Executive Summary: Kennedy Drive Extension

This study considered options for a proposed extension of Kennedy Drive in southern Manchester. The proposed roadway would not be a state route, so TDOT's Office of Local Programs is the intended recipient of this study. **The purpose of the proposed roadway would be to improve local street connectivity in order to enhance the mobility of commuters and provide access to residential areas.** Industrial parks to the east and west and Coffee County Central High School on the west are major generators of east-west commuter traffic flow. A possible secondary benefit of a new roadway might be to reduce congestion on State Route 2 (US-41/Hillsboro Boulevard).

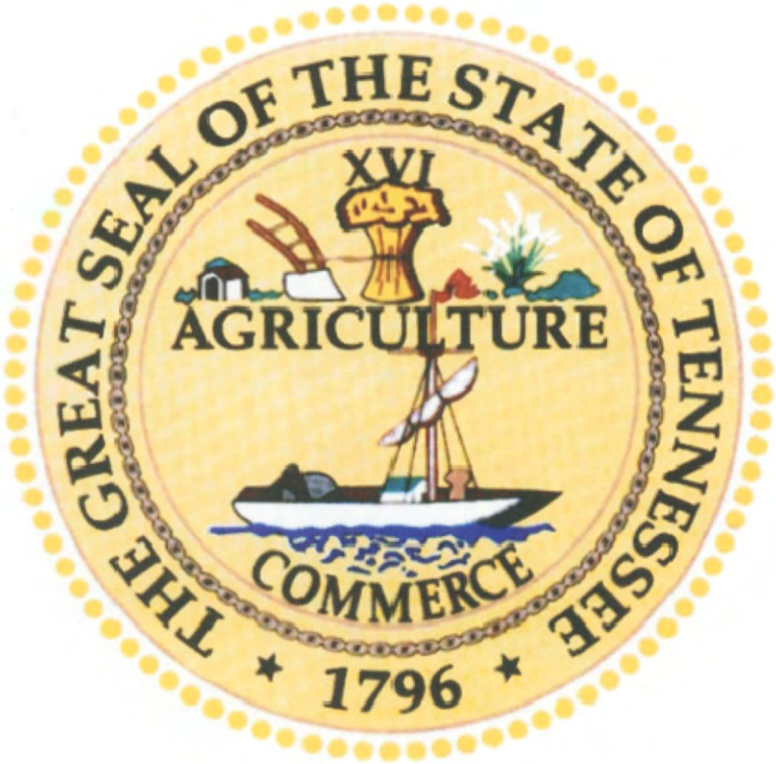
Two options were developed, each with two lanes to connect existing roadway segments or three lanes for complete reconstruction. The two-lane typical section includes two 12-foot lanes, 6-foot shoulders and 10-foot utility strips on each side. The three-lane typical section includes three 11-foot lanes, 3-foot shoulders and 8.5-foot utility strips on each side.

- **Option 1**: From State Route 55 (McArthur Street) to State Route 2 (US-41/Hillsboro Boulevard) using Kennedy Drive, Forrest Wood Drive and Skinner Flat Road. This option would increase congestion at the intersection of State Route 2 (US-41/Hillsboro Boulevard) with Skinner Flat Road. **To complete the sections between existing segments of roadway, the estimated total cost would be $5,025,200. To construct a completely new roadway** along this same alignment, **the estimated total cost would be $14,270,700.**
- **Option 2**: From State Route 55 (McArthur Street) to State Route 2 (US-41/Hillsboro Highway) using Kennedy Drive, Forrest Wood Drive, a road in The Lexington subdivision, Harvest Drive and Powell Drive. East of I-24, this option could be aligned south and east of Harvest Drive and Powell Drive. This option would increase congestion at the intersection of State Route 2 (US-41/Hillsboro Boulevard) with Skinner Flat Road, though less than Option 1. **To complete the sections between existing segments of roadway, the estimated total cost would be $11,731,700. To construct a completely new roadway** along this same alignment, **the estimated total cost would be $20,275,800.**

TRANSPORTATION PLANNING REPORT

Kennedy Drive Extension (Proposed Connector)

FROM STATE ROUTE 55 TO STATE ROUTE 2
COFFEE COUNTY
PIN# 109096.00
LOCAL PROGRAMS PROJECT



PREPARED BY
VOLKERT & ASSOCIATES, INC.
For the
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Recommended by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING	Ed Cole	5/7/09
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION	Steve Allen	5-7-09
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION	Bill Hart	5/7/09

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1. HISTORY OF THIS STUDY AND BACKGROUND INFORMATION

The Tennessee Department of Transportation (TDOT) has been requested to evaluate a proposed extension of Kennedy Drive in Manchester as a potential Local Programs project. City officials would like to provide connectivity for existing and proposed residential development in Manchester's southern quadrant and improve the traffic operations along State Route 2 (US-41/Hillsboro Boulevard). Thus TDOT enlisted the services of Volkert & Associates, Inc. to study the options for improving the local roadway network. This Transportation Planning Report (TPR) presents the results of that study, including the location, a brief project description, the proposed typical sections, a presentation of two improvement options (each having multiple sections) and preliminary cost estimates.

The concept of an improved route through southern Manchester has been discussed for many years. In recent years, the city has been proactive in acquiring dedicated right of way through some of the new subdivisions in southern Manchester to eventually connect existing roadway segments for the benefit of local residents. Kennedy Drive and its proposed extension are located in southern Manchester, in Coffee County (see Figure 1). The proposed extension would run from State Route 55 (McArthur Street) in the west to State Route 2 (US-41/Hillsboro Boulevard/Hillsboro Highway) in the east (see Figures 2 and 3). The western connection point would be on State Route 55 (McArthur Street) at the current location of Kennedy Drive. The eastern connection point would be between Scott Swinney Drive just west of the I-24 interchange with State Route 2 (US-41/Hillsboro Boulevard/Hillsboro Highway) and as much as 1800 feet southeast of Powell Drive on the east side of I-24.

State Route 2 (US-41/Hillsboro Boulevard/Hillsboro Highway) and State Route 55 (New Tullahoma Highway/McArthur Street/McMinnville Highway) are urban arterial highways. The existing streets along portions of the potential routes for the Kennedy Drive Extension are generally minor local streets with approximately 20 feet of pavement or less and minimal shoulders. Projected traffic volumes for the current configuration are given in Appendix A.

When considering the possibilities for a new roadway, the total context should be carefully examined. Thus the environmental context of the proposed roadway is explored in some detail in Appendix B.

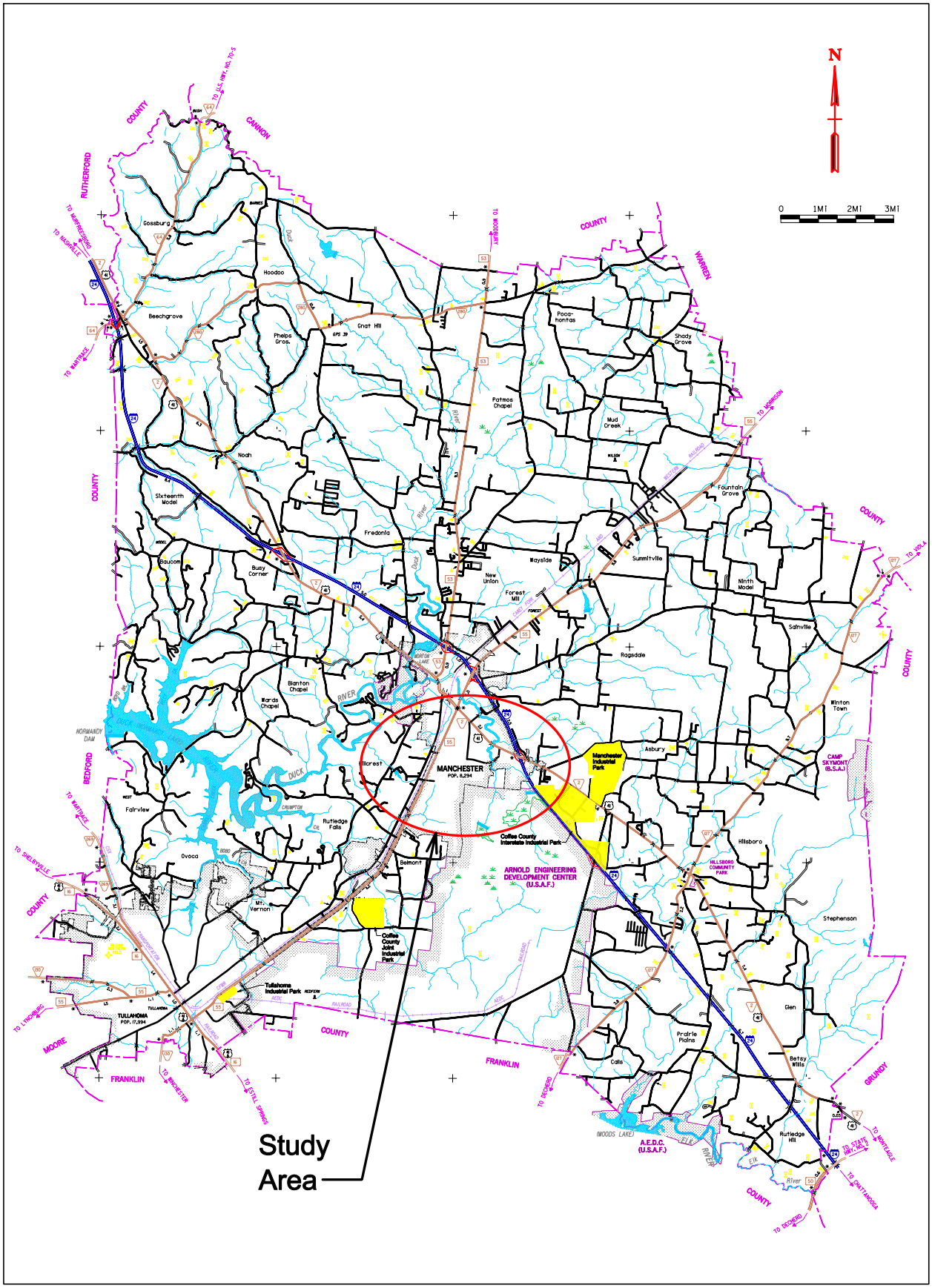

Figure 1. Area Location Map

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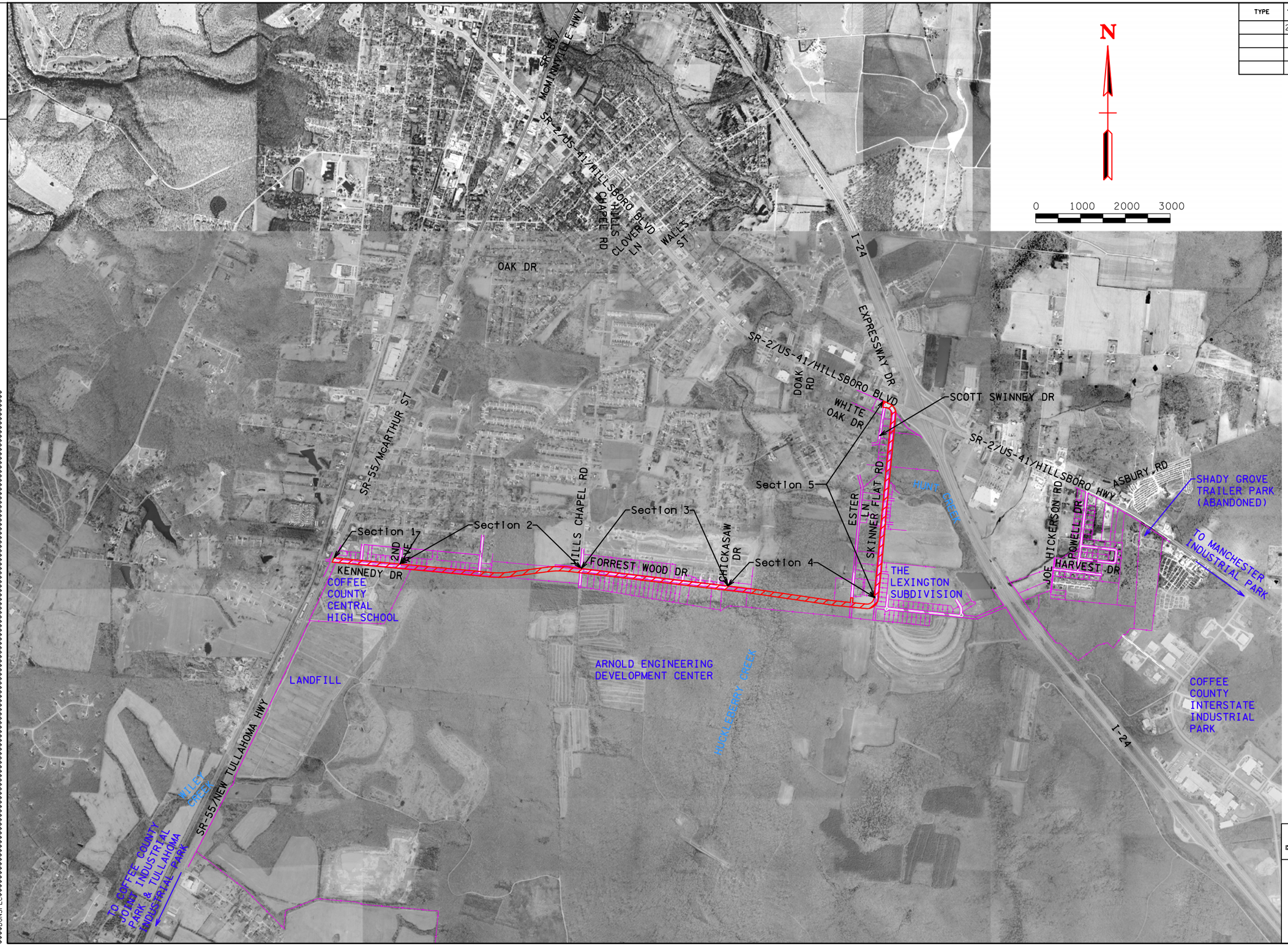

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Figure 2.
Kennedy Drive
Extension
Option 1

$$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

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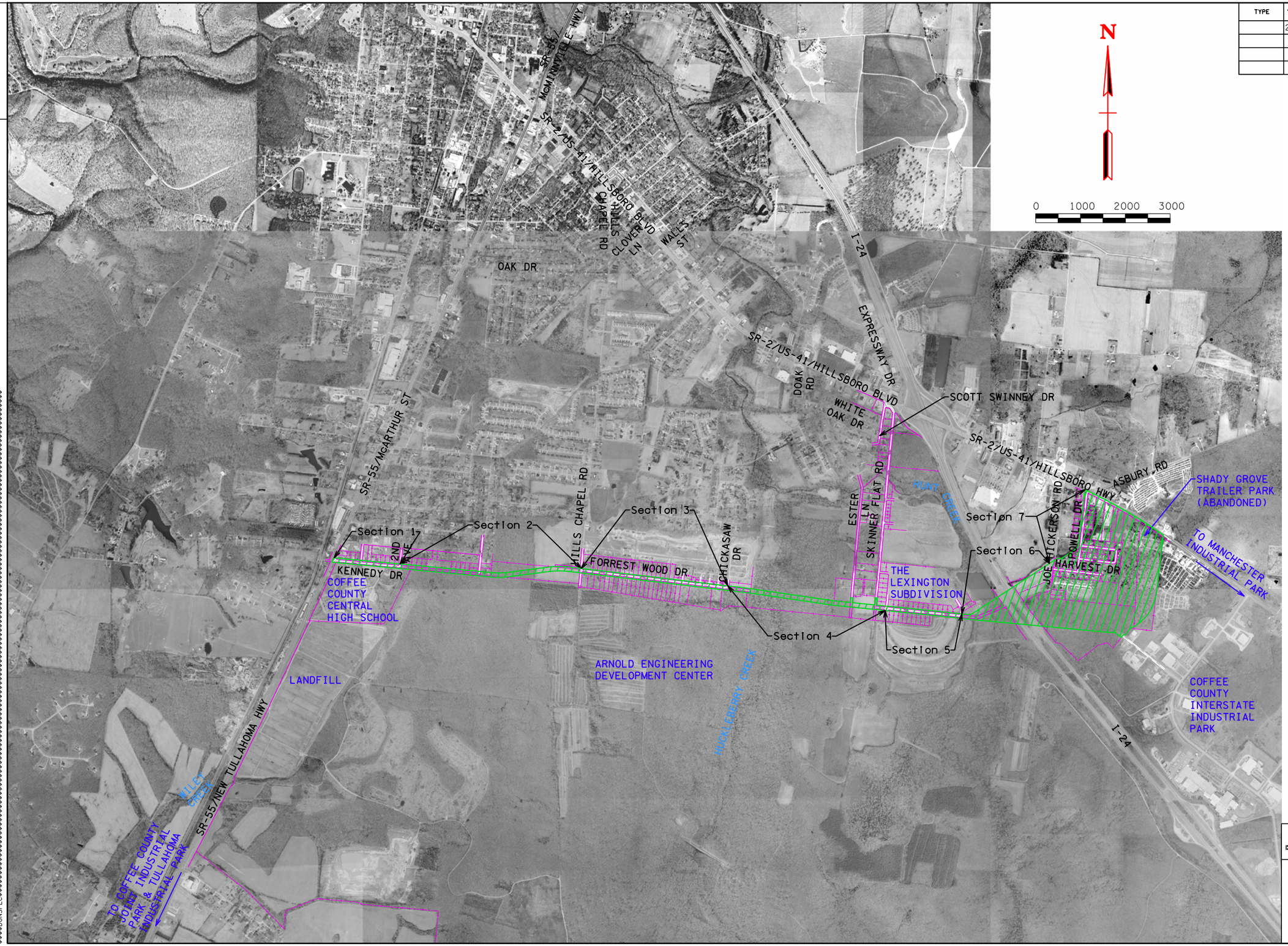

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure 3.
Kennedy Drive
Extension
Option 2

$$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

2. PURPOSE AND NEED

The original purpose of the proposed roadway was to improve local street connectivity in order to enhance the mobility of commuters and provide access to residential areas. Given the local nature of this proposed roadway, TDOT has consistently encouraged local officials to work through the Department's Office of Local Programs in order to explore possible assistance with funding. During the field review in Manchester on April 24, 2007, another purpose was suggested—provision of an improved route in order to enhance the attractiveness and viability of Coffee County's industrial parks. Being an entirely different purpose, that possibility is explored in a separate document.

Southern Manchester has seen rapid development of new housing in recent years. While this development may be slowed somewhat by the current national downturn in the housing market, there is still a local need for a route to serve the existing and developing residential areas of southern Manchester. In addition, industrial parks to the southwest and southeast of Manchester (see Figure 1 on page 2) are significant traffic generators contributing to the east-west flow of commuter traffic. Furthermore, Coffee County Central High School could benefit from the proposed roadway through improved access for bicyclists and pedestrians.

A possible secondary benefit of a new roadway might be to reduce congestion on State Route 2 (US-41/Hillsboro Boulevard). Peak hour congestion is already a concern along State Route 2 (US-41/Hillsboro Boulevard), and would only become worse with a 40 percent increase to the 2032 design year traffic (see Appendix A). Local officials report that drivers currently use Oak Drive and Hills Chapel Road or Clover Lane to cut through a residential area and avoid the congestion at the intersection of State Route 2 (US-41/Hillsboro Boulevard) with State Route 55 (McArthur Street/McMinnville Highway). These local roads are not designed to accommodate heavy traffic flows, so the proposed Kennedy Drive Extension could help balance these flows.

3. FIELD REVIEW

A field review of the project corridor was held on April 24, 2007. Those in attendance were:

Mayor Johnnie W. Brown	City of Manchester
Ms. Sara Brown	SCTDD RPO
Mr. Landon Castleberry	TDOT Design, Region 2
Mr. Gary Chapman	TDOT Survey, Region 2

Mr. Terry Gladden	TDOT Project Planning
Mr. Steve Hylton	TDOT Planning
Mr. Phil Lohr	Volkert & Assoc., Inc.
Ms. Betty Parnell	TDOT Environmental Planning
Mr. Scot St. John	St. John Engineering
Mr. Lonnie Norman	City of Manchester
Ms. Betty Superstein	City of Manchester
Ms. Leigh Ann Tribble	FHWA
Mr. Ed Watt	Volkert & Assoc., Inc.
Mr. Gary Webber	TDOT Project Planning
Mr. Alvin West	City of Manchester
Mr. Alan Wolfe	TDOT Traffic, Region 2

4. PROPOSED IMPROVEMENTS

Based on all of the background information, two options have been developed to address the purpose and need of the proposed roadway as discussed in Section 2. Both would follow portions of the existing roadway network (Kennedy Drive, Forrest Wood Drive and Skinner Flat Road for Option 1 or Kennedy Drive, Forrest Wood Drive, a road in The Lexington subdivision, Harvest Drive and Powell Drive for Option 2), and provide connectivity where it is currently lacking. These options are discussed in detail in the following sections. Table 1 on page 7, TDOT's "checklist of determinants for location study", provides some general context for both options.

The typical sections developed for this study are shown in Figure 4. Given the Federal Highway Administration's and TDOT's emphases on creating bicycle and pedestrian friendly facilities, it seems imperative that the proposed Kennedy Drive Extension accommodate both of these types of traffic. This would be of particular benefit to Coffee County Central High School, which is located in close proximity to many residential areas near the projected western terminus of the extension. Ideally, the 3-lane typical section would include 12-foot lanes, 4-foot shoulders and 10-foot utility strips on each side, but this would require 68 feet of right of way. The goal was to develop the best cross section that could fit within 60 feet of right of way so the proposed typical section has three 11-foot lanes, 3-foot shoulders and 8.5-foot utility strips on each side.

Table 1. Checklist of Determinants for Location Study

If preliminary field reviews indicate the presence of any of the following facilities or ESE categories, place an "X" in the blank opposite the item. Where more than one option is to be considered, place its alphanumeric designation in the blank.

1. Agricultural land usage	1,2
2. Airport (existing or proposed)	
3. Commercial area, shopping center	1,2
4. Floodplains	1,2
5. Forested land	1,2
6. Historical, archaeological, cultural, natural landmarks or cemeteries	
7. Industrial park, factory	1,2
8. Institutional usages	
a. School or other educational institution	1,2
b. Church or other religious institution	
c. Hospital or other medical facility	
d. Public building, e.g., fire station	
e. Defense installation	1,2
9. Recreational usages	
a. Park or recreational area, State Natural Area	
b. Wildlife refuge or wildlife management area	1,2
10. Residential establishment	1,2
11. Urban area, town, city or community	1,2
12. Waterway, lake, pond, river, stream, spring, wetland	1,2
Permit required: Coast Guard _____ Section 404	1,2
Section 10 _____ TVA Section 26a review	
NPDES 1,2 Aquatic Resource Alteration Permit	1,2
Class V Injection Wells	
13. Location coordinated with local officials	1,2
14. Railroad crossings	
15. Hazardous material site (Underground storage tanks - U.S.T.)	1
16. Other	2

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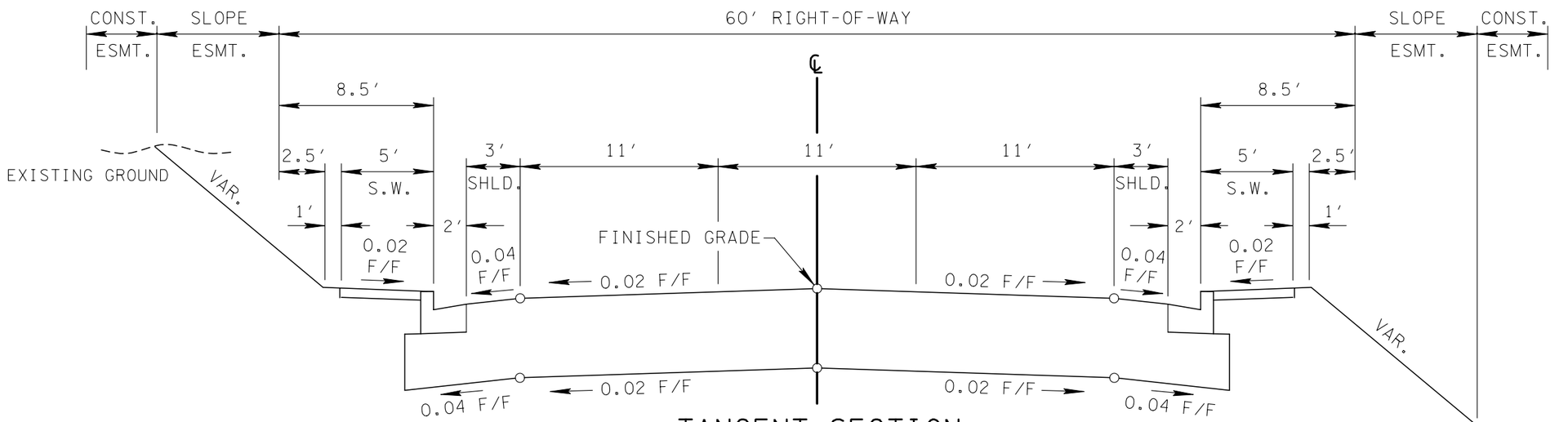
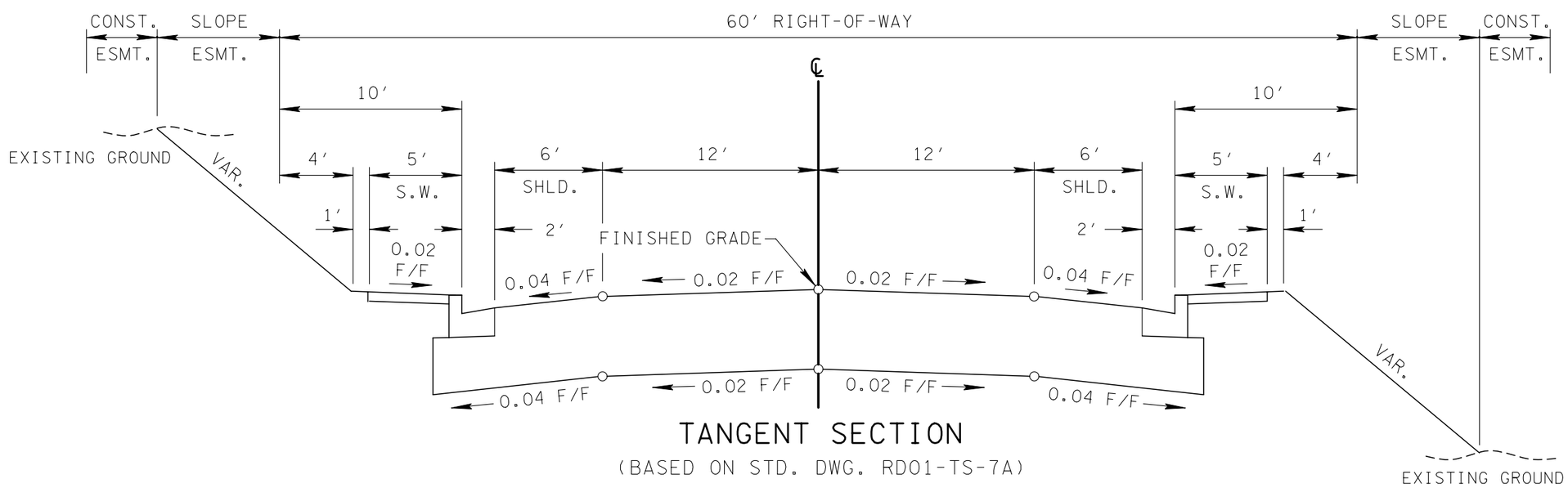


TANGENT SECTION

(BASED ON STD. DWG. RD01-TS-7A)



TANGENT SECTION

(BASED ON STD. DWG. RD01-TS-7A)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure 4.
2 & 3-Lane
Typical
Sections

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

4.1 OPTION 1: SR-55 TO SR-2 VIA SKINNER FLAT RD

The first option considered for providing connectivity to the existing roadway network was shown previously in Figure 2 on page 3. Note that it is divided into five sections, the first running from State Route 55 (McArthur Street) in the west to 2nd Avenue, the second running from 2nd Avenue to Hills Chapel Road, the third running from Hills Chapel Road to Chickasaw Drive, the fourth running from Chickasaw Drive to Skinner Flat Road and the fifth running along Skinner Flat Road to State Route 2 (US-41/Hillsboro Boulevard). A more detailed view of this concept is shown in Figures G.2 through G.15 in Appendix G. The corresponding annual average daily traffic (AADT) is shown in Appendix C. This concept could be developed with two lanes to connect existing segments or with three lanes for complete reconstruction, as shown in Figure 4. Three lanes would be desirable due to the large number of driveways, and corresponding left turns, in the residential neighborhoods of southern Manchester.

Regarding the purpose and need for the proposed roadway, Option 1 could be expected to have some benefits for commuters by increasing the connectivity to the local streets in southern Manchester. Regarding the second part of the purpose and need for the proposed roadway, Option 1 would reduce some of the congestion on State Route 2 (US-41/Hillsboro Boulevard) at State Route 55 (McArthur Street/ McMinnville Highway), Hills Chapel Road and Clover Lane. However, it could be expected to increase the congestion at the intersection of State Route 55 (McArthur Street) with Kennedy Drive and at the intersection of State Route 2 (US-41/Hillsboro Boulevard) with Scott Swinney Drive.

The projected total cost for construction of Option 1, Section 1 would be $1,558,300, Section 2 (Two Lanes) would be $2,611,800, Section 2 (Three Lanes) would be $2,696,800, Section 3 would be $2,631,600, Section 4 (Two Lanes) would be $2,413,400, Section 4 (Three Lanes) would be $2,506,900 and Section 5 would be $4,877,100. For details on these costs, see Appendix D. If the city chose to only complete the sections between existing segments of roadway (that is, Sections 2 and 4), the projected total cost would be $5,025,200 as shown in Table 2 on page 10. If the city chose to construct all five sections, the projected total cost would be $14,270,700 as shown in Table 3 on page 11.

Table 2. Summary Data Table--Option 1, Completion of Segments 2-Lane, Sections 2 and 4

Kennedy Drive Extension, Coffee County

From: State Route 55 (McArthur Street)
To: State Route 2 (US-41/Hillsboro Boulevard)

Item	Existing	Option 1
Functional Class	Urban Local	Urban Minor Arterial
System Class	Local	Local
Length (Miles)	1.7	3.2
Cross Section (Feet)	20/Variable	40/60
Present AADT (2012)	1,400	See Figure C.1
Future AADT (2032)	1,960	See Figure C.1
DHV (2032)	196	N/A
Percent Trucks	N/A	N/A
Estimated Right-of-way Acquisition (Acres)	N/A	7.29
Estimated Right-of-way Tracts Affected	N/A	16
Estimated Family Displacements	N/A	0
Estimated Business Displacements	N/A	0
Estimated Non-profit Displacements	N/A	0
Estimated Right-of-way Cost	N/A	$170,900
Estimated Utility Cost, Reimbursable	N/A	$184,000
Estimated Utility Cost, Non-reimbursable	N/A	$0
Estimated Construction Cost	N/A	$4,280,300
Estimated Preliminary Engineering Cost	N/A	$390,000
Total Estimated Project Cost	N/A	$5,025,200

Table 3. Summary Data Table--Option 1, All New Construction

Kennedy Drive Extension
Coffee County

From: State Route 55 (McArthur Street)
To: State Route 2 (US-41/Hillsboro Boulevard)

Item	Existing	Option 1
Functional Class	Urban Local	Urban Minor Arterial
System Class	Local	Local
Length (Miles)	1.7	3.2
Cross Section (Feet)	20/Variable	43/60
Present AADT (2012)	1,400	See Figure C.1
Future AADT (2032)	1,960	See Figure C.1
DHV (2032)	196	N/A
Percent Trucks	N/A	N/A
Estimated Right-of-way Acquisition (Acres)	N/A	9.41
Estimated Right-of-way Tracts Affected	N/A	86
Estimated Family Displacements	N/A	0
Estimated Business Displacements	N/A	0
Estimated Non-profit Displacements	N/A	0
Estimated Right-of-way Cost	N/A	$554,500
Estimated Utility Cost, Reimbursable	N/A	$1,653,000
Estimated Utility Cost, Non-reimbursable	N/A	$0
Estimated Construction Cost	N/A	$11,055,200
Estimated Preliminary Engineering Cost	N/A	$1,008,000
Total Estimated Project Cost	N/A	$14,270,700

4.2 OPTION 2: SR-55 TO SR-2 VIA POWELL DRIVE

The second option considered for providing connectivity to the existing roadway network was shown previously in Figure 3 on page 4. Note that it is divided into seven sections, the first running from State Route 55 (McArthur Street) in the west to 2nd Avenue, the second running from 2nd Avenue to Hills Chapel Road, the third running from Hills Chapel Road to Chickasaw Drive, the fourth running from Chickasaw Drive to Skinner Flat Road, the fifth running through The Lexington subdivision, the sixth running over I-24 to Joe Hickerson Road and the seventh running along Harvest Drive and Powell Drive to State Route 2 (US-41/Hillsboro Highway). Sections 1 through 3 are the same as for Option 1. If desired by the city, Sections 6 and 7 could be adjusted south and east of the existing neighborhoods on the east side of I-24. A more detailed view of this concept is shown in Figures G.2 through G.11 and G.16 through G.21 in Appendix G. The corresponding annual average daily traffic (AADT) is shown in Appendix E. Like Option 1, this concept could be developed with two lanes to connect existing segments or with three lanes for complete reconstruction, as shown in Figure 4.

Regarding the purpose and need for the proposed roadway, Option 2 could be expected to benefit commuters by increasing the connectivity to the local streets in southern Manchester and providing a new connector across I-24. Regarding the second part of the purpose and need for the proposed roadway, Option 2's impact on congestion is projected to be the same as Option 1 for the intersections of State Route 2 (US-41/Hillsboro Boulevard) with State Route 55 (McArthur Street/McMinnville Highway), Hills Chapel Road and Clover Lane and for the intersections of Kennedy Drive with Hills Chapel Road and State Route 55 (McArthur Street). Traffic projections and analyses are the same for these intersections for Options 1 and 2.

For Option 2, three intersections were analyzed that are different than for Option 1. Option 2 would increase the congestion at the intersection of State Route 2 (US-41/Hillsboro Boulevard) with Scott Swinney Drive, but less than Option 1. State Route 2 (US-41/Hillsboro Highway) at Powell Drive can be expected to flow fairly well under Option 2, as would Skinner Flat Road at the Kennedy Drive Extension.

Since Sections 1 through 3 are the same as for Option 1, the projected total cost for construction of Option 2, Section 1 would be $1,558,300, Section 2 (Two Lanes) would be $2,611,800, Section 2 (Three Lanes) would be $2,696,800 and Section 3 would be $2,631,600. For details on these costs, see Appendix D. The projected total cost for construction of Option

2, Section 4 (Two Lanes) would be $2,532,500, Section 4 (Three Lanes) would be $2,632,000, Section 5 would be $1,337,400, Section 6 (Two Lanes) would be $6,587,400, Section 6 (Three Lanes) would be $6,900,400 and Section 7 would be $2,519,300. For details on these costs, see Appendix F. If the city chose to only complete the sections between existing segments of roadway (that is, Sections 2, 4 and 6), the projected total cost would be $11,731,700 as shown in Table 4 on page 14. If the city chose to construct all seven sections, the projected total cost would be $20,275,800 as shown in Table 5 on page 15.

5. SUMMARY

The study described in this report looked at three options, namely, the no-build option and two improvement options. The two options for improving commuter traffic flow through southern Manchester, each having multiple sections, were: Option 1—State Route 55 (McArthur Street) to State Route 2 (US-41/Hillsboro Boulevard) via Skinner Flat Road, and Option 2—State Route 55 (McArthur Street) to State Route 2 (US-41/Hillsboro Highway) via Powell Drive. As one might expect, the no-build option performs the worst in terms of meeting the proposed roadway's purpose and need of increasing the connectivity of the local street network to improve the traffic flow for commuter traffic. As demonstrated by this report, there are technically viable options that could be implemented for the benefit of the citizens of Coffee County.

Table 4. Summary Data Table--Option 2, Completion of Segments 2-Lane, Sections 2, 4 and 6

Kennedy Drive Extension, Coffee County

From: State Route 55 (McArthur Street)
To: State Route 2 (US-41/Hillsboro Highway)

Item	Existing	Option 2
Functional Class	Urban Local	Urban Minor Arterial
System Class	Local	Local
Length (Miles)	1.6	3.6
Cross Section (Feet)	20/Variable	40/60
Present AADT (2012)	750	See Figure E.1
Future AADT (2032)	1050	See Figure E.1
DHV (2032)	105	N/A
Percent Trucks	N/A	N/A
Estimated Right-of-way Acquisition (Acres)	N/A	10.78
Estimated Right-of-way Tracts Affected	N/A	19
Estimated Family Displacements	N/A	0
Estimated Business Displacements	N/A	0
Estimated Non-profit Displacements	N/A	0
Estimated Right-of-way Cost	N/A	$204,800
Estimated Utility Cost, Reimbursable	N/A	$204,000
Estimated Utility Cost, Non-reimbursable	N/A	$0
Estimated Construction Cost	N/A	$10,377,900
Estimated Preliminary Engineering Cost	N/A	$945,000
Total Estimated Project Cost	N/A	$11,731,700

Table 5. Summary Data Table--Option 2, All New Construction

Kennedy Drive Extension
Coffee County

From: State Route 55 (McArthur Street)
To: State Route 2 (US-41/Hillsboro Highway)

Item	Existing	Option 2
Functional Class	Urban Local	Urban Minor Arterial
System Class	Local	Local
Length (Miles)	1.6	3.6
Cross Section (Feet)	20/Variable	43/60
Present AADT (2012)	750	See Figure E.1
Future AADT (2032)	1050	See Figure E.1
DHV (2032)	105	N/A
Percent Trucks	N/A	N/A
Estimated Right-of-way Acquisition (Acres)	N/A	13.16
Estimated Right-of-way Tracts Affected	N/A	88
Estimated Family Displacements	N/A	0
Estimated Business Displacements	N/A	0
Estimated Non-profit Displacements	N/A	0
Estimated Right-of-way Cost	N/A	$497,900
Estimated Utility Cost, Reimbursable	N/A	$1,604,000
Estimated Utility Cost, Non-reimbursable	N/A	$0
Estimated Construction Cost	N/A	$16,655,900
Estimated Preliminary Engineering Cost	N/A	$1,518,000
Total Estimated Project Cost	N/A	$20,275,800

APPENDIX A

PROJECTED TRAFFIC FOR CURRENT CONFIGURATION

To evaluate the capacity of the current roadway network, analyses were conducted using *Synchro 7* traffic analysis software. *Synchro 7* includes automated implementations of the Transportation Research Board's *Highway Capacity Manual* (HCM), 2000 edition. For stop-controlled intersections, the HCM defines Levels of Service (LOS) ranging from A (delay less than or equal to 10 seconds) to F (delay greater than 50 seconds), as shown in Table A.1. For signalized intersections, the HCM defines Levels of Service (LOS) ranging from A (delay less than or equal to 10 seconds) to F (delay greater than 80 seconds), as also shown in Table A.1.

Table A.1. Level of Service for Stop-controlled & Signalized Intersections

LOS	Delay (seconds), Stop-controlled Intersections	Delay (seconds), Signalized Intersections
A	0 - 10	0 - 10
B	> 10 - 15	> 10 - 20
C	> 15 - 25	> 20 - 35
D	> 25 - 35	> 35 - 55
E	> 35 - 50	> 55 - 80
F	> 50	> 80

Another important measure of intersection performance is the volume to capacity ratio (v/c). If the v/c ratio is greater than one, the movement or intersection (whichever is applicable) is "oversaturated", traffic flow will be severely congested and estimates of delay have little value.

Turning movement projections were provided by TDOT for the year 2032 for a number of the "key intersections" as shown in Figure A.1. As shown in Table A.2, State Route 2 (US-41/Hillsboro Boulevard) does not have adequate capacity to meet the projected demand and thus does not meet the secondary purpose for the proposed roadway—reducing congestion. Note that no estimate of delay is shown where it would be expected to be severe.

TDOT provided crash data for State Route 2 (US-41/Hillsboro Boulevard/Hillsboro Highway) from State Route 55 (McArthur Street/McMinnville Highway) to Asbury Road and for State Route 55 (McArthur Street) from Kennedy Drive to State Route 2 (US-41/Hillsboro Boulevard). These data covered the years 2002 through 2004. During that time period, there were 354 reported crashes on State Route 2 (US-41/Hillsboro Boulevard/Hillsboro Highway) at a crash rate of 5.88 per million vehicle miles and there were 131 reported crashes on State Route 55 (McArthur Street) at a crash rate of 3.32 per million vehicle miles. While these rates exceed the

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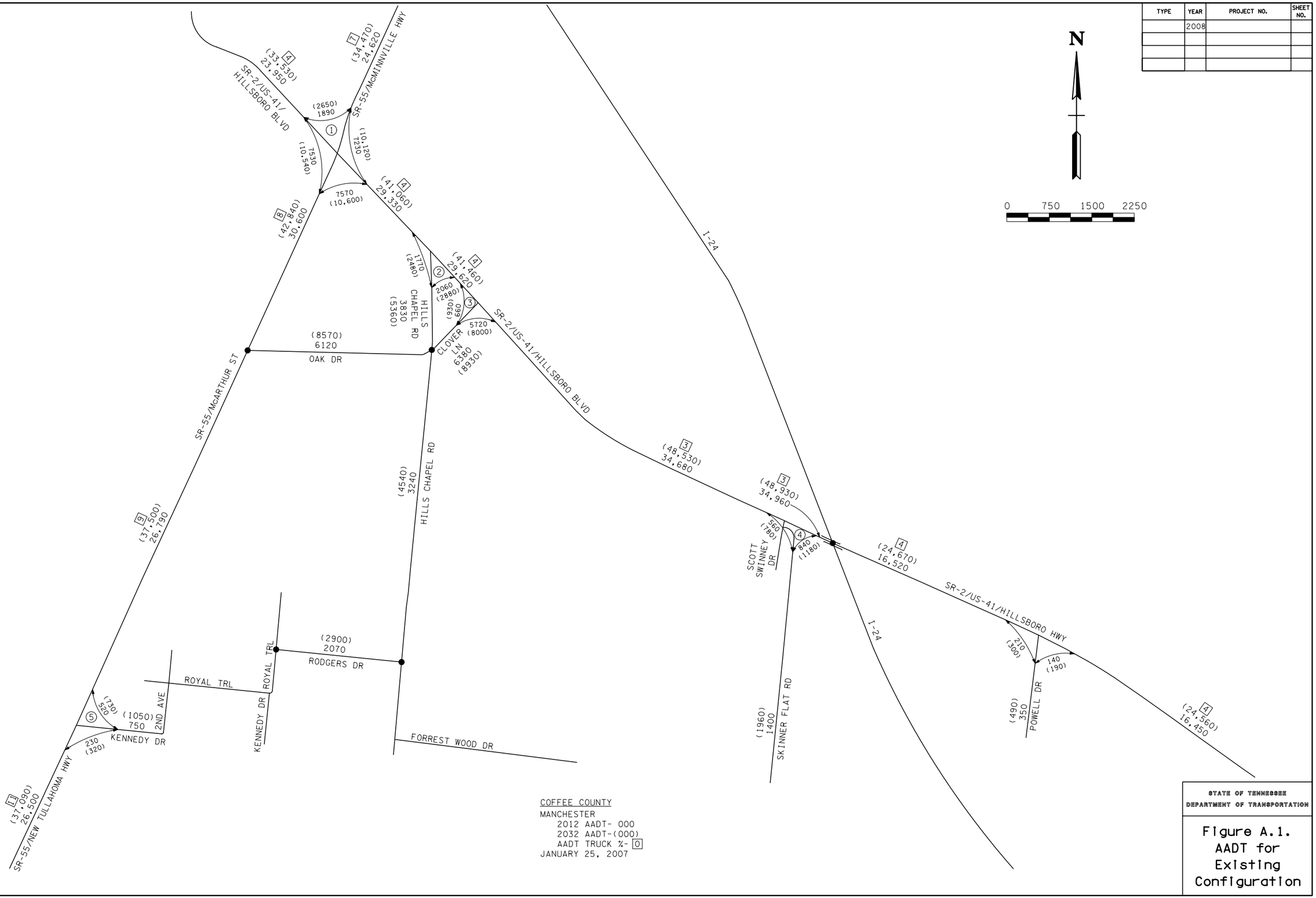


COFFEE COUNTY
MANCHESTER
2012 AADT- 000
2032 AADT-(000)
AADT TRUCK %- 0
JANUARY 25, 2007

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure A.1.
AADT for
Existing
Configuration

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

Table A.2. Capacity Analysis Summary—Current Configuration (No Build)

Intersection	Control Type	2032 Peak	Intersection Average		Worst Movement			
			Delay (sec)	HCM LOS	Label	v/c	Delay (sec)	HCM LOS
SR-2 at SR-55	Signal	A.M.	----	F	NWB Left	1.44	----	F
		P.M.	----	F	SB Left	2.03	----	F
SR-2 at Hills Chapel Rd	Signal	A.M.	15.4	B	NB Left	0.48	41.4	D
		P.M.	55.3	E	NWB Left	1.18	----	F
SR-2 at Clover Ln	Signal	A.M.	49.5	D	NWB Left	1.06	----	F
		P.M.	----	F	SEB Thru	1.40	----	F
SR-2 at Scott Swinney Dr	Signal	A.M.	12.8	B	NB Left	0.40	54.1	D
		P.M.	45.5	D	EB Thru	1.12	----	F
SR-55 at Kennedy Dr	Stop	A.M.	0.8	A	WB Left	0.35	32.8	D
		P.M.	1.4	A	WB Left	0.63	115.4	F

statewide average for similar facilities of 2.82 crashes per million vehicle miles, neither roadway has a crash rate high enough to qualify for Hazard Elimination Safety Program (HESP) funding.

APPENDIX B

PRELIMINARY ENVIRONMENTAL EVALUATION

A preliminary investigation of the environmental context of the proposed roadway has been undertaken as part of this study. This investigation included a review of existing sources of information and field observations by Volkert personnel on April 24, 2007 and August 10, 2007. However, this preliminary investigation should NOT be construed as a comprehensive environmental assessment. Comprehensive environmental studies will need to be conducted by qualified, trained personnel prior to the approval of the required environmental document and permitting.

As a first step, the proposed Kennedy Drive Extension was located on the United States Geological Survey's (USGS's) Manchester Quadrangle map (see odd-numbered Figures G.3 through G.21 in Appendix G. The most notable feature is that there are several "blue-line" streams within the approximate construction limits of the proposed roadway (see Table B.1). During construction of the proposed roadway, it would be necessary to protect all of these streams using appropriate storm water pollution prevention measures. Due to the drought in the summer of 2007 and the inaccessibility of many of these stream crossings, it has not been determined to what extent these streams regularly convey flowing water. The quad map seems to indicate the presence of a marshy area just east of Coffee County Central High School (see Figures G.3 and G.5). This would be another area needing thorough investigation that is beyond the scope of this study.

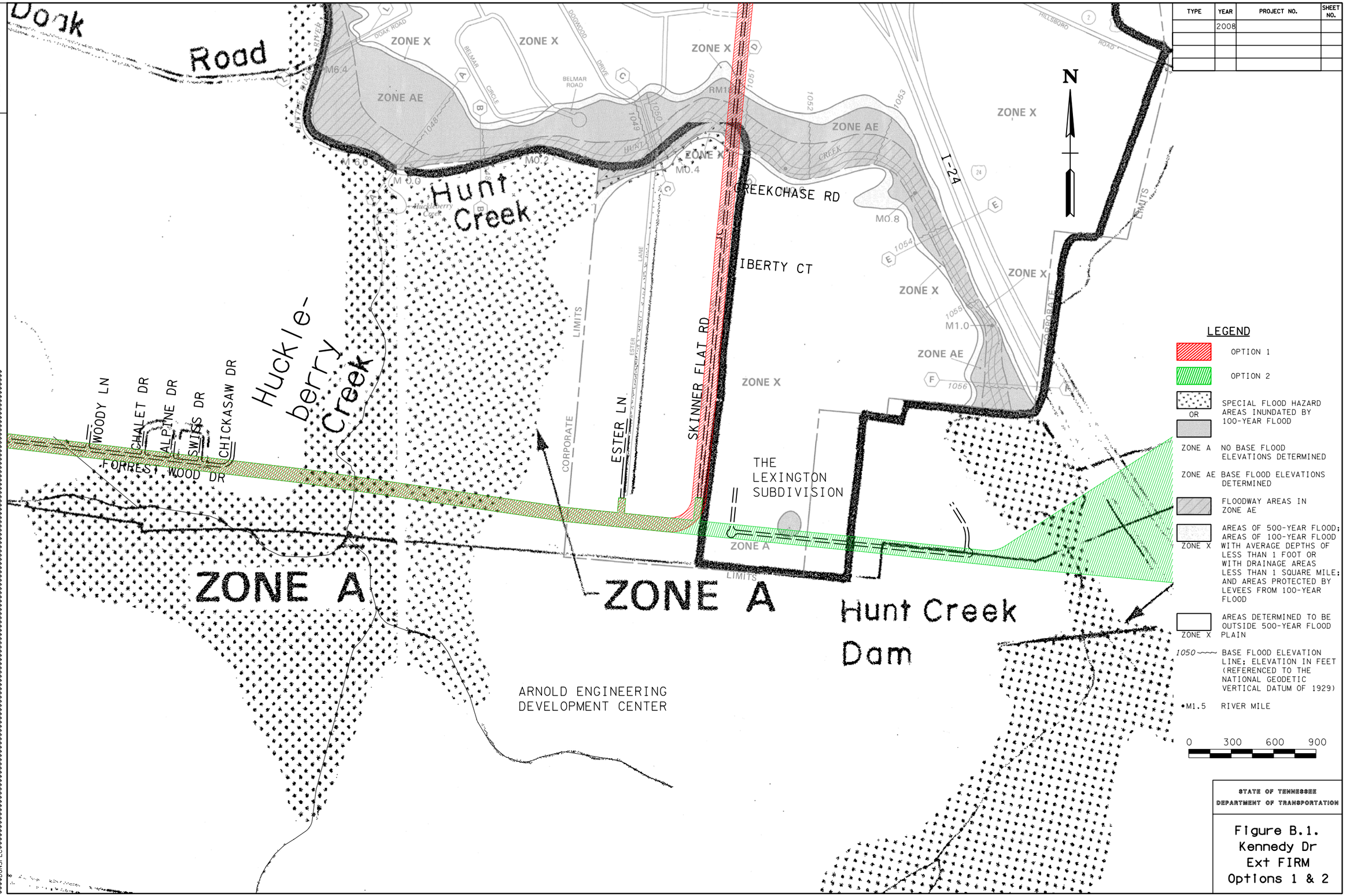
Table B.1. Blue Line Streams within Study Area

Figure	Option(s)	Description
G.7	1, 2	Unnamed tributary of Huckleberry Creek
G.9	1, 2	Huckleberry Creek
G.13	1	Hunt Creek
G.17	2	Hunt Creek
G.21	2	Unnamed tributary of Hunt Creek

Another source of information that was consulted in the course of this study was the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps (see Figure B.1). Much of the study area lies within FEMA's "Zone X", outside the 500-year flood plain, which is why Figure B.1 does not include the entire study area. However, in the vicinity of Huckleberry Creek and Hunt Creek, the proposed roadway *would* encroach into FEMA's "Zone A" and "Zone AE", which are within the area that can be expected to be inundated by a 100-year flood. Local officials noted that the low bridge on Skinner Flat Road over Hunt Creek typically floods two or three times annually.

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure B.1.
Kennedy Dr
Ext FIRM
Options 1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

The next potential area of environmental concern is the presence of threatened or endangered species within the limits of the study area. It should be noted that the northern part of the Arnold Engineering Development Center is designated as a Wildlife Management Area (see Figure B.2). The Tennessee Division of Natural Heritage lists some 78 “rare” species in the USGS Manchester Quadrangle as shown in Table B.2. As noted in the introduction to this section, a detailed assessment by a qualified biologist would be necessary as part of the environmental document to determine if any of these species would be affected by the proposed roadway.

Figure B.2. Looking South onto AEDC Wildlife Management Area from The Lexington Subdivision

Table B.2. Rare Species in USGS Manchester Quadrangle

Category	Total Number	Federal Status “Listed Endangered”	State Status “Endangered”
Vascular Plant	62	0	21
Nonvascular Plant	1	0	0
Invertebrate Animal	3	0	0
Vertebrate Animal	12	0	1

The final component of the environmental overview was a search for evidence of any potential hazardous material sites within the proximity of the proposed roadway. The only obvious evidence of typical hazardous material sites, such as underground storage tanks, was the Kangaroo gas station located in the southwest quadrant of the intersection of State Route 2 (US-41/Hillsboro Boulevard) with Scott Swinney Drive. However, there are several other locations that could be affected by the proposed roadway that appear to have some potential for harboring hazardous materials, as listed in Table B.3. But depending on the selected alignment, most of these locations can be avoided.

Table B.3. Potential Hazardous Material Sites

Site Number	Description	Location	Most Likely Hazards
1	Storage buildings	North side of Kennedy Dr, just east of SR-55	Unknown
2	Business: Innovations Promotional Products	North side of Kennedy Dr, 1000' east of SR-55	Printing chemicals
3	Sewer pump station	South end of Kennedy Dr, 3300' east of SR-55	Human waste
4	Sewer pump station	South end of Ester Ln	Human waste
5	Kangaroo gas station	SW quadrant of SR-2 /Scott Swinney Dr	Leaking motor fuels from underground storage tanks
6	Convenience Center (dumpsters)	SE quadrant of SR-2 /Powell Dr	Household waste

A photograph of Site Number 3 is shown in Figure B.3 and Site Number 6 in Figure B.4.

Figure B.3. Looking South at Potential Haz-Mat Site Number 3

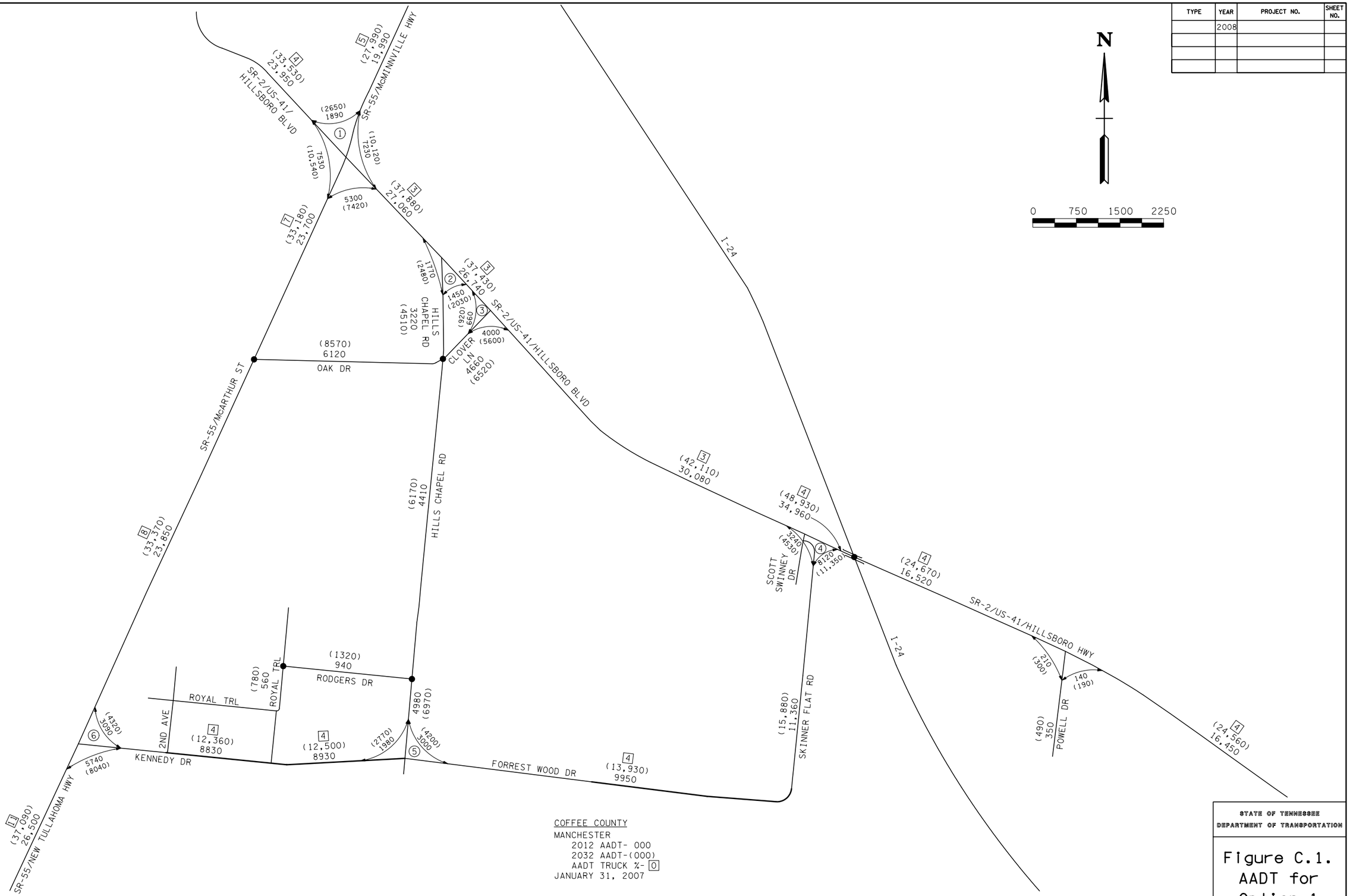
Figure B.4. Looking SW at Potential Haz-Mat Site Number 6

APPENDIX C

PROJECTED TRAFFIC FOR OPTION 1

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



COFFEE COUNTY
MANCHESTER
2012 AADT- 000
2032 AADT-(000)
AADT TRUCK %- 0
JANUARY 31, 2007

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure C.1.
AADT for
Option 1

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

APPENDIX D

COST ESTIMATES FOR OPTION 1

Table D.1. Cost Data Sheet--Option 1 or 2, Section 1, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 1, From State Route 55 (McArthur Street) to 2nd Avenue
Length: 0.3 miles

Right of Way				
Land (0.30 Acres)	$	20,000		
Improvements	$	-		
Damages	$	-		
Incidentals	$	37,000		
Relocation Payments (0 residences)	$	-		
(0 businesses & farms)	$	-		
(0 non-profits)	$	-		
Total Right-of-Way Cost			$	**57,000**
Utility Relocation				
Reimbursable	$	280,000		
Non-reimbursable	$	-		
Total Adjustment Cost			$	**280,000**
Construction				
Clearing and Grubbing	$	400		
Earthwork	$	18,000		
Pavement Removal	$	18,000		
Drainage (Includes Erosion Control)	$	374,000		
Structures	$	-		
Railroad Crossing or Separation	$	-		
Paving	$	238,000		
Retaining Walls	$	-		
Maintenance of Traffic	$	30,000		
Topsoil	$	-		
Seeding	$	-		
Sodding	$	9,900		
Signing	$	11,000		
Lighting	$	43,000		
Signalization	$	150,000		
Fence	$	-		
Guardrail	$	-		
Rip-Rap or Slope Protection	$	-		
Other Construction Items (8.5%)	$	76,000		
Mobilization	$	49,000		
Construction Cost	$	1,017,300		
10% Eng. & Cont.	$	102,000		
Total Construction Cost			$	**1,119,300**
Preliminary Engineering (10%)			$	**102,000**
Total Cost			$	**1,558,300**

Table D.2. Cost Data Sheet--Option 1 or 2, Section 2, 2-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 2, From 2nd Avenue to Hills Chapel Road
Length: 0.8 miles

Right of Way			
Land (3.45 Acres)	$ 40,000		
Improvements	$ -		
Damages	$ 55,000		
Incidentals	$ 43,000		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	138,000
Utility Relocation			
Reimbursable	$ 94,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	94,000
Construction			
Clearing and Grubbing	$ 6,700		
Earthwork	$ 46,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 906,000		
Structures	$ -		
Railroad Crossing or Separation	$ -		
Paving	$ 603,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 28,000		
Signing	$ 7,100		
Lighting	$ 116,000		
Signalization	$ -		
Fence	$ 29,000		
Guardrail	$ -		
Rip-Rap or Slope Protection	$ -		
Other Construction Items (8.5%)	$ 149,000		
Mobilization	$ 91,000		
Construction Cost	$ 1,981,800		
10% Eng. & Cont.	$ 199,000		
Total Construction Cost		$	2,180,800
Preliminary Engineering (10%)		$	199,000
Total Cost		$	2,611,800

Table D.3. Cost Data Sheet--Option 1 or 2, Section 2, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 2, From 2nd Avenue to Hills Chapel Road
Length: 0.8 miles

Right of Way			
Land (3.45 Acres)	$ 40,000		
Improvements	$ -		
Damages	$ 55,000		
Incidentals	$ 43,000		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**138,000**
Utility Relocation			
Reimbursable	$ 94,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**94,000**
Construction			
Clearing and Grubbing	$ 6,700		
Earthwork	$ 49,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 916,000		
Structures	$ -		
Railroad Crossing or Separation	$ -		
Paving	$ 653,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 28,000		
Signing	$ 7,100		
Lighting	$ 116,000		
Signalization	$ -		
Fence	$ 29,000		
Guardrail	$ -		
Rip-Rap or Slope Protection	$ -		
Other Construction Items (8.5%)	$ 154,000		
Mobilization	$ 94,000		
Construction Cost	$ 2,052,800		
10% Eng. & Cont.	$ 206,000		
Total Construction Cost		$	**2,258,800**
Preliminary Engineering (10%)		$	**206,000**
Total Cost		$	**2,696,800**

Table D.4. Cost Data Sheet--Option 1 or 2, Section 3, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 3, From Hills Chapel Road to Chickasaw Drive
Length: 0.6 miles

Right of Way				
Land (0.73 Acres)	$	9,600		
Improvements	$	-		
Damages	$	-		
Incidentals	$	80,000		
Relocation Payments (0 residences)	$	-		
(0 businesses & farms)	$	-		
(0 non-profits)	$	-		
Total Right-of-Way Cost			**$**	**89,600**
Utility Relocation				
Reimbursable	$	451,000		
Non-reimbursable	$	-		
Total Adjustment Cost			**$**	**451,000**
Construction				
Clearing and Grubbing	$	1,000		
Earthwork	$	39,000		
Pavement Removal	$	38,000		
Drainage (Includes Erosion Control)	$	762,000		
Structures	$	-		
Railroad Crossing or Separation	$	-		
Paving	$	520,000		
Retaining Walls	$	-		
Maintenance of Traffic	$	43,000		
Topsoil	$	-		
Seeding	$	-		
Sodding	$	22,000		
Signing	$	12,000		
Lighting	$	93,000		
Signalization	$	-		
Fence	$	-		
Guardrail	$	-		
Rip-Rap or Slope Protection	$	-		
Other Construction Items (8.5%)	$	131,000		
Mobilization	$	80,000		
Construction Cost	$	1,741,000		
10% Eng. & Cont.	$	175,000		
Total Construction Cost			**$**	**1,916,000**
Preliminary Engineering (10%)			**$**	**175,000**
Total Cost			**$**	**2,631,600**

Table D.5. Cost Data Sheet--Option 1, Section 4, 2-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 4, From Chickasaw Drive to Skinner Flat Road
Length: 0.7 miles

Right of Way			
Land (3.83 Acres)	$ 23,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	32,900
Utility Relocation			
Reimbursable	$ 90,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	90,000
Construction			
Clearing and Grubbing	$ 7,400		
Earthwork	$ 40,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 691,000		
Structures	$ 234,000		
Railroad Crossing or Separation	$ -		
Paving	$ 542,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 25,000		
Signing	$ 6,800		
Lighting	$ 100,000		
Signalization	$ -		
Fence	$ -		
Guardrail	$ 23,000		
Rip-Rap or Slope Protection	$ 9,300		
Other Construction Items (8.5%)	$ 143,000		
Mobilization	$ 87,000		
Construction Cost	$ 1,908,500		
10% Eng. & Cont.	$ 191,000		
Total Construction Cost		$	2,099,500
Preliminary Engineering (10%)		$	191,000
Total Cost		$	2,413,400

Table D.6. Cost Data Sheet--Option 1, Section 4, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 4, From Chickasaw Drive to Skinner Flat Road
Length: 0.7 miles

Right of Way			
Land (3.83 Acres)	$ 23,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	32,900
Utility Relocation			
Reimbursable	$ 90,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	90,000
Construction			
Clearing and Grubbing	$ 7,400		
Earthwork	$ 42,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 697,000		
Structures	$ 248,000		
Railroad Crossing or Separation	$ -		
Paving	$ 587,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 25,000		
Signing	$ 6,800		
Lighting	$ 100,000		
Signalization	$ -		
Fence	$ -		
Guardrail	$ 23,000		
Rip-Rap or Slope Protection	$ 9,800		
Other Construction Items (8.5%)	$ 149,000		
Mobilization	$ 91,000		
Construction Cost	$ 1,986,000		
10% Eng. & Cont.	$ 199,000		
Total Construction Cost		$	2,185,000
Preliminary Engineering (10%)		$	199,000
Total Cost		$	2,506,900

Table D.7. Cost Data Sheet--Option 1, Section 5, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 5, From The Lexington Subdivision to State Route 2 (US-41/Hillsboro Boulevard)
Length: 0.9 miles

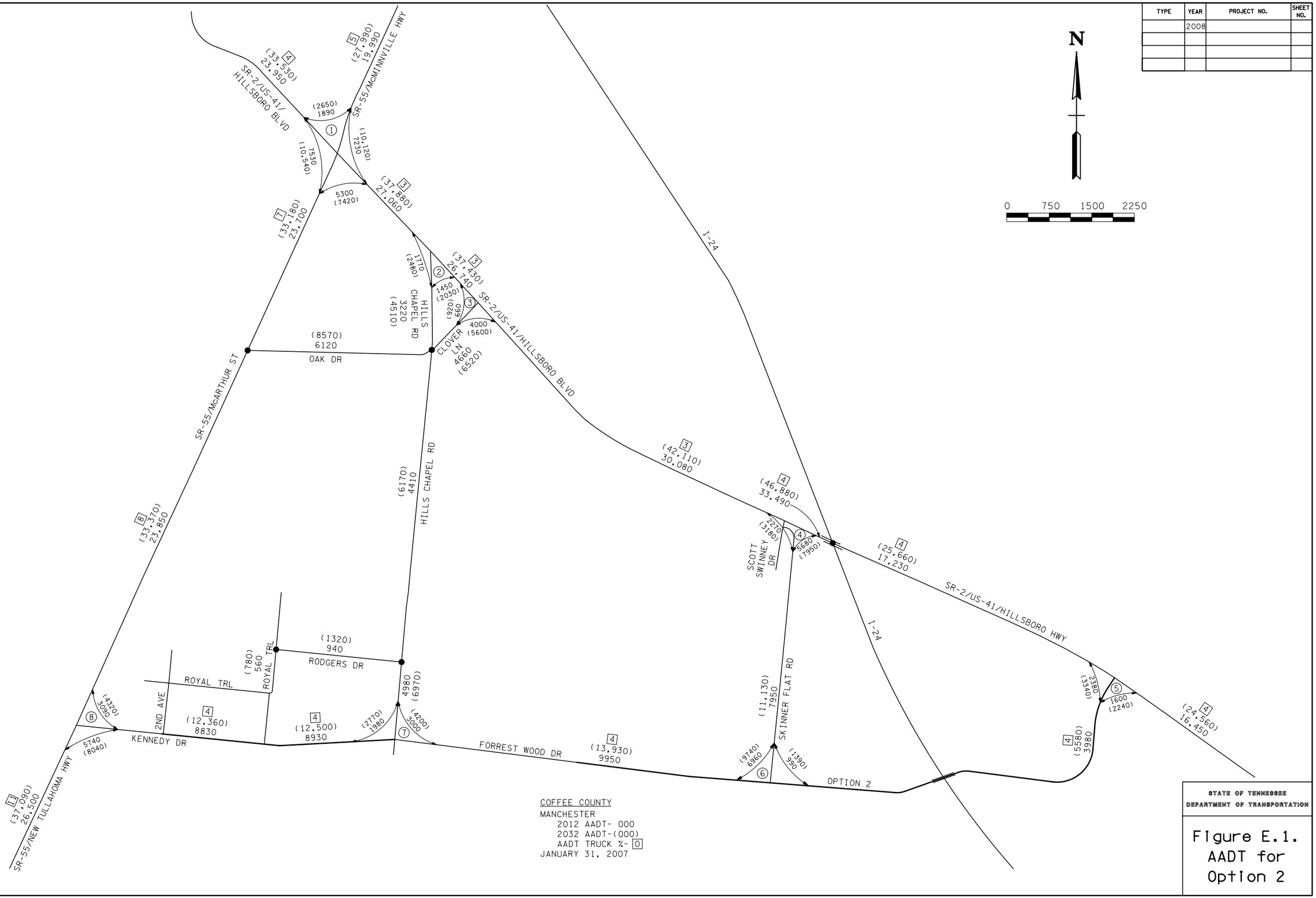
Right of Way			
Land (1.10 Acres)	$ 46,000		
Improvements	$ -		
Damages	$ 75,000		
Incidentals	$ 116,000		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**237,000**
Utility Relocation			
Reimbursable	$ 738,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**738,000**
Construction			
Clearing and Grubbing	$ 1,500		
Earthwork	$ 54,000		
Pavement Removal	$ 48,000		
Drainage (Includes Erosion Control)	$ 985,000		
Structures	$ 619,000		
Railroad Crossing or Separation	$ -		
Paving	$ 720,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ 70,000		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 30,000		
Signing	$ 18,000		
Lighting	$ 128,000		
Signalization	$ 150,000		
Fence	$ 4,800		
Guardrail	$ 23,000		
Rip-Rap or Slope Protection	$ 9,800		
Other Construction Items (8.5%)	$ 244,000		
Mobilization	$ 145,000		
Construction Cost	$ 3,250,100		
10% Eng. & Cont.	$ 326,000		
Total Construction Cost		$	**3,576,100**
Preliminary Engineering (10%)		$	**326,000**
Total Cost		$	**4,877,100**

APPENDIX E

PROJECTED TRAFFIC FOR OPTION 2

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



COFFEE COUNTY
MANCHESTER
2012 AADT- 000
2032 AADT-(000)
AADT TRUCK %- [0]
JANUARY 31, 2007

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure E.1.
AADT for
Option 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

APPENDIX F

COST ESTIMATES FOR OPTION 2

Table F.1. Cost Data Sheet--Option 2, Section 4, 2-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 4, From Chickasaw Drive to Skinner Flat Road
Length: 0.7 miles

Right of Way			
Land (3.77 Acres)	$ 22,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	31,900
Utility Relocation			
Reimbursable	$ 90,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	90,000
Construction			
Clearing and Grubbing	$ 7,300		
Earthwork	$ 41,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 721,000		
Structures	$ 234,000		
Railroad Crossing or Separation	$ -		
Paving	$ 587,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 27,000		
Signing	$ 12,000		
Lighting	$ 104,000		
Signalization	$ -		
Fence	$ -		
Guardrail	$ 23,000		
Rip-Rap or Slope Protection	$ 9,300		
Other Construction Items (8.5%)	$ 151,000		
Mobilization	$ 92,000		
Construction Cost	$ 2,008,600		
10% Eng. & Cont.	$ 201,000		
Total Construction Cost		$	2,209,600
Preliminary Engineering (10%)		$	201,000
Total Cost		$	2,532,500

Table F.2. Cost Data Sheet--Option 2, Section 4, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 4, From Chickasaw Drive to Skinner Flat Road
Length: 0.7 miles

Right of Way			
Land (3.77 Acres)	$ 22,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**31,900**
Utility Relocation			
Reimbursable	$ 90,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**90,000**
Construction			
Clearing and Grubbing	$ 7,300		
Earthwork	$ 44,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 728,000		
Structures	$ 248,000		
Railroad Crossing or Separation	$ -		
Paving	$ 635,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ -		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 27,000		
Signing	$ 12,000		
Lighting	$ 104,000		
Signalization	$ -		
Fence	$ -		
Guardrail	$ 23,000		
Rip-Rap or Slope Protection	$ 9,800		
Other Construction Items (8.5%)	$ 157,000		
Mobilization	$ 95,000		
Construction Cost	$ 2,090,100		
10% Eng. & Cont.	$ 210,000		
Total Construction Cost		$	**2,300,100**
Preliminary Engineering (10%)		$	**210,000**
Total Cost		$	**2,632,000**

Table F.3. Cost Data Sheet--Option 2, Section 5

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 5, From Skinner Flat Road to West of I-24
Length: 0.3 miles

Right of Way			
Land (0.00 Acres)	$	-	
Improvements	$	-	
Damages	$	-	
Incidentals	$	-	
Relocation Payments (0 residences)	$	-	
(0 businesses & farms)	$	-	
(0 non-profits)	$	-	
Total Right-of-Way Cost			$ -
Utility Relocation			
Reimbursable	$	287,000	
Non-reimbursable	$	-	
Total Adjustment Cost			$ 287,000
Construction			
Clearing and Grubbing	$	-	
Earthwork	$	21,000	
Pavement Removal	$	21,000	
Drainage (Includes Erosion Control)	$	344,000	
Structures	$	-	
Railroad Crossing or Separation	$	-	
Paving	$	273,000	
Retaining Walls	$	-	
Maintenance of Traffic	$	27,000	
Topsoil	$	-	
Seeding	$	-	
Sodding	$	12,000	
Signing	$	11,000	
Lighting	$	49,000	
Signalization	$	-	
Fence	$	8,400	
Guardrail	$	-	
Rip-Rap or Slope Protection	$	-	
Other Construction Items (8.5%)	$	66,000	
Mobilization	$	42,000	
Construction Cost	$	874,400	
10% Eng. & Cont.	$	88,000	
Total Construction Cost			$ 962,400
Preliminary Engineering (10%)			$ 88,000
Total Cost			$ 1,337,400

Table F.4. Cost Data Sheet--Option 2, Section 6, 2-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 6, From West of I-24 to Joe Hickerson Road
Length: 0.4 miles

Right of Way			
Land (3.56 Acres)	$ 25,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**34,900**
Utility Relocation			
Reimbursable	$ 20,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**20,000**
Construction			
Clearing and Grubbing	$ 6,900		
Earthwork	$ 1,291,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 722,000		
Structures	$ 2,227,000		
Railroad Crossing or Separation	$ -		
Paving	$ 350,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ 25,000		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 16,000		
Signing	$ 1,200		
Lighting	$ 68,000		
Signalization	$ -		
Fence	$ 8,400		
Guardrail	$ 61,000		
Rip-Rap or Slope Protection	$ 19,000		
Other Construction Items (8.5%)	$ 408,000		
Mobilization	$ 239,000		
Construction Cost	$ 5,442,500		
10% Eng. & Cont.	$ 545,000		
Total Construction Cost		$	**5,987,500**
Preliminary Engineering (10%)		$	**545,000**
Total Cost		$	**6,587,400**

Table F.5. Cost Data Sheet--Option 2, Section 6, 3-Lane

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 6, From West of I-24 to Joe Hickerson Road
Length: 0.4 miles

Right of Way			
Land (3.56 Acres)	$ 25,000		
Improvements	$ -		
Damages	$ -		
Incidentals	$ 9,900		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**34,900**
Utility Relocation			
Reimbursable	$ 20,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**20,000**
Construction			
Clearing and Grubbing	$ 6,900		
Earthwork	$ 1,348,000		
Pavement Removal	$ -		
Drainage (Includes Erosion Control)	$ 737,000		
Structures	$ 2,356,000		
Railroad Crossing or Separation	$ -		
Paving	$ 379,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ 25,000		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 16,000		
Signing	$ 1,200		
Lighting	$ 68,000		
Signalization	$ -		
Fence	$ 8,400		
Guardrail	$ 61,000		
Rip-Rap or Slope Protection	$ 20,000		
Other Construction Items (8.5%)	$ 428,000		
Mobilization	$ 249,000		
Construction Cost	$ 5,703,500		
10% Eng. & Cont.	$ 571,000		
Total Construction Cost		$	**6,274,500**
Preliminary Engineering (10%)		$	**571,000**
Total Cost		$	**6,900,400**

Table F.6. Cost Data Sheet--Option 2, Section 7

Project: Kennedy Drive Extension, Manchester, Coffee County
Section: 7, From Joe Hickerson Road to State Route 2 (US-41/Hillsboro Highway)
Length: 0.4 miles

Right of Way			
Land (1.36 Acres)	$ 26,000		
Improvements	$ 4,000		
Damages	$ 3,500		
Incidentals	$ 113,000		
Relocation Payments (0 residences)	$ -		
(0 businesses & farms)	$ -		
(0 non-profits)	$ -		
Total Right-of-Way Cost		$	**146,500**
Utility Relocation			
Reimbursable	$ 382,000		
Non-reimbursable	$ -		
Total Adjustment Cost		$	**382,000**
Construction			
Clearing and Grubbing	$ 1,800		
Earthwork	$ 28,000		
Pavement Removal	$ 28,000		
Drainage (Includes Erosion Control)	$ 607,000		
Structures	$ -		
Railroad Crossing or Separation	$ -		
Paving	$ 488,000		
Retaining Walls	$ -		
Maintenance of Traffic	$ 48,000		
Topsoil	$ -		
Seeding	$ -		
Sodding	$ 20,000		
Signing	$ 22,000		
Lighting	$ 65,000		
Signalization	$ 150,000		
Fence	$ -		
Guardrail	$ -		
Rip-Rap or Slope Protection	$ -		
Other Construction Items (8.5%)	$ 124,000		
Mobilization	$ 77,000		
Construction Cost	$ 1,658,800		
10% Eng. & Cont.	$ 166,000		
Total Construction Cost		$	**1,824,800**
Preliminary Engineering (10%)		$	**166,000**
Total Cost		$	**2,519,300**

APPENDIX G

PROPOSED ROADWAY CORRIDORS AND QUAD MAPS

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.1.
Kennedy Dr Ext
Sheet
Layout

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.2.
Kennedy Dr
Options
1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.3.
Kennedy Dr
Quad Map
Options 1 & 2

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.4.
Kennedy Dr
Options
1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.5.
Kennedy Dr
Quad Map
Options 1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.6.
Forrest Wood Dr
Options
1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

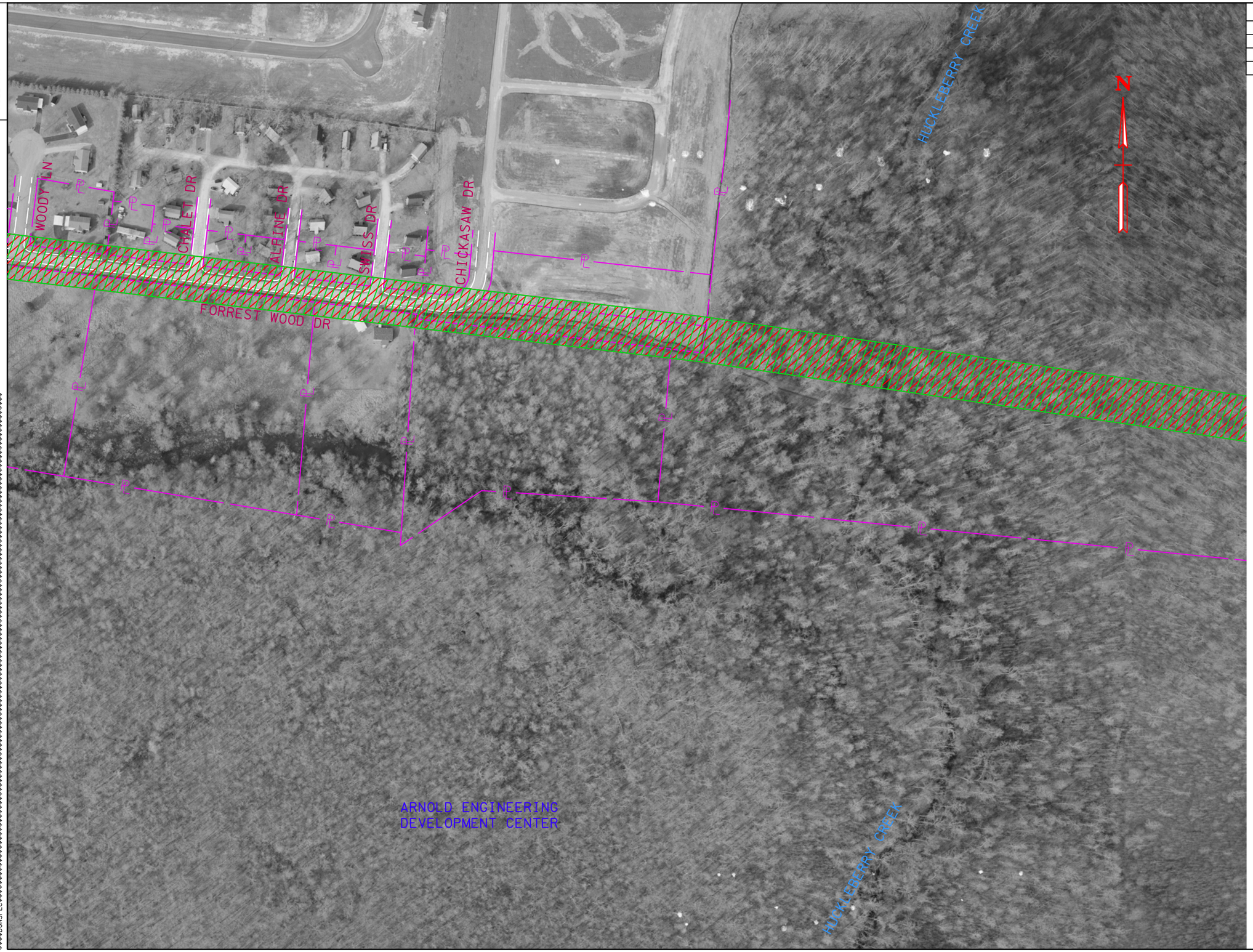
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.7.
Forrest Wood Dr
Quad Map
Options 1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.



TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

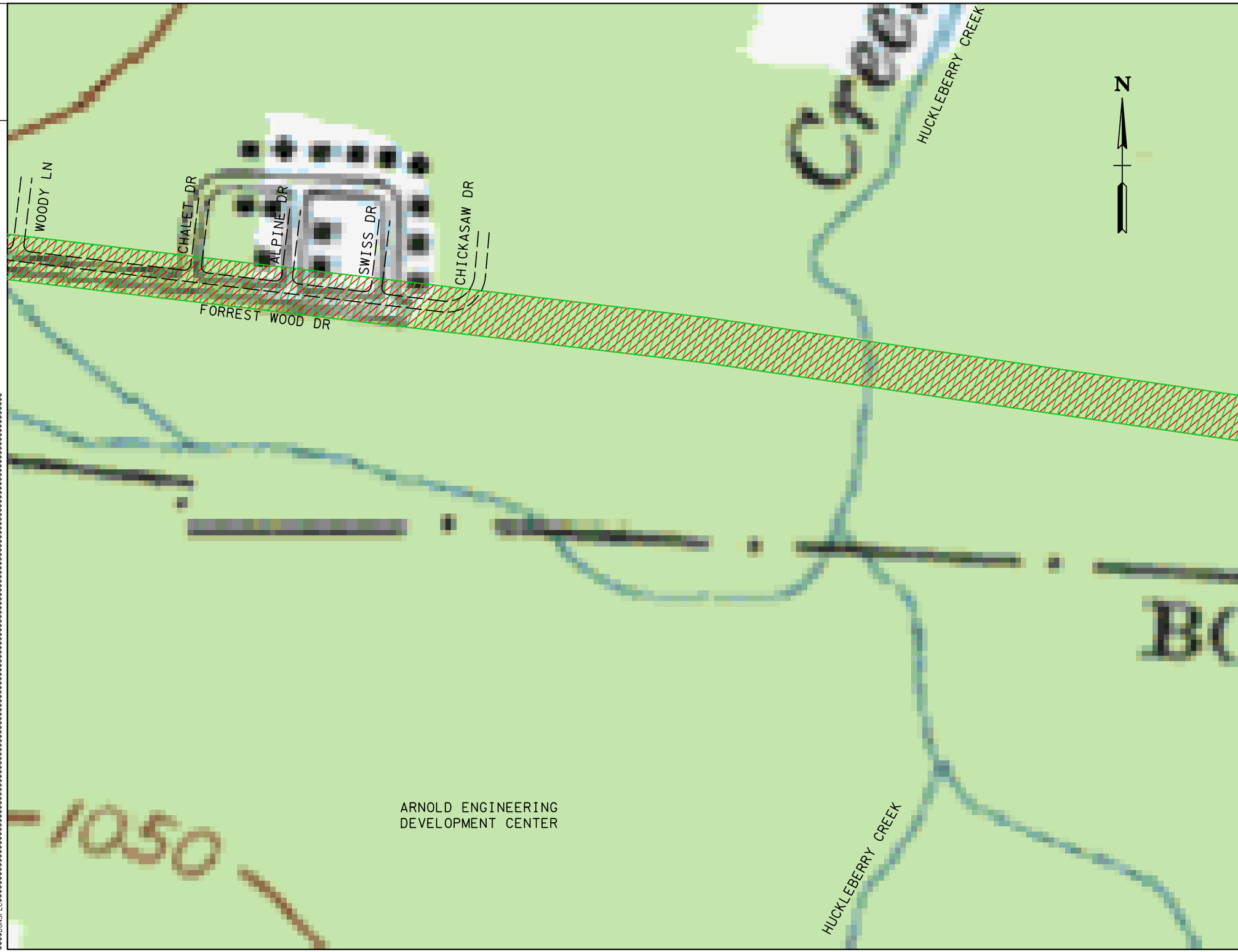
Figure G.8.
Forrest Wood Dr
Options
1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.9.
Forrest Wood Dr
Quad Map
Options 1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

OPTION 2

0 100 200 300

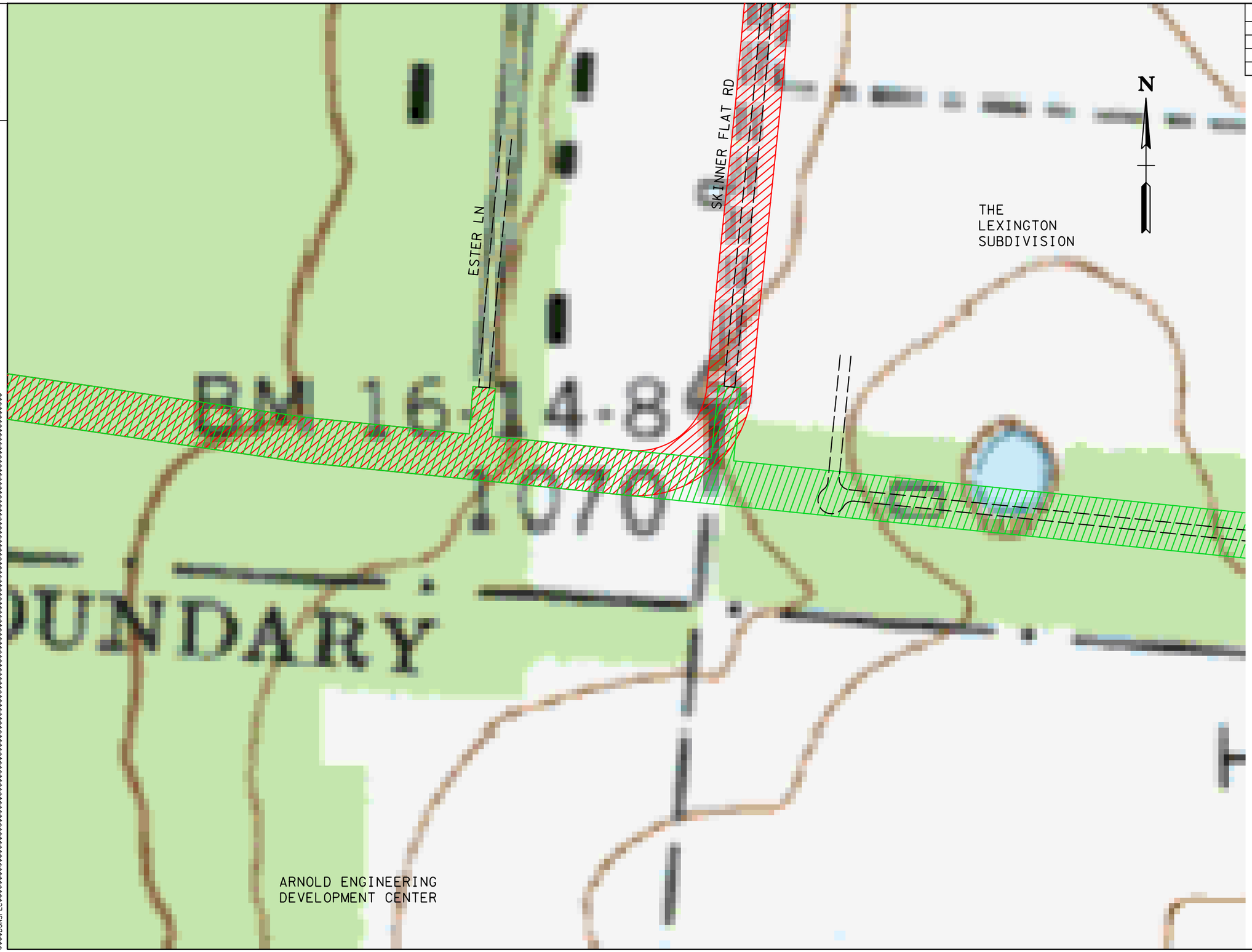
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.10.
Skinner Flat Rd
Options
1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 1

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.11.
Skinner Flat Rd
Quad Map
Options 1 & 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

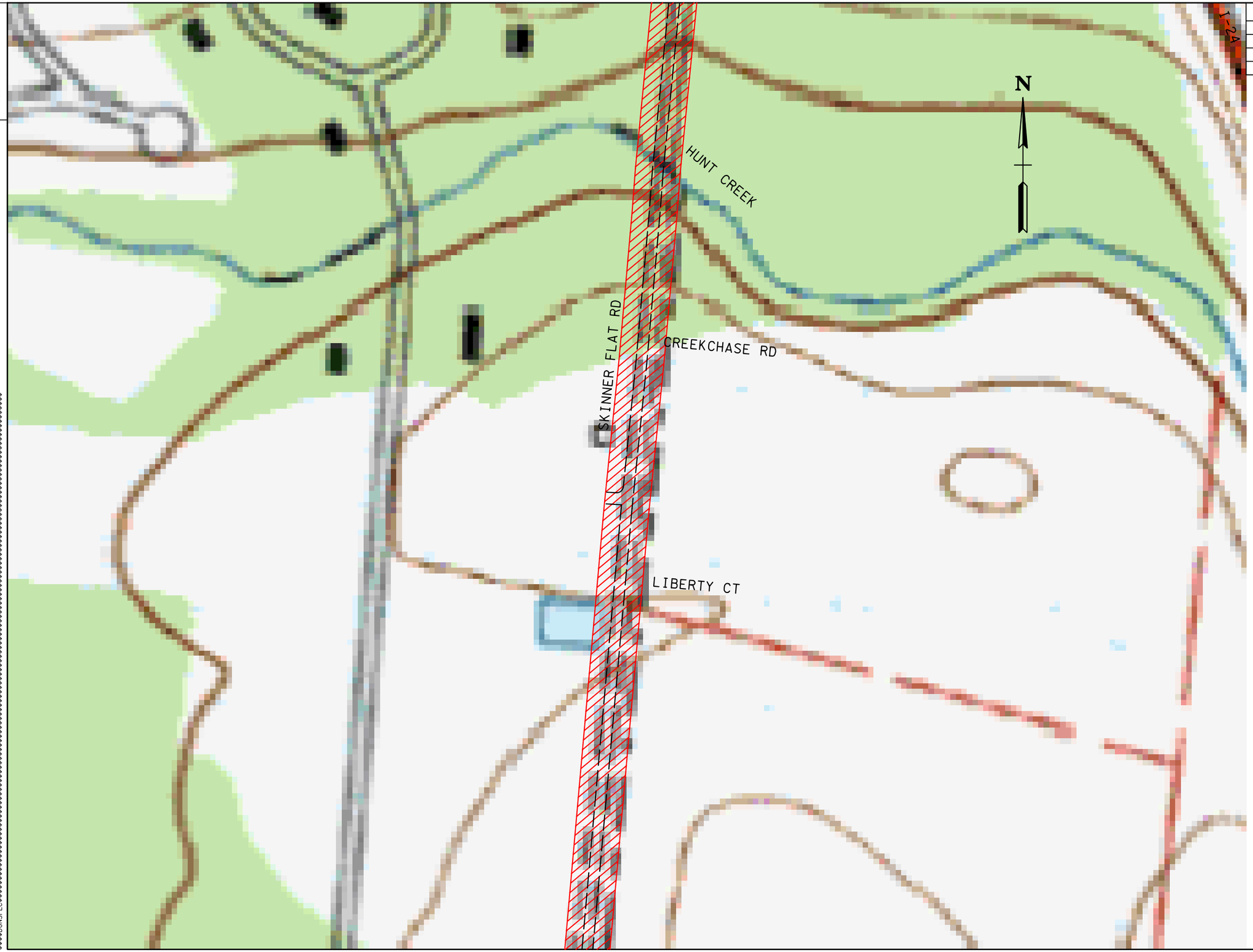
Figure G.12.
Skinner Flat Rd
Option 1

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 1

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.13.
Skinner Flat Rd
Quad Map
Option 1

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 1

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.14.
Skinner Flat Rd
Option 1

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

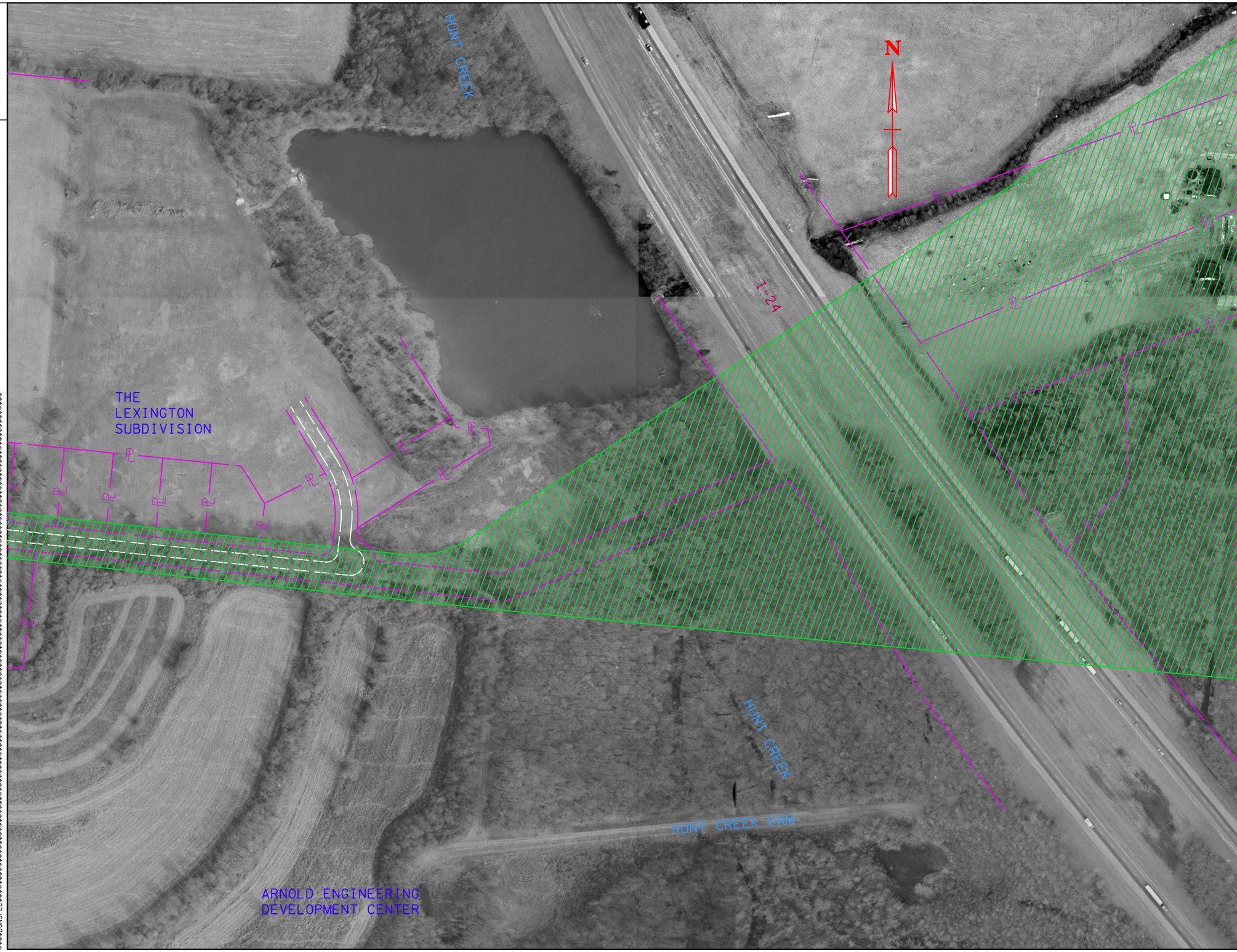
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.15.
Skinner Flat Rd
Quad Map
Option 1

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 2

0 100 200 300

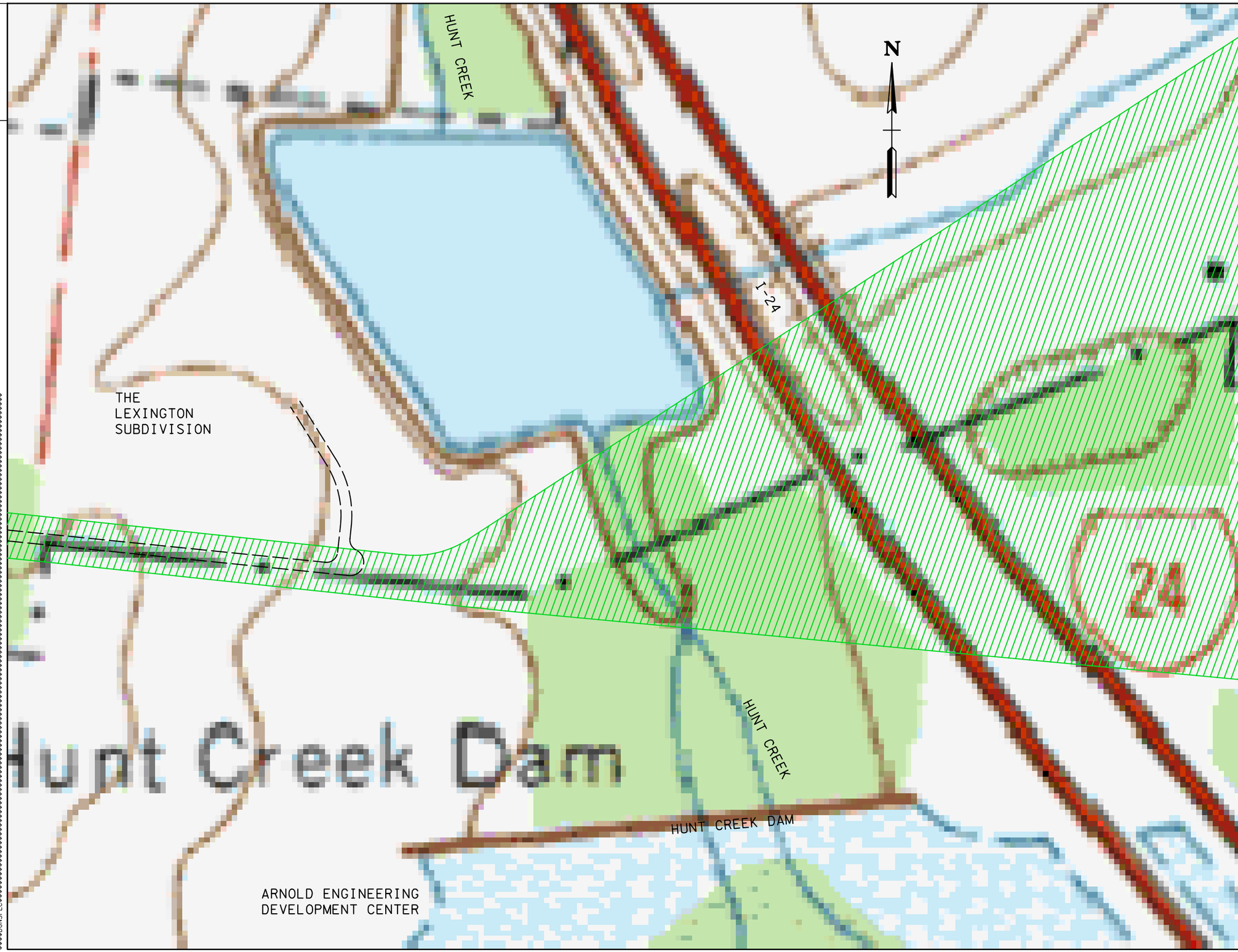
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.16.
The Lexington
Option 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.17.
The Lexington
Quad Map
Option 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 2

0 100 200 300

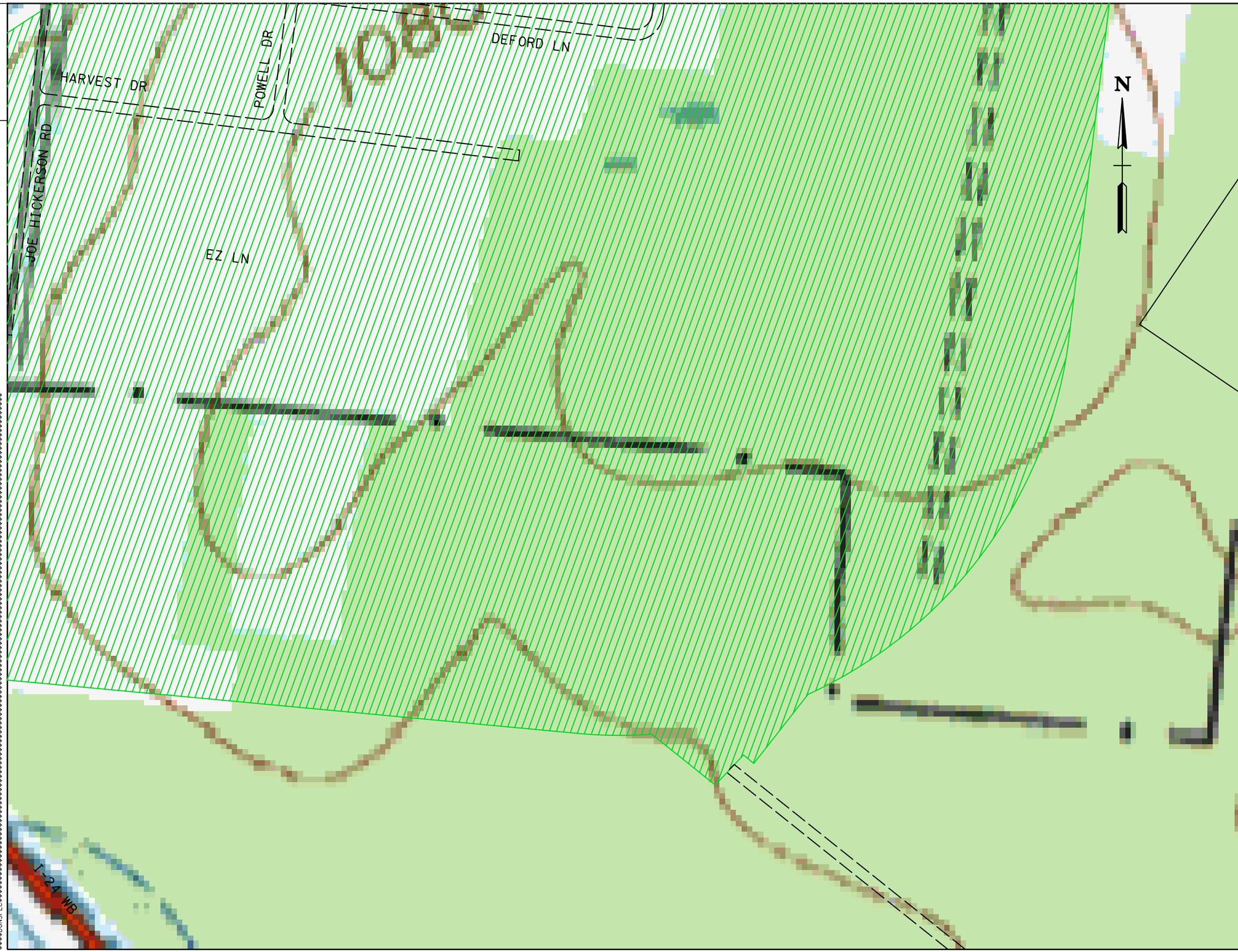
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.18.
Harvest Dr
Option 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



LEGEND

OPTION 2

0 100 200 300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.19.
Harvest Dr
Quad Map
Option 2

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		

LEGEND

OPTION 2

0 100 200 300

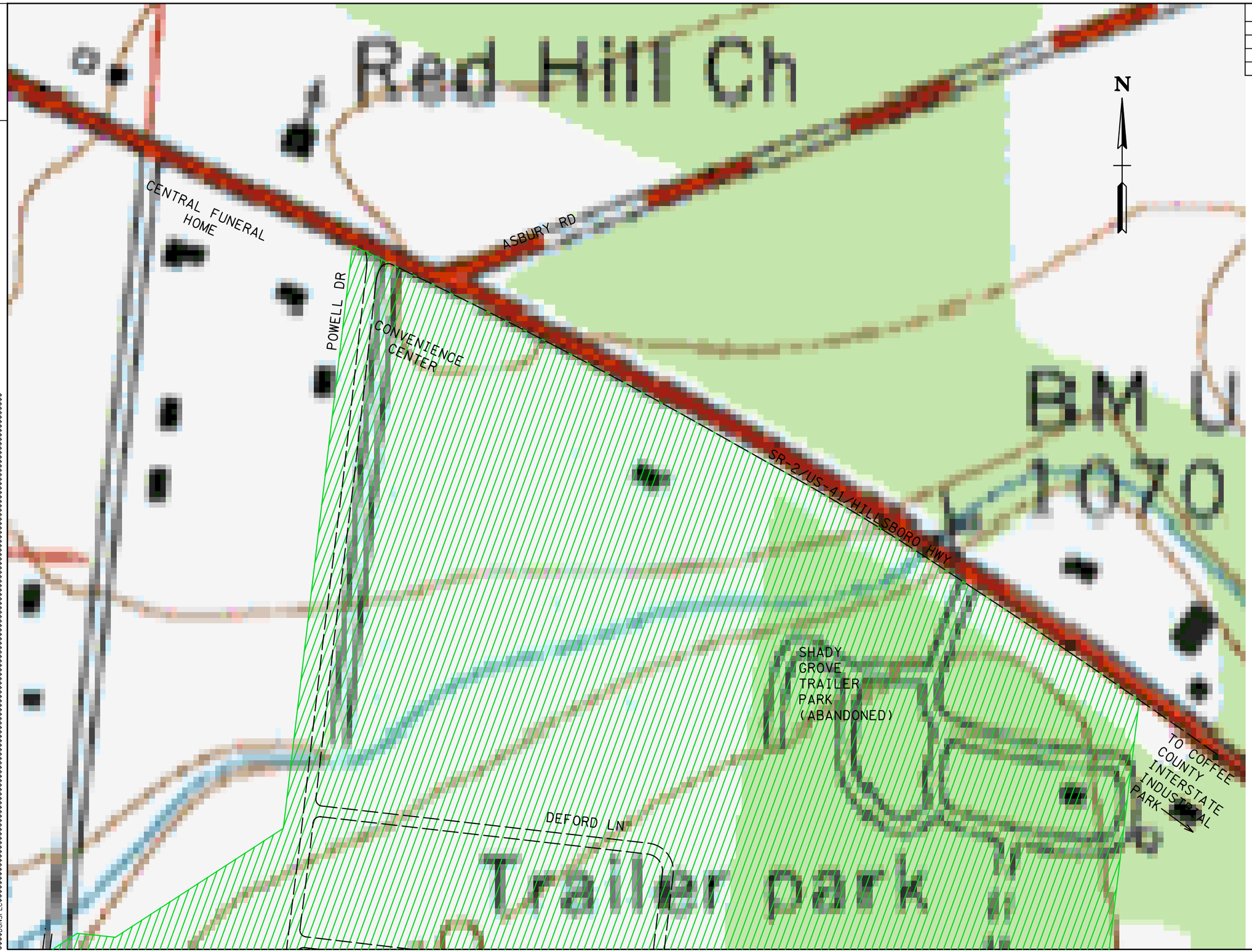
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.20.
Powell Dr
Option 2

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
	2008		



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Figure G.21.
Powell Dr
Quad Map
Option 2

$$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$