None	0-1	Present	0.25"	1
91.06	TU 25	2	Ap2	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
92.01	TU 25	3	Ap2	50-60	Flake	Ft. Payne	None	0-1	Present	0.50"	1
92.02	TU 25	3	Ap2	50-60	Shatter	St. Louis	None	-	-	-	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
93.01	TU 26	1	Ap1	0-30	PPK, Indeterminate	Ft. Payne	Heat Damaged	-	-	-	1
93.02	TU 26	1	Ap1	0-30	Utilized flake	Ft. Payne	None	-	-	-	1
93.03	TU 26	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
93.04	TU 26	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
93.05	TU 26	1	Ap1	0-30	Unmodified Utilized Flake	Bigby-Cannon	None	-	-	-	1
93.06	TU 26	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	3
93.07	TU 26	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
93.08	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	6
93.09	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
93.10	TU 26	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
93.11	TU 26	1	Ap1	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
93.12	TU 26	1	Ap1	0-30	Flake	St. Louis	None	Absent	Present	0.25"	1
93.13	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
93.14	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
93.15	TU 26	1	Ap1	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	1
93.16	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
93.17	TU 26	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	2
93.18	TU 26	1	Ap1	0-30	Flake	St. Louis	None	0-1	Present	0.25"	2
93.19	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
93.20	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
93.21	TU 26	1	Ap1	0-30	Flake	Ft. Payne	None	2	Present	0.25"	1
93.22	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
93.23	TU 26	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
93.24	TU 26	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Ground	Present	0.25"	1
93.25	TU 26	1	Ap1	0-30	Rock	Shale	None	-	-	-	1
93.26	TU 26	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	-	14
94.01	TU 26	2	AB	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
94.02	TU 26	2	AB	30-40	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
94.03	TU 26	2	AB	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
94.04	TU 26	2	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
94.05	TU 26	2	AB	30-40	Flake	Ft. Payne	None	Absent	Present	0.50"	1
94.06	TU 26	2	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
94.07	TU 26	2	AB	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	2
										0.50"	1
94.08	TU 26	2	AB	30-40	Flake	St. Louis	None	0-1	Present	0.50"	1
94.09	TU 26	2	AB	30-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
94.10	TU 26	2	AB	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
94.11	TU 26	2	AB	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
95.01	TU 26	3	AB/Bw	40-50	FCR	Ft. Payne	Heat Damaged	-	-	-	6
95.02	TU 26	3	AB/Bw	40-50	Flake	St. Louis	None	3+	Absent	0.25"	1
95.03	TU 26	3	AB/Bw	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
95.04	TU 26	3	AB/Bw	40-50	Flake	Ft. Payne	-	Ground	Absent	0.25"	1
96.01	TU 27	1	Ap1	0-35	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
96.02	TU 27	1	Ap1	0-35	Flake Scraper	St. Louis	None	-	-	-	1
96.03	TU 27	1	Ap1	0-35	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
96.04	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
96.05	TU 27	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
96.06	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
96.07	TU 27	1	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.25"	1
96.08	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
96.09	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
96.10	TU 27	1	Ap1	0-35	Flake	St. Louis	None	2	Absent	0.25"	1
96.11	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
96.12	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
96.13	TU 27	1	Ap1	0-35	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	1
96.14	TU 27	1	Ap1	0-35	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
96.15	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
96.16	TU 27	1	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
96.17	TU 27	1	Ap1	0-35	Shatter	Ft. Payne	None	-	-	-	1
96.18	TU 27	1	Ap1	0-35	Debitage undivided	Chert/Mix	-	-	-	-	16
97.01	TU 27	2	C	35-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1
97.02	TU 27	2	C	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
98.01	TU 27	3	C	45-55	Flake	St. Louis	None	2	Absent	0.50"	1
98.02	TU 27	3	C	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
100.01	TU 28	2	AB	40-50	Graver	Ft. Payne	Heat Damaged	-	-	-	1
100.02	TU 28	2	AB	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
100.03	TU 28	2	AB	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
100.04	TU 28	2	AB	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
100.05	TU 28	2	AB	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
100.06	TU 28	2	AB	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	2
100.07	TU 28	2	AB	40-50	Shatter	Bigby-Cannon	None	-	-	-	1
100.08	TU 28	2	AB	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
101	TU 28	4	Bw	60-70	Flake Scraper	Ft. Payne	None	-	-	-	1
102	TU 28	5	BE	70-80	Flake	St. Louis	None	Absent	Absent	0.25"	1
103	TU 28	Wall Scrape	NA	0-60	Flake	Ft. Payne	None	0-1	Present	0.50"	1
99.01	TU 28	1	Ap1	0-40	Finished Biface	St. Louis	None	-	-	-	1
99.02	TU 28	1	Ap1	0-40	Preform II	Ft. Payne	None	-	-	-	1
99.03	TU 28	1	Ap1	0-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	3
99.04	TU 28	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
99.05	TU 28	1	Ap1	0-40	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
99.06	TU 28	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
99.07	TU 28	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
99.08	TU 28	1	Ap1	0-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
99.09	TU 28	1	Ap1	0-40	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
99.10	TU 28	1	Ap1	0-40	Flake	St. Louis	None	Absent	Present	0.25"	1
99.11	TU 28	1	Ap1	0-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
99.12	TU 28	1	Ap1	0-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
99.13	TU 28	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
99.14	TU 28	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
99.15	TU 28	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
99.16	TU 28	1	Ap1	0-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
99.17	TU 28	1	Ap1	0-40	FCR	Sandstone	Heat Damaged	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
99.18	TU 28	1	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
104.01	TU 29	1	Ap1	0-30	Indeterminate Biface Fragment	Ft. Payne	Heat Treated	-	-	-	1
104.02	TU 29	1	Ap1	0-30	Perforator	Ft. Payne	Heat Treated	-	-	-	1
104.03	TU 29	1	Ap1	0-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
104.04	TU 29	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
104.05	TU 29	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
104.06	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
104.07	TU 29	1	Ap1	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
										0.50"	1
104.08	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
										0.50"	1
104.09	TU 29	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
104.10	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
104.11	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
104.12	TU 29	1	Ap1	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	1
104.13	TU 29	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
104.14	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
104.15	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
104.16	TU 29	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
104.17	TU 29	1	Ap1	0-30	Utilized flake	Bigby-Cannon	Heat Treated	-	-	-	1
104.18	TU 29	1	Ap1	0-30	Flake	Ft. Payne	None	Ground	Present	0.50"	1
104.19	TU 29	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
105.01	TU 29	2	C	30-40	Flake Scraper	St. Louis	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
105.02	TU 29	2	C	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
105.03	TU 29	2	C	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
105.04	TU 29	2	C	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
105.05	TU 29	2	C	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
105.06	TU 29	2	C	30-40	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
106.01	TU 30	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
106.02	TU 30	1	Ap1	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
106.03	TU 30	1	Ap1	0-30	Flake	St. Louis	None	0-1	Present	0.50"	1
106.04	TU 30	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	1
106.05	TU 30	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
107.01	TU 30	2	Bc	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
107.02	TU 30	2	Bc	30-40	Flake	Chalcedony	None	Absent	Absent	0.25"	1
107.03	TU 30	2	Bc	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
107.04	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
										0.50"	1
107.05	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	Absent	Present	0.50"	1
107.06	TU 30	2	Bc	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
107.07	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
107.08	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	0-1	Absent	0.50"	2
107.09	TU 30	2	Bc	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
107.10	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	0-1	Present	0.50"	1
107.11	TU 30	2	Bc	30-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
107.12	TU 30	2	Bc	30-40	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
107.13	TU 30	2	Bc	30-40	Flake	Ft. Payne	None	Ground	Present	0.25"	1
107.14	TU 30	2	Bc	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
108.01	TU 30	3	Bc	40-50	Flake Scraper	St. Louis	None	-	-	-	1
108.02	TU 30	3	Bc	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
108.03	TU 30	3	Bc	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
108.04	TU 30	3	Bc	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
109.01	TU 30	4	Bc	50-60	Utilized flake	St. Louis	Heat Treated	-	-	-	1
109.02	TU 30	4	Bc	50-60	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
109.03	TU 30	4	Bc	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
109.04	TU 30	4	Bc	50-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
109.05	TU 30	4	Bc	50-60	Flake	Ft. Payne	None	0-1	Present	0.50"	1
109.06	TU 30	4	Bc	50-60	Flake	St. Louis	None	2	Present	0.25"	1
109.07	TU 30	4	Bc	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
110.01	TU 30	5	Bc/C1	60-70	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
110.02	TU 30	5	Bc/C1	60-70	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
110.03	TU 30	5	Bc/C1	60-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
110.04	TU 30	5	Bc/C1	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
110.05	TU 30	5	Bc/C1	60-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
										0.50"	1
110.06	TU 30	5	Bc/C1	60-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
110.07	TU 30	5	Bc/C1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
111.01	TU 30	6	C1	70-80	Graver	Ft. Payne	Heat Treated	-	-	-	1
111.02	TU 30	6	C1	70-80	Flake	Ft. Payne	None	0-1	Absent	0.50"	1
112.01	TU 30	7	C1	80-90	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
112.02	TU 30	7	C1	80-90	Flake	St. Louis	None	Absent	Absent	0.25"	1
112.03	TU 30	7	C1	80-90	Flake	Ft. Payne	None	0-1	Absent	0.50"	1
112.04	TU 30	7	C1	80-90	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
112.05	TU 30	7	C1	80-90	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
112.06	TU 30	7	C1	80-90	Flake	St. Louis	None	3+	Present	0.50"	1
112.07	TU 30	7	C1	80-90	Shatter	Ft. Payne	None	-	-	-	1
113.01	TU 30	8	C1/C2	90-100	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
113.02	TU 30	8	C1/C2	90-100	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.50"	1
113.03	TU 30	8	C1/C2	90-100	Flake	Ft. Payne	None	Absent	Present	0.50"	1
113.04	TU 30	8	C1/C2	90-100	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
114.01	TU 30	9	C2	100-110	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
114.02	TU 30	9	C2	100-110	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
114.03	TU 30	9	C2	100-110	Flake	Ft. Payne	None	Ground	Present	0.50"	1
115.01	TU 30	10	C2	110-120	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
115.02	TU 30	10	C2	110-120	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
115.03	TU 30	10	C2	110-120	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
115.04	TU 30	10	C2	110-120	Flake	Ft. Payne	None	0-1	Present	0.50"	1
116.01	TU 31	1	Ap1	0-30	Indeterminate Biface Fragment	Ft. Payne	Heat Damaged	-	-	-	1
116.02	TU 31	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
116.03	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
										0.50"	1
116.04	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
116.05	TU 31	1	Ap1	0-30	Flake	St. Louis	None	Absent	Present	0.25"	1
116.06	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
116.07	TU 31	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
116.08	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										1.0"	1
116.09	TU 31	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
										0.50"	1
116.10	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
116.11	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
116.12	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
116.13	TU 31	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
										0.50"	1
116.14	TU 31	1	Ap1	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	1
116.15	TU 31	1	Ap1	0-30	Shatter	Bigby-Cannon	None	-	-	-	2
116.16	TU 31	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
117.01	TU 31	2	AB/Bc	30-40	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
117.02	TU 31	2	AB/Bc	30-40	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
117.03	TU 31	2	AB/Bc	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
117.04	TU 31	2	AB/Bc	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
117.05	TU 31	2	AB/Bc	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
118.01	TU 31	3	Bc	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
118.02	TU 31	3	Bc	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
119.01	TU 32	1	Ap1/Bw	0-35	PPK, Indeterminate	Ft. Payne	Heat Treated	-	-	-	1
119.02	TU 32	1	Ap1/Bw	0-35	Indeterminate Biface Fragment	St. Louis	None	-	-	-	1
119.03	TU 32	1	Ap1/Bw	0-35	Combonation Tool	Bangor	None	-	-	-	1
119.04	TU 32	1	Ap1/Bw	0-35	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
119.05	TU 32	1	Ap1/Bw	0-35	Combonation Tool	St. Louis	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
119.06	TU 32	1	Ap1/Bw	0-35	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
119.07	TU 32	1	Ap1/Bw	0-35	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
119.08	TU 32	1	Ap1/Bw	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
119.09	TU 32	1	Ap1/Bw	0-35	Flake Scraper	St. Louis	None	-	-	-	1
119.10	TU 32	1	Ap1/Bw	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
119.11	TU 32	1	Ap1/Bw	0-35	Flake Scraper	Ft. Payne	None	-	-	-	1
119.12	TU 32	1	Ap1/Bw	0-35	Rock	Shale	None	-	-	-	1
119.13	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
119.14	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
119.15	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
119.16	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
119.17	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
119.18	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
										0.50"	1
119.19	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
119.20	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
119.21	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	Absent	Present	0.25"	1
										0.50"	1
119.22	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
119.23	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
119.24	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
119.25	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	2
119.26	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	None	0-1	Present	0.25"	1
119.27	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										0.50"	1
119.28	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	2
119.29	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
										0.50"	1
119.30	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	None	3+	Absent	0.25"	2
119.31	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	3+	Absent	0.25"	1
119.32	TU 32	1	Ap1/Bw	0-35	Flake	Ft. Payne	None	3+	Present	0.50"	1
119.33	TU 32	1	Ap1/Bw	0-35	Flake	St. Louis	None	Ground	Present	0.25"	1
119.34	TU 32	1	Ap1/Bw	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	19
120.01	TU 33	1	Ap1/Bw	0-35	Utilized flake	St. Louis	Heat Treated	-	-	-	1
120.02	TU 33	1	Ap1/Bw	0-35	Spokeshave	St. Louis	Heat Treated	-	-	-	1
120.03	TU 33	1	Ap1/Bw	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
120.04	TU 33	1	Ap1/Bw	0-35	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	2
120.05	TU 33	1	Ap1/Bw	0-35	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
120.06	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	None	Absent	Absent	0.25"	2
120.07	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	5
120.08	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
120.09	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	6
120.10	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.50"	1
120.11	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	None	Absent	Present	0.25"	2
120.12	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
120.13	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	3
120.14	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
120.15	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
120.16	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	None	0-1	Absent	0.25"	2
120.17	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
120.18	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
120.19	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
										0.50"	2
120.20	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	0-1	Present	0.50"	2
120.21	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
120.22	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
120.23	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
120.24	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	1
120.25	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
120.26	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
120.27	TU 33	1	Ap1/Bw	0-35	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
120.28	TU 33	1	Ap1/Bw	0-35	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
120.29	TU 33	1	Ap1/Bw	0-35	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
120.30	TU 33	1	Ap1/Bw	0-35	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
120.31	TU 33	1	Ap1/Bw	0-35	Shatter	St. Louis	Heat Damaged	-	-	-	1
120.32	TU 33	1	Ap1/Bw	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	30
121.01	TU 33	2	Bw	35-45	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1
121.02	TU 33	2	Bw	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	3
121.03	TU 33	2	Bw	35-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
121.04	TU 33	2	Bw	35-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
122	TU 33	3	Bw	45-55	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
123.01	TU 34	1	Ap1	0-28	Finished Biface	Ft. Payne	None	-	-	-	1
123.02	TU 34	1	Ap1	0-28	Utilized flake	St. Louis	None	-	-	-	1
123.03	TU 34	1	Ap1	0-28	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
123.04	TU 34	1	Ap1	0-28	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
123.05	TU 34	1	Ap1	0-28	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
123.06	TU 34	1	Ap1	0-28	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
123.07	TU 34	1	Ap1	0-28	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
123.08	TU 34	1	Ap1	0-28	Flake	St. Louis	Heat Treated	Ground	Absent	0.25"	1
123.09	TU 34	1	Ap1	0-28	Flake	Ft. Payne	Heat Treated	Ground	Present	0.25"	1
123.10	TU 34	1	Ap1	0-28	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
124.01	TU 34	2	Bw1	28-38	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
124.02	TU 34	2	Bw1	28-38	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
124.03	TU 34	2	Bw1	28-38	Graver	St. Louis	None	-	-	-	1
124.04	TU 34	2	Bw1	28-38	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
125.01	TU 35	1	Ap1	0-20	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
125.02	TU 35	1	Ap1	0-20	Flake	Ft. Payne	None	Absent	Present	0.25"	1
125.03	TU 35	1	Ap1	0-20	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
126.01	TU 35	2	Bw1	20-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
126.02	TU 35	2	Bw1	20-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
126.03	TU 35	2	Bw1	20-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
126.04	TU 35	2	Bw1	20-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
127.01	TU 36	1	Ap1	0-45	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
127.02	TU 36	1	Ap1	0-45	Sidescraper	Ft. Payne	Heat Treated	-	-	-	1
127.03	TU 36	1	Ap1	0-45	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
127.04	TU 36	1	Ap1	0-45	Utilized flake	St. Louis	Heat Treated	-	-	-	1
127.05	TU 36	1	Ap1	0-45	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
127.06	TU 36	1	Ap1	0-45	Unmodified Utilized Flake	Chalcedony	None	-	-	-	1
127.07	TU 36	1	Ap1	0-45	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	7
127.08	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	9
										0.50"	1
127.09	TU 36	1	Ap1	0-45	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
127.10	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	13
127.11	TU 36	1	Ap1	0-45	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
										0.50"	1
127.12	TU 36	1	Ap1	0-45	Flake	St. Louis	None	Absent	Present	0.50"	1
127.13	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
127.14	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
										0.50"	1
127.15	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
127.16	TU 36	1	Ap1	0-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1
										0.50"	1
127.17	TU 36	1	Ap1	0-45	Flake	St. Louis	None	0-1	Present	0.50"	1
127.18	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
127.19	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
127.20	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	2
127.21	TU 36	1	Ap1	0-45	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
127.22	TU 36	1	Ap1	0-45	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
127.23	TU 36	1	Ap1	0-45	Shatter	Ft. Payne	None	-	-	-	1
127.24	TU 36	1	Ap1	0-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	22
128.01	TU 36	2	Ap1/Bw	45-55	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
128.02	TU 36	2	Ap1/Bw	45-55	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
128.03	TU 36	2	Ap1/Bw	45-55	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
128.04	TU 36	2	Ap1/Bw	45-55	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
128.05	TU 36	2	Ap1/Bw	45-55	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
128.06	TU 36	2	Ap1/Bw	45-55	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
128.07	TU 36	2	Ap1/Bw	45-55	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
129.01	TU 36	3	Bw1	55-65	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
129.02	TU 36	3	Bw1	55-65	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
										0.50"	1
130.01	TU 37	1	Ap1	0-40	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
130.02	TU 37	1	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	1
130.03	TU 37	1	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
130.04	TU 37	1	Ap1	0-40	Flake Scraper	St. Louis	None	-	-	-	2
130.05	TU 37	1	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
130.06	TU 37	1	Ap1	0-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
130.07	TU 37	1	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
130.08	TU 37	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
130.09	TU 37	1	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
130.10	TU 37	1	Ap1	0-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
130.11	TU 37	1	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
130.12	TU 37	1	Ap1	0-40	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	1
130.13	TU 37	1	Ap1	0-40	Flake	Ft. Payne	None	3+	Absent	0.50"	1
130.14	TU 37	1	Ap1	0-40	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
130.15	TU 37	1	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
131.01	TU 37	2	A	40-50	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
131.02	TU 37	2	A	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
131.03	TU 37	2	A	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
132.01	TU 37	3	Bw1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
132.02	TU 37	3	Bw1	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
132.03	TU 37	3	Bw1	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
133.01	TU 38	1	Ap1	0-30	PPK, Indeterminate	Chalcedony	None	-	-	-	1
133.02	TU 38	1	Ap1	0-30	Blank	St. Louis	None	-	-	-	1
133.03	TU 38	1	Ap1	0-30	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
133.04	TU 38	1	Ap1	0-30	Perforator	St. Louis	None	-	-	-	1
133.05	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
										0.50"	1
133.06	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
133.07	TU 38	1	Ap1	0-30	Flake	St. Louis	None	Absent	Absent	0.50"	1
									Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
133.08	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
133.09	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
133.10	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
133.11	TU 38	1	Ap1	0-30	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
133.12	TU 38	1	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
133.13	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
133.14	TU 38	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
133.15	TU 38	1	Ap1	0-30	Flake	St. Louis	None	3+	Absent	0.25"	1
133.16	TU 38	1	Ap1	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
133.17	TU 38	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
134.01	TU 38	2	Ap1	30-40	Blank	St. Louis	None	-	-	-	1
134.02	TU 38	2	Ap1	30-40	Preform II	Ft. Payne	Heat Treated	-	-	-	1
134.03	TU 38	2	Ap1	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	3
134.04	TU 38	2	Ap1	30-40	Flake Scraper	St. Louis	None	-	-	-	1
134.05	TU 38	2	Ap1	30-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
134.06	TU 38	2	Ap1	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
134.07	TU 38	2	Ap1	30-40	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
134.08	TU 38	2	Ap1	30-40	Graver	Ft. Payne	Heat Treated	-	-	-	1
134.09	TU 38	2	Ap1	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
134.10	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	5
134.11	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
										0.50"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
134.12	TU 38	2	Ap1	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
134.13	TU 38	2	Ap1	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
134.14	TU 38	2	Ap1	30-40	Flake	Ft. Payne	None	Absent	Present	0.50"	1
134.15	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
										0.50"	1
134.16	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
134.17	TU 38	2	Ap1	30-40	Flake	St. Louis	None	0-1	Absent	0.25"	1
134.18	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
134.19	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
134.20	TU 38	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
										0.50"	1
134.21	TU 38	2	Ap1	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	11
135.01	TU 38	3	A	40-50	Preform I	Ft. Payne	Heat Treated	-	-	-	1
135.02	TU 38	3	A	40-50	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
135.03	TU 38	3	A	40-50	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
135.04	TU 38	3	A	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	1
135.05	TU 38	3	A	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
135.06	TU 38	3	A	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
135.07	TU 38	3	A	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
135.08	TU 38	3	A	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	3
										0.50"	1
										1.0"	1
135.09	TU 38	3	A	40-50	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
135.10	TU 38	3	A	40-50	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
135.11	TU 38	3	A	40-50	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
135.12	TU 38	3	A	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
136.01	TU 38	4	Bw1	50-60	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
136.02	TU 38	4	Bw1	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
136.03	TU 38	4	Bw1	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	1
136.04	TU 38	4	Bw1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
136.05	TU 38	4	Bw1	50-60	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
136.06	TU 38	4	Bw1	50-60	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
136.07	TU 38	4	Bw1	50-60	Flake	Ft. Payne	None	3+	Present	0.25"	1
136.08	TU 38	4	Bw1	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
137.01	TU 38	5	Bw1	60-70	Flake	St. Louis	None	Absent	Absent	0.25"	1
137.02	TU 38	5	Bw1	60-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
137.03	TU 38	5	Bw1	60-70	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.25"	1
137.04	TU 38	5	Bw1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
138.01	TU 38	6	Bw1	70-80	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
138.02	TU 38	6	Bw1	70-80	Flake	Ft. Payne	None	Absent	Present	0.25"	1
139.01	TU 39	1	Ap1	0-30	Amorphous	Ft. Payne	None	-	-	-	1
139.02	TU 39	1	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
139.03	TU 39	1	Ap1	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
139.04	TU 39	1	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
139.05	TU 39	1	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
139.06	TU 39	1	Ap1	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	1
139.07	TU 39	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
139.08	TU 39	1	Ap1	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
										0.50"	1
139.09	TU 39	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
139.10	TU 39	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
139.11	TU 39	1	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
139.12	TU 39	1	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
139.13	TU 39	1	Ap1	0-30	Flake	St. Louis	None	2	Present	0.50"	1
139.14	TU 39	1	Ap1	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	6
139.15	TU 39	1	Ap1	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
140.01	TU 39	2	Ap1	30-40	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
140.02	TU 39	2	Ap1	30-40	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
140.03	TU 39	2	Ap1	30-40	Utilized flake	St. Louis	Heat Treated	-	-	-	1
140.04	TU 39	2	Ap1	30-40	Flake Scraper	St. Louis	None	-	-	-	1
140.05	TU 39	2	Ap1	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
140.06	TU 39	2	Ap1	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
140.07	TU 39	2	Ap1	30-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
140.08	TU 39	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
140.09	TU 39	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
140.10	TU 39	2	Ap1	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
140.11	TU 39	2	Ap1	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
140.12	TU 39	2	Ap1	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
140.13	TU 39	2	Ap1	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
140.14	TU 39	2	Ap1	30-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	4

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
141.01	TU 39	3	Ap2	40-50	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
141.02	TU 39	3	Ap2	40-50	Flake Scraper	St. Louis	None	-	-	-	1
141.03	TU 39	3	Ap2	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
141.04	TU 39	3	Ap2	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
141.05	TU 39	3	Ap2	40-50	Flake	St. Louis	None	0-1	Absent	0.25"	1
141.06	TU 39	3	Ap2	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
141.07	TU 39	3	Ap2	40-50	Flake	St. Louis	None	0-1	Present	0.50"	1
141.08	TU 39	3	Ap2	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
142.01	TU 39	5	Bw1	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
142.02	TU 39	5	Bw1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
143.01	TU 39	6	Bw1	70-80	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
143.02	TU 39	6	Bw1	70-80	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
144.01	TU 40	1	Ap1	0-25	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
144.02	TU 40	1	Ap1	0-25	Flake Scraper	St. Louis	None	-	-	-	1
144.03	TU 40	1	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
144.04	TU 40	1	Ap1	0-25	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
144.05	TU 40	1	Ap1	0-25	Flake	St. Louis	None	0-1	Present	0.50"	1
144.06	TU 40	1	Ap1	0-25	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	3
144.07	TU 40	1	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
144.08	TU 40	1	Ap1	0-25	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
145.01	TU 40	2	Ap1/Ap2	25-40	Hoe	Shale	-	-	-	-	2
145.02	TU 40	2	Ap1/Ap2	25-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
145.03	TU 40	2	Ap1/Ap2	25-40	Utilized flake	St. Louis	Heat Damaged	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
145.04	TU 40	2	Ap1/Ap2	25-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
145.05	TU 40	2	Ap1/Ap2	25-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
145.06	TU 40	2	Ap1/Ap2	25-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
145.07	TU 40	2	Ap1/Ap2	25-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
145.08	TU 40	2	Ap1/Ap2	25-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
145.09	TU 40	2	Ap1/Ap2	25-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	2
145.10	TU 40	2	Ap1/Ap2	25-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
145.11	TU 40	2	Ap1/Ap2	25-40	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
145.12	TU 40	2	Ap1/Ap2	25-40	Shatter	St. Louis	Heat Damaged	-	-	-	1
145.13	TU 40	2	Ap1/Ap2	25-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
145.14	TU 40	2	Ap1/Ap2	25-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	10
146.01	TU 40	3	Ap2	40-50	Manuport	Shale	-	-	-	-	1
146.02	TU 40	3	Ap2	40-50	Blank	Ft. Payne	Heat Treated	-	-	-	1
146.03	TU 40	3	Ap2	40-50	Amorphous	Ft. Payne	None	-	-	-	1
146.04	TU 40	3	Ap2	40-50	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
146.05	TU 40	3	Ap2	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
146.06	TU 40	3	Ap2	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
146.07	TU 40	3	Ap2	40-50	Flake	St. Louis	None	Absent	Present	0.25"	1
146.08	TU 40	3	Ap2	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	2
146.09	TU 40	3	Ap2	40-50	Shatter	St. Louis	None	-	-	-	1
146.10	TU 40	3	Ap2	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
147.01	TU 40	4	AB	50-60	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
147.02	TU 40	4	AB	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	1
147.03	TU 40	4	AB	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
147.04	TU 40	4	AB	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
147.05	TU 40	4	AB	50-60	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
147.06	TU 40	4	AB	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
147.07	TU 40	4	AB	50-60	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
147.08	TU 40	4	AB	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
147.09	TU 40	4	AB	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
147.10	TU 40	4	AB	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
148.01	TU 40	5	Bw1	60-70	Flake	St. Louis	None	Absent	Present	0.25"	1
148.02	TU 40	5	Bw1	60-70	Flake	Ft. Payne	None	0-1	Present	0.50"	1
149	TU 40	8	Bw1	90-100	Shatter	St. Louis	None	-	-	-	1
150	TU 40	9	Bw1	100-110	Shatter	St. Louis	None	-	-	-	1
151.01	TU 41A	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
151.02	TU 41A	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
151.03	TU 41A	1	AB	35-45	Flake	St. Louis	None	0-1	Absent	0.25"	1
151.04	TU 41A	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
152.01	TU 41B	1	AB	35-45	Preform II	Ft. Payne	Heat Treated	-	-	-	1
152.02	TU 41B	1	AB	35-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
152.03	TU 41B	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	1
152.04	TU 41B	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
152.05	TU 41B	1	AB	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
152.06	TU 41B	1	AB	35-45	Flake	Ft. Payne	None	Absent	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
152.07	TU 41B	1	AB	35-45	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
152.08	TU 41B	1	AB	35-45	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
152.09	TU 41B	1	AB	35-45	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
152.10	TU 41B	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
153.01	TU 41C	1	AB	35-45	Combonation Tool	St. Louis	None	-	-	-	1
153.02	TU 41C	1	AB	35-45	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
153.03	TU 41C	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	1
153.04	TU 41C	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
153.05	TU 41C	1	AB	35-45	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
153.06	TU 41C	1	AB	35-45	Flake	St. Louis	None	Absent	Present	0.25"	1
153.07	TU 41C	1	AB	35-45	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
153.08	TU 41C	1	AB	35-45	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
153.09	TU 41C	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
153.10	TU 41C	1	AB	35-45	Flake	Ft. Payne	None	Absent	Present	0.25"	2
154.01	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
154.02	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
154.03	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
154.04	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
154.05	TU 41D	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
155.01	TU 41D	1	AB	35-45	Indeterminate Scraper fragment	Ft. Payne	Heat Treated	-	-	-	1
155.02	TU 41D	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	2
155.03	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
155.04	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
155.05	TU 41D	1	AB	35-45	Flake	St. Louis	None	Absent	Present	0.25"	2
155.06	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
155.07	TU 41D	1	AB	35-45	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
155.08	TU 41D	1	AB	35-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
155.09	TU 41D	1	AB	35-45	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	2
155.10	TU 41D	1	AB	35-45	Flake	St. Louis	None	3+	Absent	0.25"	1
155.11	TU 41D	1	AB	35-45	Flake	St. Louis	None	Ground	Absent	0.25"	2
155.12	TU 41D	1	AB	35-45	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
155.13	TU 41D	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
156.01	TU 41F	1	AB	35-45	Preform II	St. Louis	None	-	-	-	1
156.02	TU 41F	1	AB	35-45	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
156.03	TU 41F	1	AB	35-45	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
156.04	TU 41F	1	AB	35-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
156.05a	TU 41F	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	1
156.05b	TU 41F	1	AB	35-45	Flake	Ft. Payne	None	Absent	Present	0.25"	1
156.06	TU 41F	1	AB	35-45	Flake	Ft. Payne	None	0-1	Present	0.25"	1
156.07	TU 41F	1	AB	35-45	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
156.08	TU 41F	1	AB	35-45	Shatter	St. Louis	Heat Damaged	-	-	-	1
156.09	TU 41F	1	AB	35-45	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
156.10	TU 41F	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
157.01	TU 41G	1	AB	35-45	Tested Cobble	Bigby-Cannon	None	-	-	-	1
157.02	TU 41G	1	AB	35-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
157.03	TU 41G	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	2
157.04	TU 41G	1	AB	35-45	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
157.05	TU 41G	1	AB	35-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
157.06	TU 41G	1	AB	35-45	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
157.07	TU 41G	1	AB	35-45	Flake	Ft. Payne	None	Absent	Present	0.25"	1
157.08	TU 41G	1	AB	35-45	Flake	St. Louis	None	Absent	Present	0.25"	1
157.09	TU 41G	1	AB	35-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
157.10	TU 41G	1	AB	35-45	Shatter	Ft. Payne	None	-	-	-	1
157.11	TU 41G	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
158.01	TU 41H	1	AB	35-45	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
158.02	TU 41H	1	AB	35-45	Flake	St. Louis	None	Absent	Absent	0.25"	1
158.03	TU 41H	1	AB	35-45	Flake	Ft. Payne	None	Absent	Present	0.25"	1
158.04	TU 41H	1	AB	35-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
158.05	TU 41H	1	AB	35-45	Shatter	Ft. Payne	None	-	-	-	1
158.06	TU 41H	1	AB	35-45	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
159.01	TU 42	1	Fill	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
159.02	TU 42	1	Fill	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
159.03	TU 42	1	Fill	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
159.04	TU 42	1	Fill	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
159.05	TU 42	1	Fill	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
159.06	TU 42	1	Fill	0-30	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
159.07	TU 42	1	Fill	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
159.08	TU 42	1	Fill	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
160.01	TU 42	2	Fill	30-40	Rock	Shale	None	-	-	-	1
160.02	TU 42	2	Fill	30-40	Graver	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
160.03	TU 42	2	Fill	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
160.04	TU 42	2	Fill	30-40	Utilized flake	Ft. Payne	None	-	-	-	1
160.05	TU 42	2	Fill	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
160.06	TU 42	2	Fill	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
160.07	TU 42	2	Fill	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
160.08	TU 42	2	Fill	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
160.09	TU 42	2	Fill	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
160.10	TU 42	2	Fill	30-40	Flake	St. Louis	None	Absent	Present	0.25"	1
160.11	TU 42	2	Fill	30-40	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
160.12	TU 42	2	Fill	30-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
161.01	TU 42	3	Fill	40-50	Graver	Ft. Payne	Heat Damaged	-	-	-	1
161.02	TU 42	3	Fill	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
161.03	TU 42	3	Fill	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
161.04	TU 42	3	Fill	40-50	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
161.05	TU 42	3	Fill	40-50	Flake	St. Louis	None	0-1	Present	0.25"	1
161.06	TU 42	3	Fill	40-50	Shatter	St. Louis	Heat Damaged	-	-	-	1
161.07	TU 42	3	Fill	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
162.01	TU 42	4	Ap1	50-60	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
162.02	TU 42	4	Ap1	50-60	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
162.03	TU 42	4	Ap1	50-60	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
162.04	TU 42	4	Ap1	50-60	Flake Scraper	Ft. Payne	None	-	-	-	1
162.05	TU 42	4	Ap1	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
162.06	TU 42	4	Ap1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
162.07	TU 42	4	Ap1	50-60	Flake	Bigby-Cannon	Heat Damaged	Absent	Present	0.25"	1
162.08	TU 42	4	Ap1	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	2
162.09	TU 42	4	Ap1	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
162.10	TU 42	4	Ap1	50-60	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
162.11	TU 42	4	Ap1	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
162.12	TU 42	4	Ap1	50-60	Flake	St. Louis	None	0-1	Present	0.50"	1
162.13	TU 42	4	Ap1	50-60	Flake	Ft. Payne	None	2	Absent	0.25"	1
162.14	TU 42	4	Ap1	50-60	Flake	St. Louis	None	2	Present	0.50"	1
162.15	TU 42	4	Ap1	50-60	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
162.16	TU 42	4	Ap1	50-60	Flake	St. Louis	Heat Damaged	3+	Present	0.50"	1
162.17	TU 42	4	Ap1	50-60	Flake	Ft. Payne	None	3+	Present	0.25"	1
162.18	TU 42	4	Ap1	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
163.01	TU 42	5	Ap1	60-70	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1
163.02	TU 42	5	Ap1	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
163.03	TU 42	5	Ap1	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
										0.50"	1
163.04	TU 42	5	Ap1	60-70	Flake	St. Louis	None	Absent	Absent	0.25"	1
163.05	TU 42	5	Ap1	60-70	Flake	St. Louis	Heat Damaged	Absent	Present	0.50"	1
163.06	TU 42	5	Ap1	60-70	Flake	St. Louis	Heat Damaged	0-1	Absent	0.50"	1
163.07	TU 42	5	Ap1	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
163.08	TU 42	5	Ap1	60-70	Flake	St. Louis	None	0-1	Present	0.25"	1
163.09	TU 42	5	Ap1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
164.01	TU 42	6	Ap1	70-80	Combonation Tool	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
164.02	TU 42	6	Ap1	70-80	Combonation Tool	St. Louis	Heat Treated	-	-	-	1
164.03	TU 42	6	Ap1	70-80	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
164.04	TU 42	6	Ap1	70-80	Flake	St. Louis	None	Absent	Absent	0.25"	1
164.05	TU 42	6	Ap1	70-80	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
164.06	TU 42	6	Ap1	70-80	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
164.07	TU 42	6	Ap1	70-80	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
164.08	TU 42	6	Ap1	70-80	Flake	St. Louis	None	0-1	Absent	0.25"	1
164.09	TU 42	6	Ap1	70-80	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
164.10	TU 42	6	Ap1	70-80	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
164.11	TU 42	6	Ap1	70-80	Flake	Ft. Payne	None	0-1	Present	0.50"	1
165.01	TU 42	7	A	80-90	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
165.02	TU 42	7	A	80-90	Blank	Ft. Payne	Heat Treated	-	-	-	1
165.03	TU 42	7	A	80-90	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
165.04	TU 42	7	A	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
165.05	TU 42	7	A	80-90	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
165.06	TU 42	7	A	80-90	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
165.07	TU 42	7	A	80-90	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
165.08	TU 42	7	A	80-90	Flake	St. Louis	None	0-1	Present	0.25"	1
165.09	TU 42	7	A	80-90	Flake	Ft. Payne	None	3+	Present	0.50"	1
165.10	TU 42	7	A	80-90	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
166.01	TU 42	8	A	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
166.02	TU 42	8	A	90-100	Flake	Ft. Payne	None	Absent	Present	0.25"	1
166.03	TU 42	8	A	90-100	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										0.50"	1
166.04	TU 42	8	A	90-100	Flake	St. Louis	None	0-1	Present	0.50"	1
166.05	TU 42	8	A	90-100	Flake	Ft. Payne	Heat Damaged	3+	Present	0.25"	1
166.06	TU 42	8	A	90-100	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
167.01	TU 42	9	A/BC	100-110	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
167.02	TU 42	9	A/BC	100-110	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
167.03	TU 42	9	A/BC	100-110	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
168.01	TU 42	10	BC/C	110-120	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.50"	1
168.02	TU 42	10	BC/C	110-120	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
169.01	TU 43	1	Ap1/AE	0-30	Drill	St. Louis	Heat Treated	-	-	-	1
169.02	TU 43	1	Ap1/AE	0-30	Graver	St. Louis	None	-	-	-	1
169.03	TU 43	1	Ap1/AE	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
169.04	TU 43	1	Ap1/AE	0-30	Flake Scraper	Ft. Payne	None	-	-	-	2
169.05	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
169.06	TU 43	1	Ap1/AE	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
169.07	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
169.08	TU 43	1	Ap1/AE	0-30	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
169.09	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
169.10	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	2
169.11	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
169.12	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
169.13	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
169.14	TU 43	1	Ap1/AE	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										0.50"	1
169.15	TU 43	1	Ap1/AE	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	1
169.16	TU 43	1	Ap1/AE	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
169.17	TU 43	1	Ap1/AE	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	16
170.01	TU 43	2	AB/Bw1	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
170.02	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
170.03	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
170.04	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
170.05	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
170.06	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
170.07	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
170.08	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	3
170.09	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
170.10	TU 43	2	AB/Bw1	30-40	Flake	St. Louis	None	0-1	Present	0.25"	2
170.11	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
170.12	TU 43	2	AB/Bw1	30-40	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
170.13	TU 43	2	AB/Bw1	30-40	Flake	Ft. Payne	None	3+	Present	0.25"	1
170.14	TU 43	2	AB/Bw1	30-40	Shatter	Ft. Payne	None	-	-	-	1
170.15	TU 43	2	AB/Bw1	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	14
171.01	TU 43	3	Bw1	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
171.02	TU 43	3	Bw1	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
172.01	TU 44	1	Fill	0-35	Amorphous	St. Louis	None	-	-	-	1
172.02	TU 44	1	Fill	0-35	Graver	St. Louis	Heat Treated	-	-	-	1
172.03	TU 44	1	Fill	0-35	Graver	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
172.04	TU 44	1	Fill	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
172.05	TU 44	1	Fill	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
172.06	TU 44	1	Fill	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
172.07	TU 44	1	Fill	0-35	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
172.08	TU 44	1	Fill	0-35	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
172.09	TU 44	1	Fill	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
172.10	TU 44	1	Fill	0-35	Flake	Ft. Payne	None	Absent	Present	0.25"	2
172.11	TU 44	1	Fill	0-35	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
172.12	TU 44	1	Fill	0-35	Flake	St. Louis	None	0-1	Absent	0.50"	1
172.13	TU 44	1	Fill	0-35	Flake	Ft. Payne	None	0-1	Present	0.25"	2
172.14	TU 44	1	Fill	0-35	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
172.15	TU 44	1	Fill	0-35	Flake	Ft. Payne	None	3+	Absent	0.50"	1
172.16	TU 44	1	Fill	0-35	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	1
172.17	TU 44	1	Fill	0-35	Shatter	Ft. Payne	None	-	-	-	1
172.18	TU 44	1	Fill	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	10
173.01	TU 44	2	Ap2	35-65	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
173.02	TU 44	2	Ap2	35-65	Perforator	Ft. Payne	Heat Treated	-	-	-	1
173.03	TU 44	2	Ap2	35-65	Graver	Ft. Payne	None	-	-	-	1
173.04	TU 44	2	Ap2	35-65	Graver	Ft. Payne	Heat Treated	-	-	-	1
173.05	TU 44	2	Ap2	35-65	Flake Scraper	St. Louis	None	-	-	-	1
173.06	TU 44	2	Ap2	35-65	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
173.07	TU 44	2	Ap2	35-65	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
173.08	TU 44	2	Ap2	35-65	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
173.09	TU 44	2	Ap2	35-65	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
173.10	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
173.11	TU 44	2	Ap2	35-65	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
173.12	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
173.13	TU 44	2	Ap2	35-65	Flake	St. Louis	None	Absent	Absent	0.25"	3
173.14	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
										0.50"	2
173.15	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
173.16	TU 44	2	Ap2	35-65	Flake	St. Louis	Heat Damaged	Absent	Present	0.50"	1
173.17	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	3
173.18	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	Absent	Present	0.25"	3
										0.50"	1
173.19	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
173.20	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
173.21	TU 44	2	Ap2	35-65	Flake	St. Louis	None	0-1	Absent	0.25"	2
173.22	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
173.23	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
										0.50"	1
173.24	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
173.25	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	0-1	Present	0.25"	2
173.26	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
173.27	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	2	Absent	0.25"	1
173.28	TU 44	2	Ap2	35-65	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
173.29	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	2
										0.50"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
173.30	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	1
173.31	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	3+	Absent	0.25"	2
173.32	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
173.33	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	3+	Present	0.25"	1
173.34	TU 44	2	Ap2	35-65	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
173.35	TU 44	2	Ap2	35-65	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
173.36	TU 44	2	Ap2	35-65	Shatter	St. Louis	Heat Damaged	-	-	-	1
173.37	TU 44	2	Ap2	35-65	Shatter	Ft. Payne	Heat Damaged	-	-	-	6
173.38	TU 44	2	Ap2	35-65	Shatter	Ft. Payne	None	-	-	-	2
173.39	TU 44	2	Ap2	35-65	Debitage undivided	Chert/Mix	-	-	-	<1/4"	42
174.01	TU 44	3	Ap2	65-75	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
174.02	TU 44	3	Ap2	65-75	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
174.03	TU 44	3	Ap2	65-75	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
175.01	TU 44	4	Bw1	75-85	Flake	Ft. Payne	None	0-1	Present	0.25"	1
175.02	TU 44	4	Bw1	75-85	Debitage undivided	Chert/Mix	-	-	-	<1/4"	3
176.01	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
176.02	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
176.03	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
176.04	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	None	Absent	Present	0.50"	1
176.05	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
176.06	TU 45	1	Colluvial	0-10	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
176.07	TU 45	1	Colluvial	0-10	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
177.01	TU 45	2	Colluvial	10-20	Flake Scraper	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
177.02	TU 45	2	Colluvial	10-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
177.03	TU 45	2	Colluvial	10-20	Rock	St. Louis	None	-	-	-	2
177.04	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
177.05	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
177.06	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
177.07	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	None	Absent	Present	0.25"	1
177.08	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
177.09	TU 45	2	Colluvial	10-20	Flake	St. Louis	None	0-1	Present	0.25"	1
177.10	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
										0.50"	1
177.11	TU 45	2	Colluvial	10-20	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
177.12	TU 45	2	Colluvial	10-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	14
178.01	TU 45	3	Colluvial	20-30	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
178.02	TU 45	3	Colluvial	20-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
178.03	TU 45	3	Colluvial	20-30	Utilized flake	Ft. Payne	None	-	-	-	2
178.04	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
178.05	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
										0.50"	1
178.06	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
178.07	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
178.08	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	None	Absent	Present	0.50"	1
178.09	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
178.10	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
178.11	TU 45	3	Colluvial	20-30	Flake	St. Louis	None	0-1	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
178.12	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
178.13	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
178.14	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	None	2	Absent	0.25"	1
178.15	TU 45	3	Colluvial	20-30	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
178.16	TU 45	3	Colluvial	20-30	Flake	Ft. Payne	None	3+	Absent	0.25"	2
178.17	TU 45	3	Colluvial	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	32
178.18	TU 45	3	Colluvial	20-30	Shatter	St. Louis	None	-	-	-	1
179.01	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
179.02	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
179.03	TU 45	4	Colluvial	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
179.04	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	5
179.05	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
179.06	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
										0.50"	1
179.07	TU 45	4	Colluvial	30-40	Flake	St. Louis	None	0-1	Absent	0.25"	1
179.08	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
179.09	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
179.10	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
179.11	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
179.12	TU 45	4	Colluvial	30-40	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
179.13	TU 45	4	Colluvial	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
180.01	TU 45	5	Colluvial	40-50	Graver	Ft. Payne	Heat Damaged	-	-	-	1
180.02	TU 45	5	Colluvial	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
180.03	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
180.04	TU 45	5	Colluvial	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	1
180.05	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
180.06	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
180.07	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
180.08	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
180.09	TU 45	5	Colluvial	40-50	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
180.10	TU 45	5	Colluvial	40-50	Shatter	St. Louis	None	-	-	-	1
180.11	TU 45	5	Colluvial	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
181.01	TU 45	6	Colluvial	50-60	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
181.02	TU 45	6	Colluvial	50-60	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
181.03	TU 45	6	Colluvial	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
										0.50"	1
181.04	TU 45	6	Colluvial	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	1
181.05	TU 45	6	Colluvial	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
181.06	TU 45	6	Colluvial	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
										0.50"	1
181.07	TU 45	6	Colluvial	50-60	Flake	St. Louis	None	0-1	Absent	0.25"	1
181.08	TU 45	6	Colluvial	50-60	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
181.09	TU 45	6	Colluvial	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
181.10	TU 45	6	Colluvial	50-60	Charcoal	Wood	Burned	-	-	-	1
182.01	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
182.02	TU 45	7	Colluvial	60-70	Flake	St. Louis	None	Absent	Absent	0.25"	1
182.03	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
182.04	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
182.05	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
182.06	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	2
182.07	TU 45	7	Colluvial	60-70	Flake	Ft. Payne	None	3+	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
182.08	TU 45	7	Colluvial	60-70	Shatter	St. Louis	Heat Damaged	-	-	-	1
182.09	TU 45	7	Colluvial	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
183.01	TU 45	8	Colluvial	70-80	Perforator	St. Louis	None	-	-	-	1
183.02	TU 45	8	Colluvial	70-80	Utilized flake	Ft. Payne	None	-	-	-	1
183.03	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
183.04	TU 45	8	Colluvial	70-80	Flake	St. Louis	None	Absent	Absent	0.25"	1
183.05	TU 45	8	Colluvial	70-80	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
183.06	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
183.07	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	None	Absent	Present	0.25"	1
183.08	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
183.09	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
183.10	TU 45	8	Colluvial	70-80	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
183.11	TU 45	8	Colluvial	70-80	Flake	St. Louis	None	2	Absent	0.50"	1
183.12	TU 45	8	Colluvial	70-80	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
184.01	TU 45	9	Colluvial	80-90	Indeterminate Biface Fragment	St. Louis	None	-	-	-	1
184.02	TU 45	9	Colluvial	80-90	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
184.03	TU 45	9	Colluvial	80-90	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
184.04	TU 45	9	Colluvial	80-90	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
184.05	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
184.06	TU 45	9	Colluvial	80-90	Flake	St. Louis	None	Absent	Absent	0.25"	1
										0.50"	2
184.07	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
184.08	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
184.09	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	None	Absent	Present	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
184.10	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
184.11	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	2
184.12	TU 45	9	Colluvial	80-90	Flake	St. Louis	None	0-1	Present	0.50"	1
184.13	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	None	0-1	Present	0.50"	1
184.14	TU 45	9	Colluvial	80-90	Flake	Ft. Payne	Heat Damaged	2	Present	0.25"	1
184.15	TU 45	9	Colluvial	80-90	Flake	St. Louis	None	3+	Absent	0.25"	1
184.16	TU 45	9	Colluvial	80-90	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
184.17	TU 45	9	Colluvial	80-90	Shatter	Ft. Payne	None	-	-	-	1
184.18	TU 45	9	Colluvial	80-90	Debitage undivided	Chert/Mix	-	-	-	<1/4"	15
185.01	TU 45	10	Colluvial	90-100	Preform I	Ft. Payne	None	-	-	-	1
185.02	TU 45	10	Colluvial	90-100	Indeterminate Biface Fragment	St. Louis	Heat Damaged	-	-	-	1
185.03	TU 45	10	Colluvial	90-100	Graver	Ft. Payne	Heat Treated	-	-	-	1
185.04	TU 45	10	Colluvial	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
185.05	TU 45	10	Colluvial	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
185.06	TU 45	10	Colluvial	90-100	Flake	Ft. Payne	None	3+	Absent	0.25"	1
185.07	TU 45	10	Colluvial	90-100	Debitage undivided	Chert/Mix	-	-	-	-	8
186.01	TU 45	11	Colluvial	100-110	Blank	Ft. Payne	Heat Treated	-	-	-	2
186.02	TU 45	11	Colluvial	100-110	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
186.03	TU 45	11	Colluvial	100-110	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
186.04	TU 45	11	Colluvial	100-110	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
186.05	TU 45	11	Colluvial	100-110	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	3
186.06	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
186.07	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
186.08	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
186.09	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	6
										0.50"	1
186.10	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
										0.50"	1
186.11	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	None	0-1	Present	0.50"	1
186.12	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
186.13	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
										0.50"	2
186.14	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	1
186.15	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
186.16	TU 45	11	Colluvial	100-110	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	1
186.17	TU 45	11	Colluvial	100-110	Flake	Sandstone	None	Absent	Absent	0.25"	1
186.18	TU 45	11	Colluvial	100-110	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
186.19	TU 45	11	Colluvial	100-110	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
187.01	TU 45	12	Colluvial	110-120	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
187.02	TU 45	12	Colluvial	110-120	Amorphous	St. Louis	None	-	-	-	1
187.03	TU 45	12	Colluvial	110-120	Denticulate	St. Louis	Heat Treated	-	-	-	2
187.04	TU 45	12	Colluvial	110-120	Chisel	St. Louis	Heat Treated	-	-	-	1
187.05	TU 45	12	Colluvial	110-120	Unmodified Utilized Flake	St. Louis	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
187.06	TU 45	12	Colluvial	110-120	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
187.07	TU 45	12	Colluvial	110-120	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
187.08	TU 45	12	Colluvial	110-120	Utilized flake	St. Louis	None	-	-	-	3
187.09	TU 45	12	Colluvial	110-120	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
187.10	TU 45	12	Colluvial	110-120	Graver	Ft. Payne	Heat Treated	-	-	-	1
187.11	TU 45	12	Colluvial	110-120	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	6
187.12	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
187.13	TU 45	12	Colluvial	110-120	Flake	St. Louis	None	Absent	Absent	0.25"	1
187.14	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
187.15	TU 45	12	Colluvial	110-120	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	3
187.16	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	None	Absent	Present	0.25"	3
										0.50"	1
187.17	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	4
										0.50"	3
187.18	TU 45	12	Colluvial	110-120	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	3
										0.50"	1
187.19	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
										0.50"	1
187.20	TU 45	12	Colluvial	110-120	Flake	St. Louis	None	0-1	Present	0.25"	1
187.21	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	2
187.22	TU 45	12	Colluvial	110-120	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
187.23	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
187.24	TU 45	12	Colluvial	110-120	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
187.25	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
187.26	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
187.27	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	None	2	Present	0.25"	1
187.28	TU 45	12	Colluvial	110-120	Flake	St. Louis	None	2	Absent	0.25"	1
187.29	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
187.30	TU 45	12	Colluvial	110-120	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
187.31	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	None	3+	Absent	0.25"	1
187.32	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
187.33	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
187.34	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	2
187.35	TU 45	12	Colluvial	110-120	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.25"	1
187.36	TU 45	12	Colluvial	110-120	Shatter	Ft. Payne	Heat Damaged	-	-	-	6
187.37	TU 45	12	Colluvial	110-120	Shatter	Ft. Payne	None	-	-	-	2
187.38	TU 45	12	Colluvial	110-120	Shatter	St. Louis	Heat Damaged	-	-	-	3
187.39	TU 45	12	Colluvial	110-120	Debitage undivided	Chert/Mix	-	-	-	<1/4"	18
188.01	TU 45 NE1/4	13	Colluvial	120-130	Unmodified Utilized Flake	Bigby-Cannon	Heat Treated	-	-	-	1
188.02	TU 45 NE1/4	13	Colluvial	120-130	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
188.03	TU 45 NE1/4	13	Colluvial	120-130	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
188.04	TU 45 NE1/4	13	Colluvial	120-130	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
188.05	TU 45 NE1/4	13	Colluvial	120-130	Flake	St. Louis	None	Absent	Present	0.25"	1
188.06	TU 45 NE1/4	13	Colluvial	120-130	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
188.07	TU 45 NE1/4	13	Colluvial	120-130	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
188.08	TU 45 NE1/4	13	Colluvial	120-130	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
188.09	TU 45 NE1/4	13	Colluvial	120-130	Debitage undivided	Chert/Mix	-	-	-	<1/4"	12
189.01	TU 45 NE1/4	14	Colluvial	130-140	Blank	Ft. Payne	Heat Treated	-	-	-	1
189.02	TU 45 NE1/4	14	Colluvial	130-140	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
189.03	TU 45 NE1/4	14	Colluvial	130-140	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
189.04	TU 45 NE1/4	14	Colluvial	130-140	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
189.05	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
189.06	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	None	Absent	Present	0.50"	1
189.07	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
189.08	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
189.09	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
189.10	TU 45 NE1/4	14	Colluvial	130-140	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
189.11	TU 45 NE1/4	14	Colluvial	130-140	Flake	St. Louis	None	0-1	Absent	0.25"	1
189.12	TU 45 NE1/4	14	Colluvial	130-140	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
189.13	TU 45 NE1/4	14	Colluvial	130-140	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
190.01	TU 45 NE1/4	15	Colluvial	140-150	Unmodified Utilized Flake	Bigby-Cannon	Heat Treated	-	-	-	1
190.02	TU 45 NE1/4	15	Colluvial	140-150	Flake Scraper	Ft. Payne	None	-	-	-	1
190.03	TU 45 NE1/4	15	Colluvial	140-150	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
190.04	TU 45 NE1/4	15	Colluvial	140-150	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
										0.50"	1
190.05	TU 45 NE1/4	15	Colluvial	140-150	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	3
190.06	TU 45 NE1/4	15	Colluvial	140-150	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
190.07	TU 45 NE1/4	15	Colluvial	140-150	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
190.08	TU 45 NE1/4	15	Colluvial	140-150	Flake	Ft. Payne	Heat Treated	Ground	Present	0.50"	1
190.09	TU 45 NE1/4	15	Colluvial	140-150	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
191.01	TU 45 NE1/4	16	Colluvial	150-160	Amorphous	Ft. Payne	None	-	-	-	1
191.02	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
191.03	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
191.04	TU 45 NE1/4	16	Colluvial	150-160	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
191.05	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
										0.50"	1
191.06	TU 45 NE1/4	16	Colluvial	150-160	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
191.07	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	1
191.08	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
191.09	TU 45 NE1/4	16	Colluvial	150-160	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
191.10	TU 45 NE1/4	16	Colluvial	150-160	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
192.01	TU 45 NE1/4	17	A	160-170	Hoe	Shale	None	-	-	-	2
192.02	TU 45 NE1/4	17	A	160-170	Perforator	Ft. Payne	Heat Treated	-	-	-	1
192.03	TU 45 NE1/4	17	A	160-170	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
192.04	TU 45 NE1/4	17	A	160-170	Flake	Ft. Payne	None	Absent	Present	0.25"	1
192.05	TU 45 NE1/4	17	A	160-170	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
192.06	TU 45 NE1/4	17	A	160-170	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
193.01	TU 45 NE1/4	18	AB	170-210	Amorphous	Ft. Payne	None	-	-	-	1
193.02	TU 45 NE1/4	18	AB	170-210	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
193.03	TU 45 NE1/4	18	AB	170-210	Shatter	Ft. Payne	None	-	-	-	1
194	S 01	-	Ap1	30	Celt	Amphibolite	None	-	-	-	1
195.01	S 03	-	Ap1	0-20	Amorphous	St. Louis	None	-	-	-	1
195.02	S 03	-	Ap1	0-20	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
195.03	S 03	-	Ap1	0-20	Blank	Ft. Payne	None	-	-	-	1
195.04	S 03	-	Ap1	0-20	Combination Tool	St. Louis	None	-	-	-	1
195.05	S 03	-	Ap1	0-20	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
196.01	S 04	-	Ap1	0-20	Poss. Hoe Flake	Shale	None	-	-	-	1
196.02	S 04	-	Ap1	0-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
196.03	S 04	-	Ap1	0-20	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
196.04	S 04	-	Ap1	0-20	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
196.05	S 04	-	Ap1	0-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
196.06	S 04	-	Ap1	0-20	Flake	St. Louis	None	Absent	Absent	0.25"	1
196.07	S 04	-	Ap1	0-20	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
196.08	S 04	-	Ap1	0-20	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	1
196.09	S 04	-	Ap1	0-20	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
196.10	S 04	-	Ap1	0-20	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
196.11	S 04	-	Ap1	0-20	Flake	Ft. Payne	None	0-1	Present	0.50"	1
197	S 04	-	AB	50	PPK, Indeterminate	Ft. Payne	None	-	-	-	1
198.01	S 04	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	1
198.02	S 04	-	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
198.03	S 04	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
199	S 04/S 05 Intersection	-	Ap1	0-40	Finished Biface	St. Louis	Heat Treated	-	-	-	1
200.01	S 05	-	Ap1	0-40	Preform I	Ft. Payne	Heat Treated	-	-	-	1
200.02	S 05	-	Ap1	0-40	Combination Tool	St. Louis	Heat Treated	-	-	-	1
200.03	S 05	-	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
200.04	S 05	-	Ap1	0-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
200.05	S 05	-	Ap1	0-40	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
200.06	S 05	-	Ap1	0-40	Flake Scraper	St. Louis	None	-	-	-	1
200.07	S 05	-	Ap1	0-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
200.08	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	2
200.09	S 05	-	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	1.0"	1
200.10	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	1.0"	1
200.11	S 05	-	Ap1	0-40	Flake	Ft. Payne	None	0-1	Present	0.50"	2
200.12	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
200.13	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	2
201.01	S 05	-	Ap1	0-40	Hoe	Shale	None	-	-	-	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
201.02	S 05	-	Ap1	0-40	Amorphous	Ft. Payne	None	-	-	-	1
201.03	S 05	-	Ap1	0-40	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
201.04	S 05	-	Ap1	0-40	Blank	Ft. Payne	Heat Treated	-	-	-	1
201.05	S 05	-	Ap1	0-40	Utilized flake	Ft. Payne	None	-	-	-	1
201.06	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
201.07	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.50"	1
201.08	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	2
201.09	S 05	-	Ap1	0-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
201.10	S 05	-	Ap1	0-40	Flake	St. Louis	None	0-1	Present	1.0"	1
201.11	S 05	-	Ap1	0-40	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
201.12	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	3+	Present	0.50"	1
201.13	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Present	1.0"	1
201.14	S 05	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	1.0"	1
201.15	S 05	-	Ap1	0-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
202	S 05	-	Ap1	20	PPK, Stilwell	Ft. Payne	Heat Treated	-	-	-	1
203	S 05	-	Ap2	40	PPK, Stilwell	Ft. Payne	Heat Treated	-	-	-	1
204.01	S 09	-	Ap1	0-20	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
204.02	S 09	-	Ap1	0-20	Flake	Ft. Payne	None	0-1	Present	0.50"	1
205.01	S 11	-	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
205.02	S 11	-	Ap1	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.50"	1
205.03	S 11	-	Ap1	0-30	Flake	Ft. Payne	None	Absent	Absent	0.50"	1
205.04	S 11	-	Ap1	0-30	Flake	Sandstone	None	Absent	Absent	1.0"	1
205.05	S 11	-	Ap1	0-30	Flake	Ft. Payne	None	0-1	Absent	0.50"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
205.06	S 11	-	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.50"	1
205.07	S 11	-	Ap1	0-30	Flake	Ft. Payne	None	2	Absent	0.50"	1
205.08	S 11	-	Ap1	0-30	Shatter	St. Louis	None	-	-	-	1
206.01	S 12	-	Ap1	0-30	Blank	Ft. Payne	Heat Treated	-	-	-	1
206.02	S 12	-	Ap1	0-30	Blank	Ft. Payne	None	-	-	-	1
206.03	S 12	-	Ap1	0-30	Blank	St. Louis	Heat Treated	-	-	-	1
206.04	S 12	-	Ap1	0-30	Chisel	St. Louis	Heat Treated	-	-	-	1
206.05	S 12	-	Ap1	0-30	Utilized flake	St. Louis	None	-	-	-	1
206.06	S 12	-	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
206.07	S 12	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
206.08	S 12	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
206.09	S 12	-	Ap1	0-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
206.10	S 12	-	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
206.11	S 12	-	Ap1	0-30	Flake	Ft. Payne	None	Absent	Present	1.0"	1
206.12	S 12	-	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
206.13	S 12	-	Ap1	0-30	Flake	Ft. Payne	None	2	Present	0.50"	1
207.01	S 13	-	Ap1	0-30	Finished Biface	Ft. Payne	None	-	-	-	1
207.02	S 13	-	Ap1	0-30	Graver	Ft. Payne	Heat Damaged	-	-	-	1
207.03	S 13	-	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
207.04	S 13	-	Ap1	0-30	Flake	St. Louis	None	Absent	Present	0.50"	1
207.05	S 13	-	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
208.01	S 13	-	Ap1	0-30	Blank	Ft. Payne	None	-	-	-	1
208.02	S 13	-	Ap1	0-30	Graver	St. Louis	None	-	-	-	1
208.03	S 13	-	Ap1	0-30	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
208.04	S 13	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
208.05	S 13	-	Ap1	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
209.01	S 14	-	Ap1	0-35	Amorphous	St. Louis	None	-	-	-	1
209.02	S 14	-	Ap1	0-35	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
209.03	S 14	-	Ap1	0-35	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
209.04	S 14	-	Ap1	0-35	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
209.05	S 14	-	Ap1	0-35	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
209.06	S 14	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
209.07	S 14	-	Ap1	0-35	Flake	Ft. Payne	None	3+	Present	0.50"	1
209.08	S 14	-	Ap1	0-35	Shatter	Ft. Payne	Heat Damaged	-	-	-	4
209.09	S 14	-	Ap1	0-35	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
210.01	S 15	-	Ap1	0-35	Preform II	St. Louis	Heat Damaged	-	-	-	1
210.02	S 15	-	Ap1	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	2
210.03	S 15	-	Ap1	0-35	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
210.04	S 15	-	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
210.05	S 15	-	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
210.06	S 15	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
210.07	S 15	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
211.1	S 16	-	Ap1	0-35	Bifacial	St. Louis	None	-	-	-	1
211.10	S 16	-	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.50"	2
211.11	S 16	-	Ap1	0-35	Flake	St. Louis	None	Absent	Absent	0.25"	1
211.12	S 16	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
211.13	S 16	-	Ap1	0-35	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
211.14	S 16	-	Ap1	0-35	Flake	St. Louis	None	0-1	Present	0.50"	1
211.15	S 16	-	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.50"	1
										1.0"	1
211.16	S 16	-	Ap1	0-35	Flake	Ft. Payne	None	2	Absent	0.50"	1
211.17	S 16	-	Ap1	0-35	Flake	Ft. Payne	None	3+	Absent	0.25"	1
211.2	S 16	-	Ap1	0-35	Blank	Ft. Payne	None	-	-	-	1
211.3	S 16	-	Ap1	0-35	Combination Tool	Ft. Payne	None	-	-	-	1
211.4	S 16	-	Ap1	0-35	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
211.5	S 16	-	Ap1	0-35	Combination Tool	Ft. Payne	None	-	-	-	1
211.6	S 16	-	Ap1	0-35	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
211.7	S 16	-	Ap1	0-35	Utilized flake	St. Louis	None	-	-	-	1
211.8	S 16	-	Ap1	0-35	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
211.9	S 16	-	Ap1	0-35	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
212	S 16	-	Ap1	35	PPK, Stilwell	Ft. Payne	Heat Damaged	-	-	-	1
213.01	S 17	-	Ap1	0-25	Knife	St. Louis	Heat Treated	-	-	-	1
213.02	S 17	-	Ap1	0-25	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
213.03	S 17	-	Ap1	0-25	Blank	Ft. Payne	None	-	-	-	1
213.04	S 17	-	Ap1	0-25	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
213.05	S 17	-	Ap1	0-25	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
213.06	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
213.07	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	3
213.08	S 17	-	Ap1	0-25	Flake	St. Louis	Heat Damaged	Absent	Absent	0.50"	1
213.09	S 17	-	Ap1	0-25	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
213.10	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
213.11	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
213.12	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	2
213.13	S 17	-	Ap1	0-25	Flake	Ft. Payne	None	0-1	Present	0.25"	1
										0.50"	2
213.14	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Damaged	2	Present	0.25"	1
213.15	S 17	-	Ap1	0-25	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
										0.50"	1
214	S 17	-	Ap1	20	Preform II	Ft. Payne	None	-	-	-	1
215	S 17	-	Ap1	0-30	Finished Biface	St. Louis	Heat Damaged	-	-	-	1
216.01	S 18	-	Ap1	0-30	Early Stage Biface	Ft. Payne	None	-	-	-	1
216.02	S 18	-	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
216.03	S 18	-	Ap1	0-30	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
216.04	S 18	-	Ap1	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
217.01	S 19	-	Ap1	0-30	Preform I	Ft. Payne	None	-	-	-	1
217.02	S 19	-	Ap1	0-30	Preform I	Ft. Payne	None	-	-	-	1
217.03	S 19	-	Ap1	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
217.04	S 19	-	Ap1	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
217.05	S 19	-	Ap1	0-30	Utilized flake	Ft. Payne	None	-	-	-	1
217.06	S 19	-	Ap1	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
217.07	S 19	-	Ap1	0-30	Spokeshave	Ft. Payne	Heat Damaged	-	-	-	1
217.08	S 19	-	Ap1	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	1
217.09	S 19	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
217.10	S 19	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
217.11	S 19	-	Ap1	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
217.12	S 19	-	Ap1	0-30	Flake	Ft. Payne	None	0-1	Present	0.50"	1
217.13	S 19	-	Ap1	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	2
217.14	S 19	-	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.50"	1
217.15	S 19	-	Ap1	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.50"	1
217.16	S 19	-	Ap1	0-30	Flake	St. Louis	None	Ground	Absent	0.25"	1
217.17	S 19	-	Ap1	0-30	Shatter	St. Louis	Heat Damaged	-	-	-	1
218	S 19	-	Ap1	0-35	Preform II	Bigby-Cannon	Heat Treated	-	-	-	1
219	S 19	-	Ap1	0-30	Endscraper	St. Louis	Heat Treated	-	-	-	1
220.01	S 20	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
220.02	S 20	-	Ap1	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
220.03	S 20	-	Ap1	0-30	Flake	St. Louis	Heat Damaged	2	Absent	0.50"	1
221.01	S 21	-	Ap1	0-40	Blank	St. Louis	None	-	-	-	1
221.02	S 21	-	Ap1	0-40	Blank	Ft. Payne	Heat Treated	-	-	-	1
221.03	S 21	-	Ap1	0-40	Preform II	Ft. Payne	None	-	-	-	1
221.04	S 21	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	1
221.05	S 21	-	Ap1	0-40	Combination Tool	Ft. Payne	None	-	-	-	1
221.06	S 21	-	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
221.07	S 21	-	Ap1	0-40	Graver	St. Louis	None	-	-	-	1
221.08	S 21	-	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	4
221.09	S 21	-	Ap1	0-40	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
221.10	S 21	-	Ap1	0-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
222.01	S 22	-	Ap1	0-45	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
222.02	S 22	-	Ap1	0-45	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
222.03	S 22	-	Ap1	0-45	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
222.04	S 22	-	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	2
223.01	S 23	-	Ap1	0-40	Blank	St. Louis	Heat Treated	-	-	-	1
223.02	S 23	-	Ap1	0-40	Preform II	Ft. Payne	Heat Treated	-	-	-	1
223.03	S 23	-	Ap1	0-40	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
223.04	S 23	-	Ap1	0-40	Graver	Ft. Payne	None	-	-	-	1
223.05	S 23	-	Ap1	0-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
223.06	S 23	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
223.07	S 23	-	Ap1	0-40	Flake	Ft. Payne	None	0-1	Present	0.50"	1
223.08	S 23	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
224a.01	S 23	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	1
224a.02	S 23	-	Ap1	0-40	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
224a.03	S 23	-	Ap1	0-40	Drill	Ft. Payne	None	-	-	-	1
224a.04	S 23	-	Ap1	0-40	Combination Tool	Bigby-Cannon	Heat Treated	-	-	-	1
224a.05	S 23	-	Ap1	0-40	Utilized flake	St. Louis	Heat Treated	-	-	-	1
224a.06	S 23	-	Ap1	0-40	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1
224a.07	S 23	-	Ap1	0-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
224a.08	S 23	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
224a.09	S 23	-	Ap1	0-40	Flake	Ft. Payne	None	Absent	Absent	0.50"	1
224a.10	S 23	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
224a.11	S 23	-	Ap1	0-40	Flake	Ft. Payne	None	2	Absent	0.50"	1
224a.12	S 23	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
224a.13	S 23	-	Ap1	0-40	Flake	Ft. Payne	None	3+	Present	1.0"	1
224b	S 23	-	Ap1	40	PPK, Early Archaic	St. Louis	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
225.01	S 24	-	Ap1	0-35	Hoe	Shale	None	-	-	-	1
225.02	S 24	-	Ap1	0-35	Finished Biface	Ft. Payne	Heat Treated	-	-	-	1
225.03	S 24	-	Ap1	0-35	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
225.04	S 24	-	Ap1	0-35	Shatter	Bigby-Cannon	None	-	-	-	1
225.05	S 24	-	Ap1	0-35	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
225.01	S 26	-	Ap1	0-40	Preform II	St. Louis	Heat Damaged	-	-	-	1
225.02	S 26	-	Ap1	0-40	Preform II	Ft. Payne	Heat Treated	-	-	-	1
225.03	S 26	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	1
225.04	S 26	-	Ap1	0-40	Combination Tool	St. Louis	Heat Treated	-	-	-	1
225.05	S 26	-	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	1
225.06	S 26	-	Ap1	0-40	Graver	Ft. Payne	Heat Damaged	-	-	-	1
225.07	S 26	-	Ap1	0-40	Graver	Ft. Payne	Heat Treated	-	-	-	1
225.08	S 26	-	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	1
225.09	S 26	-	Ap1	0-40	Utilized flake	St. Louis	None	-	-	-	1
225.10	S 26	-	Ap1	0-40	Utilized flake	St. Louis	Heat Treated	-	-	-	1
225.11	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
225.12	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.50"	1
225.13	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
225.14	S 26	-	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	1.0"	1
225.15	S 26	-	Ap1	0-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
225.16	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
225.17	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
225.18	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										1.0"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
225.19	S 26	-	Ap1	0-40	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	1
225.20	S 26	-	Ap1	0-40	Flake	Ft. Payne	None	0-1	Present	0.50"	3
										1.0"	1
225.21	S 26	-	Ap1	0-40	Flake	St. Louis	Heat Damaged	3+	Absent	0.50"	1
225.22	S 26	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
226.01	S 28	-	Ap1	0-30	Flake Scraper	Ft. Payne	None	-	-	-	1
226.02	S 28	-	Ap1	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
226.03	S 28	-	Ap1	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
227.01	S 30	-	Ap1	0-20	Graver	St. Louis	Heat Treated	-	-	-	1
227.02	S 30	-	Ap1	0-20	Flake Scraper	Ft. Payne	None	-	-	-	1
228.01	S 31	-	Ap1	0-40	Flake Scraper	Ft. Payne	None	-	-	-	1
228.02	S 31	-	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
228.03	S 31	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	1.0"	1
229.01	S 32	-	Ap1	0-40	Amorphous	St. Louis	Heat Damaged	-	-	-	1
229.02	S 32	-	Ap1	0-40	Blank	Ft. Payne	None	-	-	-	2
229.03	S 32	-	Ap1	0-40	Flake	Ft. Payne	None	0-1	Absent	0.50"	1
229.04	S 32	-	Ap1	0-40	Flake	Ft. Payne	None	3+	Present	0.50"	1
230.01	S 33	-	Ap1	0-40	Amorphous	Ft. Payne	None	-	-	-	1
230.02	S 33	-	Ap1	0-40	Graver	Ft. Payne	Heat Treated	-	-	-	1
231.01	S 33	-	Ap1	20-40	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
231.02	S 33	-	Ap1	20-40	Amorphous	St. Louis	None	-	-	-	1
231.03	S 33	-	Ap1	20-40	Bifacial	Ft. Payne	None	-	-	-	1
231.04	S 33	-	Ap1	20-40	Flake	St. Louis	Heat Damaged	0-1	Present	1.0"	1
231.05	S 33	-	Ap1	20-40	Flake	Bigby-Cannon	None	0-1	Present	1.0"	1
231.06	S 33	-	Ap1	20-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	1.0"	1
232.01	S 34	-	Ap1	0-35	Flake Scraper	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
232.02	S 34	-	Ap1	0-35	Perforator	St. Louis	Heat Treated	-	-	-	1
232.03	S 34	-	Ap1	0-35	Utilized flake	Ft. Payne	None	-	-	-	1
232.04	S 34	-	Ap1	0-35	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
232.05	S 34	-	Ap1	0-35	Flake	Ft. Payne	None	Absent	Present	0.50"	1
232.06	S 34	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
232.07	S 34	-	Ap1	0-35	Flake	St. Louis	None	0-1	Present	0.25"	1
233	S 34	-	Ap1	0-35	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	1
234	S 34	-	Ap1	0-27	Blank	Ft. Payne	Heat Damaged	-	-	-	1
235.01	S 35	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	2
235.02	S 35	-	Ap1	0-40	Sidescraper	St. Louis	Heat Damaged	-	-	-	1
235.03	S 35	-	Ap1	0-40	Combination Tool	St. Louis	Heat Damaged	-	-	-	1
235.04	S 35	-	Ap1	0-40	Utilized shatter	St. Louis	Heat Damaged	-	-	-	1
235.05	S 35	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
235.06	S 35	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
236	S 36	-	Ap1	0-35	Preform I	Ft. Payne	Heat Treated	-	-	-	1
237	S 40	-	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
238	S 43	-	Ap1	0-35	PPK, McIntire	Ft. Payne	Heat Treated	-	-	-	1
239	S 43	-	Ap1	20	Celt	Slate	None	-	-	-	1
240	S 43	-	AB	35-40	Preform I	Ft. Payne	Heat Treated	-	-	-	1
241	S 43	-	Ap1	0-50	PPK, Kirk Corner Notched	St. Louis	Heat Treated	-	-	-	1
242.01	S 43	-	Ap1	0-50	Blank	Ft. Payne	None	-	-	-	1
242.02	S 43	-	Ap1	0-50	Preform I	Ft. Payne	Heat Treated	-	-	-	1
242.03	S 43	-	Ap1	0-50	Blank	Ft. Payne	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
242.04	S 43	-	Ap1	0-50	Preform II	St. Louis	Heat Treated	-	-	-	1
242.05	S 43	-	Ap1	0-50	Finished Biface	St. Louis	Heat Treated	-	-	-	1
242.06	S 43	-	Ap1	0-50	Finished Biface	Ft. Payne	Heat Damaged	-	-	-	1
242.07	S 43	-	Ap1	0-50	Early Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
242.08	S 43	-	Ap1	0-50	Utilized flake	Ft. Payne	None	-	-	-	1
242.09	S 43	-	Ap1	0-50	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
242.10	S 43	-	Ap1	0-50	Utilized flake	St. Louis	None	-	-	-	1
242.11	S 43	-	Ap1	0-50	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
242.12	S 43	-	Ap1	0-50	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
242.13	S 43	-	Ap1	0-50	Flake Scraper	St. Louis	None	-	-	-	1
242.14	S 43	-	Ap1	0-50	Amorphous	St. Louis	None	-	-	-	3
242.15	S 43	-	Ap1	0-50	Amorphous	St. Louis	Heat Damaged	-	-	-	1
242.16	S 43	-	Ap1	0-50	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
242.17	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
										0.50"	1
242.18	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
242.19	S 43	-	Ap1	0-50	Flake	St. Louis	None	Absent	Absent	0.50"	1
242.20	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
242.21	S 43	-	Ap1	0-50	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
										0.50"	2
242.22	S 43	-	Ap1	0-50	Flake	St. Louis	None	0-1	Present	0.50"	4
										1.0"	1
242.23	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	3
										1.0"	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
242.24	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
										0.50"	1
242.25	S 43	-	Ap1	0-50	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
242.26	S 43	-	Ap1	0-50	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
242.27	S 43	-	Ap1	0-50	Shatter	St. Louis	None	-	-	-	1
243	S 43	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	0-1	Present	1.0"	1
244	S 43	-	Ap2	40-60	Amorphous	St. Louis	None	-	-	-	1
245	S 43	-	Ap1	0-30	PPK, Savannah River Stemmed	Ft. Payne	Heat Treated	-	-	-	1
246.01	S 44	-	Ap1	0-35	Finished Biface	St. Louis	None	-	-	-	1
246.02	S 44	-	Ap1	0-35	Utilized flake	Ft. Payne	None	-	-	-	1
246.03	S 44	-	Ap1	0-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	1.0"	1
246.04	S 44	-	Ap1	0-35	Flake	Ft. Payne	None	Absent	Present	1.0"	1
246.05	S 44	-	Ap1	0-35	Flake	St. Louis	None	0-1	Present	0.50"	1
246.06	S 44	-	Ap1	0-35	Flake	Ft. Payne	None	0-1	Present	0.50"	1
247	S 44	-	AB	40	Flake	St. Louis	None	0-1	Present	0.50"	1
248.01	S 44	-	Ap1	0-45	PPK, Wade	St. Louis	None	-	-	-	1
248.02	S 44	-	Ap1	0-45	Preform II	Ft. Payne	None	-	-	-	1
248.03	S 44	-	Ap1	0-45	Blank	Ft. Payne	None	-	-	-	1
248.04	S 44	-	Ap1	0-45	Blank	Ft. Payne	Heat Treated	-	-	-	1
248.05	S 44	-	Ap1	0-45	Combination Tool	St. Louis	None	-	-	-	1
248.06	S 44	-	Ap1	0-45	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
248.07	S 44	-	Ap1	0-45	Flake Scraper	St. Louis	None	-	-	-	1
248.08	S 44	-	Ap1	0-45	Flake Scraper	Ft. Payne	None	-	-	-	1
248.09	S 44	-	Ap1	0-45	Graver	St. Louis	None	-	-	-	1
248.10	S 44	-	Ap1	0-45	Graver	Ft. Payne	Heat Damaged	-	-	-	1
248.11	S 44	-	Ap1	0-45	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
										0.50"	1
248.12	S 44	-	Ap1	0-45	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
248.13	S 44	-	Ap1	0-45	Flake	St. Louis	None	Absent	Absent	0.50"	1
248.14	S 44	-	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
248.15	S 44	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
248.16	S 44	-	Ap1	0-45	Flake	Ft. Payne	None	Absent	Present	0.50"	1
248.17	S 44	-	Ap1	0-45	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
248.18	S 44	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
										1.0"	1
248.19	S 44	-	Ap1	0-45	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	2
248.20	S 44	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
248.21	S 44	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	3+	Absent	1.0"	1
248.22	S 44	-	Ap1	0-45	Flake	St. Louis	None	3+	Present	0.50"	1
249	S 47	-	AB	45	Preform II	Ft. Payne	Heat Treated	-	-	-	1
250.01	S 49	-	Ap1	0-40	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
250.02	S 49	-	Ap1	0-40	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
250.03	S 49	-	Ap1	0-40	Flake	St. Louis	None	Absent	Present	0.50"	1
250.04	S 49	-	Ap1	0-40	Flake	St. Louis	None	0-1	Absent	0.50"	1
250.05	S 49	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	1
250.06	S 49	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
										0.50"	1
251.01	S 50	-	Ap1	0-40	Amorphous	St. Louis	None	-	-	-	3
251.02	S 50	-	Ap1	0-40	Amorphous	Ft. Payne	None	-	-	-	1
251.03	S 50	-	Ap1	0-40	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
251.04	S 50	-	Ap1	0-40	Amorphous	Bigby-Cannon	None	-	-	-	2
251.05	S 50	-	Ap1	0-40	Utilized flake	St. Louis	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
251.06	S 50	-	Ap1	0-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
251.07	S 50	-	Ap1	0-40	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
251.08	S 50	-	Ap1	0-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
251.09	S 50	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
251.10	S 50	-	Ap1	0-40	Flake	Ft. Payne	None	Absent	Present	0.50"	1
251.11	S 50	-	Ap1	0-40	Debitage undivided	Chert/Mix	-	-	-	-	1
252.01	S 51	-	Ap1	0-45	Amorphous	St. Louis	None	-	-	-	1
252.02	S 51	-	Ap1	0-45	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
252.03	S 51	-	Ap1	0-45	Blank	Ft. Payne	Heat Treated	-	-	-	1
252.04	S 51	-	Ap1	0-45	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
252.05	S 51	-	Ap1	0-45	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
252.06	S 51	-	Ap1	0-45	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
252.07	S 51	-	Ap1	0-45	Flake	St. Louis	Heat Treated	0-1	Present	0.50"	1
253.01	S 52	-	Ap1	0-40	Preform I	Ft. Payne	Heat Damaged	-	-	-	1
253.02	S 52	-	Ap1	0-40	Graver	Ft. Payne	None	-	-	-	1
253.03	S 52	-	Ap1	0-40	Flake Scraper	St. Louis	None	-	-	-	1
253.04	S 52	-	Ap1	0-40	Utilized flake	Ft. Payne	None	-	-	-	1
253.05	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
253.06	S 52	-	Ap1	0-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
253.07	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
										1.0"	1
253.08	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
253.09	S 52	-	Ap1	0-40	Flake	St. Louis	None	Absent	Present	1.0"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
253.10	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	1
253.11	S 52	-	Ap1	0-40	Flake	St. Louis	None	0-1	Absent	0.25"	1
253.12	S 52	-	Ap1	0-40	Flake	Ft. Payne	None	0-1	Absent	0.50"	1
253.13	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	1.0"	1
253.14	S 52	-	Ap1	0-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
253.15	S 52	-	Ap1	0-40	Flake	Ft. Payne	None	3+	Present	0.25"	1
										0.50"	1
253.16	S 52	-	Ap1	0-40	Flake	St. Louis	None	0-1	Present	1.0"	1
254.01	S 53	-	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
254.02	S 53	-	Ap	0-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
254.03	S 53	-	Ap	0-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
255.01	S 55	-	Ap	0-45	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	3
255.02	S 55	-	Ap	0-45	Spokeshave	Ft. Payne	Heat Damaged	-	-	-	1
255.03	S 55	-	Ap	0-45	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
255.04	S 55	-	Ap	0-45	Hoe	Shale	None	-	-	-	1
256.01	F 01	-	-	35-47	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
256.02	F 01	-	-	35-47	FCR	Sandstone	Heat Damaged	-	-	-	2
257.01	F 01	-	-	35-47	Amorphous	St. Louis	None	-	-	-	1
257.02	F 01	-	-	35-47	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
01C	F 1 W1/2	-	-	35-47	Charcoal	Wood	-	-	-	-	1
01F.01	F 1 W1/2	-	-	35-47	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
01F.02	F 1 W1/2	-	-	35-47	Burned Stone	Sandstone	Heat Damaged	-	-	-	5
01F.03	F 1 W1/2	-	-	35-47	Charcoal	Wood	-	-	-	-	1
01F.04	F 1 W1/2	-	-	35-47	Heavy Fraction	-	-	-	-	-	1
01F.05	F 1 W1/2	-	-	35-47	Light Fraction	-	-	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
01F.06	F 1 W1/2	-	-	35-47	Charcoal	Wood	-	-	-	-	1
01F.07	F 1 W1/2	-	-	35-47	Seed #1	-	-	-	-	-	4
01F.08	F 1 W1/2	-	-	35-47	Seed #2	-	-	-	-	-	88
02F.01	F 2 W1/2	-	-	40-50	Light Fraction	-	-	-	-	-	1
02F.02	F 2 W1/2	-	-	40-50	Heavy Fraction	-	-	-	-	-	1
04C	F 2 W1/2	-	-	45-50	Charcoal	Wood	-	-	-	-	1
03F.01	F 3 N1/2	-	-	40-70	Light Fraction	-	-	-	-	-	1
03F.02	F 3 N1/2	-	-	40-70	Heavy Fraction	-	-	-	-	-	1
03F.03	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
03F.04	F 3 N1/2	-	-	40-70	Flake	St. Louis	None	Absent	Absent	0.25"	3
03F.05	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
03F.06	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	None	Absent	Present	0.25"	1
03F.07	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
03F.08	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
03F.09	F 3 N1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
03F.10	F 3 N1/2	-	-	40-70	Nutshell	Hickory	-	-	-	-	12
03F.11	F 3 N1/2	-	-	40-70	Unknown Animal	Unknown bone	Fragment	-	-	-	2
03F.12	F 3 N1/2	-	-	40-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	115
04F.01	F 3 N1/2	-	-	70-100	Light Fraction	-	-	-	-	-	1
04F.02	F 3 N1/2	-	-	70-100	Heavy Fraction	-	-	-	-	-	1
04F.03	F 3 N1/2	-	-	70-100	Utilized flake	St. Louis	Heat Treated	-	-	-	1
04F.04	F 3 N1/2	-	-	70-100	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
04F.05	F 3 N1/2	-	-	70-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
04F.06	F 3 N1/2	-	-	70-100	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
04F.07	F 3 N1/2	-	-	70-100	Flake	St. Louis	None	2	Absent	0.25"	1
04F.08	F 3 N1/2	-	-	70-100	Flake	St. Louis	None	2	Absent	0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
04F.09	F 3 N1/2	-	-	70-100	Debitage undivided	Chert/Mix	-	-	-	<1/4"	33
04F.10	F 3 N1/2	-	-	70-100	Shatter	Ft. Payne	None	-	-	-	1
04F.11	F 3 N1/2	-	-	70-100	Nutshell	Hickory	-	-	-	-	34
04F.12	F 3 N1/2	-	-	70-100	Possible Fish bone	Indeterminate	-	-	-	-	2
05C	F 3 N1/2	-	-	40-135	Charcoal	Wood	-	-	-	-	1
05F.01	F 3 N1/2	-	-	100-135	Light Fraction	-	-	-	-	-	1
05F.02	F 3 N1/2	-	-	100-135	Heavy Fraction	-	-	-	-	-	1
05F.03	F 3 N1/2	-	-	100-135	Manuport	Ft. Payne	None	-	-	-	1
05F.04	F 3 N1/2	-	-	100-135	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
05F.05	F 3 N1/2	-	-	100-135	Debitage undivided	Chert/Mix	-	-	-	<1/4"	39
					Flake	St. Louis	None	Absent	Present	0.25"	1
05F.06	F 3 N1/2	-	-	100-135	Nutshell	Hickory	Burned	-	-	-	9
05F.07	F 3 N1/2	-	-	100-135	Charcoal	Wood	Burned	-	-	-	1
258.01	F 3 N1/2	-	-	40-135	PPK, McIntire	St. Louis	Heat Treated	-	-	-	1
258.02	F 3 N1/2	-	-	40-135	Preform II	St. Louis	Heat Treated	-	-	-	1
258.03	F 3 N1/2	-	-	40-135	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
258.04	F 3 N1/2	-	-	40-135	Utilized flake	St. Louis	Heat Treated	-	-	-	1
258.05	F 3 N1/2	-	-	40-135	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
258.06	F 3 N1/2	-	-	40-135	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
258.07	F 3 N1/2	-	-	40-135	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	5

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
258.08	F 3 N1/2	-	-	40-135	Flake Scraper	St. Louis	None	-	-	-	2
258.09a	F 3 N1/2	-	-	40-135	Graver	Ft. Payne	Heat Treated	-	-	-	1
258.09b	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	Absent	Absent	0.25"	5
258.10	F 3 N1/2	-	-	40-135	Flake	St. Louis	None	Absent	Absent	0.25"	4
258.11	F 3 N1/2	-	-	40-135	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
										0.50"	1
258.12	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	13
										0.50"	2
258.13	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	5
258.14	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	8
258.15	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
258.16	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	Absent	Present	0.25"	5
										0.50"	3
258.17	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	6
										0.50"	2
258.18	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
										0.50"	1
258.19	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
258.20	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	0-1	Absent	0.25"	3
										0.50"	4
258.21	F 3 N1/2	-	-	40-135	Flake	St. Louis	None	0-1	Absent	0.25"	6
258.22	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	4
										0.50"	3

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
258.23	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
258.24	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	0-1	Present	0.25"	3
										0.50"	2
258.25	F 3 N1/2	-	-	40-135	Flake	St. Louis	None	0-1	Present	0.25"	4
										0.50"	1
258.26	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
										0.50"	3
258.27	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
										0.50"	1
258.28	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
258.29	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	2	Absent	0.25"	3
258.30	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	3
										0.50"	2
258.31	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	2	Present	0.25"	1
258.32	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	2
258.33	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
258.34	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
258.35	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
258.36	F 3 N1/2	-	-	40-135	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1
258.37	F 3 N1/2	-	-	40-135	Flake	St. Louis	None	3+	Present	0.50"	2
258.38	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
258.39a	F 3 N1/2	-	-	40-135	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	2

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
258.39b	F 3 N1/2	-	-	40-135	Shatter	St. Louis	None	-	-	-	1
258.40	F 3 N1/2	-	-	40-135	Shatter	St. Louis	Heat Damaged	-	-	-	2
258.41	F 3 N1/2	-	-	40-135	FCR	Sandstone	Heat Damaged	-	-	-	2
258.42	F 3 N1/2	-	-	40-135	Burned Stone	Sandstone	Heat Damaged	-	-	-	1
258.43	F 3 N1/2	-	-	40-135	FCR	Limestone	Heat Damaged	-	-	-	7
258.44	F 3 N1/2	-	-	40-135	Debitage undivided	Chert/Mix	-	-	-	<1/4"	116
259	F 3 N1/2	-	-	68	PPK, Kirk Corner Notched	St. Louis	None	-	-	-	1
06C	F 3 S1/2	-	-	40-70	Charcoal	Wood	-	-	-	-	1
07C	F 3 S1/2	-	-	70-100	Charcoal	Wood	-	-	-	-	1
08C	F 3 S1/2	-	-	100-135	Charcoal	Wood	-	-	-	-	1
260.01	F 3 S1/2	-	-	40-70	Finished Biface	St. Louis	Heat Treated	-	-	-	1
260.02	F 3 S1/2	-	-	40-70	Preform II	Ft. Payne	None	-	-	-	1
260.03	F 3 S1/2	-	-	40-70	Late Stage Biface	St. Louis	Heat Damaged	-	-	-	1
260.04	F 3 S1/2	-	-	40-70	Amorphous	Ft. Payne	None	-	-	-	1
260.05	F 3 S1/2	-	-	40-70	Amorphous	St. Louis	None	-	-	-	1
260.06	F 3 S1/2	-	-	40-70	Perforator	Ft. Payne	Heat Damaged	-	-	-	1
260.07	F 3 S1/2	-	-	40-70	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
260.08	F 3 S1/2	-	-	40-70	Denticulate	Ft. Payne	Heat Treated	-	-	-	1
260.09	F 3 S1/2	-	-	40-70	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
260.10	F 3 S1/2	-	-	40-70	Flake Scraper	Ft. Payne	None	-	-	-	1
260.11	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
260.12	F 3 S1/2	-	-	40-70	Flake	St. Louis	None	Absent	Absent	0.25"	3
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
260.13	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	8
										0.50"	1
260.14	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
260.15	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
260.16	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
										0.50"	1
260.17	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	Absent	Present	0.25"	4
										0.50"	2
										1.0"	1
260.18	F 3 S1/2	-	-	40-70	Flake	St. Louis	None	Absent	Present	0.25"	1
260.19	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	3
										0.50"	3
260.20	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	4
										0.50"	1
260.21	F 3 S1/2	-	-	40-70	Flake	Bigby-Cannon	Heat Damaged	Absent	Present	0.25"	1
260.22	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
260.23	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
260.24	F 3 S1/2	-	-	40-70	Flake	St. Louis	None	0-1	Absent	0.25"	4
260.25	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	4
										0.50"	1
260.26	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
260.27	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Damaged	0-1	Absent	0.50"	1
260.28	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	0-1	Present	0.25"	4
										0.50"	2
260.29a	F 3 S1/2	-	-	40-70	Flake	St. Louis	None	0-1	Present	0.25"	1
260.29b	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
										0.50"	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
260.30	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
260.31	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	2	Absent	0.25"	1
260.32	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
260.33	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Damaged	2	Absent	0.50"	1
260.34	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	2	Present	0.25"	1
										0.50"	1
260.35	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
260.36	F 3 S1/2	-	-	40-70	Flake	St. Louis	Heat Treated	2	Present	0.25"	1
260.37	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
260.38	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
260.39	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
260.40	F 3 S1/2	-	-	40-70	Flake	Ft. Payne	None	Ground	Present	0.25"	1
										0.50"	1
260.41	F 3 S1/2	-	-	40-70	Shatter	St. Louis	Heat Damaged	-	-	-	2
260.42	F 3 S1/2	-	-	40-70	FCR	Sandstone	Heat Damaged	-	-	-	3
260.43	F 3 S1/2	-	-	40-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	67
260.44	F 3 S1/2	-	-	40-70	Nutshell	Indeterminate	Burned	-	-	-	1
261.01	F 3 S1/2	-	-	70-100	Denticulate	St. Louis	None	-	-	-	1
261.02	F 3 S1/2	-	-	70-100	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
261.03	F 3 S1/2	-	-	70-100	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
261.04	F 3 S1/2	-	-	70-100	Flake Scraper	Ft. Payne	None	-	-	-	2
261.05	F 3 S1/2	-	-	70-100	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
261.06	F 3 S1/2	-	-	70-100	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
261.07	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
261.08	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
261.09	F 3 S1/2	-	-	70-100	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
261.10	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	Absent	Absent	0.50"	1
261.11	F 3 S1/2	-	-	70-100	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
261.12	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
261.13	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	None	Absent	Present	0.50"	1
261.14	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	0-1	Absent	0.25"	1
261.15	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
										0.50"	1
261.16	F 3 S1/2	-	-	70-100	Flake	St. Louis	Heat Damaged	0-1	Absent	0.50"	1
261.17	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	None	0-1	Present	0.50"	4
261.18	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	0-1	Present	0.25"	1
										0.50"	2
261.19	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
										0.50"	1
261.20	F 3 S1/2	-	-	70-100	Flake	St. Louis	Heat Treated	2	Present	0.25"	1
261.21	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	2	Absent	0.25"	2
261.22	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	None	2	Absent	0.50"	2
261.23	F 3 S1/2	-	-	70-100	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
261.24	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	3+	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
261.25	F 3 S1/2	-	-	70-100	Flake	St. Louis	None	Ground	Absent	0.25"	1
261.26	F 3 S1/2	-	-	70-100	Debitage undivided	Chert/Mix	-	-	-	<1/4"	25
261.27	F 3 S1/2	-	-	70-100	Burned Stone	Sandstone	Heat Damaged	-	-	-	1
261.28	F 3 S1/2	-	-	70-100	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
261.29	F 3 S1/2	-	-	70-100	Rock	Shale	None	-	-	-	1
262.01	F 3 S1/2	-	-	100-135	Flake Scraper	St. Louis	None	-	-	-	1
262.02	F 3 S1/2	-	-	100-135	Flake	St. Louis	None	Absent	Absent	0.25"	1
262.03	F 3 S1/2	-	-	100-135	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	2
262.04	F 3 S1/2	-	-	100-135	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
262.05	F 3 S1/2	-	-	100-135	Flake	Ft. Payne	None	0-1	Present	0.25"	1
262.06	F 3 S1/2	-	-	100-135	Shatter	St. Louis	Heat Damaged	-	-	-	1
262.07	F 3 S1/2	-	-	100-135	Nutshell	Indeterminate	Burned	-	-	-	1
09C	F 4 N1/2	-	-	40-73	Charcoal	Wood	-	-	-	-	1
263.01	F 4 N1/2	-	-	40-73	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
263.02	F 4 N1/2	-	-	40-73	Blank	Ft. Payne	None	-	-	-	1
263.03	F 4 N1/2	-	-	40-73	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
263.04	F 4 N1/2	-	-	40-73	Combonation Tool	St. Louis	Heat Treated	-	-	-	1
263.05	F 4 N1/2	-	-	40-73	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
263.06	F 4 N1/2	-	-	40-73	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	3
263.07	F 4 N1/2	-	-	40-73	Spokeshave	St. Louis	None	-	-	-	1
263.08	F 4 N1/2	-	-	40-73	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
263.09	F 4 N1/2	-	-	40-73	Denticulate	Ft. Payne	Heat Treated	-	-	-	1
263.10	F 4 N1/2	-	-	40-73	Flake Scraper	Ft. Payne	None	-	-	-	1
263.11	F 4 N1/2	-	-	40-73	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	7
263.12	F 4 N1/2	-	-	40-73	Flake Scraper	St. Louis	None	-	-	-	1
263.13	F 4 N1/2	-	-	40-73	Flake Scraper	St. Louis	Heat Treated	-	-	-	3
263.14	F 4 N1/2	-	-	40-73	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
263.15	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
263.16	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	Absent	Absent	0.25"	1
263.17	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	23
										0.50"	2
263.18	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	5
263.19	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
										0.50"	2
263.20	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
263.21	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Present	0.25"	5
										0.50"	2
263.22	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	Absent	Present	0.25"	3
263.23	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
										0.50"	4
										1.0"	1
263.24	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
										0.50"	2
263.25	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
263.26	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
263.27	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	0-1	Absent	0.25"	1
263.28	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	10

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
263.29	F 4 N1/2	-	-	40-73	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
263.30	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	None	0-1	Present	0.25"	5
263.31	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	0-1	Present	0.25"	4
										0.50"	1
263.32	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	6
										0.50"	4
										1.0"	1
263.33	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
263.34	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
263.35	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	2	Absent	0.25"	2
263.36	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	8
										0.50"	1
263.37	F 4 N1/2	-	-	40-73	Flake	St. Louis	Heat Treated	2	Absent	0.25"	2
263.38	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
263.39	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	None	2	Present	0.50"	1
263.40	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	2	Present	0.50"	2
263.41	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	3+	Absent	0.25"	2
263.42	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	5
										0.50"	1
263.43	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	3+	Present	0.25"	1
263.44	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
										0.50"	1
263.45	F 4 N1/2	-	-	40-73	Flake	St. Louis	None	Ground	Absent	0.25"	1
263.46	F 4 N1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	2
263.47	F 4 N1/2	-	-	40-73	Shatter	St. Louis	Heat Damaged	-	-	-	1
263.48	F 4 N1/2	-	-	40-73	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
263.49	F 4 N1/2	-	-	40-73	Hoe flake	Shale	None	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
263.50	F 4 N1/2	-	-	40-73	FCR	Limestone	Heat Damaged	-	-	-	1
263.51	F 4 N1/2	-	-	40-73	FCR	Sandstone	Heat Damaged	-	-	-	5
263.52	F 4 N1/2	-	-	40-73	Debitage undivided	Chert/Mix	-	-	-	<1/4"	79
010C	F 4 S1/2	-	-	40-73	Charcoal	Wood	-	-	-	-	1
06F.01	F 4 S1/2	-	-	40-73	Light Fraction	-	-	-	-	-	1
06F.02	F 4 S1/2	-	-	40-73	Heavy Fraction	-	-	-	-	-	1
06F.03	F 4 S1/2	-	-	40-73	Amorphous	Ft. Payne	None	-	-	-	1
06F.04a	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
06F.04b	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
06F.05a	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
06F.05b	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
06F.06	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
06F.07	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Present	0.25"	2
06F.08	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	0-1	Absent	0.50"	1
06F.09	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
06F.10	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
										0.50"	2
06F.11	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	0-1	Absent	0.25"	6
06F.12	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
06F.13	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	0-1	Present	0.25"	4
06F.14	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
06F.15	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	2	Absent	0.25"	1
06F.16	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
06F.17	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	3+	Absent	0.25"	1
06F.18	F 4 S1/2	-	-	40-73	Rock	Shale	None	-	-	-	1
06F.19	F 4 S1/2	-	-	40-73	Burnt Clay	-	-	-	-	-	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
06F.20	F 4 S1/2	-	-	40-73	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
06F.21	F 4 S1/2	-	-	40-73	FCR	Limestone	Heat Damaged	-	-	-	5
06F.22	F 4 S1/2	-	-	40-73	FCR	Sandstone	Heat Damaged	-	-	-	4
06F.23	F 4 S1/2	-	-	40-73	Debitage undivided	Chert/Mix	-	-	-	<1/4"	659
06F.24	F 4 S1/2	-	-	40-73	Aplodinotus grunniens	Pharyngeal Tooth	Burned	-	-	-	1
06F.25	F 4 S1/2	-	-	40-73	Unknown Animal	Unknown bone	Calcined	-	-	-	1
06F.26	F 4 S1/2	-	-	40-73	Nutshell	Hickory	Burned	-	-	-	138
264.01	F 4 S1/2	-	-	40-73	Blank	Ft. Payne	Heat Treated	-	-	-	1
264.02	F 4 S1/2	-	-	40-73	Blank	Ft. Payne	Heat Treated	-	-	-	1
264.03	F 4 S1/2	-	-	40-73	PPK, Indeterminate	Ft. Payne	Heat Damaged	-	-	-	1
264.04	F 4 S1/2	-	-	40-73	Late Stage Biface	St. Louis	None	-	-	-	1
264.05	F 4 S1/2	-	-	40-73	Amorphous	Ft. Payne	Heat Treated	-	-	-	2
264.06	F 4 S1/2	-	-	40-73	Spokeshave	St. Louis	None	-	-	-	1
264.07	F 4 S1/2	-	-	40-73	Perforator	St. Louis	None	-	-	-	1
264.08	F 4 S1/2	-	-	40-73	Utilized flake	St. Louis	Heat Treated	-	-	-	1
264.09	F 4 S1/2	-	-	40-73	Utilized flake	Ft. Payne	None	-	-	-	1
264.10	F 4 S1/2	-	-	40-73	Flake Scraper	St. Louis	None	-	-	-	3
264.11	F 4 S1/2	-	-	40-73	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
264.12	F 4 S1/2	-	-	40-73	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	10
264.13	F 4 S1/2	-	-	40-73	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
264.14	F 4 S1/2	-	-	40-73	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	4
264.15	F 4 S1/2	-	-	40-73	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	2
264.16	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	Absent	Absent	0.25"	3
264.17	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
264.18	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	18
										0.50"	2
264.19	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
264.20	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
264.21	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
264.22	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	Absent	Present	0.25"	10
										0.50"	1
264.23	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	Absent	Present	0.25"	1
										0.50"	2
264.24	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	3
264.25	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	7
										0.50"	4
264.26	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
										0.50"	1
264.27	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	0-1	Absent	0.25"	5
										0.50"	1
264.28	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	0-1	Absent	0.25"	3
264.29	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	9
										0.50"	2
										1.0"	1
264.30	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
										0.50"	1
264.31	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	0-1	Present	0.25"	3
										0.50"	3
										1.0"	2
264.32	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	None	0-1	Present	0.25"	4
										0.50"	3
										1.0"	3

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
264.33	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	5
264.34	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
										0.50"	1
264.35	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	2	Absent	0.25"	3
264.36	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	4
										0.50"	1
264.37	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
264.38	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Damaged	2	Present	0.25"	2
264.39	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
264.40	F 4 S1/2	-	-	40-73	Flake	St. Louis	Heat Damaged	3+	Absent	0.50"	1
264.41	F 4 S1/2	-	-	40-73	Flake	St. Louis	None	3+	Present	0.50"	1
264.42	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
264.43	F 4 S1/2	-	-	40-73	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
264.44	F 4 S1/2	-	-	40-73	Flake	Sandstone	None	Absent	Present	0.25"	2
										0.50"	1
264.45	F 4 S1/2	-	-	40-73	Flake	Sandstone	None	0-1	Present	0.25"	2
										0.50"	1
264.46	F 4 S1/2	-	-	40-73	Shatter	Ft. Payne	None	-	-	-	3
264.47	F 4 S1/2	-	-	40-73	Poss. Hoe Flake	Shale	None	-	-	-	1
264.48	F 4 S1/2	-	-	40-73	FCR	Sandstone	Heat Damaged	-	-	-	6
264.49	F 4 S1/2	-	-	40-73	FCR	Quartzite	Heat Damaged	-	-	-	1
264.50	F 4 S1/2	-	-	40-73	Burned Stone	Sandstone	Heat Damaged	-	-	-	1
264.51	F 4 S1/2	-	-	40-73	Debitage undivided	Chert/Mix	-	-	-	<1/4"	53
264.52	F 4 S1/2	-	-	40-73	Nutshell	Indeterminate	Burned	-	-	-	1
011C	F 5 N1/2	-	-	45-75	Charcoal	Wood	-	-	-	-	1

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
265.01	F 5 N1/2	-	-	45-75	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
265.02	F 5 N1/2	-	-	45-75	Utilized flake	Ft. Payne	None	-	-	-	3
265.03	F 5 N1/2	-	-	45-75	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
265.04	F 5 N1/2	-	-	45-75	Rock	Shale	None	-	-	-	2
265.05	F 5 N1/2	-	-	45-75	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
										0.50"	1
265.06	F 5 N1/2	-	-	45-75	Flake	St. Louis	None	Absent	Present	0.50"	1
265.07	F 5 N1/2	-	-	45-75	Flake	Ft. Payne	None	0-1	Present	0.25"	4
265.08	F 5 N1/2	-	-	45-75	Flake	Ft. Payne	None	2	Absent	0.25"	1
265.09	F 5 N1/2	-	-	45-75	Flake	Ft. Payne	None	3+	Absent	0.50"	1
265.10	F 5 N1/2	-	-	45-75	Flake	Ft. Payne	None	Ground	Present	0.25"	1
265.11	F 5 N1/2	-	-	45-75	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
266.01	F 5 S1/2	-	-	45-75	Graver	Ft. Payne	None	-	-	-	1
266.02	F 5 S1/2	-	-	45-75	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
266.03	F 5 S1/2	-	-	45-75	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
266.04	F 5 S1/2	-	-	45-75	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
266.05	F 5 S1/2	-	-	45-75	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
266.06	F 5 S1/2	-	-	45-75	Flake	Ft. Payne	None	3+	Present	0.25"	1
266.07	F 5 S1/2	-	-	45-75	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
07F.01	F 5 W1/2	-	-	45-75	Light Fraction	-	-	-	-	-	1
07F.02	F 5 W1/2	-	-	45-75	Heavy Fraction	-	-	-	-	-	1
07F.03	F 5 W1/2	-	-	45-75	Flake	St. Louis	None	Absent	Absent	0.25"	1
07F.04	F 5 W1/2	-	-	45-75	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
07F.05	F 5 W1/2	-	-	45-75	Flake	Ft. Payne	None	Absent	Present	0.25"	1
07F.06	F 5 W1/2	-	-	45-75	Rock	Shale	None	-	-	-	3
07F.07	F 5 W1/2	-	-	45-75	Debitage undivided	Chert/Mix	-	-	-	<1/4"	17
07F.08	F 5 W1/2	-	-	45-75	Nutshell	Hickory	Burned	-	-	-	42

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
010F.01	F 6 N1/2	-	-	85-125	Light Fraction	-	-	-	-	-	1
010F.02	F 6 N1/2	-	-	85-125	Heavy Fraction	-	-	-	-	-	1
010F.03	F 6 N1/2	-	-	85-125	PPK, Indeterminate	Ft. Payne	Heat Damaged	-	-	-	1
010F.04	F 6 N1/2	-	-	85-125	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	1
010F.05	F 6 N1/2	-	-	85-125	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
010F.06	F 6 N1/2	-	-	85-125	Flake	Chalcedony	None	Absent	Present	0.25"	1
010F.07	F 6 N1/2	-	-	85-125	Flake	Ft. Payne	None	2	Absent	0.25"	1
010F.08	F 6 N1/2	-	-	85-125	Debitage undivided	Chert/Mix	-	-	-	<1/4"	65
010F.09	F 6 N1/2	-	-	85-125	Unknown Animal	Unknown bone	None	-	-	-	5
010F.10	F 6 N1/2	-	-	85-125	Unknown Animal	Unknown bone	Calcined	-	-	-	8
012C	F 6 N1/2	-	-	50-70	Charcoal	Wood	-	-	-	-	1
013C	F 6 N1/2	-	-	70-85	Charcoal	Wood	-	-	-	-	1
08F.01	F 6 N1/2	-	-	50-70	Light Fraction	-	-	-	-	-	1
08F.02	F 6 N1/2	-	-	50-70	Heavy Fraction	-	-	-	-	-	1
08F.03	F 6 N1/2	-	-	50-70	Amorphous	Ft. Payne	None	-	-	-	1
08F.04	F 6 N1/2	-	-	50-70	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
08F.05	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
08F.06	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
08F.07	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
08F.08	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	Absent	Present	0.25"	1
08F.09	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
										0.50"	1
08F.10	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	0-1	Present	0.25"	1
08F.11	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	3+	Absent	0.25"	4

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
08F.12	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
08F.13	F 6 N1/2	-	-	50-70	Shatter	St. Louis	Heat Damaged	-	-	-	1
08F.14	F 6 N1/2	-	-	50-70	Shatter	Ft. Payne	None	-	-	-	1
08F.15	F 6 N1/2	-	-	50-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	173
08F.16	F 6 N1/2	-	-	50-70	Nutshell	Hickory	-	-	-	-	14
08F.17	F 6 N1/2	-	-	50-70	Unknown Animal	Unknown bone	Calcined	-	-	-	9
09F.01	F 6 N1/2	-	-	70-85	Light Fraction	-	-	-	-	-	1
09F.02	F 6 N1/2	-	-	70-85	Heavy Fraction	-	-	-	-	-	1
09F.03	F 6 N1/2	-	-	70-85	Amorphous	Ft. Payne	None	-	-	-	2
09F.04	F 6 N1/2	-	-	70-85	Combonation Tool	St. Louis	None	-	-	-	1
09F.05	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
09F.06	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	Absent	Absent	0.25"	1
09F.07	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
09F.08	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
09F.09	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	Absent	Present	0.25"	1
09F.10	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	Absent	Present	0.25"	4
										0.50"	1
09F.11	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
09F.12	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	0-1	Absent	0.25"	1
09F.13	F 6 N1/2	-	-	70-85	Flake	Bigby-Cannon	None	0-1	Absent	0.50"	1
09F.14	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
										0.50"	1
09F.15	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
09F.16	F 6 N1/2	-	-	70-85	Flake	Quartzite	None	0-1	Present	0.50"	1
09F.17	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	0-1	Present	0.50"	1
09F.18	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	0-1	Present	0.25"	4
										0.50"	1
09F.19	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	2	Absent	0.25"	2
09F.20	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	3+	Absent	0.25"	2
09F.21	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	3+	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
09F.22	F 6 N1/2	-	-	70-85	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
09F.23	F 6 N1/2	-	-	70-85	Shatter	Ft. Payne	None	-	-	-	1
09F.24	F 6 N1/2	-	-	70-85	Debitage undivided	Chert/Mix	-	-	-	<1/4"	250
09F.25	F 6 N1/2	-	-	70-85	Nutshell	Hickory	Burned	-	-	-	10
267.01	F 6 N1/2	-	-	50-70	Finished Biface	Ft. Payne	Heat Treated	-	-	-	1
267.02	F 6 N1/2	-	-	50-70	Blank	Ft. Payne	None	-	-	-	1
267.03	F 6 N1/2	-	-	50-70	Combonation Tool	Ft. Payne	Heat Damaged	-	-	-	1
267.04	F 6 N1/2	-	-	50-70	Combonation Tool	Ft. Payne	Heat Treated	-	-	-	1
267.05	F 6 N1/2	-	-	50-70	Graver	St. Louis	Heat Damaged	-	-	-	1
267.06	F 6 N1/2	-	-	50-70	Graver	Ft. Payne	None	-	-	-	1
267.07	F 6 N1/2	-	-	50-70	Flake Scraper	St. Louis	None	-	-	-	1
267.08	F 6 N1/2	-	-	50-70	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
267.09	F 6 N1/2	-	-	50-70	Flake Scraper	Ft. Payne	None	-	-	-	1
267.10	F 6 N1/2	-	-	50-70	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
267.11	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
267.12	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
										0.50"	1
267.13	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
267.14	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	Absent	Absent	0.25"	2
										0.50"	1
267.15	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
										0.50"	1
267.16	F 6 N1/2	-	-	50-70	Flake	Quartzite	None	Absent	Absent	1.0"	1
267.17	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
267.18	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	4

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
267.19	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Treated	Absent	Present	0.50"	1
267.20	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	Absent	Present	0.25"	1
										0.50"	1
										1.0"	1
267.21	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	Absent	Present	0.25"	8
267.22	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
267.23	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
267.24	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	2
267.25	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	4
267.26	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	0-1	Absent	0.25"	1
267.27	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	8
										0.50"	2
267.28	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
										0.50"	2
267.29	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	0-1	Present	0.50"	1
267.30	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	6
										0.50"	2
										1.0"	1
267.31	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	2	Absent	0.25"	1
267.32	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	2	Absent	0.25"	3
										0.50"	1
267.33	F 6 N1/2	-	-	50-70	Flake	Bigby-Cannon	Heat Treated	3+	Absent	0.25"	1
267.34	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.50"	1
267.35	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
267.36	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
267.37	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	3+	Absent	0.25"	3
267.38	F 6 N1/2	-	-	50-70	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
267.39	F 6 N1/2	-	-	50-70	Flake	St. Louis	None	3+	Present	0.25"	1
										0.50"	1
267.40	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	3+	Present	0.25"	2
										0.50"	2
267.41	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
267.42	F 6 N1/2	-	-	50-70	Flake	Ft. Payne	None	Ground	Present	0.25"	1
267.43	F 6 N1/2	-	-	50-70	Shatter	Ft. Payne	Heat Damaged	-	-	-	6
267.44	F 6 N1/2	-	-	50-70	FCR	Sandstone	Heat Damaged	-	-	-	2
267.45	F 6 N1/2	-	-	50-70	FCR	Limestone	Heat Damaged	-	-	-	4
267.46	F 6 N1/2	-	-	50-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	76
267.47	F 6 N1/2	-	-	50-70	Burned Clay	-	-	-	-	-	1
268.01	F 6 N1/2	-	-	70-85	Late Stage Biface	St. Louis	None	-	-	-	1
268.02	F 6 N1/2	-	-	70-85	Blank	St. Louis	None	-	-	-	1
268.03	F 6 N1/2	-	-	70-85	Blank	St. Louis	None	-	-	-	1
268.04	F 6 N1/2	-	-	70-85	Preform II	Ft. Payne	Heat Treated	-	-	-	1
268.05	F 6 N1/2	-	-	70-85	Axe	Quartzite	None	-	-	-	1
268.06	F 6 N1/2	-	-	70-85	Hammerstone	Quartz	None	-	-	-	1
268.07	F 6 N1/2	-	-	70-85	Pendant	River Pebble	None	-	-	-	1
268.08	F 6 N1/2	-	-	70-85	Perforator	St. Louis	None	-	-	-	1
268.09	F 6 N1/2	-	-	70-85	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
268.10	F 6 N1/2	-	-	70-85	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
268.11	F 6 N1/2	-	-	70-85	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
268.12	F 6 N1/2	-	-	70-85	Flake Scraper	St. Louis	None	-	-	-	1
268.13	F 6 N1/2	-	-	70-85	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
268.14	F 6 N1/2	-	-	70-85	Flake Scraper	Ft. Payne	None	-	-	-	4
268.15	F 6 N1/2	-	-	70-85	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	8
268.16	F 6 N1/2	-	-	70-85	Flake Scraper	Bigby-Cannon	None	-	-	-	1
268.17	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	Absent	Absent	0.25"	3

40Pm274

Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
										0.50"	1
268.18	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	Absent	Absent	0.25"	9
268.19	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	11
268.20	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	5
268.21	F 6 N1/2	-	-	70-85	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
268.22	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	Absent	Present	0.25"	6
										0.50"	2
										1.0"	2
268.23	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	Absent	Present	0.25"	6
										0.50"	2
268.24	F 6 N1/2	-	-	70-85	Flake	Quartzite	None	Absent	Present	0.25"	1
268.25	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	4
268.26	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
268.27	F 6 N1/2	-	-	70-85	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
										0.50"	1
268.28	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	0-1	Present	0.25"	4
										0.50"	3
268.29	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	0-1	Present	0.25"	9
										0.50"	5
268.30	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	1
268.31	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
268.32	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	0-1	Absent	0.25"	3
268.33	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	0-1	Absent	0.25"	6
268.34	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	9
										0.50"	1
268.35	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
268.36	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	2	Present	0.25"	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
268.37	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	2	Present	0.50"	2
268.38	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
										0.50"	1
268.39	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	2	Absent	0.25"	4
268.40	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	2	Absent	0.25"	1
										0.50"	1
268.41	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	3
268.42	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	2	Absent	0.50"	1
268.43	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	3+	Absent	0.25"	3
268.44	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	None	3+	Absent	0.25"	3
268.45	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
268.46	F 6 N1/2	-	-	70-85	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
268.47	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.50"	1
268.48	F 6 N1/2	-	-	70-85	Shatter	Ft. Payne	None	-	-	-	1
268.49	F 6 N1/2	-	-	70-85	Shatter	Ft. Payne	Heat Damaged	-	-	-	7
268.50	F 6 N1/2	-	-	70-85	Flake	St. Louis	None	Ground	Absent	0.25"	2
268.51	F 6 N1/2	-	-	70-85	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
268.52	F 6 N1/2	-	-	70-85	FCR	Sandstone	Heat Damaged	-	-	-	1
268.53	F 6 N1/2	-	-	70-85	FCR	Quartzite	Heat Damaged	-	-	-	1
268.54	F 6 N1/2	-	-	70-85	Burned Clay	-	-	-	-	-	6
268.55	F 6 N1/2	-	-	70-85	Rock	Shale	None	-	-	-	2
268.56	F 6 N1/2	-	-	70-85	Debitage undivided	Chert/Mix	-	-	-	<1/4"	118
268.57	F 6 N1/2	-	-	70-85	Nutshell	Indeterminate	Burned	-	-	-	2
269	F 6 N1/2	-	-	80-85	PPK, Early Archaic	St. Louis	None	-	-	-	1
270	F 6 N1/2	-	-	80-85	PPK, Motely	St. Louis	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	Provenience	Level	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
271	F 6 N1/2	-	-	80-85	PPK, Indeterminate	Ft. Payne	Heat Treated	-	-	-	1
272	F 6 N1/2	-	-	84	PPK, Motely	Ft. Payne	Heat Treated	-	-	-	1
274.01	F 6 N1/2	-	-	85-125	Aves indeterminate	Long bone fragment	Calcined	-	-	-	1
274.02	F 6 N1/2	-	-	85-125	Unknown Animal	Flat bone fragment	None	-	-	-	1
014C	F 6 S1/2	-	-	85-125	Charcoal	Wood	-	-	-	-	1
015C	F 6 S1/2	-	-	50-125	Charcoal	Wood	-	-	-	-	1
275.01	F 6 S1/2	-	-	50-125	PPK, Motely	St. Louis	None	-	-	-	1
275.02	F 6 S1/2	-	-	50-125	PPK, Motely	St. Louis	Heat Treated	-	-	-	1
275.03	F 6 S1/2	-	-	50-125	PPK, Indeterminate	St. Louis	Heat Damaged	-	-	-	1
275.04	F 6 S1/2	-	-	50-125	Finished Biface	St. Louis	None	-	-	-	1
275.05	F 6 S1/2	-	-	50-125	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
275.06	F 6 S1/2	-	-	50-125	Blank	St. Louis	None	-	-	-	1
275.07	F 6 S1/2	-	-	50-125	Blank	Ft. Payne	Heat Treated	-	-	-	1
275.08	F 6 S1/2	-	-	50-125	Preform II	Ft. Payne	Heat Treated	-	-	-	1
275.09	F 6 S1/2	-	-	50-125	Utilized flake	St. Louis	Heat Treated	-	-	-	1
275.10	F 6 S1/2	-	-	50-125	Utilized flake	Ft. Payne	None	-	-	-	3
275.11	F 6 S1/2	-	-	50-125	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
275.12	F 6 S1/2	-	-	50-125	Flake Scraper	Ft. Payne	None	-	-	-	2
275.13	F 6 S1/2	-	-	50-125	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	6
275.14	F 6 S1/2	-	-	50-125	Flake Scraper	St. Louis	None	-	-	-	2

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
275.15	F 6 S1/2	-	-	50-125	Perforator	St. Louis	Heat Treated	-	-	-	1
275.16	F 6 S1/2	-	-	50-125	Perforator	St. Louis	None	-	-	-	1
275.17	F 6 S1/2	-	-	50-125	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	5
275.18	F 6 S1/2	-	-	50-125	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
275.19	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	Absent	Present	0.25"	6
										0.50"	2
275.20	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	Absent	Present	0.25"	5
275.21	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
										0.50"	1
275.22	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
275.23	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
										0.50"	1
275.24	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
275.25	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	Absent	Absent	0.25"	5
275.26	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	Absent	Absent	0.25"	10
275.27	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	16
										0.50"	2
275.28	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
275.29	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
										0.50"	1
275.30	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
275.31	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	0-1	Present	0.25"	6
										0.50"	3

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
										1.0"	1
275.32	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	0-1	Present	0.25"	9
										0.50"	3
275.33	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
										0.50"	4
275.34	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	3
										0.50"	4
										1.0"	1
275.35	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
275.36	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	0-1	Absent	0.25"	3
										0.50"	1
275.37	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
275.38	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	8
275.39	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	0-1	Absent	0.25"	1
275.40	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	2	Present	0.25"	3
275.41	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
275.42	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	2	Present	0.50"	1
275.43	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	2	Absent	0.25"	1
275.44	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	2	Absent	0.25"	1
275.45	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
										0.50"	1
275.46	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	3+	Present	0.25"	2
										0.50"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
275.47	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	0-1	Present	0.50"	1
275.48	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
										0.50"	1
275.49	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Treated	3+	Present	0.25"	2
275.50	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	3+	Absent	0.25"	2
275.51	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	4
275.52	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
275.53	F 6 S1/2	-	-	50-125	Flake	St. Louis	Heat Treated	Ground	Absent	0.25"	1
275.54	F 6 S1/2	-	-	50-125	Flake	St. Louis	None	Ground	Present	0.25"	1
275.55	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
275.56	F 6 S1/2	-	-	50-125	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	1
275.57	F 6 S1/2	-	-	50-125	Shatter	St. Louis	None	-	-	-	2
275.58	F 6 S1/2	-	-	50-125	Shatter	St. Louis	Heat Damaged	-	-	-	6
275.59	F 6 S1/2	-	-	50-125	Shatter	Ft. Payne	Heat Damaged	-	-	-	5
275.60	F 6 S1/2	-	-	50-125	FCR	Limestone	Heat Damaged	-	-	-	6
275.61	F 6 S1/2	-	-	50-125	Debitage undivided	Chert/Mix	-	-	-	<1/4"	230
275.62	F 6 S1/2	-	-	50-125	Charcoal	Wood	Burned	-	-	-	1
273.01	F6 N1/2	-	-	85-125	PPK, Indeterminate	St. Louis	Heat Treated	-	-	-	1
273.02	F6 N1/2	-	-	85-125	PPK, Indeterminate	Ft. Payne	Heat Treated	-	-	-	1
273.03	F6 N1/2	-	-	85-125	Amorphous	Ft. Payne	Heat Treated	-	-	-	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
273.04	F6 N1/2	-	-	85-125	Amorphous	St. Louis	None	-	-	-	2
273.05	F6 N1/2	-	-	85-125	Amorphous	St. Louis	Heat Treated	-	-	-	1
273.06	F6 N1/2	-	-	85-125	Utilized flake	Ft. Payne	None	-	-	-	1
273.07	F6 N1/2	-	-	85-125	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
273.08	F6 N1/2	-	-	85-125	Utilized flake	St. Louis	Heat Treated	-	-	-	1
273.09	F6 N1/2	-	-	85-125	Blade	St. Louis	None	-	-	-	2
273.10	F6 N1/2	-	-	85-125	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
273.11	F6 N1/2	-	-	85-125	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
273.12	F6 N1/2	-	-	85-125	Spokeshave	Ft. Payne	None	-	-	-	1
273.13	F6 N1/2	-	-	85-125	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
273.14	F6 N1/2	-	-	85-125	Flake	Ft. Payne	None	Absent	Present	0.25"	3
										0.50"	2
273.15	F6 N1/2	-	-	85-125	Flake	St. Louis	None	Absent	Present	0.25"	3
										0.50"	1
273.16	F6 N1/2	-	-	85-125	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
273.17	F6 N1/2	-	-	85-125	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
273.18	F6 N1/2	-	-	85-125	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
273.19	F6 N1/2	-	-	85-125	Flake	St. Louis	None	Absent	Absent	0.25"	3
273.20	F6 N1/2	-	-	85-125	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
273.21	F6 N1/2	-	-	85-125	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	3
273.22	F6 N1/2	-	-	85-125	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1

40Pm274											
Cat. No.	**Provenience**	**Level**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
273.23	F6 N1/2	-	-	85-125	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
273.24	F6 N1/2	-	-	85-125	Flake	Ft. Payne	None	0-1	Present	0.25"	5
										0.50"	6
										1.0"	3
273.25	F6 N1/2	-	-	85-125	Flake	St. Louis	None	0-1	Present	0.25"	3
										0.50"	3
273.26	F6 N1/2	-	-	85-125	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
										0.50"	1
273.27	F6 N1/2	-	-	85-125	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	4
										0.50"	1
273.28	F6 N1/2	-	-	85-125	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
273.29	F6 N1/2	-	-	85-125	Flake	Ft. Payne	None	2	Absent	0.25"	1
273.30	F6 N1/2	-	-	85-125	Flake	St. Louis	None	3+	Present	0.25"	1
273.31	F6 N1/2	-	-	85-125	Shatter	Ft. Payne	Heat Damaged	-	-	-	12
273.32	F6 N1/2	-	-	85-125	Shatter	St. Louis	Heat Damaged	-	-	-	2
273.33	F6 N1/2	-	-	85-125	Debitage undivided	Chert/Mix	-	-	-	<1/4"	61
273.34	F6 N1/2	-	-	85-125	PPK, Indeterminate	Ft. Payne	Heat Treated	-	-	-	1
273.35	F6 N1/2	-	-	85-125	Burned Stone	Sandstone	Heat Damaged	-	-	-	4
273.36	F6 N1/2	-	-	85-125	FCR	Limestone	Heat Damaged	-	-	-	3
Total											**8600**

40Pm184

Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
1.01	STP 82-135	Ap	0-17	Preform II	St. Louis	Heat Treated	-	-	-	1
1.02	STP 82-135	Ap	0-17	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
									0.50"	1
1.03	STP 82-135	Ap	0-17	Flake	St. Louis	None	Absent	Absent	0.25"	2
1.04	STP 82-135	Ap	0-17	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
1.05	STP 82-135	Ap	0-17	Flake	St. Louis	None	Absent	Present	0.25"	2
1.06	STP 82-135	Ap	0-17	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
2.01	STP 82-135	Ap	17-35	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
2.02	STP 82-135	Ap	17-35	Flake	St. Louis	None	Absent	Absent	0.25"	1
2.03	STP 82-135	Ap	17-35	Flake	St. Louis	None	0-1	Absent	0.25"	1
2.04	STP 82-135	Ap	17-35	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.50"	1
3.00	STP 83-13N	Ap	0-14	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
4.01	STP 83-13W	Ap	0-18	Flake	St. Louis	None	Absent	Absent	0.25"	1
4.02	STP 83-13W	Ap	0-18	Flake	Ft. Payne	None	Absent	Present	0.25"	1
4.03	STP 83-13W	Ap	0-18	Flake	St. Louis	None	Ground	Present	0.25"	1
5.01	STP 84-13N	Ap	0-30	Angled Flake Scraper	Ft. Payne	None	-	-	-	1
5.02	STP 84-13N	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
5.03	STP 84-13N	Ap	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
5.04	STP 84-13N	Ap	0-30	Shatter	Ft. Payne	None	-	-	-	2
5.05	STP 84-13N	Ap	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
6.01	STP 86-14N	Ap	0-30	Amorphous	St. Louis	None	-	-	-	1
6.02	STP 86-14N	Ap	0-30	Amorphous	Ft. Payne	None	-	-	-	1
6.03	STP 86-14N	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
6.04	STP 86-14N	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
6.05	STP 86-14N	Ap	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
									0.50"	1
6.06	STP 86-14N	Ap	0-30	Flake	St. Louis	None	Absent	Present	0.50"	1
6.07	STP 86-14N	Ap	0-30	Flake	St. Louis	None	2	Absent	0.50"	1
6.08	STP 86-14N	Ap	0-30	Shatter	Ft. Payne	None	-	-	-	3
7.01	STP 86-14S	Ap	0-26	Preform II	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
7.02	STP 86-14S	Ap	0-26	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
7.03	STP 86-14S	Ap	0-26	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
7.04	STP 86-14S	Ap	0-26	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
7.05	STP 86-14S	Ap	0-26	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
									0.50"	1
7.06	STP 86-14S	Ap	0-26	Flake	St. Louis	None	Absent	Present	0.50"	1
7.07	STP 86-14S	Ap	0-26	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
7.08	STP 86-14S	Ap	0-26	Flake	Ft. Payne	None	0-1	Absent	0.50"	1
7.09	STP 86-14S	Ap	0-26	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
7.10	STP 86-14S	Ap	0-26	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
7.11	STP 86-14S	Ap	0-26	Flake	Ft. Payne	None	0-1	Present	0.25"	1
7.12	STP 86-14S	Ap	0-26	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
7.13	STP 86-14S	Ap	0-26	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
7.14	STP 86-14S	Ap	0-26	Shatter	Ft. Payne	None	-	-	-	1
7.15	STP 86-14S	Ap	0-26	Debitage undivided	Chert/Mix	-	-	-	<1/4"	9
8.01	STP 87-14N	Ap	0-50	Utilized flake	Ft. Payne	None	-	-	-	1
8.02	STP 87-14N	Ap	0-50	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
8.03	STP 87-14N	Ap	0-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
8.04	STP 87-14N	Ap	0-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
8.05	STP 87-14N	Ap	0-50	Flake	St. Louis	None	Absent	Absent	0.50"	1
8.06	STP 87-14N	Ap	0-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
8.07	STP 87-14N	Ap	0-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
8.08	STP 87-14N	Ap	0-50	Flake	Ft. Payne	None	Absent	Present	0.25"	1
8.09	STP 87-14N	Ap	0-50	Flake	Bigby-Cannon	None	Absent	Present	0.50"	1
8.10	STP 87-14N	Ap	0-50	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
8.11	STP 87-14N	Ap	0-50	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
8.12	STP 87-14N	Ap	0-50	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
8.13	STP 87-14N	Ap	0-50	Flake	St. Louis	None	3+	Absent	0.25"	1
8.14	STP 87-14N	Ap	0-50	Flake	Ft. Payne	None	3+	Absent	0.25"	1
8.15	STP 87-14N	Ap	0-50	Shatter	St. Louis	None	-	-	-	1
8.16	STP 87-14N	Ap	0-50	Shatter	Ft. Payne	None	-	-	-	4
8.17	STP 87-14N	Ap	0-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	10
9.01	STP 87-14N	Ap	0-50	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
9.02	STP 87-14N	Ap	0-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
10.01	TU 01	Ap	0-30	Undecorated	Fragment	-	-	-	-	1
10.02	TU 01	Ap	0-30	Rock	Shale	None	-	-	-	3
10.03	TU 01	Ap	0-30	Tested Cobble	Ft. Payne	None	-	-	-	1
10.04a	TU 01	Ap	0-30	Amorphous	St. Louis	None	-	-	-	2
10.04b	TU 01	Ap	0-30	Late Stage Biface	St. Louis	None	-	-	-	1
10.05	TU 01	Ap	0-30	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
10.06	TU 01	Ap	0-30	Preform II	Ft. Payne	Heat Treated	-	-	-	1
10.07	TU 01	Ap	0-30	Preform I	Ft. Payne	None	-	-	-	1
10.08	TU 01	Ap	0-30	Indeterminate Biface	Ft. Payne	Heat Treated	-	-	-	1
10.09	TU 01	Ap	0-30	Indeterminate Biface	St. Louis	Heat Damaged	-	-	-	1
10.10	TU 01	Ap	0-30	Indeterminate Biface	Ft. Payne	Heat Damaged	-	-	-	2
10.11	TU 01	Ap	0-30	Indeterminate Biface	Ft. Payne	Heat Treated	-	-	-	1
10.12	TU 01	Ap	0-30	Indeterminate Biface	Ft. Payne	Heat Treated	-	-	-	1
10.13	TU 01	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
10.14	TU 01	Ap	0-30	Combination Tool	St. Louis	None	-	-	-	1
10.15	TU 01	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
10.16	TU 01	Ap	0-30	Spokeshave	Bigby-Cannon	Heat Damaged	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
10.17	TU 01	Ap	0-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
10.18	TU 01	Ap	0-30	Spokeshave	Ft. Payne	None	-	-	-	2
10.19	TU 01	Ap	0-30	Graver	St. Louis	None	-	-	-	1
10.20	TU 01	Ap	0-30	Graver	Ft. Payne	Heat Damaged	-	-	-	1
10.21	TU 01	Ap	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	1
10.22	TU 01	Ap	0-30	Graver	Ft. Payne	None	-	-	-	2
10.23	TU 01	Ap	0-30	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
10.24	TU 01	Ap	0-30	Flake Scraper	St. Louis	None	-	-	-	2
10.25	TU 01	Ap	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
10.26	TU 01	Ap	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
10.27	TU 01	Ap	0-30	Flake Scraper	Ft. Payne	None	-	-	-	7
10.28	TU 01	Ap	0-30	Utilized flake	St. Louis	Heat Treated	-	-	-	3
10.29	TU 01	Ap	0-30	Utilized flake	St. Louis	None	-	-	-	2
10.30	TU 01	Ap	0-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	2
10.31	TU 01	Ap	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	7
10.32	TU 01	Ap	0-30	Utilized flake	Ft. Payne	None	-	-	-	9
10.33	TU 01	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	16
10.34	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	68
									0.50"	4
10.35	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	28
									0.50"	1
10.36	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	55
									0.50"	4
10.37	TU 01	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	5
									0.50"	1
10.38	TU 01	Ap	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	28

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
									0.50"	1
10.39	TU 01	Ap	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	56
									0.50"	6
10.40	TU 01	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	6
10.41	TU 01	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	Absent	Present	0.50"	1
10.42	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	15
									0.50"	6
10.43	TU 01	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
10.44	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	5
									0.50"	1
10.45	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	24
									0.50"	5
10.46	TU 01	Ap	0-30	Flake	St. Louis	None	Absent	Present	0.25"	7
									0.50"	1
10.47	TU 01	Ap	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	34
									0.50"	12
									1.0"	1
10.48	TU 01	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	2
10.49	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	9
10.50	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	6
10.51	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	12
									0.50"	1
10.52	TU 01	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Absent	0.25"	2
10.53	TU 01	Ap	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	8
10.54	TU 01	Ap	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	15
									0.50"	1
10.55	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	5

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
									0.50"	3
10.56	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	4
10.57	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	11
									0.50"	8
									1.0"	2
10.58	TU 01	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
									0.50"	1
10.59	TU 01	Ap	0-30	Flake	St. Louis	None	0-1	Present	0.25"	2
10.60	TU 01	Ap	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	13
									0.50"	9
									1.0"	2
10.61	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	2
									0.50"	1
10.62	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
10.63	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
10.64	TU 01	Ap	0-30	Flake	St. Louis	None	2	Absent	0.25"	2
10.65	TU 01	Ap	0-30	Flake	Ft. Payne	None	2	Absent	0.25"	1
10.66	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Present	0.25"	1
									0.50"	1
10.67	TU 01	Ap	0-30	Flake	Ft. Payne	None	2	Present	0.25"	1
10.68	TU 01	Ap	0-30	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	2
10.69	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	7
									0.50"	2
10.70	TU 01	Ap	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	5
10.71	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	8
									0.50"	1
10.72	TU 01	Ap	0-30	Flake	St. Louis	None	3+	Absent	0.25"	2
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
10.73	TU 01	Ap	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	4
									0.50"	2
10.74	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Damaged	3+	Present	0.25"	1
									0.50"	1
10.75	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
									0.50"	1
10.76	TU 01	Ap	0-30	Flake	Ft. Payne	None	3+	Present	0.25"	4
10.77	TU 01	Ap	0-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
10.78	TU 01	Ap	0-30	Flake	Ft. Payne	None	Ground	Absent	0.25"	4
10.79	TU 01	Ap	0-30	Shatter	Bigby-Cannon	None	-	-	-	2
10.80	TU 01	Ap	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	30
10.81	TU 01	Ap	0-30	Shatter	Ft. Payne	None	-	-	-	25
10.82	TU 01	Ap	0-30	Rock	Sandstone	None	-	-	-	2
10.83	TU 01	Ap	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	383
11	TU 01	Ap	10	PPK, Adena Stemmed	Ft. Payne	Heat Treated	-	-	-	1
12	TU 01	Ap	10	Finished Biface	Ft. Payne	None	-	-	-	1
13	TU 01	Ap	15	Late Stage Biface	Ft. Payne	None	-	-	-	1
14.01	TU 01	AP/Disturbance	30-40	Clinched	20d	-	-	-	-	1
14.02	TU 01	AP/Disturbance	30-40	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
14.03	TU 01	AP/Disturbance	30-40	Tested Cobble	Ft. Payne	None	-	-	-	2
14.04	TU 01	AP/Disturbance	30-40	Blank	Ft. Payne	Heat Damaged	-	-	-	1
14.05	TU 01	AP/Disturbance	30-40	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
14.06	TU 01	AP/Disturbance	30-40	Graver	Ft. Payne	None	-	-	-	1
14.07	TU 01	AP/Disturbance	30-40	Flake Scraper	St. Louis	None	-	-	-	1
14.08	TU 01	AP/Disturbance	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
14.09	TU 01	AP/Disturbance	30-40	Flake Scraper	Ft. Payne	None	-	-	-	2
14.10	TU 01	AP/Disturbance	30-40	Utilized flake	Bigby-Cannon	None	-	-	-	1
14.11	TU 01	AP/Disturbance	30-40	Utilized flake	St. Louis	None	-	-	-	1
14.12	TU 01	AP/Disturbance	30-40	Utilized flake	Ft. Payne	None	-	-	-	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
14.13	TU 01	AP/Disturbance	30-40	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
14.14	TU 01	AP/Disturbance	30-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
14.15	TU 01	AP/Disturbance	30-40	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	1
14.16	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	10
14.17	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	22
									0.50"	5
14.18	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
14.19	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	23
14.20	TU 01	AP/Disturbance	30-40	Flake	Bigby-Cannon	None	Absent	Present	0.25"	2
14.21	TU 01	AP/Disturbance	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	10
14.22	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	19
									0.50"	1
14.23	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
14.24	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	7
									0.50"	1
									1.0"	1
14.25	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	5
									0.50"	1
14.26	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	10
									0.50"	2
14.27	TU 01	AP/Disturbance	30-40	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
14.28	TU 01	AP/Disturbance	30-40	Flake	St. Louis	None	Absent	Present	0.25"	3
									0.50"	1
14.29	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	15
									0.50"	2
14.30	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
14.31	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
									0.50"	1
14.32	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
14.33	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	8
									0.50"	1
14.34	TU 01	AP/Disturbance	30-40	Flake	Bigby-Cannon	None	0-1	Absent	0.25"	1
14.35	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	9
									0.50"	1
14.36	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
14.37	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
									0.50"	1
14.38	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	5
									0.50"	3
14.39	TU 01	AP/Disturbance	30-40	Flake	St. Louis	None	0-1	Present	0.25"	2
									0.50"	1
14.40	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	8
									0.50"	3
14.41	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
14.42	TU 01	AP/Disturbance	30-40	Flake	St. Louis	None	2	Absent	0.25"	1
14.43	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
14.44	TU 01	AP/Disturbance	30-40	Flake	St. Louis	None	2	Present	0.25"	1
14.45	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	2	Present	0.25"	1
14.46	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
14.47	TU 01	AP/Disturbance	30-40	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
14.48	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	4
14.49	TU 01	AP/Disturbance	30-40	Flake	Chalcedony	None	3+	Absent	0.25"	1
14.50	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	3+	Absent	0.25"	2
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
14.51	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Damaged	3+	Present	0.25"	1
14.52	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	3
									0.50"	1
14.53	TU 01	AP/Disturbance	30-40	Flake	Ft. Payne	None	3+	Present	0.25"	3
14.54	TU 01	AP/Disturbance	30-40	Rock	Shale	None	-	-	-	1
14.55	TU 01	AP/Disturbance	30-40	Shatter	St. Louis	Heat Damaged	-	-	-	1
14.56	TU 01	AP/Disturbance	30-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	13
14.57	TU 01	AP/Disturbance	30-40	Shatter	Ft. Payne	None	-	-	-	13
14.58	TU 01	AP/Disturbance	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	233
15	TU 01	AP/Disturbance	42	PPK, Cotaco Creek	Ft. Payne	Heat Treated	-	-	-	1
16.01	TU 01	AP/Disturbance	40-50	Tested Cobble	Ft. Payne	Heat Treated	-	-	-	1
16.02	TU 01	AP/Disturbance	40-50	PPK, Elk River	Ft. Payne	Heat Treated	-	-	-	1
16.03	TU 01	AP/Disturbance	40-50	Finished Biface	St. Louis	Heat Damaged	-	-	-	1
16.04	TU 01	AP/Disturbance	40-50	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
16.05	TU 01	AP/Disturbance	40-50	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
16.06	TU 01	AP/Disturbance	40-50	Blank	Ft. Payne	None	-	-	-	1
16.07	TU 01	AP/Disturbance	40-50	Combination Tool	Ft. Payne	Heat Damaged	-	-	-	1
16.08	TU 01	AP/Disturbance	40-50	Graver	Ft. Payne	None	-	-	-	2
16.09	TU 01	AP/Disturbance	40-50	Spokeshave	Ft. Payne	None	-	-	-	1
16.10	TU 01	AP/Disturbance	40-50	Flake Scraper	Bigby-Cannon	None	-	-	-	1
16.11	TU 01	AP/Disturbance	40-50	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
16.12	TU 01	AP/Disturbance	40-50	Flake Scraper	Ft. Payne	None	-	-	-	3
16.13	TU 01	AP/Disturbance	40-50	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	4
16.14	TU 01	AP/Disturbance	40-50	Utilized flake	Ft. Payne	Heat Treated	-	-	-	5

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
16.15	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	3
16.16	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	15
									0.50"	5
16.17	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
									0.50"	1
16.18	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	20
									0.50"	2
16.19	TU 01	AP/Disturbance	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	5
									0.50"	1
16.20	TU 01	AP/Disturbance	40-50	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
16.21	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	20
									0.50"	2
16.22	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
16.23	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	9
									0.50"	3
16.24	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
									0.50"	1
16.25	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	10
									0.50"	3
16.26	TU 01	AP/Disturbance	40-50	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
									0.50"	1
16.27	TU 01	AP/Disturbance	40-50	Flake	St. Louis	None	Absent	Present	0.50"	1
16.28	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	7
									0.50"	4
									1.0"	1
16.29	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	2
16.30	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
16.31	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	5
									0.50"	3
16.32	TU 01	AP/Disturbance	40-50	Flake	St. Louis	None	0-1	Absent	0.25"	2
									0.50"	2
16.33	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
16.34	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
16.35	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
16.36	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
									0.50"	4
16.37	TU 01	AP/Disturbance	40-50	Flake	St. Louis	None	0-1	Present	0.25"	1
16.38	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									0.50"	5
16.39	TU 01	AP/Disturbance	40-50	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	2
16.40	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
16.41	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
16.42	TU 01	AP/Disturbance	40-50	Flake	St. Louis	None	2	Absent	0.25"	1
16.43	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	2	Absent	0.25"	2
16.44	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
16.45	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	7
16.46	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	None	3+	Absent	0.25"	3
									0.50"	1
16.47	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
16.48	TU 01	AP/Disturbance	40-50	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
									0.50"	1
16.49	TU 01	AP/Disturbance	40-50	Shatter	St. Louis	None	-	-	-	1
16.50	TU 01	AP/Disturbance	40-50	Shatter	Ft. Payne	None	-	-	-	7
16.51	TU 01	AP/Disturbance	40-50	Shatter	Ft. Payne	None	-	-	-	10

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
16.52	TU 01	AP/Disturbance	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	87
17.01	TU 01	AP/Disturbance	50-60	PPK, Indeterminate	Ft. Payne	Heat Treated	-	-	-	1
17.02	TU 01	AP/Disturbance	50-60	Flake Scraper	Ft. Payne	None	-	-	-	1
17.03	TU 01	AP/Disturbance	50-60	Angled Flake Scraper	Ft. Payne	None	-	-	-	1
17.04	TU 01	AP/Disturbance	50-60	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
17.05	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
									0.50"	1
17.06	TU 01	AP/Disturbance	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
17.07	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
17.08	TU 01	AP/Disturbance	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	3
17.09	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	4
									0.50"	1
17.10	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
17.11	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
17.12	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	None	Absent	Present	0.25"	1
17.13	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
17.14	TU 01	AP/Disturbance	50-60	Flake	St. Louis	None	0-1	Absent	0.25"	2
17.15	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
17.16	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	None	2	Absent	0.25"	1
17.17	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.50"	2
17.18	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	1
17.19	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	None	3+	Absent	0.25"	1
17.20	TU 01	AP/Disturbance	50-60	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
17.21	TU 01	AP/Disturbance	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
17.22	TU 01	AP/Disturbance	50-60	Shatter	Ft. Payne	None	-	-	-	3
17.23	TU 01	AP/Disturbance	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	29

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
18.01	TU 01	AB	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
18.02	TU 01	AB	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
18.03	TU 01	AB	60-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
18.04	TU 01	AB	60-70	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
18.05	TU 01	AB	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
19.01	TU 01	Bt2	70-80	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
19.02	TU 01	Bt2	70-80	Flake	Ft. Payne	None	Absent	Present	0.25"	1
19.03	TU 01	Bt2	70-80	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
19.04	TU 01	Bt2	70-80	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
19.05	TU 01	Bt2	70-80	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
20.01	TU 02	Ap	0-30	Clear Lead Glaze	Ext./Int.	-	-	-	-	1
20.02	TU 02	Ap	0-30	Amorphous	Bigby-Cannon	None	-	-	-	1
20.03	TU 02	Ap	0-30	Finished Biface	St. Louis	Heat Treated	-	-	-	1
20.04	TU 02	Ap	0-30	Late Stage Biface	St. Louis	Heat Damaged	-	-	-	1
20.05	TU 02	Ap	0-30	Utilized flake	Ft. Payne	None	-	-	-	1
20.06	TU 02	Ap	0-30	Combination Tool	St. Louis	Heat Treated	-	-	-	1
20.07	TU 02	Ap	0-30	Graver	Ft. Payne	Heat Damaged	-	-	-	1
20.08	TU 02	Ap	0-30	Graver	Ft. Payne	None	-	-	-	1
20.09	TU 02	Ap	0-30	Spokeshave	Ft. Payne	None	-	-	-	1
20.10	TU 02	Ap	0-30	Flake Scraper	Bigby-Cannon	None	-	-	-	1
20.11	TU 02	Ap	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	2
20.12	TU 02	Ap	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
20.13	TU 02	Ap	0-30	Flake Scraper	Ft. Payne	None	-	-	-	3
20.14	TU 02	Ap	0-30	Utilized flake	Bigby-Cannon	Heat Damaged	-	-	-	1
20.15	TU 02	Ap	0-30	Utilized flake	Bigby-Cannon	Heat Treated	-	-	-	1

40Pm184

Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
20.16	TU 02	Ap	0-30	Utilized flake	St. Louis	None	-	-	-	1
20.17	TU 02	Ap	0-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	2
20.18	TU 02	Ap	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
20.19	TU 02	Ap	0-30	Utilized flake	Ft. Payne	None	-	-	-	7
20.20	TU 02	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
20.21	TU 02	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
20.22	TU 02	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
20.23	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	11
									0.50"	1
20.24	TU 02	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
20.25	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	18
									0.50"	4
20.26	TU 02	Ap	0-30	Flake	Chalcedony	None	Absent	Absent	0.25"	1
20.27	TU 02	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	3
20.28	TU 02	Ap	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	4
20.29	TU 02	Ap	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	6
									0.50"	1
20.30	TU 02	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	Absent	Present	0.25"	1
20.31	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
									0.50"	1
20.32	TU 02	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
20.33	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
									0.50"	3
20.34	TU 02	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
20.35	TU 02	Ap	0-30	Flake	St. Louis	None	Absent	Present	0.25"	3
									0.50"	1
20.36	TU 02	Ap	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	6

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
									0.50"	2
20.37	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
20.38	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
20.39	TU 02	Ap	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	2
20.40	TU 02	Ap	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	4
									0.50"	1
20.41	TU 02	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
20.42	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
20.43	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	4
20.44	TU 02	Ap	0-30	Flake	St. Louis	None	0-1	Present	0.25"	1
									0.50"	1
20.45	TU 02	Ap	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	7
									0.50"	1
20.46	TU 02	Ap	0-30	Flake	Ft. Payne	None	2	Absent	0.25"	1
20.47	TU 02	Ap	0-30	Flake	Ft. Payne	None	2	Present	0.50"	1
20.48	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.50"	1
20.49	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
20.50	TU 02	Ap	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
20.51	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
20.52	TU 02	Ap	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	2
20.53	TU 02	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	2
									0.50"	1
20.54	TU 02	Ap	0-30	Shatter	Bigby-Cannon	None	-	-	-	1
20.55	TU 02	Ap	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	9
20.56	TU 02	Ap	0-30	Shatter	Ft. Payne	None	-	-	-	16
20.57	TU 02	Ap	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	60
21.01	TU 02	AB	30-40	Amorphous	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
21.02	TU 02	AB	30-40	Tested Cobble	Ft. Payne	Heat Damaged	-	-	-	1
21.03	TU 02	AB	30-40	Flake Scraper	Ft. Payne	None	-	-	-	2
21.04	TU 02	AB	30-40	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	1
21.05	TU 02	AB	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
21.06	TU 02	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
									0.50"	2
21.07	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
21.08	TU 02	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	7
									0.50"	2
21.09	TU 02	AB	30-40	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
									0.50"	1
21.10	TU 02	AB	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
21.11	TU 02	AB	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
21.12	TU 02	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
									0.50"	1
21.13	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
21.14	TU 02	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	3
									0.50"	4
21.15	TU 02	AB	30-40	Flake	St. Louis	None	Absent	Present	0.25"	1
21.16	TU 02	AB	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	6
									0.50"	1
21.17	TU 02	AB	30-40	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
									0.50"	1
21.18	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
21.19	TU 02	AB	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
									0.50"	1
21.20	TU 02	AB	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
21.21	TU 02	AB	30-40	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
21.22	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
21.23	TU 02	AB	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
									0.50"	2
									1.0"	1
21.24	TU 02	AB	30-40	Flake	St. Louis	None	0-1	Present	0.25"	1
21.25	TU 02	AB	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	3
									0.50"	2
									1.0"	2
21.26	TU 02	AB	30-40	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	1
21.27	TU 02	AB	30-40	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	2
21.28	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
21.29	TU 02	AB	30-40	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
									0.50"	1
21.30	TU 02	AB	30-40	Flake	St. Louis	None	3+	Absent	0.25"	2
21.31	TU 02	AB	30-40	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	1
21.32	TU 02	AB	30-40	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
21.33	TU 02	AB	30-40	Shatter	Ft. Payne	None	-	-	-	2
21.34	TU 02	AB	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	50
22	TU 02	AB	50	PPK, Palmer	Bigby-Cannon	None	-	-	-	1
23.01	TU 02	AB	40-50	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
23.02	TU 02	AB	40-50	Blank	Ft. Payne	Heat Treated	-	-	-	1
23.03	TU 02	AB	40-50	Blank	Ft. Payne	None	-	-	-	1
23.04	TU 02	AB	40-50	Amorphous	Ft. Payne	None	-	-	-	1
23.05	TU 02	AB	40-50	Tested Cobble	Ft. Payne	None	-	-	-	1
23.06	TU 02	AB	40-50	Rock	Shale	None	-	-	-	2
23.07	TU 02	AB	40-50	Combination Tool	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
23.08	TU 02	AB	40-50	Graver	Ft. Payne	Heat Damaged	-	-	-	1
23.09	TU 02	AB	40-50	Combination Tool	Ft. Payne	Heat Damaged	-	-	-	1
23.10	TU 02	AB	40-50	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
23.11	TU 02	AB	40-50	Flake Scraper	Ft. Payne	None	-	-	-	2
23.12	TU 02	AB	40-50	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	1
23.13	TU 02	AB	40-50	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
									0.50"	1
23.14	TU 02	AB	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	12
23.15	TU 02	AB	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	4
23.16	TU 02	AB	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	9
									0.50"	1
23.17	TU 02	AB	40-50	Flake	Chalcedony	None	Absent	Absent	0.25"	1
23.18	TU 02	AB	40-50	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
23.19	TU 02	AB	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	4
23.20	TU 02	AB	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	13
									0.50"	2
23.21	TU 02	AB	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
									0.50"	4
23.22	TU 02	AB	40-50	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
23.23	TU 02	AB	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
									0.50"	2
23.24	TU 02	AB	40-50	Flake	Ft. Payne	None	Absent	Present	0.25"	10
									0.50"	3
23.25	TU 02	AB	40-50	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
23.26	TU 02	AB	40-50	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
23.27	TU 02	AB	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	6
23.28	TU 02	AB	40-50	Flake	St. Louis	None	0-1	Absent	0.25"	2
23.29	TU 02	AB	40-50	Flake	Chalcedony	None	0-1	Absent	0.25"	1
23.30	TU 02	AB	40-50	Flake	Ft. Payne	None	0-1	Absent	0.25"	5
									0.50"	1
23.31	TU 02	AB	40-50	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	2
23.32	TU 02	AB	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	5
									0.50"	6
									1.0"	2
23.33	TU 02	AB	40-50	Flake	St. Louis	None	0-1	Present	0.50"	1
23.34	TU 02	AB	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	7
									0.50"	1
									1.0"	1
23.35	TU 02	AB	40-50	Flake	Ft. Payne	None	2	Absent	0.25"	1
23.36	TU 02	AB	40-50	Flake	Ft. Payne	None	2	Present	0.25"	2
23.37	TU 02	AB	40-50	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
23.38	TU 02	AB	40-50	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
									0.50"	1
23.39	TU 02	AB	40-50	Flake	Ft. Payne	None	3+	Absent	0.25"	1
23.40	TU 02	AB	40-50	Flake	Ft. Payne	None	3+	Present	0.25"	1
									0.50"	2
23.41	TU 02	AB	40-50	Shatter	St. Louis	Heat Damaged	-	-	-	1
23.42	TU 02	AB	40-50	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
23.43	TU 02	AB	40-50	Shatter	Ft. Payne	None	-	-	-	7
23.44	TU 02	AB	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	65
24	TU 02	AB	60	PPK, Kirk Cluster	St. Louis	Heat Treated	-	-	-	1
25.01	TU 02	AB	50-60	Graver	St. Louis	Heat Damaged	-	-	-	1
25.02	TU 02	AB	50-60	Flake Scraper	St. Louis	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
25.03	TU 02	AB	50-60	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
25.04	TU 02	AB	50-60	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
25.05	TU 02	AB	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	3
25.06	TU 02	AB	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	5
									0.50"	1
25.07	TU 02	AB	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	10
									0.50"	5
25.08	TU 02	AB	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	6
									0.50"	3
25.09	TU 02	AB	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	9
									0.50"	2
25.10	TU 02	AB	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
25.11	TU 02	AB	50-60	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
25.12	TU 02	AB	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.50"	2
								Present	0.25"	4
25.13	TU 02	AB	50-60	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
25.14	TU 02	AB	50-60	Flake	St. Louis	None	Absent	Present	0.50"	1
25.15	TU 02	AB	50-60	Flake	Ft. Payne	None	Absent	Present	0.25"	5
									0.50"	1
25.16	TU 02	AB	50-60	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	2
25.17	TU 02	AB	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	3
25.18	TU 02	AB	50-60	Flake	Chalcedony	None	0-1	Absent	0.25"	1
25.19	TU 02	AB	50-60	Flake	Bigby-Cannon	None	0-1	Absent	0.50"	1
25.20	TU 02	AB	50-60	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
25.21	TU 02	AB	50-60	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
25.22a	TU 02	AB	50-60	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
25.22b	TU 02	AB	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	2
25.23	TU 02	AB	50-60	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
25.24	TU 02	AB	50-60	Flake	St. Louis	None	0-1	Present	0.50"	1
25.25	TU 02	AB	50-60	Flake	Ft. Payne	None	0-1	Present	0.25"	4
									0.50"	1
25.26	TU 02	AB	50-60	Flake	St. Louis	Heat Damaged	2	Absent	0.50"	1
25.27	TU 02	AB	50-60	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
25.28	TU 02	AB	50-60	Flake	Chalcedony	None	3+	Absent	0.25"	1
25.29	TU 02	AB	50-60	Flake	Ft. Payne	None	3+	Absent	0.25"	3
									0.50"	3
25.30	TU 02	AB	50-60	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
25.31	TU 02	AB	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
25.32	TU 02	AB	50-60	Shatter	Ft. Payne	None	-	-	-	1
25.33	TU 02	AB	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	36
26.01	TU 02	Bt2	60-70	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	1
26.02	TU 02	Bt2	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
26.03	TU 02	Bt2	60-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
26.04	TU 02	Bt2	60-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
									0.50"	1
26.05	TU 02	Bt2	60-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
26.06	TU 02	Bt2	60-70	Flake	Ft. Payne	None	Absent	Present	0.25"	1
26.07	TU 02	Bt2	60-70	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
26.08	TU 02	Bt2	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
26.09	TU 02	Bt2	60-70	Flake	St. Louis	None	0-1	Present	0.25"	1
26.10	TU 02	Bt2	60-70	Flake	Ft. Payne	None	0-1	Present	0.50"	2
26.11	TU 02	Bt2	60-70	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
26.12	TU 02	Bt2	60-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
26.13	TU 02	Bt2	60-70	Flake	St. Louis	None	3+	Absent	0.25"	1
26.14	TU 02	Bt2	60-70	Shatter	Ft. Payne	None	-	-	-	1
26.15	TU 02	Bt2	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
27.01	TU 02	Bt2	70-80	Utilized flake	Ft. Payne	None	-	-	-	1
27.02	TU 02	Bt2	70-80	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
27.03	TU 02	Bt2	70-80	Shatter	St. Louis	None	-	-	-	1
28.01	TU 03	Ap	0-30	Preform II	St. Louis	Heat Treated	-	-	-	2
28.02	TU 03	Ap	0-30	Preform II	Ft. Payne	Heat Treated	-	-	-	1
28.03	TU 03	Ap	0-30	Preform II	Ft. Payne	Heat Treated	-	-	-	2
28.04	TU 03	Ap	0-30	Preform II	Ft. Payne	Heat Treated	-	-	-	1
28.05	TU 03	Ap	0-30	Blank	St. Louis	None	-	-	-	1
28.06	TU 03	Ap	0-30	Amorphous	St. Louis	None	-	-	-	2
28.07	TU 03	Ap	0-30	Amorphous	Ft. Payne	None	-	-	-	1
28.08	TU 03	Ap	0-30	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
28.09	TU 03	Ap	0-30	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
28.10	TU 03	Ap	0-30	Tested Cobble	Ft. Payne	None	-	-	-	1
28.100	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	3+	Absent	0.25"	1
28.101	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	8
28.102	TU 03	Ap	0-30	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	5
28.103	TU 03	Ap	0-30	Flake	St. Louis	None	3+	Present	0.25"	1
									0.50"	1
28.104	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	4
28.105	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	3+	Present	0.25"	2
									0.50"	1
28.106	TU 03	Ap	0-30	Perforator	St. Louis	None	-	-	-	1
28.107	TU 03	Ap	0-30	Flake	Ft. Payne	None	Ground	Present	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
28.108	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	4
28.109	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	Ground	Absent	0.25"	2
28.11	TU 03	Ap	0-30	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
28.110	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.25"	1
28.111	TU 03	Ap	0-30	Rock	Shale	None	-	-	-	1
28.112	TU 03	Ap	0-30	Shatter	Bigby-Cannon	None	-	-	-	11
28.113	TU 03	Ap	0-30	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	4
28.114	TU 03	Ap	0-30	Shatter	Ft. Payne	None	-	-	-	5
28.115	TU 03	Ap	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	18
28.116	TU 03	Ap	0-30	Shatter	St. Louis	None	-	-	-	6
28.117	TU 03	Ap	0-30	Shatter	St. Louis	Heat Damaged	-	-	-	13
28.118	TU 03	Ap	0-30	Burned stone	Sandstone	Heat Damaged	-	-	-	1
28.119	TU 03	Ap	0-30	FCR	Limestone	Heat Damaged	-	-	-	4
28.12	TU 03	Ap	0-30	Combination Tool	St. Louis	Heat Treated	-	-	-	2
28.120	TU 03	Ap	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	894
28.121	TU 03	Ap	0-30	Unknown Animal	Unknown Bone	Scorched	-	-	-	1
28.122	TU 03	Ap	0-30	Pulled	6d	-	-	-	-	1
28.123	TU 03	Ap	0-30	Fragment	-	-	-	-	-	2
28.124	TU 03	Ap	0-30	Manufacture Indeterminate	Fragment	-	-	-	-	1
28.125	TU 03	Ap	0-30	Centerfire	Brass, 38 cal	-	-	-	-	1
28.126	TU 03	Ap	0-30	Rimfire	Brass, 22 cal	-	-	-	-	1
28.127	TU 03	Ap	0-30	Salt glazed/Undecorated	Exterior/Interior	-	-	-	-	1
28.128	TU 03	Ap	0-30	Shell edge, unscalloped w/ simple repetitive pattern	Blue	-	-	-	-	1
28.129	TU 03	Ap	0-30	Transfer Print	Light Blue	-	-	-	-	1
28.13	TU 03	Ap	0-30	Combination Tool	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
28.130	TU 03	Ap	0-30	Undecorated	Fragment	-	-	-	-	1
28.131	TU 03	Ap	0-30	Undecorated	Fragment	-	-	-	-	1
28.132	TU 03	Ap	0-30	Molded	Fragment	-	-	-	-	1
28.133	TU 03	Ap	0-30	Undecorated	Fragment	-	-	-	-	3
28.134	TU 03	Ap	0-30	One side exfoliated	Fragment	-	-	-	-	1
28.135	TU 03	Ap	0-30	Mold blown	Light Blue	-	-	-	-	1
28.136	TU 03	Ap	0-30	Manufacture Indeterminate	Solarized	-	-	-	-	1
28.137	TU 03	Ap	0-30	Cut stone setting	Amethyst	-	-	-	-	1
28.138	TU 03	Ap	0-30	Manufacture Indeterminate	Colorless	-	-	-	-	2
28.14	TU 03	Ap	0-30	Combination Tool	Ft. Payne	Heat Damaged	-	-	-	1
28.15	TU 03	Ap	0-30	Combination Tool	St. Louis	Heat Treated	-	-	-	1
28.16	TU 03	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
28.17	TU 03	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
28.18	TU 03	Ap	0-30	Combination Tool	St. Louis	None	-	-	-	1
28.19	TU 03	Ap	0-30	Combination Tool	St. Louis	Heat Treated	-	-	-	1
28.20	TU 03	Ap	0-30	Utilized flake	St. Louis	None	-	-	-	5
28.21	TU 03	Ap	0-30	Utilized flake	Ft. Payne	None	-	-	-	7
28.22	TU 03	Ap	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
28.23	TU 03	Ap	0-30	Utilized flake	St. Louis	None	-	-	-	1
28.24	TU 03	Ap	0-30	Utilized flake	St. Louis	Heat Treated	-	-	-	3
28.25	TU 03	Ap	0-30	Utilized flake	Bigby-Cannon	Heat Treated	-	-	-	1
28.26	TU 03	Ap	0-30	Denticulate	Ft. Payne	Heat Treated	-	-	-	1
28.27	TU 03	Ap	0-30	Denticulate	St. Louis	Heat Treated	-	-	-	1
28.29	TU 03	Ap	0-30	Denticulate	Bigby-Cannon	Heat Treated	-	-	-	1
28.30	TU 03	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
28.31	TU 03	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	9
28.32	TU 03	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
28.33	TU 03	Ap	0-30	Unmodified Utilized Flake	St. Louis	None	-	-	-	2
28.34	TU 03	Ap	0-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	13
28.35	TU 03	Ap	0-30	Flake Scraper	Ft. Payne	None	-	-	-	1
28.36	TU 03	Ap	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	14
28.37	TU 03	Ap	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	2
28.38	TU 03	Ap	0-30	Flake Scraper	St. Louis	None	-	-	-	3
28.39	TU 03	Ap	0-30	Flake Scraper	St. Louis	Heat Treated	-	-	-	11
28.40	TU 03	Ap	0-30	Flake Scraper	St. Louis	Heat Damaged	-	-	-	2
28.41	TU 03	Ap	0-30	Flake Scraper	Bigby-Cannon	None	-	-	-	1
28.42	TU 03	Ap	0-30	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	4
28.43	TU 03	Ap	0-30	Angled Flake Scraper	St. Louis	Heat Treated	-	-	-	1
28.44	TU 03	Ap	0-30	Graver	St. Louis	None	-	-	-	2
28.45	TU 03	Ap	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	2
28.46	TU 03	Ap	0-30	Graver	Bigby-Cannon	None	-	-	-	1
28.47	TU 03	Ap	0-30	Perforator	St. Louis	Heat Treated	-	-	-	2
28.48	TU 03	Ap	0-30	Spokeshave	Ft. Payne	None	-	-	-	1
28.49	TU 03	Ap	0-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	2
28.50	TU 03	Ap	0-30	Spokeshave	St. Louis	Heat Treated	-	-	-	1
28.51	TU 03	Ap	0-30	Chisel	St. Louis	None	-	-	-	1
28.52	TU 03	Ap	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	58
									0.50"	2
28.53	TU 03	Ap	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	34
									0.50"	3

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
28.54	TU 03	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	5
28.55	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	41
									0.50"	1
28.56	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	3
28.57	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	142
									0.50"	6
28.58	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	1
28.59	TU 03	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	31
									0.50"	3
28.60	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	82
									0.50"	2
28.61	TU 03	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Present	0.25"	2
									0.50"	1
28.62	TU 03	Ap	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	33
									0.50"	9
									1.0"	1
28.63	TU 03	Ap	0-30	Flake	St. Louis	None	Absent	Present	0.25"	15
									0.50"	10
28.64	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
28.65	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	37
									0.50"	5
28.66	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	26
									0.50"	8
28.67	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	13
									0.50"	7
28.68	TU 03	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	13
									0.50"	3

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
28.69	TU 03	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Absent	0.25"	1
28.70	TU 03	Ap	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	8
									0.50"	1
28.71	TU 03	Ap	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	5
28.72	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	28
28.73	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	12
28.74	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	0-1	Absent	0.25"	2
28.75	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.50"	6
28.76	TU 03	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	4
28.77	TU 03	Ap	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	11
									0.50"	3
									1.0"	2
28.78	TU 03	Ap	0-30	Flake	St. Louis	None	0-1	Present	0.25"	16
									0.50"	2
28.79	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	18
									0.50"	7
28.80	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	15
									0.50"	3
28.81	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	0-1	Present	0.25"	1
28.82	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	4
									0.50"	1
28.83	TU 03	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	2
28.84	TU 03	Ap	0-30	Flake	Bigby-Cannon	None	2	Absent	0.25"	1
28.85	TU 03	Ap	0-30	Flake	Ft. Payne	None	2	Absent	0.25"	4
28.86	TU 03	Ap	0-30	Flake	St. Louis	None	2	Absent	0.25"	7
28.87	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	16
									0.50"	1

40Pm184

Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
28.88	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	2	Absent	0.25"	6
28.89	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	2
									0.50"	1
28.90	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
28.91	TU 03	Ap	0-30	Flake	Ft. Payne	None	2	Present	0.25"	4
28.92	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	5
									0.50"	2
28.93	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	2	Present	0.25"	1
28.94a	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Present	0.50"	2
28.94b	TU 03	Ap	0-30	Flake	Bigby-Cannon	None	3+	Absent	0.25"	2
28.95	TU 03	Ap	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	5
									0.50"	2
28.96	TU 03	Ap	0-30	Flake	St. Louis	None	3+	Absent	0.25"	4
28.97	TU 03	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	3+	Absent	0.25"	1
28.98	TU 03	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	20
									0.50"	2
28.99	TU 03	Ap	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	4
									0.50"	1
29	TU 03	Ap	20	PPK, McIntire	St. Louis	None	-	-	-	1
30.01	TU 03	AB	30-40	Preform II	Ft. Payne	None	-	-	-	1
30.02	TU 03	AB	30-40	Preform II	Ft. Payne	None	-	-	-	1
30.03	TU 03	AB	30-40	Amorphous	St. Louis	None	-	-	-	2
30.04	TU 03	AB	30-40	Utilized flake	Ft. Payne	None	-	-	-	1
30.05	TU 03	AB	30-40	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
30.06	TU 03	AB	30-40	Utilized flake	St. Louis	None	-	-	-	2
30.07	TU 03	AB	30-40	Utilized flake	Bigby-Cannon	None	-	-	-	1
30.08	TU 03	AB	30-40	Combination Tool	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
30.09	TU 03	AB	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	4
30.10	TU 03	AB	30-40	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
30.11	TU 03	AB	30-40	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
30.12	TU 03	AB	30-40	Perforator	St. Louis	None	-	-	-	1
30.13	TU 03	AB	30-40	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
30.14	TU 03	AB	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	3
30.15	TU 03	AB	30-40	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
30.16	TU 03	AB	30-40	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	3
30.17	TU 03	AB	30-40	Unmodified Utilized Flake	Bigby-Cannon	None	-	-	-	2
30.18	TU 03	AB	30-40	Unmodified Utilized Flake	Bigby-Cannon	Heat Treated	-	-	-	1
30.19	TU 03	AB	30-40	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	3
									0.50"	1
30.20	TU 03	AB	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	13
									0.50"	1
30.21	TU 03	AB	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	7
30.22	TU 03	AB	30-40	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	1
30.23	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	31
									0.50"	4
30.24	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	6
									0.50"	1
30.25	TU 03	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	7
									0.50"	2
30.26	TU 03	AB	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
30.27	TU 03	AB	30-40	Flake	Bigby-Cannon	None	Absent	Present	0.25"	2
30.28	TU 03	AB	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	3

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
									0.50"	1
30.29	TU 03	AB	30-40	Flake	St. Louis	None	Absent	Present	0.25"	6
									0.50"	1
30.30	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	6
									0.50"	1
30.31	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	3
									0.50"	2
30.32	TU 03	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
									0.50"	3
30.33	TU 03	AB	30-40	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	3
									0.50"	1
30.34	TU 03	AB	30-40	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
30.35	TU 03	AB	30-40	Flake	St. Louis	None	0-1	Absent	0.25"	1
30.36a	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	5
30.36b	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
30.37	TU 03	AB	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									0.50"	1
30.38	TU 03	AB	30-40	Flake	St. Louis	None	0-1	Present	0.25"	1
30.39	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
									0.50"	2
30.40	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	2
30.41	TU 03	AB	30-40	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
30.42	TU 03	AB	30-40	Flake	Ft. Payne	None	2	Absent	0.25"	1
									0.50"	1
30.43	TU 03	AB	30-40	Flake	St. Louis	None	2	Absent	0.25"	3
									0.50"	1
30.44	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	4

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
30.45	TU 03	AB	30-40	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
30.46	TU 03	AB	30-40	Flake	Ft. Payne	None	2	Present	0.25"	1
30.47	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	2
30.48	TU 03	AB	30-40	Flake	Ft. Payne	None	3+	Absent	0.25"	1
									0.50"	2
30.49	TU 03	AB	30-40	Flake	Bigby-Cannon	None	3+	Absent	0.25"	1
30.50	TU 03	AB	30-40	Flake	St. Louis	None	3+	Absent	0.25"	2
									0.50"	1
30.51	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	5
30.52	TU 03	AB	30-40	Flake	Ft. Payne	None	3+	Present	0.25"	1
30.53	TU 03	AB	30-40	Flake	Ft. Payne	None	3+	Absent	0.25"	1
30.54	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1
30.55	TU 03	AB	30-40	Flake	St. Louis	Heat Damaged	3+	Present	0.25"	1
30.56	TU 03	AB	30-40	Flake	Bigby-Cannon	Heat Treated	Ground	Absent	0.25"	1
30.57	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	2
									0.50"	1
30.58	TU 03	AB	30-40	Flake	St. Louis	Heat Treated	Ground	Absent	0.25"	2
30.59	TU 03	AB	30-40	Flake	Ft. Payne	Heat Treated	Ground	Present	0.50"	1
30.60	TU 03	AB	30-40	Flake	Bigby-Cannon	Heat Damaged	Ground	Absent	0.25"	1
30.61	TU 03	AB	30-40	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.25"	1
30.62	TU 03	AB	30-40	Shatter	St. Louis	Heat Damaged	-	-	-	1
30.63	TU 03	AB	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	86
31.01	TU 03	AB	40-50	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
31.02	TU 03	AB	40-50	Angled Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
31.03	TU 03	AB	40-50	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
31.04	TU 03	AB	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
31.05	TU 03	AB	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	2
31.06	TU 03	AB	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	4
									0.50"	1
31.07	TU 03	AB	40-50	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	2
31.08	TU 03	AB	40-50	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	1
31.09	TU 03	AB	40-50	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
31.10	TU 03	AB	40-50	Flake	Bigby-Cannon	None	Absent	Present	0.50"	1
31.11	TU 03	AB	40-50	Flake	St. Louis	None	Absent	Present	0.25"	1
31.12	TU 03	AB	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
31.13	TU 03	AB	40-50	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
31.14	TU 03	AB	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
31.15	TU 03	AB	40-50	Flake	St. Louis	None	0-1	Absent	0.25"	3
									0.50"	1
31.16	TU 03	AB	40-50	Flake	St. Louis	None	0-1	Present	0.50"	1
31.17	TU 03	AB	40-50	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
31.18	TU 03	AB	40-50	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	4
31.19	TU 03	AB	40-50	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
31.20	TU 03	AB	40-50	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
31.21	TU 03	AB	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	20
32.01	TU 03	AB/Bt1	50-60	Blank	Ft. Payne	None	-	-	-	1
32.02	TU 03	AB/Bt1	50-60	Amorphous	St. Louis	None	-	-	-	1
32.03	TU 03	AB/Bt1	50-60	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
32.04	TU 03	AB/Bt1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
32.05	TU 03	AB/Bt1	50-60	Flake	St. Louis	None	Absent	Present	0.25"	1
32.06	TU 03	AB/Bt1	50-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
32.07	TU 03	AB/Bt1	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
32.08	TU 03	AB/Bt1	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
32.09	TU 03	AB/Bt1	50-60	Flake	St. Louis	Heat Treated	0-1	Present	0.50"	1
32.10	TU 03	AB/Bt1	50-60	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1
32.11	TU 03	AB/Bt1	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
32.12	TU 03	AB/Bt1	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
33.01	TU 03	Bt1	60-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
33.02	TU 03	Bt1	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
33.03	TU 03	Bt1	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
35.01	TU 04	Ap	0-30	PPK, Stilwell	Ft. Payne	Heat Treated	-	-	-	1
35.02	TU 04	Ap	0-30	Preform II	Ft. Payne	None	-	-	-	1
35.03	TU 04	Ap	0-30	Preform II	St. Louis	Heat Treated	-	-	-	1
35.04	TU 04	Ap	0-30	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
35.05	TU 04	Ap	0-30	Blank	St. Louis	None	-	-	-	1
35.06	TU 04	Ap	0-30	Amorphous	Ft. Payne	None	-	-	-	3
35.07	TU 04	Ap	0-30	Amorphous	St. Louis	None	-	-	-	1
35.08	TU 04	Ap	0-30	Amorphous	Bigby-Cannon	None	-	-	-	1
35.09	TU 04	Ap	0-30	Tested Cobble	Ft. Payne	None	-	-	-	3
35.10	TU 04	Ap	0-30	Tested Cobble	Bigby-Cannon	None	-	-	-	1
35.11	TU 04	Ap	0-30	Combination Tool	St. Louis	None	-	-	-	1
35.12	TU 04	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
35.13	TU 04	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
35.14	TU 04	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
35.15	TU 04	Ap	0-30	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
35.16	TU 04	Ap	0-30	Combination Tool	St. Louis	Heat Treated	-	-	-	1
35.17	TU 04	Ap	0-30	Utilized flake	Ft. Payne	Heat Treated	-	-	-	5
35.18	TU 04	Ap	0-30	Utilized flake	Bigby-Cannon	Heat Treated	-	-	-	1
35.19	TU 04	Ap	0-30	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	8
35.20	TU 04	Ap	0-30	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
35.21	TU 04	Ap	0-30	Flake Scraper	Bigby-Cannon	None	-	-	-	1
35.22	TU 04	Ap	0-30	Flake Scraper	St. Louis	Heat Treated	-	-	-	2
35.23	TU 04	Ap	0-30	Graver	Ft. Payne	Heat Treated	-	-	-	1
35.24	TU 04	Ap	0-30	Graver	St. Louis	Heat Treated	-	-	-	1
35.25	TU 04	Ap	0-30	Perforator	Ft. Payne	Heat Treated	-	-	-	2
35.26	TU 04	Ap	0-30	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
35.27	TU 04	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	8
35.28	TU 04	Ap	0-30	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	3
35.29	TU 04	Ap	0-30	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
35.30	TU 04	Ap	0-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	16
									0.50"	3
35.31	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
35.32	TU 04	Ap	0-30	Flake	St. Louis	None	Absent	Absent	0.25"	9
									0.50"	1
35.33	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	45
									0.50"	5
35.34	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	14

40Pm184										
Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
35.35	TU 04	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	Absent	Absent	0.25"	2
35.36	TU 04	Ap	0-30	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	2
35.37	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	21
35.38	TU 04	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	11
									0.50"	1
35.39	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	Absent	Present	0.25"	4
									0.50"	1
35.40	TU 04	Ap	0-30	Flake	Ft. Payne	None	Absent	Present	0.25"	7
									0.50"	2
35.41	TU 04	Ap	0-30	Flake	St. Louis	None	Absent	Present	0.25"	4
									0.50"	1
35.42	TU 04	Ap	0-30	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
35.43	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	13
									0.50"	4
35.44	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	7
									0.50"	1
35.45	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	9
									0.50"	2
35.46	TU 04	Ap	0-30	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	10
									0.50"	1
35.47	TU 04	Ap	0-30	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									0.50"	5
									1.0"	1
35.48	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Present	0.25"	2
35.49	TU 04	Ap	0-30	Flake	St. Louis	None	0-1	Present	0.50"	3
35.50	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	7
									0.50"	4

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
35.51	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	4
									0.50"	1
35.52	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
35.53	TU 04	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
									1.0"	1
35.54	TU 04	Ap	0-30	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
35.55	TU 04	Ap	0-30	Flake	St. Louis	None	0-1	Absent	0.25"	1
35.56	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Absent	0.25"	1
35.57	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	11
									0.50"	2
35.58	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	5
35.59	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
35.60	TU 04	Ap	0-30	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	2
35.61	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	2	Absent	0.25"	1
35.62	TU 04	Ap	0-30	Flake	Ft. Payne	None	2	Absent	0.25"	3
35.63	TU 04	Ap	0-30	Flake	St. Louis	None	2	Absent	0.25"	1
35.64	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	4
									0.50"	1
35.65	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	2	Absent	0.25"	3
35.66	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	2	Present	0.25"	1
35.67	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	2	Present	0.25"	1
35.68	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	3
									0.50"	1
35.69	TU 04	Ap	0-30	Flake	Ft. Payne	None	3+	Absent	0.25"	1
35.70	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	4
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
35.71	TU 04	Ap	0-30	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	3
35.72	TU 04	Ap	0-30	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
35.73	TU 04	Ap	0-30	Flake	Ft. Payne	None	3+	Present	0.50"	1
35.74	TU 04	Ap	0-30	Flake	St. Louis	None	Ground	Absent	0.25"	1
35.75	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	3
									0.50"	2
35.76	TU 04	Ap	0-30	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.25"	1
35.77	TU 04	Ap	0-30	Shatter	Bigby-Cannon	None	-	-	-	7
35.78	TU 04	Ap	0-30	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	5
35.79	TU 04	Ap	0-30	Shatter	Ft. Payne	Heat Damaged	-	-	-	8
35.80	TU 04	Ap	0-30	Shatter	St. Louis	Heat Damaged	-	-	-	10
35.81	TU 04	Ap	0-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	233
35.82	TU 04	Ap	0-30	Flake	Bigby-Cannon	None	0-1	Present	0.50"	1
35.83	TU 04	Ap	0-30	One side exfoliated	Fragment	-	-	-	-	1
35.84	TU 04	Ap	0-30	Manufacture Indeterminate	Colorless	-	-	-	-	1
35.85	TU 04	Ap	0-30	Indeterminate Preform	Ft. Payne	Heat Treated	-	-	-	1
36.01	TU 04	AB	30-40	Blank	St. Louis	Heat Treated	-	-	-	1
36.02	TU 04	AB	30-40	Utilized flake	St. Louis	Heat Treated	-	-	-	1
36.03	TU 04	AB	30-40	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
36.04	TU 04	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	3
36.05	TU 04	AB	30-40	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
36.06	TU 04	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
36.07	TU 04	AB	30-40	Flake	St. Louis	None	Absent	Present	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
36.08	TU 04	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
36.09	TU 04	AB	30-40	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
36.10	TU 04	AB	30-40	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
36.11	TU 04	AB	30-40	Flake	Ft. Payne	None	0-1	Present	0.25"	1
36.12	TU 04	AB	30-40	Flake	St. Louis	None	0-1	Present	0.25"	1
36.13	TU 04	AB	30-40	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	2
36.14	TU 04	AB	30-40	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
36.15	TU 04	AB	30-40	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
36.16	TU 04	AB	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	18
37.01	TU 04	AB/Bt2	40-50	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
37.02	TU 04	AB/Bt2	40-50	Flake	St. Louis	None	Absent	Absent	0.25"	1
37.03	TU 04	AB/Bt2	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
37.04	TU 04	AB/Bt2	40-50	Flake	Ft. Payne	None	Absent	Present	0.50"	1
37.05	TU 04	AB/Bt2	40-50	Flake	Ft. Payne	None	0-1	Present	0.25"	1
37.06	TU 04	AB/Bt2	40-50	Flake	St. Louis	None	0-1	Present	0.25"	1
37.07	TU 04	AB/Bt2	40-50	Flake	St. Louis	None	2	Absent	0.50"	1
37.08	TU 04	AB/Bt2	40-50	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
37.09	TU 04	AB/Bt2	40-50	Flake	Ft. Payne	None	3+	Absent	0.25"	1
37.10	TU 04	AB/Bt2	40-50	Shatter	Ft. Payne	None	-	-	-	1
37.11	TU 04	AB/Bt2	40-50	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
37.12	TU 04	AB/Bt2	40-50	Shatter	Bigby-Cannon	None	-	-	-	2
37.13	TU 04	AB/Bt2	40-50	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
38.01	TU 04	AB/Bt2	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
38.02	TU 04	AB/Bt2	50-60	Flake	Bigby-Cannon	Heat Damaged	2	Absent	0.25"	1
38.03	TU 04	AB/Bt2	50-60	Shatter	Bigby-Cannon	None	-	-	-	1
38.04	TU 04	AB/Bt2	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
39.01	TU 05	Ap	0-10	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
39.02	TU 05	Ap	0-10	Flake Scraper	Ft. Payne	None	-	-	-	1
39.03	TU 05	Ap	0-10	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
39.04	TU 05	Ap	0-10	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
39.05	TU 05	Ap	0-10	Flake	St. Louis	None	0-1	Absent	0.25"	2
39.06	TU 05	Ap	0-10	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
39.07	TU 05	Ap	0-10	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
39.08	TU 05	Ap	0-10	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
39.09	TU 05	Ap	0-10	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
39.10	TU 05	Ap	0-10	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
39.11	TU 05	Ap	0-10	Flake	Ft. Payne	None	0-1	Present	0.25"	1
39.12	TU 05	Ap	0-10	Flake	St. Louis	None	0-1	Present	0.25"	1
39.13	TU 05	Ap	0-10	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
39.14	TU 05	Ap	0-10	Debitage undivided	Chert/Mix	-	-	-	<1/4"	1
40.01	TU 05	Ap/Bt2	10-20	Angled Flake Scraper	Ft. Payne	None	-	-	-	1
40.02	TU 05	Ap/Bt2	10-20	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	2
40.03	TU 05	Ap/Bt2	10-20	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
40.04	TU 05	Ap/Bt2	10-20	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
40.05	TU 05	Ap/Bt2	10-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
40.06	TU 05	Ap/Bt2	10-20	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
40.07	TU 05	Ap/Bt2	10-20	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
40.08	TU 05	Ap/Bt2	10-20	Flake	St. Louis	None	0-1	Present	0.25"	1
									0.50"	1
40.09	TU 05	Ap/Bt2	10-20	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
40.10	TU 05	Ap/Bt2	10-20	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
40.11	TU 05	Ap/Bt2	10-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
41.01	TU 05	Bt2	20-30	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	2
41.02	TU 05	Bt2	20-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
41.03	TU 05	Bt2	20-30	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
41.04	TU 05	Bt2	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
42.01	TU 06	Ap	0-14	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
42.02	TU 06	Ap	0-14	Amorphous	Ft. Payne	Heat Treated	-	-	-	1
42.03	TU 06	Ap	0-14	Amorphous	St. Louis	Heat Treated	-	-	-	1
42.04	TU 06	Ap	0-14	Amorphous	Bigby-Cannon	None	-	-	-	1
42.05	TU 06	Ap	0-14	Utilized flake	Ft. Payne	None	-	-	-	1
42.06	TU 06	Ap	0-14	Utilized flake	St. Louis	Heat Treated	-	-	-	1
42.07	TU 06	Ap	0-14	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	2
42.08	TU 06	Ap	0-14	Angled Flake Scraper	St. Louis	None	-	-	-	2
42.09	TU 06	Ap	0-14	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
42.10	TU 06	Ap	0-14	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	7
42.11	TU 06	Ap	0-14	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
42.12	TU 06	Ap	0-14	Denticulate	St. Louis	Heat Treated	-	-	-	1
42.13	TU 06	Ap	0-14	Chisel	Ft. Payne	Heat Damaged	-	-	-	1
42.14	TU 06	Ap	0-14	Chisel	St. Louis	Heat Treated	-	-	-	1
42.15	TU 06	Ap	0-14	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
									0.50"	1
42.16	TU 06	Ap	0-14	Flake	St. Louis	None	Absent	Absent	0.25"	4

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
42.17	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
42.18	TU 06	Ap	0-14	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
42.19	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
42.20	TU 06	Ap	0-14	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
42.21	TU 06	Ap	0-14	Flake	Ft. Payne	None	Absent	Present	0.25"	4
42.22	TU 06	Ap	0-14	Flake	St. Louis	None	Absent	Present	0.25"	1
42.23	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	2
42.24	TU 06	Ap	0-14	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
42.25	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
42.26	TU 06	Ap	0-14	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
42.27	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
42.28	TU 06	Ap	0-14	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
42.29	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
42.30	TU 06	Ap	0-14	Flake	St. Louis	None	2	Absent	0.25"	2
42.31	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
42.32	TU 06	Ap	0-14	Flake	St. Louis	Heat Damaged	2	Absent	0.25"	1
42.33	TU 06	Ap	0-14	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
42.34	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
42.35	TU 06	Ap	0-14	Flake	St. Louis	None	3+	Present	0.25"	1
42.36	TU 06	Ap	0-14	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	1
42.37	TU 06	Ap	0-14	Shatter	St. Louis	None	-	-	-	2
42.38	TU 06	Ap	0-14	Shatter	St. Louis	Heat Damaged	-	-	-	3
42.39	TU 06	Ap	0-14	Shatter	Ft. Payne	Heat Damaged	-	-	-	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
42.40	TU 06	Ap	0-14	Shatter	Bigby-Cannon	None	-	-	-	2
42.41	TU 06	Ap	0-14	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	1
42.42	TU 06	Ap	0-14	Debitage undivided	Chert/Mix	-	-	-	<1/4"	74
43.01	TU 06	Ap	14-24	PPK, Indeterminate	St. Louis	Heat Damaged	-	-	-	1
43.02	TU 06	Ap	14-24	Flake Scraper	St. Louis	None	-	-	-	1
43.03	TU 06	Ap	14-24	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
43.04	TU 06	Ap	14-24	Flake Scraper	St. Louis	Heat Damaged	-	-	-	1
43.05	TU 06	Ap	14-24	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
43.06	TU 06	Ap	14-24	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
43.07	TU 06	Ap	14-24	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
43.08	TU 06	Ap	14-24	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
43.09	TU 06	Ap	14-24	Flake	St. Louis	None	Absent	Absent	0.25"	5
43.10	TU 06	Ap	14-24	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	6
43.11	TU 06	Ap	14-24	Flake	St. Louis	None	Absent	Absent	0.25"	1
43.12	TU 06	Ap	14-24	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
43.13	TU 06	Ap	14-24	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
43.14	TU 06	Ap	14-24	Flake	Ft. Payne	None	Absent	Present	0.25"	1
43.15	TU 06	Ap	14-24	Flake	St. Louis	None	Absent	Present	0.25"	3
43.16	TU 06	Ap	14-24	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	4
43.17	TU 06	Ap	14-24	Flake	St. Louis	None	Absent	Present	0.50"	1
43.18	TU 06	Ap	14-24	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
43.19	TU 06	Ap	14-24	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
43.20	TU 06	Ap	14-24	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
									0.50"	1
43.21	TU 06	Ap	14-24	Flake	Ft. Payne	None	0-1	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
43.22	TU 06	Ap	14-24	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
43.23	TU 06	Ap	14-24	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									1.0"	1
43.24	TU 06	Ap	14-24	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
43.25	TU 06	Ap	14-24	Flake	St. Louis	None	0-1	Present	1.0"	1
43.26	TU 06	Ap	14-24	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
43.27	TU 06	Ap	14-24	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
									0.50"	1
43.28	TU 06	Ap	14-24	Flake	St. Louis	None	3+	Absent	0.25"	1
43.29	TU 06	Ap	14-24	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
43.30	TU 06	Ap	14-24	Shatter	St. Louis	Heat Damaged	-	-	-	2
43.31	TU 06	Ap	14-24	Debitage undivided	Chert/Mix	-	-	-	<1/4"	34
44.01	TU 07	Ap	0-29	PPK, Pickwick	Ft. Payne	None	-	-	-	1
44.02	TU 07	Ap	0-29	PPK, Decatur	Ft. Payne	Heat Treated	-	-	-	1
44.03	TU 07	Ap	0-29	PPK, Indeterminate	Ft. Payne	Heat Damaged	-	-	-	1
44.04	TU 07	Ap	0-29	Finished Biface	Ft. Payne	Heat Treated	-	-	-	1
44.05	TU 07	Ap	0-29	Preform II	Ft. Payne	Heat Damaged	-	-	-	1
44.06	TU 07	Ap	0-29	Preform II	St. Louis	Heat Treated	-	-	-	1
44.07	TU 07	Ap	0-29	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
44.08	TU 07	Ap	0-29	Preform I	St. Louis	None	-	-	-	1
44.09	TU 07	Ap	0-29	Indeterminate Biface	St. Louis	Heat Treated	-	-	-	1
44.10	TU 07	Ap	0-29	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
44.11	TU 07	Ap	0-29	Pendant	Sandstone	None	-	-	-	1
44.12	TU 07	Ap	0-29	Endscraper	St. Louis	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
44.13	TU 07	Ap	0-29	Endscraper	St. Louis	Heat Damaged	-	-	-	1
44.14	TU 07	Ap	0-29	Combination Tool	St. Louis	Heat Damaged	-	-	-	1
44.15	TU 07	Ap	0-29	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
44.16	TU 07	Ap	0-29	Combination Tool	Ft. Payne	Heat Treated	-	-	-	3
44.17	TU 07	Ap	0-29	Combination Tool	St. Louis	Heat Damaged	-	-	-	1
44.18	TU 07	Ap	0-29	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
44.19	TU 07	Ap	0-29	Combination Tool	St. Louis	None	-	-	-	2
44.20	TU 07	Ap	0-29	Combination Tool	St. Louis	Heat Treated	-	-	-	1
44.21	TU 07	Ap	0-29	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
44.22	TU 07	Ap	0-29	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
44.23	TU 07	Ap	0-29	Utilized flake	St. Louis	None	-	-	-	2
44.24	TU 07	Ap	0-29	Utilized flake	St. Louis	Heat Treated	-	-	-	2
44.25	TU 07	Ap	0-29	Flake Scraper	Ft. Payne	None	-	-	-	2
44.26	TU 07	Ap	0-29	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	5
44.27	TU 07	Ap	0-29	Flake Scraper	St. Louis	Heat Damaged	-	-	-	2
44.28	TU 07	Ap	0-29	Graver	Ft. Payne	Heat Treated	-	-	-	1
44.29	TU 07	Ap	0-29	Graver	St. Louis	Heat Treated	-	-	-	2
44.30	TU 07	Ap	0-29	Denticulate	Ft. Payne	Heat Treated	-	-	-	2
44.31	TU 07	Ap	0-29	Perforator	Bigby-Cannon	None	-	-	-	1
44.32	TU 07	Ap	0-29	Perforator	Ft. Payne	Heat Damaged	-	-	-	1
44.33	TU 07	Ap	0-29	Spokeshave	Ft. Payne	Heat Treated	-	-	-	3
44.34	TU 07	Ap	0-29	Spokeshave	St. Louis	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
44.35	TU 07	Ap	0-29	Notched Cutting Tool	Ft. Payne	Heat Treated	-	-	-	1
44.36	TU 07	Ap	0-29	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
44.37	TU 07	Ap	0-29	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	8
44.38	TU 07	Ap	0-29	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	3
44.39	TU 07	Ap	0-29	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	3
44.40	TU 07	Ap	0-29	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	3
44.41	TU 07	Ap	0-29	Flake Scraper	Bigby-Cannon	None	-	-	-	1
44.42	TU 07	Ap	0-29	Flake	Ft. Payne	None	Absent	Absent	0.25"	25
44.43	TU 07	Ap	0-29	Flake	St. Louis	None	Absent	Absent	0.25"	17
44.44	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	31
									0.50"	1
44.45	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	9
									0.50"	1
44.46	TU 07	Ap	0-29	Flake	Bigby-Cannon	Heat Damaged	Absent	Absent	0.25"	2
44.47	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	25
									0.50"	3
44.48	TU 07	Ap	0-29	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	13
									0.50"	1
44.49	TU 07	Ap	0-29	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
44.50	TU 07	Ap	0-29	Flake	Ft. Payne	None	Absent	Present	0.25"	4
									0.50"	3
44.51	TU 07	Ap	0-29	Flake	St. Louis	None	Absent	Present	0.25"	5
									0.50"	1
44.52	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	10
									0.50"	4
44.53	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	5

40Pm184

Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
									0.50"	2
44.54	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
									0.50"	3
44.55	TU 07	Ap	0-29	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	4
									0.50"	2
44.56	TU 07	Ap	0-29	Flake	Ft. Payne	None	0-1	Absent	0.25"	5
									0.50"	1
44.57	TU 07	Ap	0-29	Flake	St. Louis	None	0-1	Absent	0.25"	4
44.58	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	6
									0.50"	1
44.59	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
44.60	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
44.61	TU 07	Ap	0-29	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
44.62	TU 07	Ap	0-29	Flake	Ft. Payne	None	0-1	Present	0.25"	3
									0.50"	2
44.63	TU 07	Ap	0-29	Flake	St. Louis	None	0-1	Present	0.25"	2
									1.0"	1
44.64	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	5
									0.50"	4
44.65	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	2
44.66	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	2
44.67	TU 07	Ap	0-29	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	2
44.68	TU 07	Ap	0-29	Flake	Ft. Payne	None	2	Absent	0.25"	4
									0.50"	1
44.69	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	2	Absent	0.25"	2
44.70	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
44.71	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	2	Absent	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
44.72	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
									0.50"	1
44.73	TU 07	Ap	0-29	Flake	Ft. Payne	None	2	Present	0.25"	1
44.74	TU 07	Ap	0-29	Flake	St. Louis	None	2	Present	0.25"	1
44.75	TU 07	Ap	0-29	Flake	Bigby-Cannon	Heat Treated	2	Present	0.50"	1
44.76	TU 07	Ap	0-29	Flake	Ft. Payne	None	3+	Absent	0.25"	3
44.77	TU 07	Ap	0-29	Flake	Bigby-Cannon	None	3+	Absent	0.25"	1
44.78	TU 07	Ap	0-29	Flake	St. Louis	None	3+	Absent	0.25"	2
44.79	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
44.80	TU 07	Ap	0-29	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
44.81	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	2
									0.50"	1
44.82	TU 07	Ap	0-29	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	2
44.83	TU 07	Ap	0-29	Flake	Ft. Payne	None	3+	Present	0.25"	2
44.84	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
									0.50"	1
44.85	TU 07	Ap	0-29	Flake	Ft. Payne	Heat Treated	Ground	Absent	0.25"	2
44.86	TU 07	Ap	0-29	Shatter	Bigby-Cannon	None	-	-	-	4
44.87	TU 07	Ap	0-29	Shatter	Ft. Payne	None	-	-	-	1
44.88	TU 07	Ap	0-29	Shatter	Ft. Payne	Heat Damaged	-	-	-	2
44.89	TU 07	Ap	0-29	Shatter	St. Louis	None	-	-	-	2
44.90	TU 07	Ap	0-29	Shatter	St. Louis	Heat Damaged	-	-	-	2
44.91	TU 07	Ap	0-29	Debitage undivided	Chert/Mix	-	-	-	<1/4"	134
44.92	TU 07	Ap	0-29	Pulled	16d	-	-	-	-	1
44.93	TU 07	Ap	0-29	Denticulate	St. Louis	Heat Treated	-	-	-	1
45	TU 07	Ap	17	PPK, Poss. Cotaco Creek	Ft. Payne	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
46.01	TU 07	AB	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
46.02	TU 07	AB	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	3
46.03	TU 07	AB	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
46.04	TU 07	AB	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	1
46.05	TU 07	AB	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
46.06	TU 07	AB	30-40	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	2
46.07	TU 07	AB	30-40	Flake	St. Louis	None	3+	Absent	0.25"	1
46.08	TU 07	AB	30-40	Flake	Ft. Payne	None	3+	Absent	0.25"	1
46.09	TU 07	AB	30-40	Flake	Ft. Payne	None	3+	Present	0.50"	1
46.10	TU 07	AB	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	12
47	TU 07	AB	40-50	Combination Tool	Ft. Payne	None	-	-	-	1
48	TU 07	Bt2	50-60	Flake	Ft. Payne	None	0-1	Present	0.25"	1
49.01	TU 08	Ap	0-20	Late Stage Biface	Bigby-Cannon	None	-	-	-	1
49.02	TU 08	Ap	0-20	Early Stage Biface	St. Louis	None	-	-	-	1
49.03	TU 08	Ap	0-20	Amorphous	Ft. Payne	None	-	-	-	1
49.04	TU 08	Ap	0-20	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
49.05	TU 08	Ap	0-20	Graver	Ft. Payne	None	-	-	-	1
49.06	TU 08	Ap	0-20	Spokeshave	St. Louis	Heat Damaged	-	-	-	1
49.07	TU 08	Ap	0-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
49.08	TU 08	Ap	0-20	Utilized flake	St. Louis	None	-	-	-	1
49.09	TU 08	Ap	0-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
49.10	TU 08	Ap	0-20	Utilized flake	Ft. Payne	None	-	-	-	2
49.11	TU 08	Ap	0-20	Graver	Bigby-Cannon	None	-	-	-	1
49.12	TU 08	Ap	0-20	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
49.13	TU 08	Ap	0-20	Flake Scraper	Ft. Payne	None	-	-	-	5
49.14	TU 08	Ap	0-20	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	7
49.15	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	9

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
49.16	TU 08	Ap	0-20	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
49.17	TU 08	Ap	0-20	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	8
									0.50"	1
49.18	TU 08	Ap	0-20	Flake	Bigby-Cannon	None	Absent	Absent	0.50"	1
49.19	TU 08	Ap	0-20	Flake	St. Louis	None	Absent	Absent	0.25"	10
49.20	TU 08	Ap	0-20	Flake	Ft. Payne	None	Absent	Absent	0.25"	10
49.21	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
									0.50"	2
49.22	TU 08	Ap	0-20	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
49.23	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	8
									0.50"	1
49.24	TU 08	Ap	0-20	Flake	Chalcedony	None	Absent	Present	0.25"	1
49.25	TU 08	Ap	0-20	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
49.26	TU 08	Ap	0-20	Flake	St. Louis	None	Absent	Present	0.25"	2
49.27	TU 08	Ap	0-20	Flake	Ft. Payne	None	Absent	Present	0.25"	10
									0.50"	2
49.28	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	2
									0.50"	1
49.29	TU 08	Ap	0-20	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
49.30	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	2
									0.50"	1
49.31	TU 08	Ap	0-20	Flake	Ft. Payne	None	0-1	Absent	0.25"	4
									0.50"	1
49.32	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
49.33	TU 08	Ap	0-20	Flake	Bigby-Cannon	Heat Treated	0-1	Present	0.25"	1
49.34	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	6
									0.50"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
49.35	TU 08	Ap	0-20	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									0.50"	2
49.36	TU 08	Ap	0-20	Flake	Ft. Payne	None	2	Absent	0.25"	1
49.37	TU 08	Ap	0-20	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
									0.50"	1
49.38	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	2
49.39	TU 08	Ap	0-20	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
49.40	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	3
49.41	TU 08	Ap	0-20	Flake	Bigby-Cannon	None	3+	Absent	0.25"	1
49.42	TU 08	Ap	0-20	Flake	Ft. Payne	None	3+	Absent	0.25"	3
49.43	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Damaged	3+	Present	0.50"	1
49.44	TU 08	Ap	0-20	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
									0.50"	1
49.45	TU 08	Ap	0-20	Flake	St. Louis	None	3+	Present	0.25"	1
49.46	TU 08	Ap	0-20	Flake	Ft. Payne	None	3+	Present	0.50"	1
49.47	TU 08	Ap	0-20	Shatter	St. Louis	Heat Damaged	-	-	-	2
49.48	TU 08	Ap	0-20	Shatter	Ft. Payne	Heat Damaged	-	-	-	6
49.49	TU 08	Ap	0-20	Shatter	Ft. Payne	None	-	-	-	4
49.50	TU 08	Ap	0-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	167
49.51	TU 08	Ap	0-20	Burned stone	Limestone	Heat Damaged	-	-	-	2
50.01	TU 08	Ap/AB	20-30	Utilized flake	Ft. Payne	Heat Damaged	-	-	-	1
50.02	TU 08	Ap/AB	20-30	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
50.03	TU 08	Ap/AB	20-30	Flake	St. Louis	None	Absent	Absent	0.25"	1
50.04	TU 08	Ap/AB	20-30	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
50.05	TU 08	Ap/AB	20-30	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
50.06	TU 08	Ap/AB	20-30	Flake	Ft. Payne	None	Absent	Present	0.25"	1
50.07	TU 08	Ap/AB	20-30	Flake	St. Louis	None	Absent	Present	0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
50.08	TU 08	Ap/AB	20-30	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
50.09	TU 08	Ap/AB	20-30	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
									0.50"	1
50.10	TU 08	Ap/AB	20-30	Flake	Ft. Payne	None	0-1	Present	0.50"	1
50.11	TU 08	Ap/AB	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	4
51	TU 08	Ap/AB	30	PPK, Kirk Corner Notched	Ft. Payne	Heat Damaged	-	-	-	1
52	TU 08	AB	30-40	Flake	St. Louis	None	Absent	Absent	0.25"	1
53.01	TU 09	Ap	0-22	PPK, Indeterminate	St. Louis	Heat Damaged	-	-	-	1
53.02	TU 09	Ap	0-22	Preform I	St. Louis	None	-	-	-	1
53.03	TU 09	Ap	0-22	Amorphous	St. Louis	Heat Damaged	-	-	-	1
53.04	TU 09	Ap	0-22	Tested Cobble	Bigby-Cannon	None	-	-	-	2
53.05	TU 09	Ap	0-22	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
53.06	TU 09	Ap	0-22	Utilized flake	Bigby-Cannon	None	-	-	-	1
53.07	TU 09	Ap	0-22	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
53.08	TU 09	Ap	0-22	Graver	Ft. Payne	None	-	-	-	1
53.09	TU 09	Ap	0-22	Graver	St. Louis	None	-	-	-	2
53.10	TU 09	Ap	0-22	Graver	St. Louis	Heat Treated	-	-	-	1
53.11	TU 09	Ap	0-22	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
53.12	TU 09	Ap	0-22	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
53.13	TU 09	Ap	0-22	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	3
53.14	TU 09	Ap	0-22	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
53.15	TU 09	Ap	0-22	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
53.16	TU 09	Ap	0-22	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
53.17	TU 09	Ap	0-22	Flake	St. Louis	None	Absent	Absent	0.25"	2
53.18	TU 09	Ap	0-22	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
53.19	TU 09	Ap	0-22	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
53.20	TU 09	Ap	0-22	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
53.21	TU 09	Ap	0-22	Flake	Ft. Payne	None	Absent	Present	0.25"	2
53.22	TU 09	Ap	0-22	Flake	Bigby-Cannon	None	Absent	Present	0.50"	1
53.23	TU 09	Ap	0-22	Flake	St. Louis	None	Absent	Present	0.25"	2
									0.50"	1
53.24	TU 09	Ap	0-22	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
53.25	TU 09	Ap	0-22	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	4
53.26	TU 09	Ap	0-22	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
53.27	TU 09	Ap	0-22	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
53.28	TU 09	Ap	0-22	Flake	Bigby-Cannon	Heat Damaged	Absent	Present	0.50"	1
53.29	TU 09	Ap	0-22	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	2
53.30	TU 09	Ap	0-22	Flake	Ft. Payne	None	0-1	Present	0.25"	2
									0.50"	2
53.31	TU 09	Ap	0-22	Flake	St. Louis	None	0-1	Present	0.25"	1
53.32	TU 09	Ap	0-22	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
53.33	TU 09	Ap	0-22	Flake	St. Louis	None	2	Absent	0.25"	1
53.34	TU 09	Ap	0-22	Flake	Bigby-Cannon	None	3+	Present	0.50"	1
53.35	TU 09	Ap	0-22	Shatter	Ft. Payne	Heat Damaged	-	-	-	7
53.36	TU 09	Ap	0-22	Shatter	St. Louis	Heat Damaged	-	-	-	4
53.37	TU 09	Ap	0-22	Shatter	Bigby-Cannon	None	-	-	-	5
53.38	TU 09	Ap	0-22	Shatter	Bigby-Cannon	Heat Damaged	-	-	-	1
53.39	TU 09	Ap	0-22	Flake	St. Louis	Heat Damaged	Ground	Absent	0.25"	1
53.40	TU 09	Ap	0-22	Debitage undivided	Chert/Mix	-	-	-	<1/4"	54
54.01	TU 09	Ap/AB	22-32	PPK, Early Archaic - Kirk Like	Bigby-Cannon	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
54.02	TU 09	Ap/AB	22-32	Amorphous	Bigby-Cannon	None	-	-	-	1
54.03	TU 09	Ap/AB	22-32	Tested Cobble	Ft. Payne	None	-	-	-	1
54.04	TU 09	Ap/AB	22-32	Utilized flake	Ft. Payne	Heat Treated	-	-	-	2
54.05	TU 09	Ap/AB	22-32	Angled Flake Scraper	Ft. Payne	None	-	-	-	1
54.06	TU 09	Ap/AB	22-32	Unmodified Utilized Flake	St. Louis	Heat Treated	-	-	-	1
54.07	TU 09	Ap/AB	22-32	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	3
54.08	TU 09	Ap/AB	22-32	Flake	St. Louis	None	Absent	Absent	0.25"	2
54.09	TU 09	Ap/AB	22-32	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
54.10	TU 09	Ap/AB	22-32	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
54.11	TU 09	Ap/AB	22-32	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
									0.50"	1
54.12	TU 09	Ap/AB	22-32	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
									0.50"	1
54.13	TU 09	Ap/AB	22-32	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
54.14	TU 09	Ap/AB	22-32	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
									0.50"	2
54.15	TU 09	Ap/AB	22-32	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
54.16	TU 09	Ap/AB	22-32	Flake	Ft. Payne	Heat Treated	2	Absent	0.25"	1
54.17	TU 09	Ap/AB	22-32	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
54.18	TU 09	Ap/AB	22-32	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
54.19	TU 09	Ap/AB	22-32	Debitage undivided	Chert/Mix	-	-	-	<1/4"	12
55.01	TU 09	AB	32-42	Utilized flake	Bigby-Cannon	None	-	-	-	1
55.02	TU 09	AB	32-42	Utilized flake	St. Louis	Heat Damaged	-	-	-	1
55.03	TU 09	AB	32-42	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
55.04	TU 09	AB	32-42	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
55.05	TU 09	AB	32-42	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
55.06	TU 09	AB	32-42	Flake	Bigby-Cannon	None	Absent	Absent	0.50"	1
55.07	TU 09	AB	32-42	Flake	St. Louis	None	Absent	Absent	0.25"	1
55.08	TU 09	AB	32-42	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
55.09	TU 09	AB	32-42	Flake	Ft. Payne	None	Absent	Present	0.25"	1
55.10	TU 09	AB	32-42	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
55.11	TU 09	AB	32-42	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
55.12	TU 09	AB	32-42	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.50"	1
55.13	TU 09	AB	32-42	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
55.14	TU 09	AB	32-42	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
									0.50"	1
55.15	TU 09	AB	32-42	Shatter	Ft. Payne	None	-	-	-	2
55.16	TU 09	AB	32-42	Debitage undivided	Chert/Mix	-	-	-	<1/4"	13
56.01	TU 09	AB	42-52	Utilized amorphous core	St. Louis	None	-	-	-	1
56.02	TU 09	AB	42-52	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
56.03	TU 09	AB	42-52	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
56.04	TU 09	AB	42-52	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	1
56.05	TU 09	AB	42-52	Flake	St. Louis	None	Absent	Present	0.25"	1
56.06	TU 09	AB	42-52	Flake	Ft. Payne	None	Absent	Present	0.25"	1
56.07	TU 09	AB	42-52	Flake	St. Louis	Heat Damaged	0-1	Absent	0.25"	1
56.08	TU 09	AB	42-52	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
56.09	TU 09	AB	42-52	Flake	Ft. Payne	None	0-1	Present	0.50"	1
56.10	TU 09	AB	42-52	Debitage undivided	Chert/Mix	-	-	-	<1/4"	6
57.01	TU 09	AB	52-62	Amorphous	Ft. Payne	None	-	-	-	1
57.02	TU 09	AB	52-62	Graver	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
57.03	TU 09	AB	52-62	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
57.04	TU 09	AB	52-62	Hoe	Shale	None	-	-	-	1
57.05	TU 09	AB	52-62	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
57.06	TU 09	AB	52-62	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
57.07	TU 09	AB	52-62	Flake	Ft. Payne	None	Absent	Present	0.25"	1
57.08	TU 09	AB	52-62	Flake	Ft. Payne	None	0-1	Present	0.25"	1
									0.50"	1
57.09	TU 09	AB	52-62	Flake	St. Louis	None	0-1	Present	1.0"	1
57.10	TU 09	AB	52-62	Flake	St. Louis	None	3+	Absent	0.25"	2
57.11	TU 09	AB	52-62	Debitage undivided	Chert/Mix	-	-	-	<1/4"	5
58.01	TU 10	Fill	0-10	Preform II	Ft. Payne	None	-	-	-	1
58.02	TU 10	Fill	0-10	Preform I	Ft. Payne	Heat Damaged	-	-	-	1
58.03	TU 10	Fill	0-10	Indeterminate Biface	Ft. Payne	Heat Damaged	-	-	-	1
58.04	TU 10	Fill	0-10	Utilized flake	St. Louis	None	-	-	-	1
58.05	TU 10	Fill	0-10	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
58.06	TU 10	Fill	0-10	Flake	St. Louis	None	Absent	Absent	0.25"	3
58.07	TU 10	Fill	0-10	Flake	Ft. Payne	None	Absent	Absent	0.50"	1
58.08	TU 10	Fill	0-10	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.50"	1
58.09	TU 10	Fill	0-10	Flake	St. Louis	None	Absent	Present	0.25"	1
58.10	TU 10	Fill	0-10	Flake	Ft. Payne	None	Absent	Present	0.25"	1
									0.50"	1
58.11	TU 10	Fill	0-10	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
58.12	TU 10	Fill	0-10	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
58.13	TU 10	Fill	0-10	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
58.14	TU 10	Fill	0-10	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
59.01	TU 10	Fill	10-20	Shell edge, unscalloped w/ simple repetitive pattern	Blue	-	-	-	-	1
59.02	TU 10	Fill	10-20	Blank	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
59.03	TU 10	Fill	10-20	Late Stage Biface	Ft. Payne	Heat Damaged	-	-	-	1
59.04	TU 10	Fill	10-20	Indeterminate Biface	St. Louis	None	-	-	-	1
59.05	TU 10	Fill	10-20	Graver	St. Louis	None	-	-	-	1
59.06	TU 10	Fill	10-20	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
59.07	TU 10	Fill	10-20	Utilized flake	Ft. Payne	None	-	-	-	1
59.08	TU 10	Fill	10-20	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
59.09	TU 10	Fill	10-20	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	4
									0.50"	1
59.10	TU 10	Fill	10-20	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	4
59.11	TU 10	Fill	10-20	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	4
									0.50"	2
59.12	TU 10	Fill	10-20	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
59.13	TU 10	Fill	10-20	Flake	St. Louis	None	Absent	Absent	0.25"	2
59.14	TU 10	Fill	10-20	Flake	Ft. Payne	None	Absent	Absent	0.25"	7
									0.50"	2
59.15	TU 10	Fill	10-20	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	2
59.16	TU 10	Fill	10-20	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
59.17	TU 10	Fill	10-20	Flake	Ft. Payne	None	Absent	Present	0.25"	2
									0.50"	2
59.18	TU 10	Fill	10-20	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
59.19	TU 10	Fill	10-20	Flake	St. Louis	None	0-1	Absent	0.25"	1
59.20	TU 10	Fill	10-20	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
59.21	TU 10	Fill	10-20	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
59.22	TU 10	Fill	10-20	Flake	St. Louis	None	0-1	Present	0.25"	1
59.23	TU 10	Fill	10-20	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
									0.50"	1
59.24	TU 10	Fill	10-20	Flake	St. Louis	None	2	Absent	0.25"	1
59.25	TU 10	Fill	10-20	Flake	Ft. Payne	None	2	Present	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
59.26	TU 10	Fill	10-20	Flake	St. Louis	None	3+	Absent	0.25"	3
59.27	TU 10	Fill	10-20	Flake	Ft. Payne	None	3+	Absent	0.25"	1
59.28	TU 10	Fill	10-20	Flake	St. Louis	None	3+	Present	0.25"	1
59.29	TU 10	Fill	10-20	Flake	Ft. Payne	None	3+	Present	0.25"	1
59.30	TU 10	Fill	10-20	Shatter	Ft. Payne	None	-	-	-	1
59.31	TU 10	Fill	10-20	Debitage undivided	Chert/Mix	-	-	-	<1/4"	20
60.01	TU 10	Fill	20-30	Utilized flake	St. Louis	Heat Treated	-	-	-	1
60.02	TU 10	Fill	20-30	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
									0.50"	1
60.03	TU 10	Fill	20-30	Flake	St. Louis	None	Absent	Present	0.25"	1
60.04	TU 10	Fill	20-30	Flake	Ft. Payne	None	Absent	Present	0.25"	2
60.05	TU 10	Fill	20-30	Flake	Bigby-Cannon	None	0-1	Absent	0.50"	1
60.06	TU 10	Fill	20-30	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
60.07	TU 10	Fill	20-30	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
60.08	TU 10	Fill	20-30	Flake	St. Louis	None	0-1	Present	1.0"	1
60.09	TU 10	Fill	20-30	Shatter	Ft. Payne	None	-	-	-	2
60.10	TU 10	Fill	20-30	Debitage undivided	Chert/Mix	-	-	-	<1/4"	2
61.01	TU 10	Fill	30-40	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.50"	1
61.02	TU 10	Fill	30-40	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
61.03	TU 10	Fill	30-40	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
61.04	TU 10	Fill	30-40	Flake	Ft. Payne	Heat Treated	Absent	Present	0.50"	1
61.05	TU 10	Fill	30-40	Flake	Ft. Payne	None	Absent	Present	0.25"	2
									0.50"	1
61.06	TU 10	Fill	30-40	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	1
61.07	TU 10	Fill	30-40	Shatter	St. Louis	None	-	-	-	2
61.08	TU 10	Fill	30-40	Debitage undivided	Chert/Mix	-	-	-	<1/4"	7
62.01	TU 10	Fill	40-50	Manufacture Indeterminate	Fragment	-	-	-	-	4
62.02	TU 10	Fill	40-50	PPK, Early Archaic Side Notched	St. Louis	Heat Treated	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
62.03	TU 10	Fill	40-50	Preform II	Ft. Payne	None	-	-	-	1
62.04	TU 10	Fill	40-50	Combination Tool	Ft. Payne	None	-	-	-	1
62.05	TU 10	Fill	40-50	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
62.06	TU 10	Fill	40-50	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
62.07	TU 10	Fill	40-50	Flake	Ft. Payne	Heat Damaged	Absent	Present	1.0"	1
62.08	TU 10	Fill	40-50	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	2
62.09	TU 10	Fill	40-50	Flake	Bigby-Cannon	None	Absent	Present	1.0"	1
62.10	TU 10	Fill	40-50	Flake	Ft. Payne	None	Absent	Present	0.50"	1
62.11	TU 10	Fill	40-50	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
62.12	TU 10	Fill	40-50	Flake	Ft. Payne	None	0-1	Absent	0.25"	1
62.13	TU 10	Fill	40-50	Flake	St. Louis	Heat Damaged	Absent	Present	0.50"	1
62.14	TU 10	Fill	40-50	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
62.15	TU 10	Fill	40-50	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
63.01	TU 10	Fill/Ap	50-60	Pulled	20d	-	-	-	-	1
63.02	TU 10	Fill/Ap	50-60	Pulled	6d	-	-	-	-	1
63.03	TU 10	Fill/Ap	50-60	Fragment	-	-	-	-	-	1
63.04a	TU 10	Fill/Ap	50-60	Fragment	-	-	-	-	-	1
63.04b	TU 10	Fill/Ap	50-60	Undecorated	Fragment	-	-	-	-	2
63.05	TU 10	Fill/Ap	50-60	Undecorated	Fragment	-	-	-	-	1
63.06	TU 10	Fill/Ap	50-60	Salt glazed/Undecorated	Fragment	-	-	-	-	1
63.07	TU 10	Fill/Ap	50-60	PPK, Pickwick	St. Louis	Heat Treated	-	-	-	1
63.08	TU 10	Fill/Ap	50-60	Late Stage Biface	St. Louis	Heat Treated	-	-	-	1
63.09	TU 10	Fill/Ap	50-60	Late Stage Biface	Bigby-Cannon	None	-	-	-	1
63.10	TU 10	Fill/Ap	50-60	Preform II	Ft. Payne	Heat Treated	-	-	-	1
63.11	TU 10	Fill/Ap	50-60	Indeterminate Biface	St. Louis	Heat Damaged	-	-	-	1
63.12	TU 10	Fill/Ap	50-60	Combination Tool	St. Louis	None	-	-	-	1
63.13	TU 10	Fill/Ap	50-60	Combination Tool	St. Louis	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
63.14	TU 10	Fill/Ap	50-60	Flake Scraper	St. Louis	None	-	-	-	2
63.15	TU 10	Fill/Ap	50-60	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
63.16	TU 10	Fill/Ap	50-60	Flake Scraper	Ft. Payne	None	-	-	-	1
63.17	TU 10	Fill/Ap	50-60	Utilized flake	Bigby-Cannon	Heat Treated	-	-	-	1
63.18	TU 10	Fill/Ap	50-60	Utilized flake	Ft. Payne	Heat Treated	-	-	-	3
63.19	TU 10	Fill/Ap	50-60	Utilized flake	Ft. Payne	None	-	-	-	1
63.20	TU 10	Fill/Ap	50-60	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
63.21	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
63.22	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	2
									0.50"	2
63.23	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	4
63.24	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	6
									0.50"	2
63.25	TU 10	Fill/Ap	50-60	Flake	St. Louis	None	Absent	Absent	0.25"	6
									0.50"	2
63.26	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	Absent	Absent	0.25"	8
									0.50"	3
63.27	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	5
									0.50"	1
63.28	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
									0.50"	2
63.29	TU 10	Fill/Ap	50-60	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
									0.50"	1
63.30	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
63.31	TU 10	Fill/Ap	50-60	Flake	Bigby-Cannon	None	Absent	Present	0.50"	2
63.32	TU 10	Fill/Ap	50-60	Flake	St. Louis	None	Absent	Present	0.25"	1
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
63.33	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	Absent	Present	0.25"	4
									0.50"	1
63.34	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
63.35	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
63.36a	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	0-1	Absent	0.25"	5
63.36b	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Damaged	0-1	Present	0.50"	1
63.37	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
									0.50"	1
63.38	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
63.39	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
63.40	TU 10	Fill/Ap	50-60	Flake	St. Louis	None	0-1	Present	0.25"	1
									0.50"	1
63.41	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	0-1	Present	0.25"	2
63.42	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	2	Absent	0.50"	1
63.43	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	2	Absent	0.50"	1
63.44	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	3
63.45	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
63.46	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
63.47	TU 10	Fill/Ap	50-60	Flake	St. Louis	None	3+	Absent	0.25"	2
63.48	TU 10	Fill/Ap	50-60	Flake	St. Louis	Heat Treated	3+	Present	0.25"	1
63.49	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
									0.50"	1
63.50a	TU 10	Fill/Ap	50-60	Flake	St. Louis	None	3+	Present	0.25"	2
63.50b	TU 10	Fill/Ap	50-60	Flake	Ft. Payne	None	Ground	Absent	0.50"	1
63.51	TU 10	Fill/Ap	50-60	Shatter	St. Louis	Heat Damaged	-	-	-	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
63.52	TU 10	Fill/Ap	50-60	Shatter	Ft. Payne	Heat Damaged	-	-	-	3
63.53	TU 10	Fill/Ap	50-60	Shatter	Ft. Payne	None	-	-	-	1
63.54	TU 10	Fill/Ap	50-60	Debitage undivided	Chert/Mix	-	-	-	<1/4"	24
64.01	TU 10	Ap	60-70	Manufacture Indeterminate	Fragment	-	-	-	-	1
64.02	TU 10	Ap	60-70	Fragment	-	-	-	-	-	1
64.03	TU 10	Ap	60-70	Fragment	-	-	-	-	-	1
64.04	TU 10	Ap	60-70	Undecorated	Grit temper	-	-	-	-	1
64.05	TU 10	Ap	60-70	Mussel shell	Fragment	-	-	-	-	1
64.06	TU 10	Ap	60-70	Hammerstone	Sandstone	-	-	-	-	1
64.07	TU 10	Ap	60-70	Blank	St. Louis	None	-	-	-	1
64.08	TU 10	Ap	60-70	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
64.09	TU 10	Ap	60-70	Early Stage Biface	Bigby-Cannon	Heat Treated	-	-	-	1
64.10	TU 10	Ap	60-70	Combination Tool	Ft. Payne	Heat Treated	-	-	-	1
64.11	TU 10	Ap	60-70	Graver	Ft. Payne	None	-	-	-	2
64.12	TU 10	Ap	60-70	Flake Scraper	St. Louis	None	-	-	-	1
64.13	TU 10	Ap	60-70	Flake Scraper	Ft. Payne	None	-	-	-	1
64.14	TU 10	Ap	60-70	Utilized flake	St. Louis	Heat Treated	-	-	-	1
64.15	TU 10	Ap	60-70	Utilized flake	St. Louis	None	-	-	-	1
64.16	TU 10	Ap	60-70	Utilized flake	Ft. Payne	None	-	-	-	1
64.17	TU 10	Ap	60-70	Unmodified Utilized Flake	St. Louis	None	-	-	-	1
64.18	TU 10	Ap	60-70	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	4
									0.50"	1
64.19	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	21
									0.50"	2
64.20	TU 10	Ap	60-70	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	6
64.21	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	18
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
64.22	TU 10	Ap	60-70	Flake	St. Louis	None	Absent	Absent	0.25"	9
									0.50"	1
64.23	TU 10	Ap	60-70	Flake	Ft. Payne	None	Absent	Absent	0.25"	24
									0.50"	3
64.24	TU 10	Ap	60-70	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
64.25	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
64.26	TU 10	Ap	60-70	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	2
64.27	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
									0.50"	2
64.28	TU 10	Ap	60-70	Flake	St. Louis	None	Absent	Present	0.25"	8
									0.50"	1
64.29	TU 10	Ap	60-70	Flake	Ft. Payne	None	Absent	Present	0.25"	7
									0.50"	2
64.30	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	5
									0.50"	1
64.31	TU 10	Ap	60-70	Flake	St. Louis	Heat Treated	0-1	Absent	0.25"	1
									0.50"	1
64.32	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	8
									0.50"	1
64.33	TU 10	Ap	60-70	Flake	St. Louis	None	0-1	Absent	0.25"	1
									0.50"	1
64.34	TU 10	Ap	60-70	Flake	Ft. Payne	None	0-1	Absent	0.25"	5
									0.50"	1
64.35	TU 10	Ap	60-70	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
64.36	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.50"	1
64.37	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
									0.50"	1
									1.0"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
64.38	TU 10	Ap	60-70	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
64.39	TU 10	Ap	60-70	Flake	St. Louis	None	0-1	Present	0.25"	4
64.40	TU 10	Ap	60-70	Flake	Ft. Payne	None	0-1	Present	0.25"	5
									0.50"	2
64.41	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	2	Absent	0.50"	1
64.42	TU 10	Ap	60-70	Flake	St. Louis	None	2	Absent	0.25"	1
64.43	TU 10	Ap	60-70	Flake	Ft. Payne	None	2	Absent	0.25"	4
									0.50"	1
64.44	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.50"	1
64.45	TU 10	Ap	60-70	Flake	Ft. Payne	None	3+	Absent	0.50"	1
64.46	TU 10	Ap	60-70	Flake	Bigby-Cannon	Heat Damaged	3+	Absent	0.25"	1
64.47	TU 10	Ap	60-70	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	1
64.48	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
									0.50"	1
64.49	TU 10	Ap	60-70	Flake	St. Louis	Heat Treated	3+	Absent	0.50"	1
64.50	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	5
64.51	TU 10	Ap	60-70	Flake	St. Louis	None	3+	Absent	0.25"	1
64.52	TU 10	Ap	60-70	Flake	Ft. Payne	None	3+	Absent	0.25"	3
									0.50"	1
64.53	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
64.54	TU 10	Ap	60-70	Flake	St. Louis	None	3+	Present	0.25"	1
64.55	TU 10	Ap	60-70	Shatter	Bigby-Cannon	None	-	-	-	1
64.56	TU 10	Ap	60-70	Shatter	St. Louis	Heat Damaged	-	-	-	1
64.57	TU 10	Ap	60-70	Shatter	Ft. Payne	Heat Damaged	-	-	-	5
64.58	TU 10	Ap	60-70	Shatter	Ft. Payne	None	-	-	-	9
64.59	TU 10	Ap	60-70	Debitage undivided	Chert/Mix	-	-	-	<1/4"	86
64.60	TU 10	Ap	60-70	Flake	St. Louis	Heat Damaged	Ground	Absent	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
64.61	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Damaged	Ground	Absent	0.50"	1
64.62	TU 10	Ap	60-70	Flake	Ft. Payne	Heat Treated	Ground	Present	0.50"	1
65.01	TU 10	Ap	70-80	Undecorated	Fragment	-	-	-	-	1
65.02	TU 10	Ap	70-80	Salt glazed/Undecorated	Exterior/Interior	-	-	-	-	1
65.03	TU 10	Ap	70-80	PPK, Indeterminate	St. Louis	None	-	-	-	1
65.04	TU 10	Ap	70-80	Preform II	Ft. Payne	Heat Treated	-	-	-	1
65.05	TU 10	Ap	70-80	Blank	St. Louis	None	-	-	-	1
65.06	TU 10	Ap	70-80	Indeterminate Biface	Ft. Payne	Heat Treated	-	-	-	1
65.07	TU 10	Ap	70-80	Combination Tool	St. Louis	Heat Treated	-	-	-	1
65.08	TU 10	Ap	70-80	Combination Tool	Ft. Payne	None	-	-	-	1
65.09	TU 10	Ap	70-80	Spokeshave	Bigby-Cannon	None	-	-	-	1
65.10	TU 10	Ap	70-80	Flake Scraper	St. Louis	Heat Treated	-	-	-	1
65.11	TU 10	Ap	70-80	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
65.12	TU 10	Ap	70-80	Flake Scraper	Ft. Payne	None	-	-	-	1
65.13	TU 10	Ap	70-80	Utilized flake	St. Louis	None	-	-	-	3
65.14	TU 10	Ap	70-80	Unmodified Utilized Flake	St. Louis	Heat Damaged	-	-	-	1
65.15	TU 10	Ap	70-80	Unmodified Utilized Flake	Ft. Payne	Heat Treated	-	-	-	1
65.16	TU 10	Ap	70-80	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	1
65.17	TU 10	Ap	70-80	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	6
65.18	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	15
									0.50"	5
65.19	TU 10	Ap	70-80	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	6
65.20	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	16
									0.50"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
65.21	TU 10	Ap	70-80	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	1
65.22	TU 10	Ap	70-80	Flake	St. Louis	None	Absent	Absent	0.25"	9
65.23	TU 10	Ap	70-80	Flake	Ft. Payne	None	Absent	Absent	0.25"	17
									0.50"	1
65.24	TU 10	Ap	70-80	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
65.25	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	4
									0.50"	2
65.26	TU 10	Ap	70-80	Flake	Bigby-Cannon	Heat Treated	Absent	Present	0.25"	1
65.27	TU 10	Ap	70-80	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
65.28	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	5
									0.50"	2
65.29	TU 10	Ap	70-80	Flake	St. Louis	None	Absent	Present	0.25"	2
65.30	TU 10	Ap	70-80	Flake	Ft. Payne	None	Absent	Present	0.25"	4
									0.50"	1
65.31	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	1
65.32	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	1
65.33	TU 10	Ap	70-80	Flake	St. Louis	None	0-1	Absent	0.25"	2
65.34	TU 10	Ap	70-80	Flake	Ft. Payne	None	0-1	Absent	0.25"	2
									0.50"	1
65.35	TU 10	Ap	70-80	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	2
									0.50"	1
65.36	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
									0.50"	1
65.37	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	3
									0.50"	1
65.38	TU 10	Ap	70-80	Flake	Bigby-Cannon	None	0-1	Present	0.25"	1
									0.50"	1
65.39	TU 10	Ap	70-80	Flake	St. Louis	None	0-1	Present	0.25"	3

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
									0.50"	1
65.40	TU 10	Ap	70-80	Flake	Ft. Payne	None	0-1	Present	0.25"	11
									0.50"	4
65.41	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	2
									0.50"	1
65.42	TU 10	Ap	70-80	Flake	St. Louis	Heat Treated	2	Absent	0.25"	2
65.43	TU 10	Ap	70-80	Flake	St. Louis	Heat Damaged	3+	Absent	0.25"	2
65.44	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
									0.50"	1
65.45	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
									0.50"	1
65.46	TU 10	Ap	70-80	Flake	St. Louis	None	3+	Absent	0.25"	3
									0.50"	2
65.47	TU 10	Ap	70-80	Flake	Ft. Payne	None	3+	Absent	0.25"	4
65.48	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Damaged	3+	Present	0.50"	1
65.49	TU 10	Ap	70-80	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	1
65.50	TU 10	Ap	70-80	Flake	St. Louis	None	3+	Present	0.25"	1
65.51	TU 10	Ap	70-80	Flake	Ft. Payne	None	Ground	Absent	0.25"	1
65.52	TU 10	Ap	70-80	Shatter	Ft. Payne	Heat Damaged	-	-	-	4
65.53	TU 10	Ap	70-80	Shatter	Ft. Payne	None	-	-	-	8
65.54	TU 10	Ap	70-80	Debitage undivided	Chert/Mix	-	-	-	<1/4"	78
66	TU 10	Ap	80	Finished Biface	Ft. Payne	None	-	-	-	1
67.01	TU 10	AB/A	80-90	Undecorated	Fragment	-	-	-	-	1
67.02	TU 10	AB/A	80-90	Amorphous	Ft. Payne	Heat Damaged	-	-	-	1
67.03	TU 10	AB/A	80-90	PPK, Indeterminate	Ft. Payne	None	-	-	-	1
67.04	TU 10	AB/A	80-90	Late Stage Biface	Ft. Payne	Heat Treated	-	-	-	1
67.05	TU 10	AB/A	80-90	Late Stage Biface	Ft. Payne	None	-	-	-	1
67.06	TU 10	AB/A	80-90	Combination Tool	Ft. Payne	None	-	-	-	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
67.07	TU 10	AB/A	80-90	Spokeshave	Ft. Payne	Heat Treated	-	-	-	1
67.08	TU 10	AB/A	80-90	Graver	Ft. Payne	None	-	-	-	1
67.09	TU 10	AB/A	80-90	Perforator	Ft. Payne	Heat Damaged	-	-	-	1
67.10	TU 10	AB/A	80-90	Flake Scraper	St. Louis	None	-	-	-	1
67.11	TU 10	AB/A	80-90	Flake Scraper	Ft. Payne	Heat Damaged	-	-	-	1
67.12	TU 10	AB/A	80-90	Flake Scraper	Ft. Payne	None	-	-	-	1
67.13	TU 10	AB/A	80-90	Utilized flake	St. Louis	Heat Damaged	-	-	-	2
67.14	TU 10	AB/A	80-90	Utilized flake	Ft. Payne	Heat Treated	-	-	-	1
67.15	TU 10	AB/A	80-90	Unmodified Utilized Flake	Ft. Payne	None	-	-	-	2
67.16	TU 10	AB/A	80-90	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	5
67.17	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	8
									0.50"	3
67.18	TU 10	AB/A	80-90	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	5
67.19	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	14
									0.50"	1
67.20	TU 10	AB/A	80-90	Flake	Chalcedony	None	Absent	Absent	0.25"	1
67.21	TU 10	AB/A	80-90	Flake	Bigby-Cannon	None	Absent	Absent	0.25"	2
67.22	TU 10	AB/A	80-90	Flake	St. Louis	None	Absent	Absent	0.25"	8
									0.50"	1
67.23	TU 10	AB/A	80-90	Flake	Ft. Payne	None	Absent	Absent	0.25"	12
									0.50"	3
67.24	TU 10	AB/A	80-90	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	1
67.25	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Damaged	Absent	Present	0.25"	3
67.26	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	8
									0.50"	3
67.27	TU 10	AB/A	80-90	Flake	St. Louis	None	Absent	Present	0.25"	3

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
67.28	TU 10	AB/A	80-90	Flake	Ft. Payne	None	Absent	Present	0.25"	7
									0.50"	1
									1.0"	1
67.29	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Damaged	0-1	Absent	0.25"	3
67.30	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	0-1	Absent	0.25"	5
67.31	TU 10	AB/A	80-90	Flake	St. Louis	None	0-1	Absent	0.25"	3
67.32	TU 10	AB/A	80-90	Flake	Ft. Payne	None	0-1	Absent	0.25"	3
									0.50"	2
67.33	TU 10	AB/A	80-90	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
67.34	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	0-1	Present	0.25"	2
									0.50"	1
67.35	TU 10	AB/A	80-90	Flake	Bigby-Cannon	None	0-1	Present	0.50"	3
67.36	TU 10	AB/A	80-90	Flake	St. Louis	None	0-1	Present	0.25"	3
									0.50"	1
67.37	TU 10	AB/A	80-90	Flake	Ft. Payne	None	0-1	Present	0.25"	3
									0.50"	2
									1.0"	1
67.38	TU 10	AB/A	80-90	Flake	St. Louis	None	2	Absent	0.25"	1
67.39	TU 10	AB/A	80-90	Flake	Ft. Payne	None	2	Absent	0.25"	2
67.40	TU 10	AB/A	80-90	Flake	Ft. Payne	None	2	Present	1.0"	1
67.41	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1
									0.50"	2
67.42	TU 10	AB/A	80-90	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	2
									0.50"	1
67.43	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	6
									0.50"	1
67.44	TU 10	AB/A	80-90	Flake	St. Louis	None	3+	Absent	0.25"	1
									0.50"	2
67.45	TU 10	AB/A	80-90	Flake	Ft. Payne	None	3+	Absent	0.25"	4
67.46	TU 10	AB/A	80-90	Flake	Ft. Payne	Heat Treated	3+	Present	0.25"	2

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
67.47	TU 10	AB/A	80-90	Flake	Bigby-Cannon	None	3+	Present	0.25"	1
67.48	TU 10	AB/A	80-90	Flake	Ft. Payne	None	3+	Present	0.25"	1
									0.50"	1
67.49	TU 10	AB/A	80-90	Shatter	Ft. Payne	Heat Damaged	-	-	-	1
67.50	TU 10	AB/A	80-90	Shatter	Ft. Payne	None	-	-	-	6
67.51	TU 10	AB/A	80-90	Debitage undivided	Chert/Mix	-	-	-	<1/4"	64
68	TU 10	AB/A	87	PPK, Graham Cave Side Notched	Ft. Payne	None	-	-	-	1
69.01	TU 10	A/Bt2	90-100	Perforator	St. Louis	Heat Treated	-	-	-	1
69.02	TU 10	A/Bt2	90-100	Unmodified Utilized Flake	Ft. Payne	Heat Damaged	-	-	-	1
69.03	TU 10	A/Bt2	90-100	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	2
69.04	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	3
69.05	TU 10	A/Bt2	90-100	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
69.06	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	1
69.07	TU 10	A/Bt2	90-100	Flake	St. Louis	Heat Treated	Absent	Present	0.25"	1
69.08	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
									0.50"	2
69.09	TU 10	A/Bt2	90-100	Flake	Ft. Payne	None	Absent	Present	0.50"	1
69.10	TU 10	A/Bt2	90-100	Flake	St. Louis	Heat Damaged	0-1	Present	0.25"	1
69.11	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	1
69.12	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	2
69.13	TU 10	A/Bt2	90-100	Flake	St. Louis	None	0-1	Present	0.50"	2
									1.0"	1
69.14	TU 10	A/Bt2	90-100	Flake	Ft. Payne	None	0-1	Present	0.50"	2
69.15	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Damaged	3+	Absent	0.25"	1

40Pm184										
Cat. #	**Provenience**	**Zone**	**Depth**	**Description**	**Material**	**Heat Alteration**	**Platform Facets**	**Cortex**	**Size grade**	**Total**
69.16	TU 10	A/Bt2	90-100	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	1
69.17	TU 10	A/Bt2	90-100	Shatter	Ft. Payne	None	-	-	-	3
69.18	TU 10	A/Bt2	90-100	Debitage undivided	Chert/Mix	-	-	-	<1/4"	11
70.01	TU 10	A/Bt2	100-110	PPK, Kirk Corner Notched	Ft. Payne	Heat Treated	-	-	-	1
70.02	TU 10	A/Bt2	100-110	Preform I	Ft. Payne	Heat Damaged	-	-	-	1
70.03	TU 10	A/Bt2	100-110	Amorphous	Ft. Payne	None	-	-	-	1
70.04	TU 10	A/Bt2	100-110	Indeterminate Biface	Ft. Payne	None	-	-	-	1
70.05	TU 10	A/Bt2	100-110	Graver	Ft. Payne	Heat Treated	-	-	-	1
70.06	TU 10	A/Bt2	100-110	Flake	St. Louis	Heat Damaged	Absent	Absent	0.25"	1
									0.50"	1
70.07	TU 10	A/Bt2	100-110	Flake	St. Louis	Heat Treated	Absent	Absent	0.25"	1
70.08	TU 10	A/Bt2	100-110	Flake	St. Louis	None	Absent	Absent	0.25"	2
70.09	TU 10	A/Bt2	100-110	Flake	Ft. Payne	None	Absent	Absent	0.25"	1
70.10	TU 10	A/Bt2	100-110	Flake	St. Louis	Heat Damaged	Absent	Present	0.25"	2
70.11	TU 10	A/Bt2	100-110	Flake	Ft. Payne	Heat Treated	Absent	Present	0.25"	1
70.12	TU 10	A/Bt2	100-110	Flake	St. Louis	None	Absent	Present	0.25"	1
									0.50"	1
70.13	TU 10	A/Bt2	100-110	Flake	Ft. Payne	None	Absent	Present	0.25"	1
70.14	TU 10	A/Bt2	100-110	Flake	Bigby-Cannon	None	0-1	Present	0.50"	1
70.15	TU 10	A/Bt2	100-110	Flake	Ft. Payne	Heat Treated	3+	Absent	0.25"	2
70.16	TU 10	A/Bt2	100-110	Flake	Bigby-Cannon	None	3+	Present	1.0"	1
70.17	TU 10	A/Bt2	100-110	Shatter	Ft. Payne	None	-	-	-	1
70.18	TU 10	A/Bt2	100-110	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
71.01	TU 10	A/Bt2	110-125	Flake Scraper	Ft. Payne	Heat Treated	-	-	-	1
71.02	TU 10	A/Bt2	110-125	Flake Scraper	Ft. Payne	None	-	-	-	1
71.03	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Damaged	Absent	Absent	0.25"	1
									0.50"	2

40Pm184

Cat. #	Provenience	Zone	Depth	Description	Material	Heat Alteration	Platform Facets	Cortex	Size grade	Total
71.04	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Treated	Absent	Absent	0.25"	2
71.05	TU 10	A/Bt2	110-125	Flake	Ft. Payne	None	Absent	Absent	0.25"	2
									0.50"	2
71.06	TU 10	A/Bt2	110-125	Flake	Bigby-Cannon	None	Absent	Present	0.25"	1
71.07	TU 10	A/Bt2	110-125	Flake	St. Louis	None	Absent	Present	0.25"	1
71.08	TU 10	A/Bt2	110-125	Flake	Ft. Payne	None	Absent	Present	0.25"	1
									0.50"	1
71.09	TU 10	A/Bt2	110-125	Flake	St. Louis	Heat Treated	0-1	Absent	0.50"	1
71.10	TU 10	A/Bt2	110-125	Flake	St. Louis	None	0-1	Absent	0.25"	1
71.11	TU 10	A/Bt2	110-125	Flake	Ft. Payne	None	0-1	Absent	0.50"	2
71.12	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Damaged	0-1	Present	0.25"	2
									0.50"	1
71.13	TU 10	A/Bt2	110-125	Flake	St. Louis	Heat Treated	0-1	Present	0.25"	1
71.14	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Treated	0-1	Present	0.50"	1
71.15	TU 10	A/Bt2	110-125	Flake	St. Louis	None	0-1	Present	0.25"	1
71.16	TU 10	A/Bt2	110-125	Flake	Ft. Payne	None	0-1	Present	0.50"	1
71.17	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Damaged	2	Absent	0.25"	1
71.18	TU 10	A/Bt2	110-125	Flake	St. Louis	Heat Treated	3+	Absent	0.25"	1
71.19	TU 10	A/Bt2	110-125	Flake	Ft. Payne	Heat Treated	3+	Absent	0.50"	1
71.20	TU 10	A/Bt2	110-125	Flake	St. Louis	None	3+	Absent	0.25"	3
71.21	TU 10	A/Bt2	110-125	Flake	St. Louis	None	3+	Present	0.50"	1
71.22	TU 10	A/Bt2	110-125	Shatter	Ft. Payne	None	-	-	-	3
71.23	TU 10	A/Bt2	110-125	Debitage undivided	Chert/Mix	-	-	-	<1/4"	8
Total										**8450**

Appendix C ICA Radiocarbon Dates

ICA Inc.
12358 Parklawn Dr. STE 282
North Bethesda, MD 20852
1-240-957-1414
www.radiocdating.com

^{14}C AMS Report

Submitter Name: Duane Simpson
Company Name: Stantec
Address: 10420 Bluegrass Parkway
Louisville, KY 40299
USA
Date Received: May 6th, 2025
Date Reported: May 27th, 2025
Project #: 172608879

ICA ID	Submitter ID	Material Type	Pretreatment	Conventional Age	Calibrated Age
14C-9992	F1/01F.6	Charcoal	AAA	**950 +/- 30 BP**	**Cal 1020 - 1170 AD**
14C-9993	F3/04F.11	Nutshell	AAA	**3110 +/- 30 BP**	**Cal 1450 - 1280 BC**
14C-9994	F4/06F.26	Nutshell	AAA	**3100 +/- 30 BP**	**Cal 1440 - 1270 BC**
14C-9995	F5/07F.8	Nutshell	AAA	**3120 +/- 30 BP**	**Cal 1500 - 1480 BC (1.5%)** **Cal 1450 - 1290 BC (94.0%)**
14C-9996	F6/08F.16	Nutshell	AAA	**3260 +/- 30 BP**	**Cal 1620 - 1450 BC**

Quality Control Results

QC #	Quality Control Material	Acceptance Criteria	Measured Value
Wheel QC 1	**IAEA C7**	49.53 +/- 0.70 pMC	49.67 +/- 0.20 pMC
Wheel QC 2	**IAEA C5**	23.05 +/- 0.70 pMC	222.90 +/- 0.10 pMC
All Quality Control Analyses Pass Acceptance Criteria			

- AMS = Accelerator Mass Spectrometry.
- pMC = Percent Modern Carbon.
- IAEA = International Atomic Energy Agency.
- Calibrated ages are attained using IntCal20 or Bomb 21 NH1.
- Unless otherwise stated, the error reported is two sigma standard deviation (95.4%).
- Conventional ages are given in BP (BP=Before Present, 1950 AD) or F14C when samples are post-1950, and have been corrected for natural isotope fractionation.

Summary of Methods

Pretreatment

- **Acid/Alkali/Acid (AAA):** Also known as ABA (Acid/Base/Acid), this pretreatment protocol is applied to most organic material types. A hot hydrochloric acid (HCl) wash is applied to remove any carbonates (if present), and then hot sodium hydroxide (NaOH) washes is performed for removal of secondary humic acids. A final hot HCl wash is applied prior to rinsing the sample solution neutral, then dried to prepare for combustion.
- **Acid Etched (AE):** This pretreatment protocol is applied to most carbonates, such as shells and corals. Material is first rinsed with water and mechanically cleaned to remove any debris if present, then exposed to a dilute HCl wash. The sample solution is then rinsed neutral and dried to prepare for acid digestion.
- **Acid Only (AO):** This pretreatment protocol is typically applied to organic sediments. Sample is mechanically sieved, then a HCl wash is applied to remove any carbonates that may be present. The sample solution is then rinsed neutral and dried to prepare for combustion.
- **Collagen Extraction With Acid/Alkali/Acid (Col-AAA)**: This protocol is applied to bones. The sample surface is cleaned, then the AAA process & extraction the protein component of the bone (collagen) through the removal of the mineral portion of the bone (calcium hydroxyapatite) is performed. The treated collagen extracted is rinsed neutral and dried to prepare for combustion.
- **Carbonate Extraction:** This protocol is typically applied to cremated bones. These bones have been heated to temperatures above 600°C and as a result, the bioapatite forms larger and better structure crystals that are typically not susceptible to contamination over time. After cleaning the external surface of the sample, it is treated with NaClO for 48 hours, then CH_3COOH for 24 hours. The sample is then rinsed neutral and dried to prepare for acid digestion.

Combustion

For each sample, some of it is weighed and placed in quartz tube. The tube containing the sample is subsequently brought to vacuum, then an oxygen source is introduced into the tube. The tube is then sealed and exposed to heat (800ºC) for at least 30 minutes to drive the reaction, which causes the carbon in the sample to be converted to CO_2 gas. The other product in the reaction is H_2O. The sample (CO_2 gas) is then converted into graphite in the Reduction (Graphitization) step.

Acid Digestion

Carbonate samples go through the acid digestion process after pretreatment. This involves crushing some of the pretreated material, then placing it in a tube that is subsequently evacuated. The acid digestion reaction is then started by adding H_3PO_4 to the sample in the vacuum environment. This reaction releases the carbon in the sample as CO_2 gas. The sample (CO_2 gas) is then converted into graphite in the Reduction (Graphitization) step.

Reduction (Graphitization)

The evolved CO_2 is distilled through a cold (-78ºC) solid CO_2/C_3H_8O slush to remove water as it is transferred under a vacuum to a reduction reaction vessel via a cryogenic pump using liquid N_2 (-195ºC). The reduction reaction vessel contains Co as the catalyst and $Mg(ClO_4)_2$ as a drying agent. Hydrogen gas is added to the reduction reaction vessel and then heat is introduced (550ºC) to drive the reaction. An unbalanced summary of the 2-step reduction reaction is as follows:

$$CO_2 + H_2 \xrightarrow[\text{550ºC, Co}]{\blacktriangle} CO + H_2O$$

$$CO + H_2 \xrightarrow[\text{550ºC, Co}]{\blacktriangle} C_{(graphite)} + H_2O$$

Accelerator Mass Spectrometry (AMS) Analysis

The graphite obtained for each sample is pressed into an aluminum cathode, and then placed into a sample wheel that is loaded into one of the ion sources in the AMS. The sample wheel includes QC samples of known values in addition to unknowns so that accuracy & precision can be verified. Percent Modern Carbon and a Conventional Age is then determined for each sample.

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

Stantec Consulting Services Inc.
10420 Bluegrass Parkway, Suite 10420
Louisville KY 40299-2208
stantec.com

TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

07-21-2025 14:20:42 CDT

Kimberly Vasut-Shelby
TDOT
kimberly.vasut-shelby@tn.gov

RE: Federal Highway Administration (FHWA), I-40 Truck Parking and Bridges Replacement over the Caney Fork River, Lancaster and Buffalo Valley, PIN 131552.01, Project#: SHPO0005421, , Smith County, Putnam County, TN

Dear Kimberly Vasut-Shelby:

Pursuant to your request, this office has reviewed documentation concerning the above-referenced undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Based on the information provided, we find that the project area contains archaeological site 40PM184, a cultural resource eligible for listing in the National Register of Historic Places. We further find that the project as currently proposed will not adversely affect this historic property.

This office has no objection to the implementation of this project as currently planned. If project plans are changed or previously unevaluated archaeological resources are discovered during project construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Include the Project # if you need to submit any additional information regarding this undertaking. Questions and comments may be directed to Jennifer Barnett, who drafted this response, at Jennifer.Barnett@tn.gov, +16156874780. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

Ref:MSG17924161_RynuJdmcbicKUgKMY1I

Native American Consultation (NAC)

Environmental Studies

Native American Coordination

Environmental Studies Request

Project Information

Route: I-40

Termini: L.M. 16.333 - L.M. 0.080

County: Multiple Counties

PIN: 131552.01

Request

Request Type: Initial Environmental Study

Project Plans: Preliminary

Date of Plans: 04/24/2024

Location: Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Native American Coordination

Study Results

An invitation to participate in the Section 106 process was sent on May 23, 2024 to all federally recognized Native American tribes with interests in the subject county: Absentee-Shawnee Tribe of Indians in Oklahoma, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, The Muscogee (Creek) Nation, Shawnee Tribe, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

On June 19, 2024, the Cherokee Nation responded with a finding of no impacts to Cherokee cultural resources. The Cherokee Nation requested to be contacted in the event of an inadvertent archaeological finding.

On July 25, 2024, the Shawnee Tribe responded and concurred that no known properties of significance will be negatively impacted by this project. The Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

To date, no other responses have been received. TDOT will re-initiate consultation if additional cultural resources studies are required or if archaeological materials or human remains are discovered during construction. All NAC correspondence is on file with TDOT Cultural Resources.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Lauren Le Pere

Title: Native American Coordination

Signature: Lauren Le Pere

Digitally signed by Lauren Le Pere
Date: 2024.07.26 11:51:48 -05'00'

Hazardous Materials

Environmental Studies

Hazardous Materials

Environmental Studies Request

Project Information

Route: I-40

Termini: L.M. 16.333 - L.M. 0.080

County: Multiple Counties

PIN: 131552.01

Request

Request Type: Initial Environmental Study

Project Plans: Preliminary

Date of Plans: 04/24/2024

Location: Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Hazardous Materials

Study Results

Based on the Environmental Technical Study Area figures no known hazardous materials sites affect this project as it is currently planned, and no additional hazardous material studies are recommended at this time. Bridge 80I00400036 was previously surveyed and no asbestos was detected. Bridge 80I00400035 has been scheduled for survey and the report is due in August 2024. In the event hazardous materials or wastes are encountered within the right-of-way, notification shall be made per TDOT Standard Specifications for Road and Bridge Construction (January 1, 2021) Section 107.08.C. Disposition of hazardous materials or wastes shall be subject to all applicable Federal, State, and local regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983, as amended. Databases reviewed include Google Earth imagery, EPA National Priorities List, EPA EnviroMapper (Envirofacts), TDEC Registered Underground Storage Tanks Public Data Viewer and Data and Reports, TDEC Division of Water Resources Public Data Viewer and Oil and Gas Wells database, TDEC Division of Remediation Sites Public Data Viewer, TDOT Integrated Bridge Information System, and others, as necessary.

Commitments

Did the study of this project result in any environmental commitments? **Yes**

to be submitted

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Kyle Kirschenmann

Title: Statewide Technical Specialist

Signature:

Digitally signed by Kyle Kirschenmann
Date: 2024.07.17 07:32:25 -04'00'

Multimodal

Environmental Studies

Multimodal

TN TDOT Department of Transportation

U.S. Department of Transportation Federal Highway Administration

SEMS Statewide Environmental Management System

Environmental Studies Request

Project Information

Route:	I-40
Termini:	L.M. 16.333 - L.M. 0.080
County:	Multiple Counties
PIN:	131552.01

Request

Request Type:	Initial Environmental Study
Project Plans:	Preliminary
Date of Plans:	04/24/2024
Location:	Email Attachment

Certification

Requestor: Trent Deason

Title: Planner II

Signature: Trent Deason

Digitally signed by Trent Deason
Date: 2024.07.16 18:12:34 -05'00'

Environmental Study

Technical Section

Section: Multimodal

Study Results

This project is to include sidewalks, crosswalks, curb-ramps & proper lighting to connect drivers to rest area facilities. See Multimodal Access Policy, VII. PROCEDURES, A. 1-7.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Donald J. Sullivan

Title: Program Monitor I

Signature: Donald J. Sullivan III

Digitally signed by Donald J. Sullivan III
Date: 2024.08.22 14:51:32 -05'00'

TN TDOT Department of Transportation **DEPARTMENTAL POLICY** **State of Tennessee** **Department of Transportation**	**Policy Number: 530-01**
	Effective Date: **July 31, 2015**
Approved By:	**Supersedes:** **December 1, 2010**
SUBJECT: Multimodal Access Policy	

I. RESPONSIBLE OFFICE: Multimodal Transportation Resources Division

II. AUTHORITY: T.C.A. 4-3-2303. If any portion of this policy conflicts with applicable state or federal laws or regulations, that portion shall be considered void. The remainder of this policy shall not be affected thereby and shall remain in full force and effect.

III. PURPOSE: To create and implement a multimodal transportation policy that encourages safe access and mobility for users of all ages and abilities through the planning, design, construction, maintenance, and operation of new construction, reconstruction and retrofit transportation facilities that are federally or state funded. Users include, but are not limited to, motorists, transit-riders, freight-carriers, bicyclists and pedestrians.

IV. APPLICATION: All Tennessee Department of Transportation (TDOT) employees, consultants and contractors involved in the planning, design, construction, maintenance, and operation of state and federally funded projects, and local governments managing and maintaining transportation projects with funding through TDOT's Local Programs Development Office.

V. DEFINITIONS:

a. Highway: A main road or thoroughfare, such as a street, boulevard, or parkway, available to the public for use for travel or transportation
b. Multimodal: For the purposes of this policy, multimodal is defined as the movement of people and goods on state and functionally-classified roadways. Users include, but are not limited to, motorists, transit-riders, freight-carriers, bicyclists and pedestrians, including those with disabilities.
c. Reconstruction: Complete removal and replacement of the pavement structure or the addition of new continuous traffic lanes on an existing roadway.
d. Retrofit: Changes to an existing highway within the general right-of-way, such as adding lanes, modifying horizontal and vertical alignments, structure rehabilitation, safety improvements, and maintenance.
e. Roadway: The portion of a highway, including shoulders, that is available for vehicular, bicycle or pedestrian use.

VI. POLICY: The Department of Transportation recognizes the benefits of integrating multimodal facilities into the transportation system as a means to improve the mobility, access and safety of all users. The intent of this policy is to promote the inclusion of multimodal accommodations in all transportation planning and project development activities at the local, regional and statewide levels, and to develop a comprehensive, integrated, and connected multimodal transportation network. TDOT will collaborate with local government agencies and regional planning agencies through established transportation planning processes to ensure that multimodal accommodations are addressed throughout the planning, design, construction, maintenance, and operation of new construction, reconstruction and retrofit transportation facilities as outlined in TDOT's Multimodal Access Policy Implementation Plan.

VII. PROCEDURES:

A. TDOT is committed to the development of a transportation system that improves conditions for multimodal transportation users through the following actions:

1. Provisions for multimodal transportation shall be given full consideration in new construction, reconstruction and retrofit roadway projects through design features appropriate for the context and function of the transportation facility.

2. The planning, design and construction of new facilities shall give full consideration to likely future demand for multimodal facilities and not preclude the provision of future improvements. If all feasible roadway alternatives have been explored and suitable multimodal facilities cannot be provided within the existing or proposed right of way due to environmental constraints, an alternate route that provides continuity and enhances the safety and accessibility of multimodal travel should be considered.

3. Multimodal provisions on existing roadways shall not be made more difficult or impossible by roadway improvements or routine maintenance projects.

4. Intersections and interchanges shall be designed (where appropriate based on context) to accommodate the mobility of bicyclists and pedestrians to cross corridors as well as travel along them in a manner that is safe, accessible, and convenient.

5. While it is not the intent of resurfacing projects to expand existing facilities, opportunities to provide or enhance bicycle and pedestrian facilities shall be given full consideration during the program development stage of resurfacing projects.

6. Pedestrian facilities shall be designed and built to accommodate persons with disabilities in accordance with the access standards required by the Americans with Disabilities Act (ADA). Sidewalks, shared use paths, street crossings

(including over- and under-crossings) and other infrastructure shall be constructed so that all pedestrians, including those with disabilities, can travel independently.

7. Provisions for transit riders, pedestrians, and bicyclists shall be included when closing roads, bridges or sidewalks for construction projects where pedestrian, bicycle, or transit traffic is documented or expected.

B. It is TDOT's expectation that full consideration of multimodal access will be integrated in all appropriate new construction, reconstruction and retrofit infrastructure projects. However, there are conditions where it is generally inappropriate to provide multimodal facilities. Examples of these conditions include, but are not limited to:

1. Controlled access facilities where non-motorized users are prohibited from using the roadway. In this instance, a greater effort may be necessary to accommodate these users elsewhere within the same transportation corridor.

2. The cost of accommodations would be excessively disproportionate to the need and probable use. Excessively disproportionate is defined as exceeding twenty percent (20%) of the cost of the project. The twenty percent figure should be used in an advisory rather than an absolute sense, especially in instances where the cost may be difficult to quantify. Compliance with ADA requirements may require greater than 20% of project cost to accommodate multimodal access. Costs associated with ADA requirements are NOT an exception.

3. Areas in which the population and employment densities or level of transit service around the facility, both existing and future, does not justify the incorporation of multimodal alternatives.

4. Inability to negotiate and enter into an agreement with a local government to assume the operational and maintenance responsibility of the facility.

5. Other factors where there is a demonstrated absence of need or prudence, or as requested by the Commissioner of the Department of Transportation.

C. Exceptions for not accommodating multimodal transportation users on State roadway projects in accordance with this policy shall be documented describing the basis and supporting data for the exception, and must be approved by TDOT's Chief Engineer and Chief of Environment or their designees.

D. The Department recognizes that a well-planned and designed transportation network is responsive to its context and meets the needs of its users. Therefore, facilities will be designed and constructed in accordance with current applicable laws and regulations, using best practices and guidance, including but not limited to the following: TDOT Standard Drawings and guidelines, American Association of State Highway and Transportation Officials (AASHTO) publications, Institute of

Transportation Engineers (ITE) publications, the Manual of Uniform Traffic Control Devices (MUTCD), National Association of City Transportation Officials (NACTO) publications, the Public Rights-of-Ways Accessibility Guidelines (PROWAG), and the Americans with Disabilities Act Accessibility Guidelines (ADAAG).