

FIRST LOOK SCOPING STUDY

HARDIN COUNTY
KY 251
4 - 153.00

Prepared By:
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
ELIZABETHTOWN, DISTRICT 4 PLANNING

April 27, 2010

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KY 251
From KY 3005 (MP 2.722) to KY 313 (MP 8.019)
Hardin County
4 – 153.00

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FIRST LOOK SCOPING STUDY

KY 251, MP 2.722 – MP 8.019 HARDIN COUNTY Item 4 – 153.00

I. INTRODUCTION

A. Study Purpose

The purpose of this First Look Scoping Study is to provide project support early in the Preconstruction phase in order to help keep the project on schedule while defining all concerns for the project. This report will provide this support by the following:

1. Better define the intent of the project before the design process begins.
2. Initiate many project requests for information needed to begin the design.
3. Develop a preliminary environmental overview in order to begin the environmental process.
4. Document any early public and agency recommendations or commitments.
5. Discuss possible alternatives.

B. Location

This project is located on KY 251 in Hardin County, Kentucky and begins in the City of Elizabethtown at KY 3005 (Ring Road) and ends at KY 313 (Joe Prather Highway) near Fort Knox. The project is 5.297 miles long from MP 2.722 (KY 3005) to MP 8.019 (KY 313). See **Exhibit 1** for location map.

II. PROJECT PURPOSE AND NEED

A. Problem Statement

1. Capacity

Volume to Service Flow ranges from 0.21 to 0.33 according to the December 2009 Adequacy Ratings. Capacity is adequate for current and design year.

The ADT is broken into 3 segments along this corridor and they are as follows:

MP 2.722 – MP 3.967 = 6,066 (2007)

MP 3.967 – MP 6.326 = 4,420 (2008)

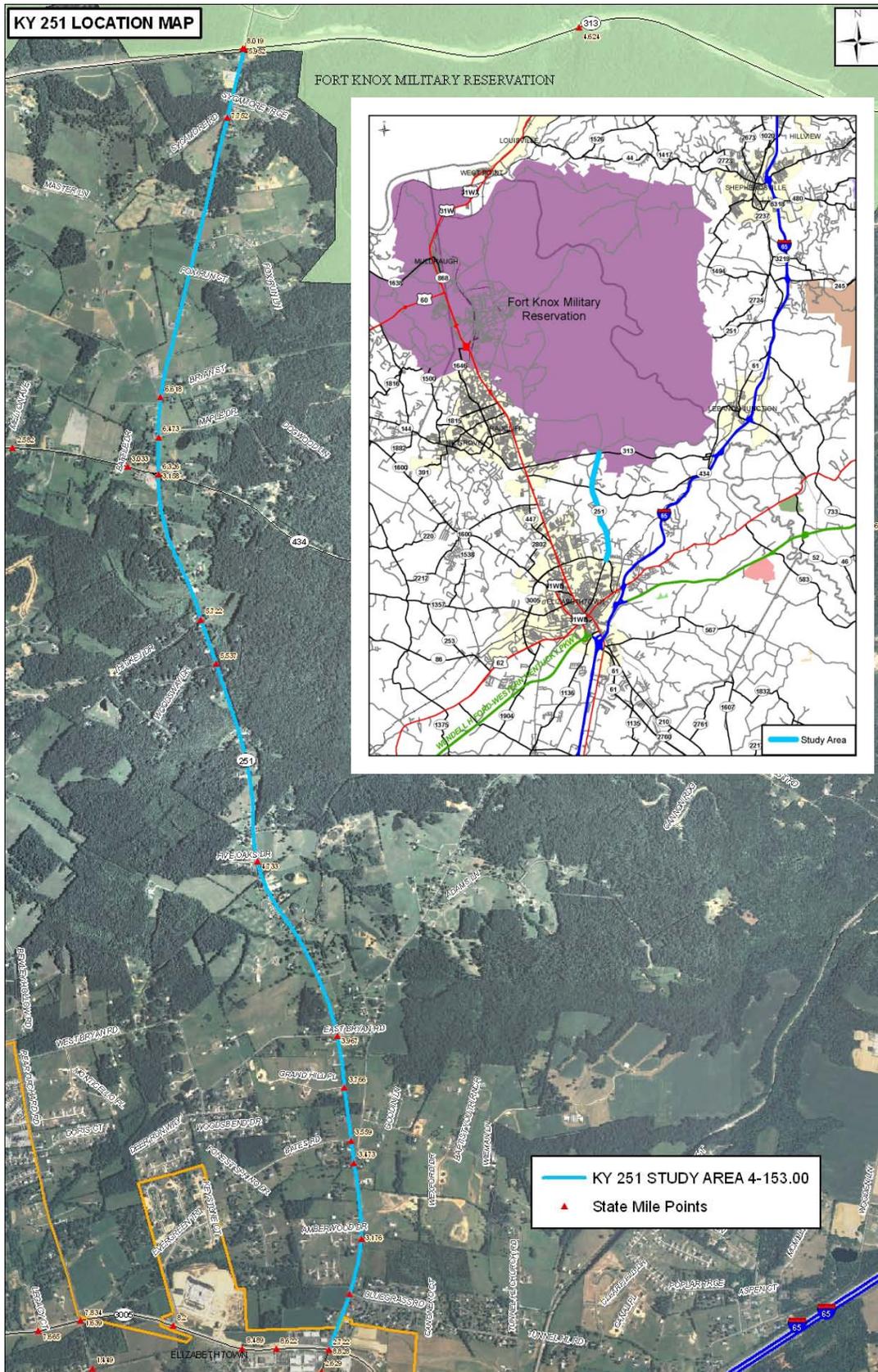
MP 6.326 – MP 8.019 = 1,535 (2009)

The 2030 projection from traffic model:

KY 3005 to KY 434 – 7,000 ADT, 2.5 million ESAL

KY 434 to KY 313 – 1,100 ADT, 0.6 million ESAL

EXHIBIT 1



2. System Linkage

KY 251 is in the State Secondary System. KY 251 is Functionally Classified as Urban Minor Arterial from KY 3005 (MP 2.722) to Wooldridge Ferry Road (MP 3.473) and Rural Major Collector from Wooldridge Ferry Road (MP 3.473) to KY 313 (MP 8.019.)

KY 251 links KY 3005 with KY 313. KY 313 is part of the National Truck Network and provides direct access to Interstate 65 which is the major north/south route in central Kentucky. The KY 251/KY 313 intersection is only 6 miles from the I-65 interchange. KY 313 also borders Fort Knox Military Reservation. As of now, there are no access points into Fort Knox off of KY 313 however the base has proposed building a route along their boundary line from KY 313 to the Wilson Road gate. See **Exhibit 2**. There is currently construction on a new Human Resources building on Fort Knox that will be accessed through the Wilson Road gate which will house 4,000 employees and increase the amount of traffic using the Wilson Road gate. The morning peak hour traffic count for the Wilson Road gate is anticipated to double and the afternoon peak hour is expected to increase by 71%. KY 3005 provides direct access to many shopping and dining locations, the major traffic generators in the City of Elizabethtown. There is also a new elementary school on KY 3005, Heartland Elementary, just a half mile west of the intersection with KY 251.

3. Transportation Demand

Currently, this project is on the Unscheduled Project List (UPL) as 2 segments, KY 3005 to KY 434 (04 047 D0251 43.00) and KY 434 to KY 313 (04 047 D0251 44.00). See **Exhibit 3** for map and **Appendix A** for details. Both segments were ranked as High priorities for the region and the Highway District in 2007. These segments are also included in the Radcliff-Elizabethtown MPO's TIP and 2010 Long Range Plan.

There is currently a Highway Plan Project (4-7030.00) to widen KY 251 from Pear Orchard Drive (MP 1.185) to Bluegrass Road (MP 2.956) just north of Ring Road. This project is State funded and is currently scheduled for Construction in 2010. Other highway improvements in the area include Six Year Plan (SYP) and Unscheduled Project List (UPL) projects. See **Exhibit 4**.

4. Social Demands (or Economic Development)

Due to the Base Realignment and Closure (BRAC), the population around the Radcliff and Elizabethtown area will be increasing approximately 11,500 by 2012. The KY 251 corridor's proximity to Fort Knox will make it a likely area for development, especially if a new access road to Fort Knox off of KY 313 is constructed. Also, the southern end at KY 313 is a commercially zoned area which is being developed by several businesses. There is a quarry along KY 434 and trucks frequently use KY 251 to access it.

Exhibit 2

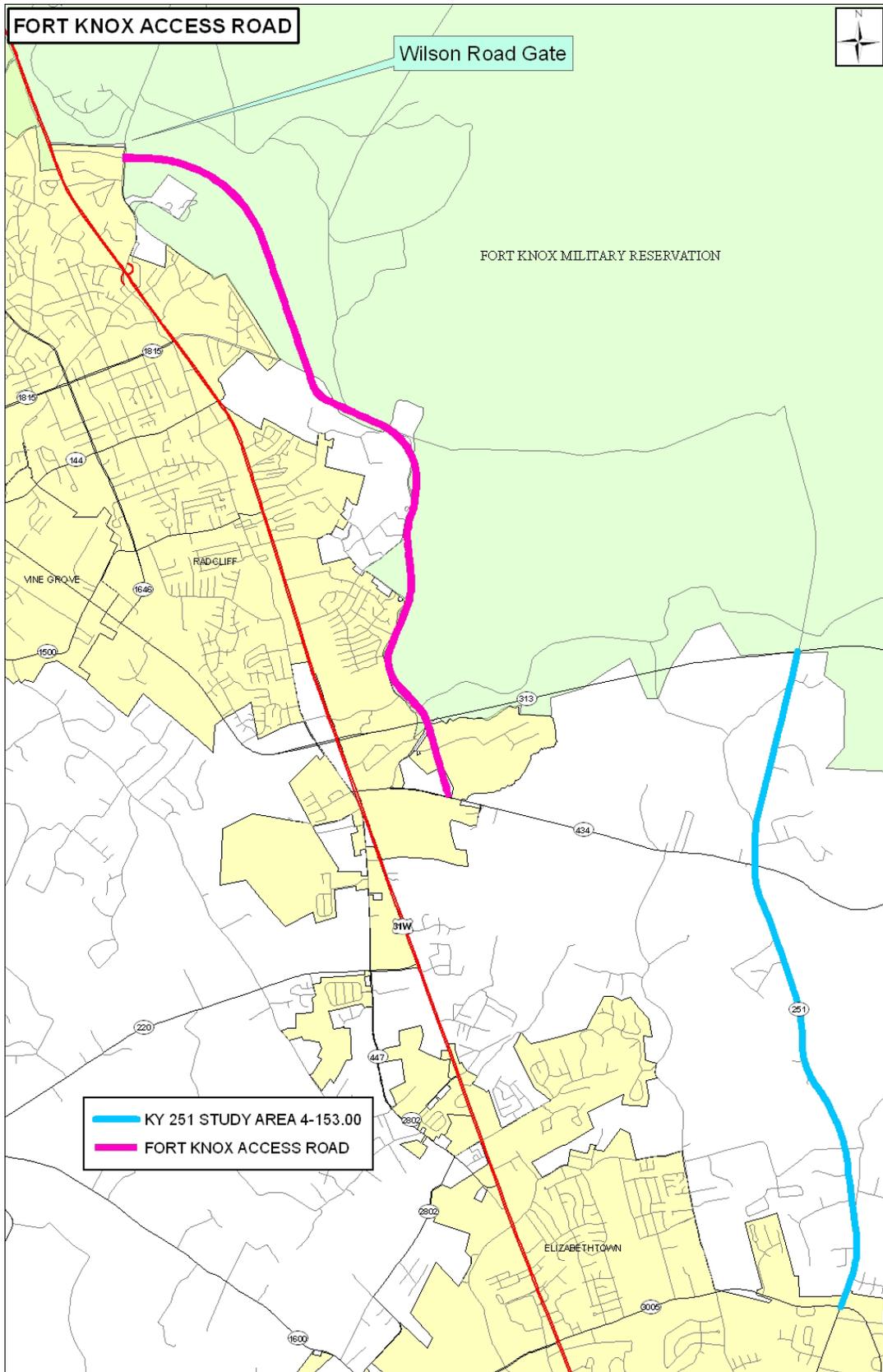


Exhibit 3

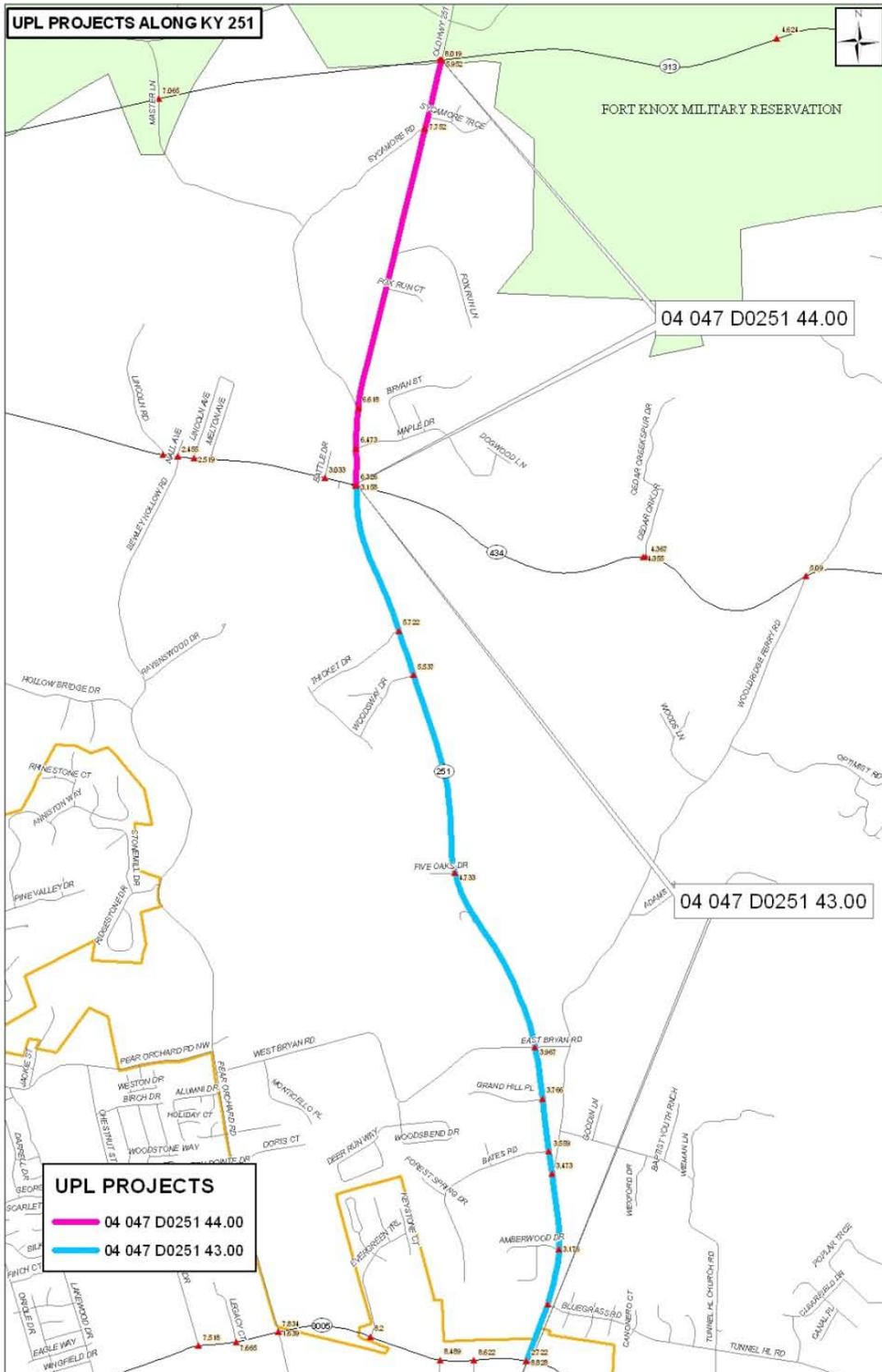
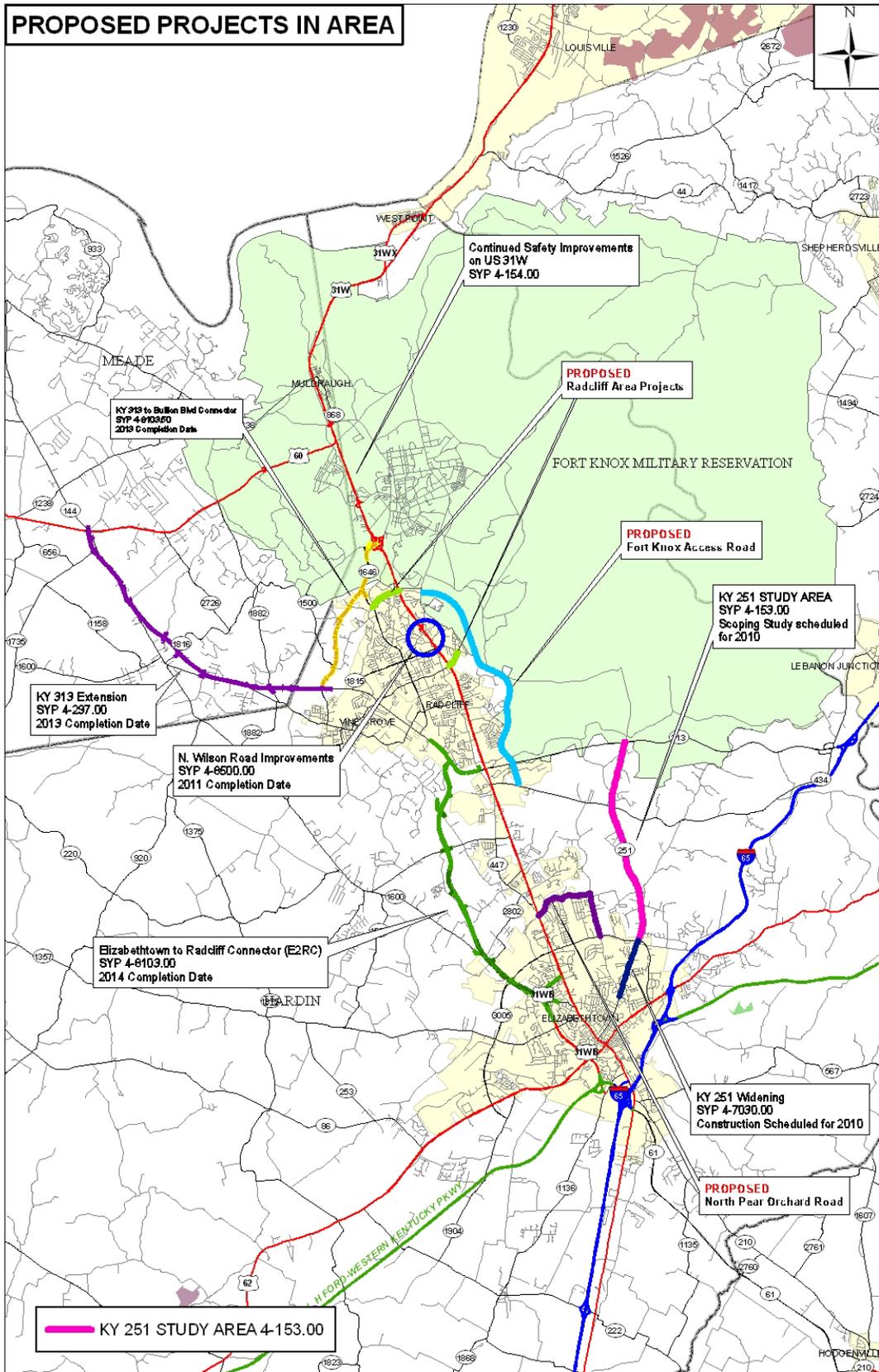


Exhibit 4



5. Safety

There have been 47 collisions along this corridor from December 2006 to December 2009 with no fatalities and 18 injuries. There are numerous rear end collisions with a small concentration at the intersection of KY 3005. See **Exhibit 5 and Appendix B** for the crash analysis. The Critical Rate Factor (CRF) which is the rate above which crashes cannot be said to be occurring randomly, ranges from 0.41 to 0.73. A CRF greater than one indicates a statistically significant crash problem.

6. Roadway Deficiencies

This section of KY 251 was constructed in 1933. See **Appendix C (Stations 160+00 to 441+00)**, and has 2 – 9 foot driving lanes with no shoulders and no median over a rolling terrain. Current Design standards require 22'-24' of pavement with 6'-8' shoulders in the Rural Collector portion of the corridor and 11'-12' driving lanes in the Urban Arterial section. The speed limit is 45 mph between KY 3005 (MP 2.722) and Wooldridge Ferry Road (MP 3.473). The limit increases to 55 mph between Wooldridge Ferry Road and KY 313 (MP 8.019). The International Roughness Index (IRI) measures the pavement condition and ranges from 105 to 128 along the corridor which indicates a rough riding surface. The Percentile value from East Bryan Road (MP 3.967) to KY 313 (MP 8.019) is 32.15 which means that 67.85% of road segments in the same functional class are rated better.

B. Project Description

1. Project Status

This project was recommended by the Radcliff-Elizabethtown MPO in 2004. It is currently on the 2008-2010 Biennial Highway Construction Plan as item number 4-153.00 for the Planning phase. The plan calls for a scoping study in the amount of \$600,000 in State funds (SP) for Fiscal Year 2009-2010. The plan has the corridor segmented into 2 sections for Phase I Design, 4-153.01, KY 3005 to KY 434 and 4-153.05, KY 434 to KY 313. See **Appendix D**.

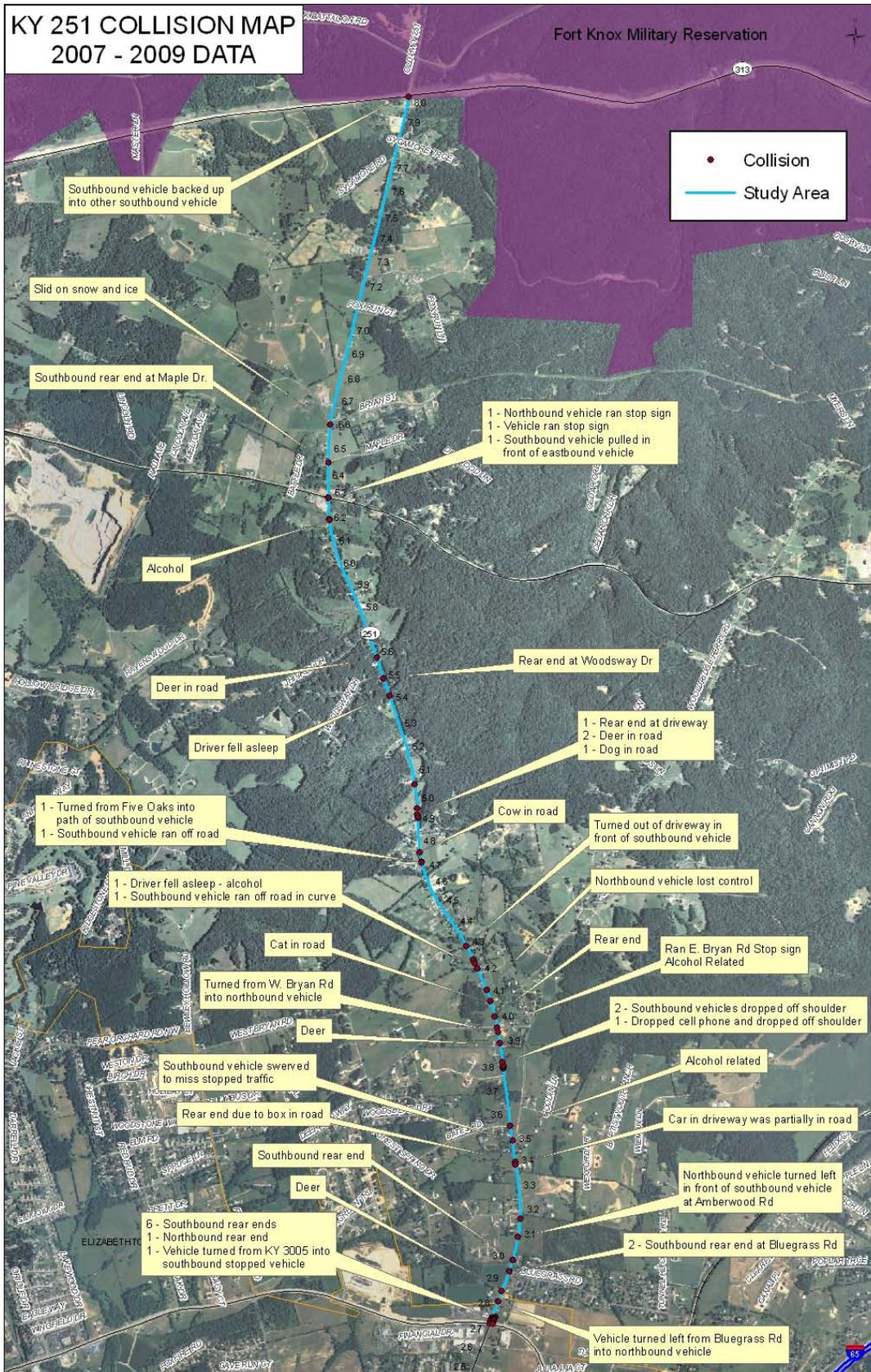
2. Legislation

This project has been considered a BRAC project which means this area will be affected by the base realignment at Fort Knox and KY 251 has the potential for much higher traffic volumes due to the increase in population.

3. Modal Interrelationships

There are no other modes of transportation in the area.

Exhibit 5



C. Purpose and Need Summary

1. Needs Summary

Roadway has two 9' driving lanes with no shoulders along with a 55 mph speed limit for the majority of the corridor which is not consistent with the current design standards. This road is utilized by trucks going to and from the quarry on KY 434. Due to BRAC and a possible new access road off of KY 313 into Fort Knox, the traffic volumes along this route could increase greatly. The CRF is low which does not indicate a statistically significant crash problem except where accident clusters exist.

2. Project Purpose Summary

a. Primary Purpose

The Primary Purpose of this project is to correct the geometric deficiencies and improve safety along KY 251 between KY 3005 and KY 313.

b. Secondary Purpose

The Secondary Purpose is to improve travel time along the corridor to businesses, Fort Knox, and Interstate 65.

3. Official Draft Purpose and Need Statement

The purpose of this project is to correct the geometric deficiencies along KY 251 and improve the safety along the corridor. This would also improve the travel time to businesses, Fort Knox and Interstate 65.

This project is needed because KY 251 only has two, nine foot driving lanes with no shoulders and multiple vertical and horizontal curves. This corridor carries up to 6,000 vehicles a day and the majority of the route has a 55 mph speed limit and is frequently traveled by trucks going to and from the rock quarry on KY 434. There have been 47 crashes over a 3 year period of time with a concentration of rear end collisions at the intersection of KY 3005.

Also, because of the Base Realignment and Closure at Fort Knox, a new access road into Fort Knox off of KY 313 has been proposed. If this access road is constructed KY 251 could become a major route for Fort Knox employees living in Elizabethtown. Currently, US 31W is the predominant north/south route to gain access to Fort Knox and carries the highest volume of traffic in District 4 outside of I-65. In order to avoid the congestion along US 31W and decrease travel time, motorists could use KY 251 to access Fort Knox off of KY 313.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

Any project undertaken to improve KY 251 will encounter familiar environmental issues for North Hardin County including karst terrain, presence of federally endangered species and impacts to residences and businesses. There are known sites or issues whose impacts cannot be minimized, avoided or mitigated.

Provided by Joseph Ferguson, District 4 Environmental Coordinator - See **APPENDIX E** for full report.

IV. PRELIMINARY PROJECT INFORMATION

A. Possible Alternatives (But may not be all alternatives)

1. No Build

The No Build Alternative would leave the existing road as it is. No improvements would be made and no money would be spent.

2. Spot Improvements

Make safety improvements to various locations along the route. This would address the worst geometric deficiencies exhibited previously and accident clusters.

3. Minor Widening of Lanes and Adding Shoulders

This Alternative would widen the driving lanes and add shoulders, improving safety by decreasing the potential for run-off the road and crossover collisions.

4. Major Widening

This Alternative would widen the route to 4 lanes with a possible center turn lane to match the typical of the previous section being constructed with the project 4-7030.00. This Alternative would have the highest cost for all phases of the project.

B. Known Right of Way Issues

At this time, there are no known Right of Way issues however the environmental overview indicates the possibility of historic houses along the route.

C. Known Utility Issues

Utilities in this area include water, gas, telephone and cable.

D. Known Public Commitments

At this time, there are no known public commitments.

V. ESTIMATE

These estimates are for a Minor Widening and come from the PIFs.

See **Appendix A**

Section from KY 3005 to KY 434:

P - \$ 500,000

D - \$ 2,000,000

R - \$ 3,000,000

U - \$ 1,500,000

C - \$14,500,000

Total \$21,500,000

Section from KY 434 to KY 313:

D - \$ 1,200,000

R - \$ 1,500,000

U - \$ 1,000,000

C - \$ 6,800,000

Total \$10,500,000

VI. PHOTOGRAPHS







KY 251 Northbound
MP 3.967

12/14/2009



KY 251 Northbound at KY 434
MP 6.326

12/14/2009

APPENDIX A

**PROJECT
IDENTIFICATION
FORMS FOR CORRIDOR**

KYTC Project Identification Form

Cycle Year: 2009
 Priority: L: Hi R: Hi D: Hi
 Tier: 3
 Tier Rank: R: D: n/a
 Overall Top Ten: R: D: n/a

Section I – General Information

<p>Requested by: Title/Organization: Date:</p>	<p>UPL Control #: <u>04 047 D0251 43.00</u> Co. #: <u>047</u> Parent Control #: RSE Unique Number: <u>047 KY-251</u></p>
<p>Form Completed by: <u>Mike Skaggs</u> Title/Organization: <u>MPO Planner, LTADD</u> Date: <u>10/06/2004</u></p>	<p>District: <u>4</u> County: <u>Hardin</u> Route: <u>KY 251</u> ADD: <u>LTADD</u> MPO: <u>LTADD-MPO</u> SUA: <u>N/A</u></p>
<p>Revision 1 by: Title/Organization: <u>LTADD/D4 Staff</u> Date: <u>6/20/2006</u></p>	<p>Mode: <u>Highway</u> State System: <u>State Secondary</u> Type: <u>Reconstruction</u> Funct'l Class: <u>Rural Mjr Coll</u></p>
<p>Revision 2 by: <u>K. Young</u> Title/Organization: <u>KYTC-D4</u> Date: <u>Dec 2009</u></p>	<p>Project Length: <u>3.600</u> Total Cost Estimate: \$ <u>21,500</u> (P:500 D:2,000 R:3,000 U:1,500 C:14500)</p>
	<p>Possible Funding Sources (Check all that apply): <input type="checkbox"/>IM <input type="checkbox"/>NH <input type="checkbox"/>HES <input type="checkbox"/>BR <input checked="" type="checkbox"/>STP <input checked="" type="checkbox"/>SP <input type="checkbox"/>TE <input type="checkbox"/>CMAQ <input type="checkbox"/>PLH <input type="checkbox"/>Other: _____</p>
	<p>Highway Networks (Check all that apply): <input checked="" type="checkbox"/>Non NHS <input type="checkbox"/>NHS <input type="checkbox"/>NN <input type="checkbox"/>Scenic Byway <input type="checkbox"/>Coal Haul <input type="checkbox"/>Bike <input type="checkbox"/>Forest <input type="checkbox"/>Defense <input type="checkbox"/>Strahnet <input type="checkbox"/>Ext. Wt. <input type="checkbox"/>ADHS ()</p>

Section II – Problem Statement

Route Number: <u>KY 251</u> Beginning MP: <u>2.722</u> Ending MP: <u>6.326</u> Total Length: <u>3.604</u>	(Use Report Year)				
Primary Purpose: <u>Upgrade Existing System(Major)</u>	Adequacy Rating:	Original	Rev. 1	Rev. 2	
	• CRF: (Year)	: ()	83.00: (05)	83.00: (08)	
	• IRI: (Year)	: ()	0.73: (05)	0.537: (08)	
	• V/SF: (Year)	: ()	93: (05)	110: (08)	
	Current ADT: (Year)	5,805: (03)	6,100: (05)	6,066: (07)	
	Percent Trucks: (Year)	10%: (03)	10%: (03)	: ()	
	Projected ADT (HDO): Year	%Growth:	ADT:		

Please provide a clear problem statement for this project:

KY 251 is an alternate north-south route between Elizabethtown and Radcliff. This portion of KY 251, between KY 3005 (Ring Road) and KY 434, carries between 3,600 and 6,000 vehicles per day, 10% of which are trucks. The two undivided 9-foot lanes and 2-foot shoulders are inadequate. This project is a continuation of improvements on KY 251 that have been completed up to Pear Orchard Road, and a current Six Year Plan project, from Pear Orchard Road to Ring Road. (4-7030)

Section III – Project Description

Project Description Narrative:

Address geometric deficiencies and improve travel times on KY 251 from KY 3005 and KY 434.

Regional Goals/Objectives Addressed: **Promote transportation safety; Preserve existing transportation facilities and systems**

Section IV – Project Area Information:

1. Miscellaneous Roadway Conditions	Access Control:	Existing: <u>Permit</u> Proposed: <u>Permit</u>	Median Type:	Existing: <u>N/A</u> Proposed: <u>N/A</u>	Width: _____ Width: _____
	Lane No./Width:	Existing: <u>2/9'</u> Proposed: <u>2/12'</u>	Shoulders:	Existing: <u>Asphalt</u> Proposed: <u>Asphalt</u>	Width: _____ Width: <u>10'</u>
	No. of Bridges:	Existing: <u>None</u> Proposed: <u>None</u>	Other Improvement Projects in Area:	<input type="checkbox"/> None <input checked="" type="checkbox"/> SYP <input type="checkbox"/> Resurface <input type="checkbox"/> Other <u>4-7030.00</u>	
	Comments:				
2. Right of Way	Avg. Width:	Existing: <u>50'</u>	Source: <input checked="" type="checkbox"/> HIS <input type="checkbox"/> Plans <input type="checkbox"/> Microfilm <input type="checkbox"/> Other _____		
	Current Primary Use: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Farmland <input type="checkbox"/> Other: _____				
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		Project may require additional R/W.		Possible Relocations : Homes: _____ Businesses: _____
	Comments: <u>R/W will have to be acquired.</u>				
3. Utilities	Existing Utilities:	<input checked="" type="checkbox"/> Power <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Sewer <input checked="" type="checkbox"/> Water <input type="checkbox"/> ITS <input type="checkbox"/> None <input type="checkbox"/> Other: _____			
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		Project may require Utility Relocations.		Comments:
4. Environmental Impacts	(Check all that apply):				
	<input type="checkbox"/> Blueline Streams <input type="checkbox"/> Wetlands <input type="checkbox"/> Floodplain <input type="checkbox"/> Wildlife Managed Areas <input type="checkbox"/> Historic Properties <input type="checkbox"/> Cemeteries <input type="checkbox"/> Schools <input checked="" type="checkbox"/> Churches <input type="checkbox"/> Endangered Species <input type="checkbox"/> Public Land/Park <input type="checkbox"/> Noise Impact <input type="checkbox"/> Arch. Sites <input type="checkbox"/> NR Properties <input type="checkbox"/> Potential NR Properties <input type="checkbox"/> Other:				
	<input type="checkbox"/> Potential Contaminated sites:		<input type="checkbox"/> Gas Stations <input type="checkbox"/> Landfills <input type="checkbox"/> Auto Repair <input type="checkbox"/> Junkyards <input type="checkbox"/> Other		
Comments:					
5. Air Quality	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project is located in a Maintenance or Nonattainment Area <input type="checkbox"/> Ozone <input type="checkbox"/> PM 2.5				
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project adds through lane capacity				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project results from a Congestion Management Plan				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		Project is included in TIP/STIP		TIP Page # _____ STIP Page # _____
	Comments:				
6. Economic Impacts	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		Planning/Zoning Regulations exist in Community		
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project may affect established Business, Commercial or Industrial Districts.		
	This project has economic impacts on regional/local economy: <input type="checkbox"/> Development <input type="checkbox"/> Tax Revenues <input type="checkbox"/> Employment Opportunity <input type="checkbox"/> Retail Sales <input type="checkbox"/> Other Please Describe:				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		This project provides direct access to major points of interest: <input type="checkbox"/> Nat'l/State Parks <input type="checkbox"/> Monuments <input type="checkbox"/> Historic Sites <input type="checkbox"/> Amusement Parks <input type="checkbox"/> US Public Land <input type="checkbox"/> Other Please Describe:		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		This project provides direct access to major traffic generators: <input type="checkbox"/> Shopping Centers <input type="checkbox"/> Schools <input type="checkbox"/> Industries <input type="checkbox"/> Military Installations <input type="checkbox"/> Other Please Describe:			

7. Multimodal Opportunities	This project is a candidate for: (check all that apply)	<input type="checkbox"/> Bicycle Paths	<input type="checkbox"/> Sidewalks	<input type="checkbox"/> Shared-Use Paths
		<input type="checkbox"/> Park/Ride Lots	<input checked="" type="checkbox"/> N/A	
	This project improves direct access to: (check all that apply)	<input type="checkbox"/> Airports	<input type="checkbox"/> Railways	<input type="checkbox"/> Riverports
		<input checked="" type="checkbox"/> Trucking Routes	<input type="checkbox"/> N/A	
Type of Public Transportation available:		<input type="checkbox"/> Fixed Route	<input checked="" type="checkbox"/> Demand Response	
Comments: Provides access to KY 313 which is part of the National Truck Network (NN).				
8. Social Impacts	This project may affect: (Check all that apply)	<input type="checkbox"/> Neighborhood or Community Cohesion <input checked="" type="checkbox"/> Travel Patterns (Vehicular, commuter, bicycle, pedestrian) <input type="checkbox"/> Household Relocations <input type="checkbox"/> Elderly, disabled, nondrivers, minorities, low-income persons <input type="checkbox"/> No adverse effects to neighborhoods apparent.		
	Comments/Impact Descriptions: Improvements could possibly attract increased vehicular traffic to and from E'town and Radcliff			

Section V – Cost Estimate Information (to be completed by Hwy District Office):

Cost Estimate by Phase:

Phase	Original Estimate	By:	Revision 1	Date	By:	Revision 2	Date	By:
Planning	500,000	PBD				\$500,000	12/16/09	JWM
Design	2,500,000	PBD				\$2,000,000	12/16/09	JWM
ROW	2,500,000	PBD				\$3,000,000	12/16/09	JWM
Utilities	1,500,000	PBD				\$1,500,000	12/16/09	JWM
Construction	14,500,000	PBD				\$14,500,000	12/16/09	JWM
Total Cost	\$21,500,000	PBD				\$21,500,000		

Estimate Procedure Used:

Original Estimate:	Revision 1:	Revision 2:
<input checked="" type="checkbox"/> Per Mile@ \$ <u>6,000,000</u> Terrain: <u>Rolling</u>	<input type="checkbox"/> Per Mile@ \$ _____ Terrain: _____	<input checked="" type="checkbox"/> Per Mile@ \$ <u>6,000,000</u> Terrain: <u>Rolling</u>
<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached
<u>Estimate Assumptions:</u> See Rev. 1	<u>Estimate Assumptions:</u> -May not be required to match previous project typicals, -This section is more rural. -Planning should be done for 2 UPL projects, extending from KY 3005 to KY 313.	<u>Estimate Assumptions:</u>
Estimate Class: E-Requires further study	Estimate Class: _____	Estimate Class: D-Based on limited studies

Section VI – Attachments:

The following items are attached to this document: <input checked="" type="checkbox"/> Location Map <input checked="" type="checkbox"/> Photograph(s) <input type="checkbox"/> Other:
Comments:

KYTC Project Identification Form

Cycle Year: 2009
 Priority: L: Hi R: Hi D: Hi
 Tier: 3
 Tier Rank: R: n/a D: n/a
 Overall Top Ten: R: n/a D: n/a

Section I – General Information

Requested by: Title/Organization: Date:
Form Completed by: Mike Skaggs Title/Organization: MPO Planner, LTADD Date: 10/06/2004
Revision 1 by: Title/Organization: Date:
Revision 2 by: Kevin Young Title/Organization: KYTC-D4 Planning Date: December 2009

UPL Control #: 04 047 D0251 44.00	Co. #: 047	
Parent Control #:		
RSE Unique Number: 047 KY-251		
District: <u>4</u>	County: Hardin	Route: <u>KY 251</u>
ADD: <u>LTADD</u>	MPO: <u>LTADD-MPO</u>	SUA: <u>N/A</u>
Mode: <u>Highway</u>	State System: <u>State Secondary</u>	
Type: <u>Reconstruction</u>	Funct'l Class: <u>Rural Mjr Coll</u>	
Project Length: <u>1.700</u>	Total Cost Estimate: \$ <u>10,500</u>	
	(P: D:1,200 R:1,500 U:1,000 C:6,800)	
Possible Funding Sources (Check all that apply):		
<input type="checkbox"/> IM <input type="checkbox"/> NH <input type="checkbox"/> HES <input type="checkbox"/> BR <input checked="" type="checkbox"/> STP <input checked="" type="checkbox"/> SP <input type="checkbox"/> TE <input type="checkbox"/> CMAQ <input type="checkbox"/> PLH <input type="checkbox"/> Other: _____		
Highway Networks (Check all that apply):		
<input type="checkbox"/> NN <input type="checkbox"/> Scenic Byway <input type="checkbox"/> Coal Haul <input checked="" type="checkbox"/> Non NHS <input type="checkbox"/> NHS <input type="checkbox"/> Defense <input type="checkbox"/> Strahnet <input type="checkbox"/> Ext. Wt. <input type="checkbox"/> ADHS () <input type="checkbox"/> Bike <input type="checkbox"/> Forest		
Existing Project Studies (Year):		

Section II – Problem Statement

Route Number: <u>KY 251</u>	(Use Report Year)	Original	Rev. 1	Rev. 2
Beginning MP: <u>6.326</u>	AdequacyRating:	: ()	83.00: (05)	73.00: (08)
Ending MP: <u>8.019</u>	• CRF: (Year)	: ()	0.48: (05)	0.767: (08)
Total Length: <u>1.693</u>	• IRI: (Year)	: ()	87: (05)	97: (08)
	• V/SF: (Year)	: ()	0.09: (05)	0.24: (08)
Primary Purpose: Upgrade Existing System(Major)	Current ADT: (Year):	1,204: (02)	1,204: (02)	1,535: (09)
	Percent Trucks: (Year):	: ()	: ()	: ()
	Projected ADT (HDO): Year:	%Growth:	ADT:	

Please provide a clear problem statement for this project:

This section of KY 251 is a continuation of improvements to this alternate north-south route between Elizabethtown and Radcliff. This portion extends from KY 434 north to KY 313. It has two 9-foot lanes and no shoulders. Travel demand model results indicate that this section of KY 251 will operate at a Level of Service D in the future without improvements.

Section III – Project Description

Project Description Narrative:

Address geometric deficiencies and improve travel times on KY 251 from KY 434 to KY 313.

Regional Goals/Objectives Addressed: Promote transportation safety; Preserve existing transportation facilities and systems

Section IV – Project Area Information:

1. Miscellaneous Roadway Conditions	Access Control:	Existing: <u>Permit</u> Proposed: <u>Permit</u>	Median Type:	Existing: <u>N/A</u> Proposed: <u>N/A</u>	Width: _____ Width: _____
	Lane No./Width:	Existing: <u>2/9'</u> Proposed: <u>2/12'</u>	Shoulders:	Existing: _____ Proposed: <u>Asphalt</u>	Width: <u>0'</u> Width: <u>10'</u>
	No. of Bridges:	Existing: <u>None</u> Proposed: <u>None</u>	Other Improvement Projects in Area:	<input checked="" type="checkbox"/> None <input type="checkbox"/> SYP <input type="checkbox"/> Resurface <input type="checkbox"/> Other _____	
	Comments:				
2. Right of Way	Avg. Width:	Existing: <u>60'</u>	Source: <input checked="" type="checkbox"/> HIS <input type="checkbox"/> Plans <input type="checkbox"/> Microfilm <input type="checkbox"/> Other _____		
	Current Primary Use: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Other: _____				
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project may require additional R/W.		Possible Relocations : Homes: _____ Businesses: _____		
	Comments: <u>R/W will have to be acquired.</u>				
3. Utilities	Existing Utilities:	<input checked="" type="checkbox"/> Power <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Sewer <input checked="" type="checkbox"/> Water <input type="checkbox"/> ITS <input type="checkbox"/> None <input type="checkbox"/> Other: _____			
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project may require Utility Relocations.		Comments: <u>Utilities will have to be relocated.</u>		
4. Environmental Impacts	(Check all that apply):				
	<input type="checkbox"/> Blueline Streams <input type="checkbox"/> Wetlands <input type="checkbox"/> Floodplain <input type="checkbox"/> Wildlife Managed Areas <input type="checkbox"/> Historic Properties <input type="checkbox"/> Cemeteries <input type="checkbox"/> Schools <input type="checkbox"/> Churches <input type="checkbox"/> Endangered Species <input type="checkbox"/> Public Land/Park <input type="checkbox"/> Noise Impact <input type="checkbox"/> Arch. Sites <input type="checkbox"/> NR Properties <input type="checkbox"/> Potential NR Properties <input type="checkbox"/> Other: _____				
	<input type="checkbox"/> Potential Contaminated sites:		<input type="checkbox"/> Gas Stations <input type="checkbox"/> Landfills <input type="checkbox"/> Auto Repair <input type="checkbox"/> Junkyards <input type="checkbox"/> Other		
Comments:					
5. Air Quality	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project is located in a Maintenance or Nonattainment Area <input type="checkbox"/> Ozone <input type="checkbox"/> PM 2.5				
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project adds through lane capacity				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project results from a Congestion Management Plan				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project is included in TIP/STIP		TIP Page # _____		STIP Page # _____
	Comments:				
6. Economic Impacts	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Planning/Zoning Regulations exist in Community		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project may affect established Business, Commercial or Industrial Districts.		
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project has economic impacts on regional/local economy: <input type="checkbox"/> Development <input type="checkbox"/> Tax Revenues <input type="checkbox"/> Employment Opportunity <input type="checkbox"/> Retail Sales <input type="checkbox"/> Other				
	Please Describe:				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project provides direct access to major points of interest: <input type="checkbox"/> Nat'l/State Parks <input type="checkbox"/> Monuments <input type="checkbox"/> Historic Sites <input type="checkbox"/> Amusement Parks <input type="checkbox"/> US Public Land <input type="checkbox"/> Other				
	Please Describe:				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project provides direct access to major traffic generators: <input type="checkbox"/> Shopping Centers <input type="checkbox"/> Schools <input type="checkbox"/> Industries <input type="checkbox"/> Military Installations <input type="checkbox"/> Other					
Please Describe:					

7. Multimodal Opportunities	This project is a candidate for: (check all that apply)	<input type="checkbox"/> Bicycle Paths	<input type="checkbox"/> Sidewalks	<input type="checkbox"/> Shared-Use Paths
		<input type="checkbox"/> Park/Ride Lots	<input checked="" type="checkbox"/> N/A	
	This project improves direct access to: (check all that apply)	<input type="checkbox"/> Airports	<input type="checkbox"/> Railways	<input type="checkbox"/> Riverports
		<input checked="" type="checkbox"/> Trucking Routes		<input type="checkbox"/> N/A
Type of Public Transportation available:	<input type="checkbox"/> Fixed Route		<input checked="" type="checkbox"/> Demand Response	
Comments:	Provides access to KY 313 which is part of the National Truck Network (NN)			

8. Social Impacts	This project may affect: (Check all that apply)	<input type="checkbox"/> Neighborhood or Community Cohesion
		<input checked="" type="checkbox"/> Travel Patterns (Vehicular, commuter, bicycle, pedestrian)
		<input type="checkbox"/> Household Relocations
		<input type="checkbox"/> Elderly, disabled, nondrivers, minorities, low-income persons
		<input type="checkbox"/> No adverse effects to neighborhoods apparent.
Comments/Impact Descriptions:	Improvements could possibly attract increased vehicular traffic to and from E'town and Radcliff	

Section V – Cost Estimate Information (to be completed by Hwy District Office):

Cost Estimate by Phase:

Phase	Original Estimate	By:	Revision 1	Date	By:	Revision 2	Date	By:
Planning								
Design	1,200,000	PBD				\$1,200,000	12/29/09	JWM
ROW	1,500,000	PBD				\$1,500,000	12/29/09	JWM
Utilities	1,000,000	PBD				\$1,000,000	12/29/09	JWM
Construction	6,800,000	PBD				\$6,800,000	12/29/09	JWM
Total Cost	\$10,500,000	PBD				\$10,500,000		

Estimate Procedure Used:

Original Estimate:	Revision 1:	Revision 2:
<input checked="" type="checkbox"/> Per Mile@ \$ <u>6,000,000</u> Terrain: <u>Rolling</u>	<input type="checkbox"/> Per Mile@ \$ _____ Terrain: _____	<input checked="" type="checkbox"/> Per Mile@ \$ <u>6.17 million</u> Terrain: <u>Rolling</u>
<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached
<u>Estimate Assumptions:</u> See Rev. 1	<u>Estimate Assumptions:</u> -Planning cost should be incorporated on previous section project UPL# 04 047 D0251 43.00. -Rural, residential area.	<u>Estimate Assumptions:</u>
Estimate Class: E-Requires further study	Estimate Class: _____	Estimate Class: D-Based on limited studies

Section VI – Attachments:

The following items are attached to this document: Location Map Photograph(s) Other:

Comments:

APPENDIX B

CRASH DATA

CRASH DATA
DECEMBER 2006 TO DECEMBER 2009

ROUTE	MILE POINT	DATE	INTERSECTING ROAD	INTERSECTION ROADWAY NAME	UNITS INVOLVED	KILLED	INJURED	DIRECTIONAL ANALYSIS	MANNER OF COLLISION	REASON
KY0251	2.822	8/8/2007		BLUEGRASS ROAD	2	0	0	ANGLE COLLISION - ONE VEHICLE TURNING LEFT	ANGLE	Vehicle turned left from Bluegrass Rd into NB
KY0251	3.101	2/8/2007			2	0	2	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	NB vehicle turned left
KY0251	3.4	8/29/2007			2	0	0	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	Car in driveway was
KY0251	3.5	9/13/2007		BATES ROAD	2	0	0	ANGLE COLLISION - OTHER	ANGLE	SB vehicle swerved to
KY0251	3.965	4/13/2007			2	0	0	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	Turned from W. Bryan
KY0251	3.967	2/21/2009		BRYAN	2	0	1	ANGLE COLLISION - BOTH VEHICLES GOING STRAIGHT	ANGLE	EB on E. Bryan Rd ran stop sign - alcohol
KY0251	4.326	7/24/2007			2	0	0	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	Vehicle turned out of
KY0251	6.236	2/23/2007	KY0434	BATTLE TRAINING ROAD	2	0	0	ANGLE COLLISION - BOTH VEHICLES GOING STRAIGHT	ANGLE	NB vehicle ran stop sign at KY 434
KY0251	6.326	10/6/2008	KY0434	BATTLE TRAINING	2	0	0	ANGLE COLLISION - BOTH VEHICLES GOING STRAIGHT	ANGLE	SB vehicle pulled in front of EB vehicle at
KY0251	6.323	3/2/2008	KY0434	BATTLE TRAINING	2	0	0	ANGLE COLLISION - OTHER	ANGLE	Ran stop sign at KY
KY0251	2.724	5/2/2008	KY3005	RING	2	0	0	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	HEAD ON	Turned from KY 3005 into SB stopped
KY0251	2.722	2/3/2009	KY3005	RING	2	0	0	REAR END - ONE VEHICLE TURNING LEFT	REAR END	SB rear end at KY
KY0251	2.723	11/30/2008	KY3005	RING	3	0	0	REAR END - OTHER	REAR END	SB rear end at KY
KY0251	2.723	10/9/2008			3	0	0	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	SB rear end - sun in driver's eyes
KY0251	2.735	7/27/2009			2	0	0	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	SB rear end
KY0251	2.738	2/11/2008			3	0	0	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	SB rear end due to snow
KY0251	2.744	8/25/2008			2	0	0	REAR END IN TRAFFIC ONE VEHICLE STOPPED	REAR END	Rear end at KY 3005 - driver was distracted
KY0251	2.752	2/19/2009			2	0	0	MOVING	REAR END	NB rear end
KY0251	2.956	4/25/2008		BLUEGRASS	2	0	0	REAR END - ONE VEHICLE TURNING LEFT	REAR END	SB rear end at
KY0251	3.003	5/29/2009			3	0	0	MOVING	REAR END	SB rear end
KY0251	3.412	2/8/2008			3	0	2	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	Rear end due to box in road
KY0251	4.014	1/10/2008			2	0	0	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	Rear end
KY0251	4.224	9/30/2008			2	0	0	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	SB rear end at Bluegrass Rd
KY0251	4.924	5/22/2007			2	0	4	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	Rear end at driveway
KY0251	5.528	6/10/2008			2	0	0	MOVING	REAR END	Rear end at Woodsway Rd
KY0251	6.471	9/19/2007		MAPLE	2	0	0	REAR END - ONE VEHICLE TURNING LEFT	REAR END	SB rear end at Maple
KY0251	8.015	3/11/2009			2	0	0	OTHER ROADWAY OR MID-BLOCK COLLISION	REAR END	Backed up in SB lane
KY0251	3.802	8/25/2008			2	0	2	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SIDESWIPE- OPPOSITE DIRECTION	Lost control of cell phone and dropped off roadway
KY0251	4.732	2/19/2008		FIVE OAKS	2	0	0	SIDESWIPE-SAME DIRECTION	SIDESWIPE-SAME DIRECTION	Turned from Five Oaks inot path of SB vehicle
KY0251	2.867	4/29/2007			1	0	1	COLLISION WITH ANIMAL	SINGLE VEHICLE	SB deer in road
KY0251	3.562	11/13/2009			1	0	0	OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE	Alcohol
KY0251	3.8	6/17/2007			1	0	1	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	SB vehicle dropped off shoulder
KY0251	3.8	3/6/2007			1	0	0	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION	SINGLE VEHICLE	SB vehicle ran off shoulder
KY0251	3.904	11/17/2008			1	0	0	COLLISION WITH ANIMAL	SINGLE VEHICLE	SB deer in road
KY0251	4.078	10/8/2008			1	0	0	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION	SINGLE VEHICLE	Swerved to miss cat
KY0251	4.128	3/7/2008			1	0	1	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	NB vehicle lost control
KY0251	4.248	6/22/2008			1	0	1	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION 09	SINGLE VEHICLE	Driver fell asleep - smelled of alcohol
KY0251	4.265	4/26/2008			1	0	0	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	SB vehicle ran off road in curve
KY0251	4.739	9/11/2008			1	0	1	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	SB vehicle ran off road
KY0251	4.78	10/7/2009			1	0	0	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION	SINGLE VEHICLE	Swerved to miss cow
KY0251	4.926	1/4/2007			1	0	0	COLLISION WITH ANIMAL	SINGLE VEHICLE	Deer
KY0251	4.935	11/10/2009			1	0	0	COLLISION WITH ANIMAL	SINGLE VEHICLE	NB deer in road
KY0251	5.065	12/11/2008			1	0	0	COLLISION WITH ANIMAL	SINGLE VEHICLE	SB dog in road
KY0251	5.449	9/29/2009			1	0	0	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	Driver fell asleep
KY0251	5.618	1/27/2007			1	0	1	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION	SINGLE VEHICLE	NB swerved to miss deer
KY0251	6.231	12/31/2006			1	0	0	COLLISION WITH FIXED OBJECT NON - INTERSECTION - FIRST EVENT COLLISION	SINGLE VEHICLE	NB vehicle dropped off roadway - Alcohol
KY0251	6.619	2/11/2008			1	0	0	OTHER COLLISIONS ON SHOULDER	SINGLE VEHICLE	Slid on snow and ice
TOTALS							18			

APPENDIX C

OLD PLANS

**Approximate Stations 160+00 to
441+00 correspond to the Study Area**

SHEET NO.	DESCRIPTIONS
1	LAYOUT SHEET
2	TYPICAL SECTIONS—SUMMARY OF QUANTITIES
3	STANDARD DRAWING SHEETS
4 TO 28	PLAN AND PROFILE SHEETS
29 TO 31	REFERENCE SHEETS
32 TO 33	CROSS SECTION SHEETS
34 TO 35	BRIDGE SHEETS

**COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT**

**PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY**

**HARDIN COUNTY
STATE PROJECT NO. 145 SEC. A-G**

SCALES
PLAN 1 INCH = 100 FEET
PROFILE 1/8" = 10 FEET
CROSS SECTION 1 INCH = 5 FEET

*File
1-13-4*

KY 251 STUDY AREA

**STA. 17+20 BEGIN SEC. A-G
STATE PROJ. NO. 145**

**STA. T22+50 END SEC. A-G
STATE PROJ. NO. 145**

MICROFILMED

CONVENTIONAL SIGNS	
COUNTY LINE	
CORPORATE LIMITS	
SURVEY LINE	
PROPOSED RIGHT OF WAY	
GRADE LINE	
GROUND LINE	
TRAVELED WAY	
RAILROAD	
FENCES (EXCEPT STONE & HEDGE)	
STONE FENCE	
HEDGE FENCE	
TREES & STUMPS	
PIPE LINE	
TELEPHONE POLES	
PIPE CULVERT	
CONCRETE CULVERT & BRIDGE	
LARGE STREAM	
SMALL STREAM	
BENCH MARKS	
ROAD INTERSECTIONS	
MARSH	
BUILDINGS	

LAYOUT MAP

SCALE 1 INCH = 2000 FEET

GROSS LENGTH	10283.2	LN. FT.	13.911	MILES
DEDUCTED FOR EQUALITIES	246.0	LN. FT.		
NET LENGTH	10283.2	LN. FT.	13.911	MILES
NOT INCLUDED				
RAILROAD CROSSINGS NO.		LN. FT.		
BRIDGES		LN. FT.		

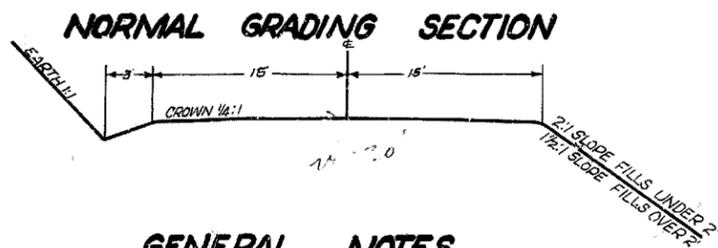
**KENTUCKY
STATE HIGHWAY DEPARTMENT
COUNTY OF
HARDIN
ELIZABETHTOWN-WOOLDRIDGE FERRY
ROAD**

STATE PROJECT No. 145	SECTION A-G	DATE 1933
SURVEYED 1930 BY F. McCLURE	FIELD ENGINEER	
PLANS CHECKED 8-14-1933 BY R. D. Medley	CHIEF DRAFTSMAN	
SURVEY AND PLANS APPROVED 1933 BY	CHIEF ENGINEER	
SURVEY AND PLANS APPROVED 8-16-1933 BY W. H. Squires	CHIEF ENGINEER	
APPROVED 8-16-1933 BY P. M. Gibson	CHIEF ENGINEER	

RECOMMENDED FOR APPROVAL		DISTRICT ENGINEER—BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL		CHIEF ENGINEER—BUREAU OF PUBLIC ROADS
APPROVED		DIRECTOR—BUREAU OF PUBLIC ROADS

TYPICAL SECTION AND SUMMARY OF QUANTITIES

COUNTY OF HAWAII STATE OF HAWAII DISTRICT OF HONOLULU
 PROJ. NO. 125 YEAR 1953 SHEET 2



GENERAL NOTES

All curves to be banked and widened according to Standards.
 The Contractor is not to order material for drainage structures until the quantities have been checked by the Engineer.
 Drainage Structures to be constructed to a roadway width of 36 feet.
 Where the inlet of a cross drainage pipe is in a cut section and the center line grade is more than one per cent an all headwall shall be constructed at the inlet.
 Drive Entrance Pipe shall be constructed to a minimum length of 16 feet.
 For typical sections in Solid Rock cuts see Standard Drawings #1 and #2 on Sheet #3 of these plans.
 The Standard Specifications for State and Federal Road and Bridge Construction, Edition 1932, with the following Amendments will apply on this project:
 No. 2 - Requirement of Contract Bond.
 No. 5 - Corrugated Metal Pipe.

Quantities for this project have been computed using roadway widths of 24 feet on fills and 30 feet in cuts, as shown on the cross sections. Construction on this project will be to roadway widths of 30 feet on fills and 36 feet in cuts as shown on the typical section sheet. The grade line shown on the plans may be shifted slightly to properly balance the quantities. Approximate additions for this increase in width have been made on the Summary Sheet.

GENERAL SUMMARY

SHEET NO.	STATION TO STATION	CLEARING AND GRUBBING ACRE	EXCAVATION UNCLASSIFIED		PIPE FOR ENTRANCES	
			ROADWAY CU YD.	STRUCTURE CU YD.	18"	24"
UNIT TO BID ON			CU YD.	CU YD.	LIN. FT.	
4	171+00 - 281+95	1.89	114.9			
5	281+95 - 63+00	5.47	215.2			
6	63+00 - 98+08	4.99	456.7			
7	98+08 - 118+45	2.00	357.3			
8	118+45 - 149+35	4.89	433.5			
9	149+35 - 180+80	5.05	293.7			
10	180+80 - 210+45	4.85	695.2			
11	210+45 - 241+00	4.53	719.3			
12	241+00 - 271+95	4.84	623.3			
13	271+95 - 302+80	5.28	1194.2			
14	302+80 - 329+25	4.34	1355.1			
15	329+25 - 360+85	4.96	453.0			
16	360+85 - 387+10	4.22	233.7			
17	387+10 - 425+75	6.30	507.2			
18	425+75 - 448+25	3.62	655.5			
19	448+25 - 478+50	4.86	652.5			
20	478+50 - 509+05	5.05	449.7			
21	509+05 - 544+35	5.53	554.4			
22	544+35 - 570+00	4.12	262.6			
23	570+00 - 601+20	7.74	4463.0			
24	601+20 - 634+00	5.72	815.4			
25	634+00 - 661+52	5.61	1063.1			
26	661+52 - 693+70	5.57	1065.5			
27	693+70 - 716+45	3.66	706.8			
28	716+45 - 722+80	0.97	63.6			
ADDED FOR INCREASED WIDTH			35000			
REMOVING SLIDES			2000			
TOTALS FROM DRG. SUMMARIES		118.36	22381.4	1347		1366
TOTAL						

PIPE SUMMARY

SHEET NO.	STATION	SKEW	PIPE FOR CROSS DRAIN		CLASS 'A' CONCRETE	EXCAVATION UNCLASSIFIED		REMARKS
			18"	24"		STRUCTURE	DITCH	
UNIT TO BID ON			LIN. FT.	CU YD.	CU YD.			
4	221+70		39	3.61	14	5	Ell - Rsd.	
5	401+55		39	3.02	6	1		
	50+50		22	3.02	2			
	56+40		39	3.61	7	2	Ell - Rsd.	
6	66+00			4.54	4	1	Rsd.	
	70+00		39	4.54	7	1		
	80+00		39	4.00	4	1		
	90+21		45	3.02	5	1		
7	102+00		39	3.61	7	1		
	113+00		39	3.61	7	2	Ell - Rsd.	
	126+00		39	3.30	14	7		
8	131+00		39	3.49	10	4	Rsd.	
	136+00		39	3.49	7	3		
	169+37			3.49	7	1		
9	170+00	45°	66	4.54	6	9		
	174+00		39	3.02	6	1		
	178+54		63	3.49	3	1	Rsd.	
	186+50	30°	51	3.02	6	8		
	191+48			3.14	14	8	Ell.	
10	193+80		45	4.00	5	1		
	201+45		54	4.00	2			
	206+00		66	4.00	9	1		
	218+00		42	3.02	3	1		
	218+00		51	3.02	2	1		
	218+00		57	3.02	4	1		
11	224+35		54	3.02	3			
	229+50		48	3.02	2			
	235+00		45	3.02	5	1		
	240+21		42	4.16	6	1	Ell.	
	259+00		39	3.49	12	1	Rsd.	
12	262+50		48	3.02	2	1		
	266+50		45	3.02	8	1		
	275+50		39	3.61	7	1	Ell - Rsd.	
	280+33			4.00	5	1		
13	289+50		75	4.00	4	1		
	295+36		54	3.14	4	5	Ell.	
	297+50		72	3.02	3			
	305+41		66	3.02	4	1		
	309+70		81	4.00	2			
14	315+20		63	3.02	2			
	319+27		57	3.02	3	1		
	322+00		51	3.02	2	1		
	324+00		51	3.02	5	1		
	338+90		39	4.70	14	3	Ell - Rsd.	
	342+50		45	3.02	10	2		
15	345+50		42	3.02	5	2		
	352+00		39	3.49	4	4	Rsd.	
	360+50		39	3.61	7	3	Ell - Rsd.	
16	372+55		45	4.00	2			
	384+36		39	4.70	15	10	Ell - Rsd.	
	388+00		39	4.54	4	1	Rsd.	
	394+00		39	4.70	12	5	Ell - Rsd.	
17	401+00		39	4.00	4	1		
	406+00		42	4.00	5	1		
	416+00	15°	63	4.00	5	1		
	420+00		48	3.02	4	1		
	427+80		54	3.02	3			
18	435+00		63	3.02	7			
	444+67		63	4.00	7	1		
	455+00		42	4.00	6	1		
	463+00		42	4.16	12	3	Ell.	
	467+82		87	4.00	7	1		
19	476+00		42	3.02	6	1		
	489+00		39	3.49	12	4	Rsd.	
	498+00		39	3.61	5	1	Ell - Rsd.	
20	502+00		39	3.61	11	3		
	506+50		54	4.00	4	3		
	510+00		57	4.00	3			
	517+00		39	3.49	7	2	Rsd.	
21	531+00		42	3.02	5	1		
	534+00		39	3.49	4		Rsd.	
	555+00		39	3.61	8	3	Ell - Rsd.	
22	567+55		42	4.16	11	4	Ell - Rsd.	
	569+00		42	3.02	6	1	Ell - Rsd.	
	575+00		39	3.61	14	8	Ell - Rsd.	
23	577+06		93	3.14	7	2	Ell.	
	580+00		39	3.61	15	3	Ell - Rsd.	
	597+55		117	4.00	20			
	607+50		45	4.16	7	2	Ell.	
TOTAL			2361	1497	278.98	507	136	

BRIDGE AND CULVERT SUMMARY

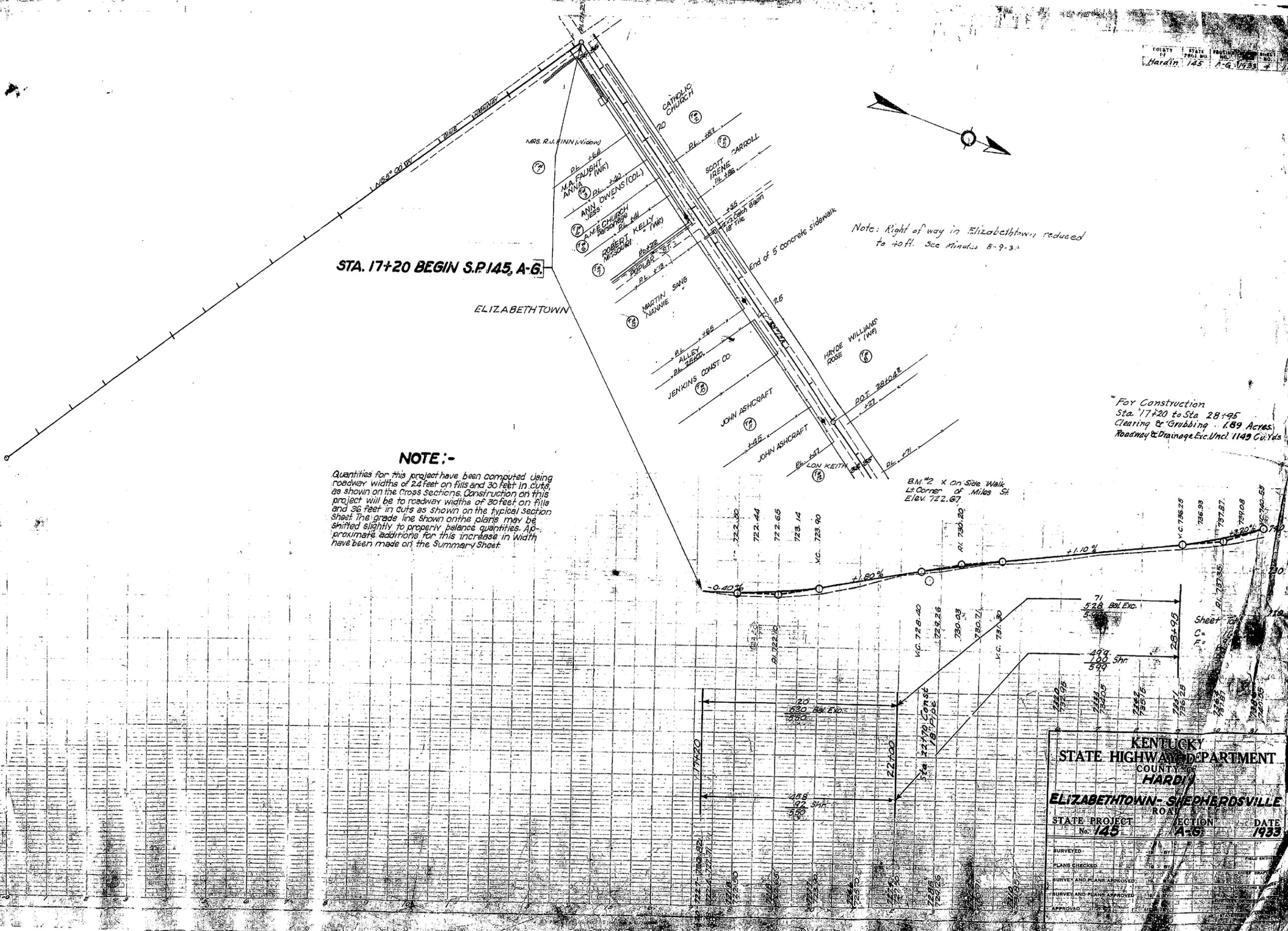
FINAL QUANTITIES LISTED 9/19/53 H.E.R.

SHEET NO.	STATION	SIZE	SKEW	CONCRETE		REINFORCING CEMENT STEEL POUND	EXCAVATION UNCLASSIFIED		ELEVATIONS			STANDARD OR SPECIAL	DRAWING NO.	REMARKS
				CLASS 'A'	CU YD.		STRUCTURE	CHANNEL CHANGE	INLET	& GRADE	OUTLET			
UNIT TO BID ON				CU YD.	POUND	CU YD.								
7	117+36	3x2x36	28.5	28.5	2230	40		302.7	312.45	306.5	STD	C-38-23		
8	148+00	4x3x36	28.2	28.2	2660	50		307.0	312.20	307.0	STD	C-39		
12	247+67	3x3x64	45°	56.3	1280	60		315.5	327.61	317.5	STD	C-3-86-34	OUT RSD.	
17	387+77	6x3x44	30°	32.8	3110	70		318.1	322.75	317.9	STD	C-40		
21	536+00	3x2x48	18.6	18.6	2120	50		330.0	344.35	336.0	STD	C-4-33-5		
	554+60	2x1.2x44	66.0	66.0	4330	90		378.2	406.32	338.5	SPCL.	5763	OUT RSD.	
23	654+50	2x1.2x44	66.0	66.0	4180	90		555.3	589.50	535.0	SPCL.	5763	OUT RSD.	
24	623+70	4x2x39	18.3	18.3	1700	60		454.8	452.05	453.8	STD	C-14		
	638+47	2x1.2x44	45°	22.4	2380	50		436.2	442.62	436.1	STD	5764		
25	652+00	3x1x44	30°	49.7	4590	70		423.0	433.34	423.0	STD	C-55		
26	674+70	3x1x47	58.9	58.9	5000	80		422.0	433.34	423.0	STD	C-57		
27	694+00	3x1x59	25.9	25.9	2640	40		422.0	433.65	421.3	STD	C-11		
TOTAL			650	650	53390	840								

* Included in General Summary.
 † See Road Plans
 ‡ Rave Outlet

PIPE SUMMARY - CONT.

SHEET NO.	STATION	SKEW	PIPE FOR CROSS DRAIN		CLASS 'A' CONCRETE	EXCAVATION UNCLASSIFIED		REMARKS
			18"	24"		STRUCTURE	DITCH	
UNIT TO BID ON			LIN. FT.	CU YD.	CU YD.			
TOTALS FROM DRG.			2361	1497	278.98	507	136	
24	612+00		39	3.61	10	9	Ell - Rsd.	
	618+00		39	4.54	5	2	Rsd.	
25	647+00		51	3.02	5	1		
	662+60		45	3.02	2	1		
26	665+40		57	3.02	2	1		
	672+36		54	4.00	8	2		
	702+50		42	3.02	2	1		
27	704+00		25	3.02	2	1		
	706+50		42	4.00	2	1		
	716+00							



STA. 17+20 BEGIN S.P. 145, A-6.

ELIZABETHTOWN

Note: Right of way in Elizabethtown reduced to 40 ft. See Minutes 8-9-33

NOTE:-

Quantities for this project have been computed using roadway widths of 24 feet on fills and 30 feet in cuts, as shown on the Cross Sections. Construction on this project will be to roadway widths of 30 feet on fills and 36 feet in cuts as shown on the typical section sheet. The grade line shown on the plans may be shifted slightly to properly balance quantities. Approximate additions for this increase in width have been made on the Summary Sheet.

For Construction Sta. 17+20 to Sta. 28+95 Clearing & Grubbing 1.89 Acres Roadway & Drainage Exc. Incl. 1149 Cu. Yds.

B.M. #2 X on Side Walk Lt. Corner of Miles St Elev. 722.67

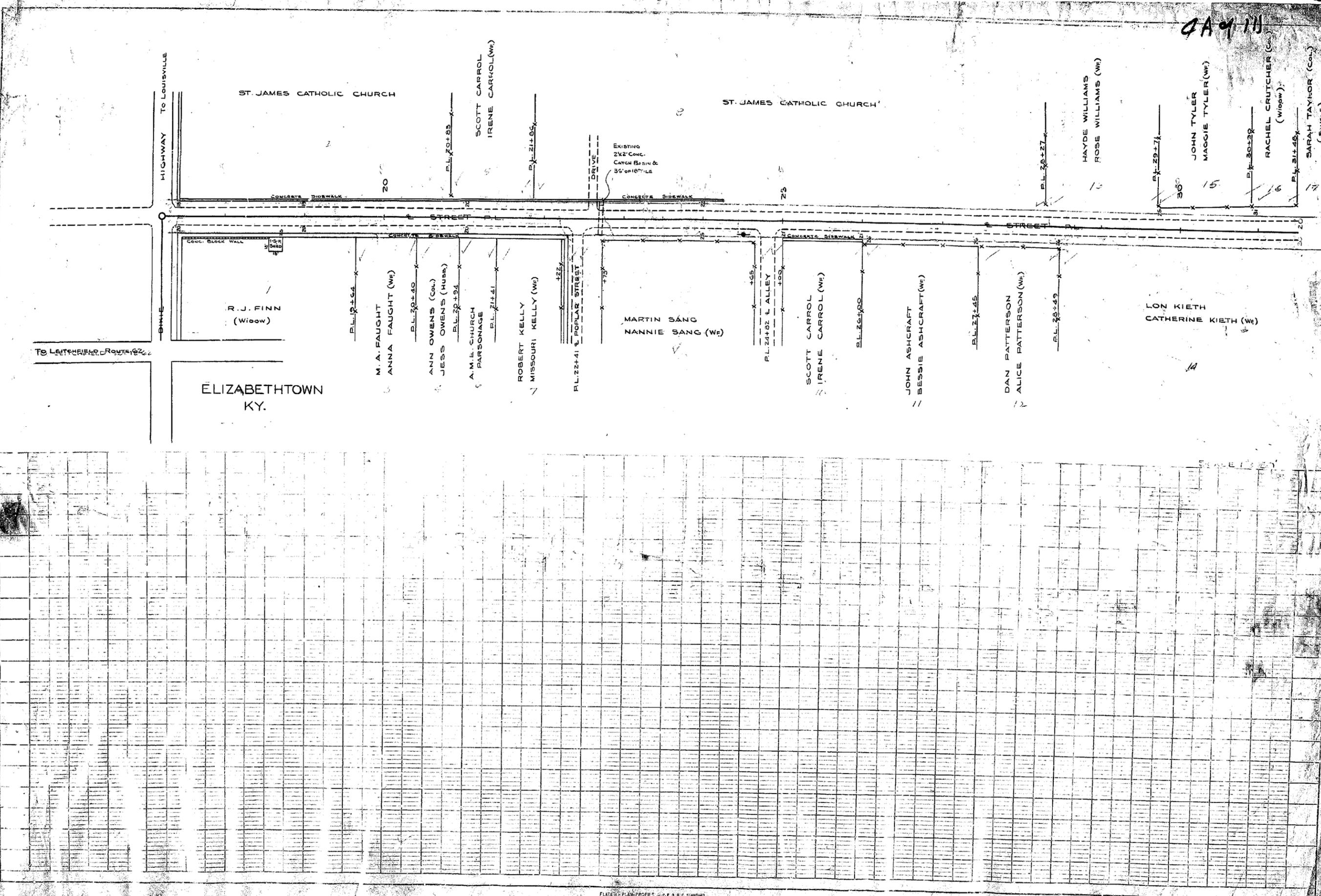
KENTUCKY STATE HIGHWAY DEPARTMENT
 COUNTY OF HARDIN
ELIZABETHTOWN - SHEPHERDSVILLE ROAD
 STATE PROJECT No. 145 SECTION A-6 DATE 1933

SURVEYED	BY	FIELD ENGINEER
PLANS CHECKED	BY	CHIEF ENGINEER
SURVEY AND PLANS APPROVED	BY	STATE ENGINEER
SURVEY AND PLANS APPROVED	BY	LOCAL ENGINEER
APPROVED	BY	

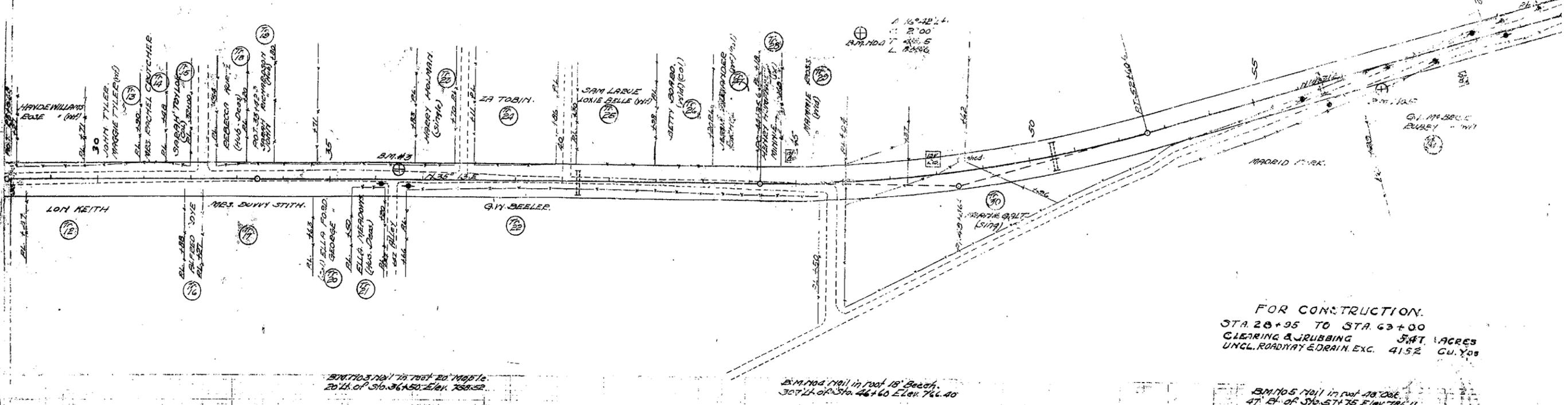
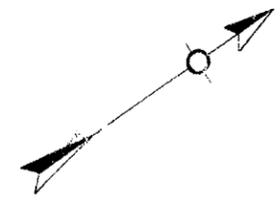
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 DATE: 1914
 BY: [Signature]

PROFILE SHEET NO. 1
 DATE: 1914
 BY: [Signature]

9A9 11



HARDIN

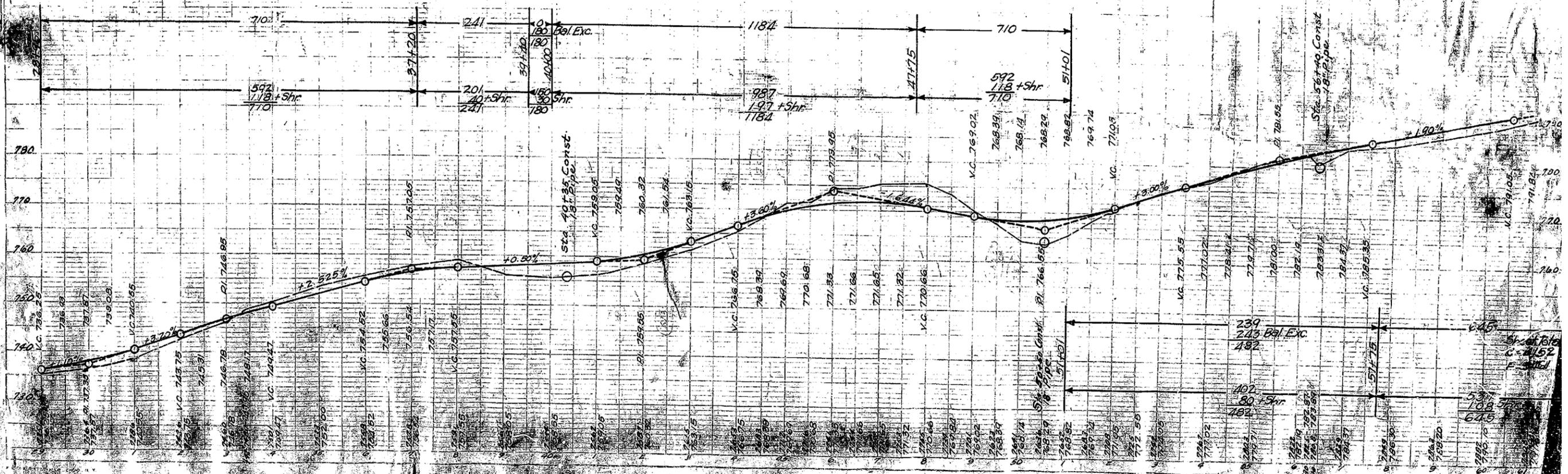


FOR CONSTRUCTION.
 STA. 28+95 TO STA. 63+00
 CLEARING & RUBBING 3.47 ACRES
 UNCL. ROADWAY & DRAIN EXC. 4152 CU. YDS.

B.M. 103 Nail in roof of house
 20 ft. N. of Sta. 36+50 Elev. 788.52

B.M. 104 Nail in roof of house
 30 ft. N. of Sta. 46+60 Elev. 766.40

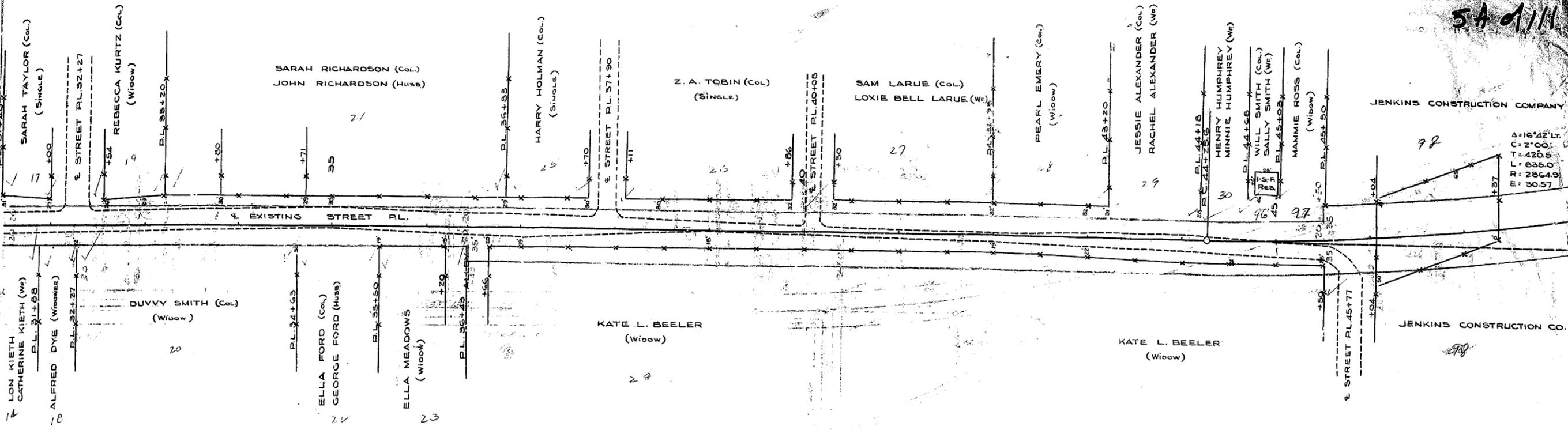
B.M. 105 Nail in roof of house
 47 ft. N. of Sta. 57+75 Elev. 786.11



54 1/11

PLAN
PROPOSED
REVISIONS
DATE

PROFILE
REVISIONS
DATE

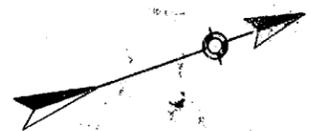


JENKINS CONSTRUCTION COMPANY

JENKINS CONSTRUCTION CO.

$\Delta = 16'42.17$
 $C = 2'00$
 $T = 420.6$
 $L = 655.0$
 $R = 2864.9$
 $E = 30.57$

OP 145 A-0



CATHOLIC CEMETERY

GL. McBRIDE
 RUBBY

JOE PIKE
 KATE (W)

B.B. MAFFETT
 EMMA

A-5°00' L
 C-0°30' L
 L-200.0
 E-1.72

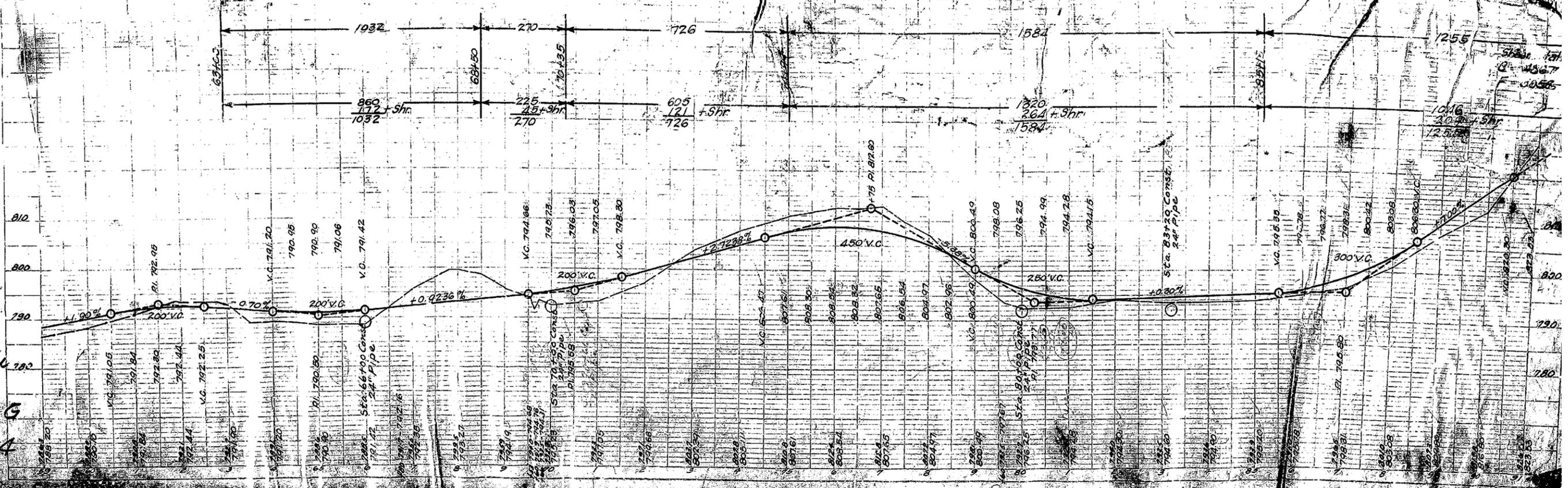
JOHN DICK

Geo. U. Allen
 J.B. COOK
 COVA (W)

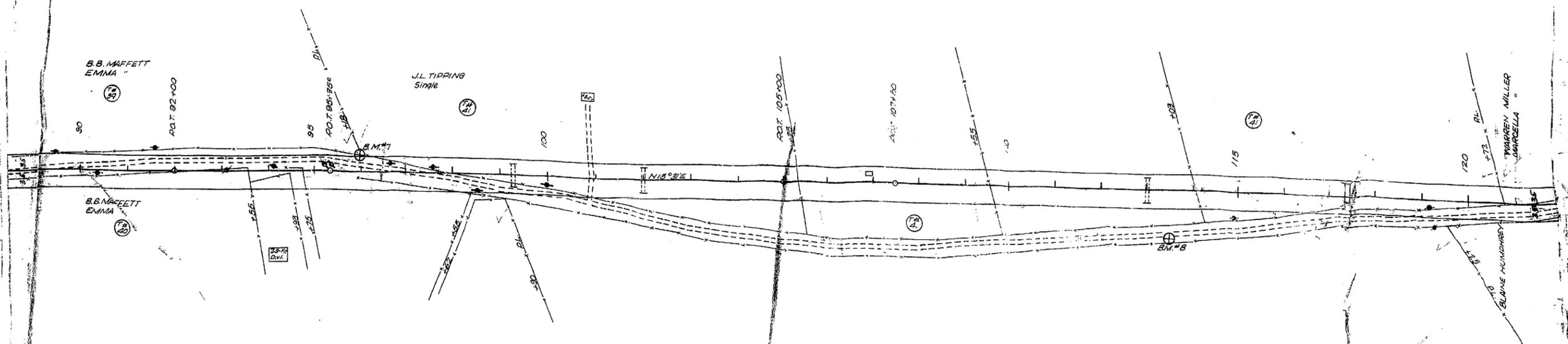
FOR CONSTRUCTION
 STA. 63+00 TO 64+00
 CLEARING & GRADING
 UNCL. ROADWAY & DEEP EXCAV.
 4.7 ACRES
 117 CU. YDS.

DEPT. NO. 6 NAIL IN FOOT 18" WALNUT
 25' LT. STA. 61+70, ELEV. 797.22

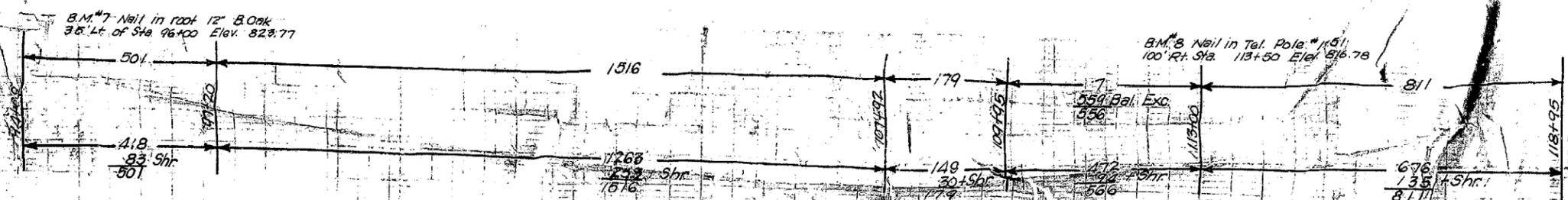
PROFILE
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 1" = 20'



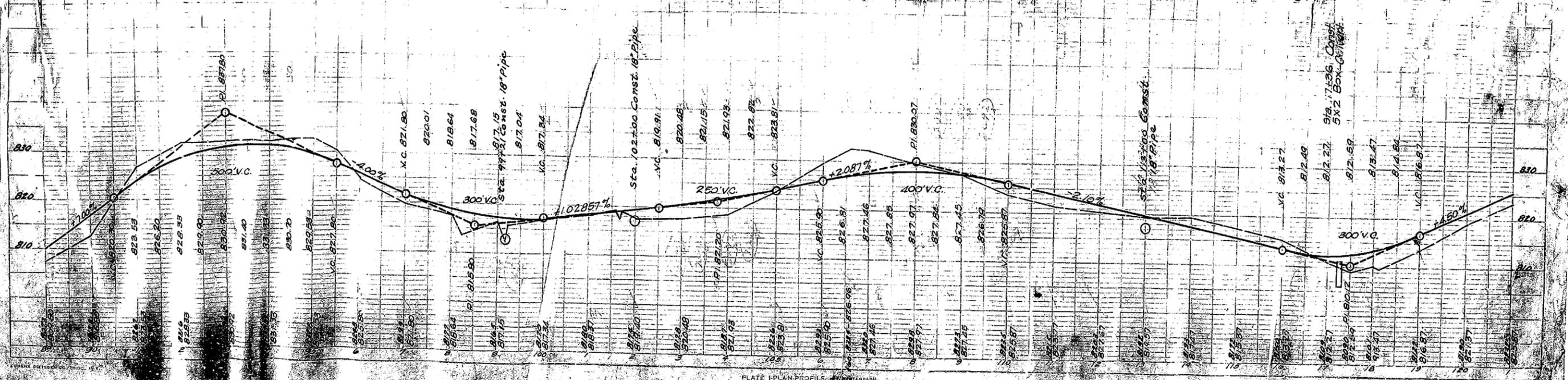
Hardie
 S.P.
 145 AG
 1-13-4

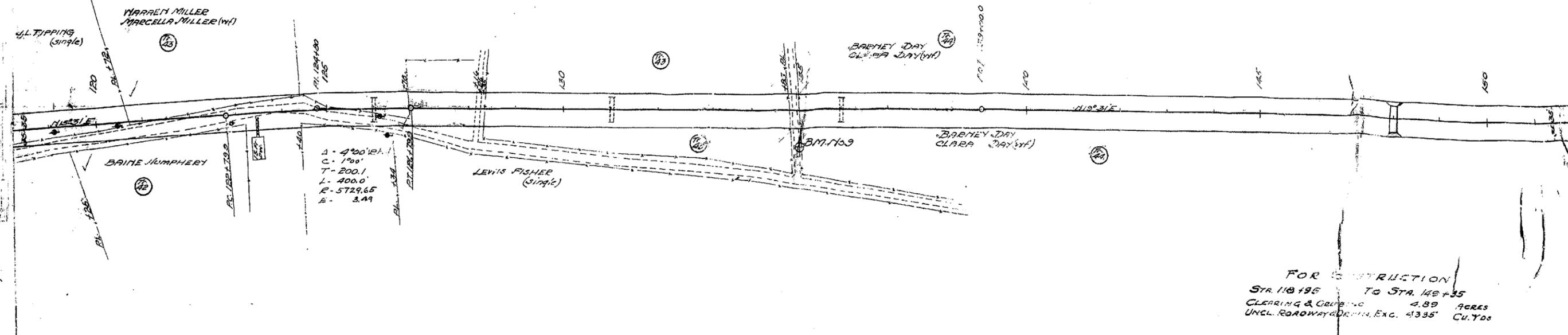
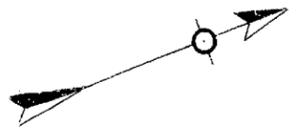


FOR CONSTRUCTION
 STA. 94+00 TO STA. 118+95
 CLEARING & GRUBBING 40 ACRES
 UNCL. ROADWAY & DRAIN. EXC. 113.78 Cu.Yds



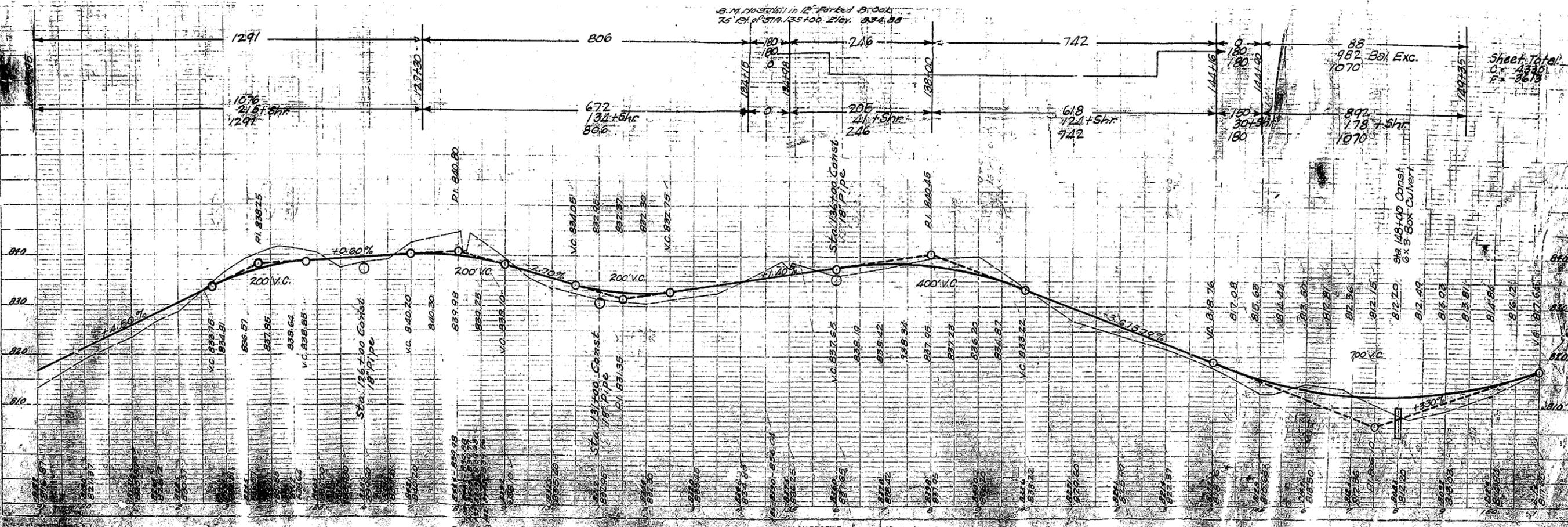
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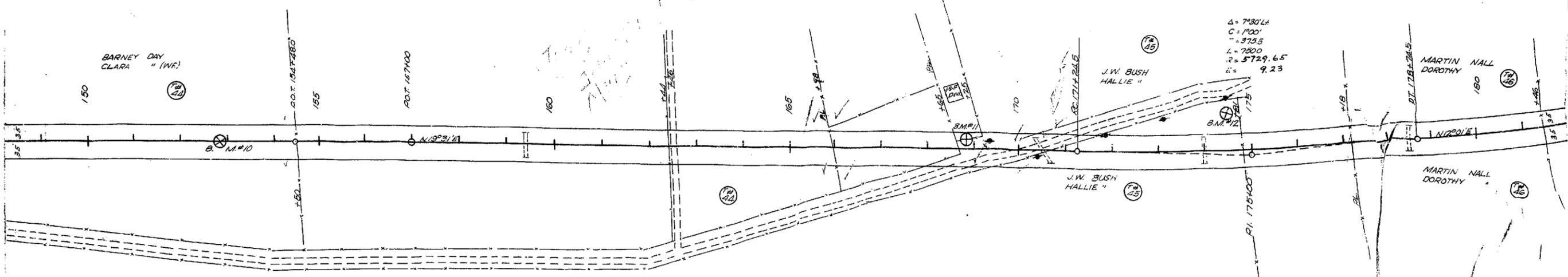
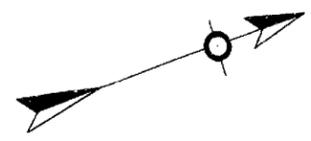




FOR CONSTRUCTION
 STA. 148+95 TO STA. 148+35
 CLEARING & GRADING 4.89 ACRES
 UNCL. ROADWAY DRAIN. EXC. 4335 CU. YDS

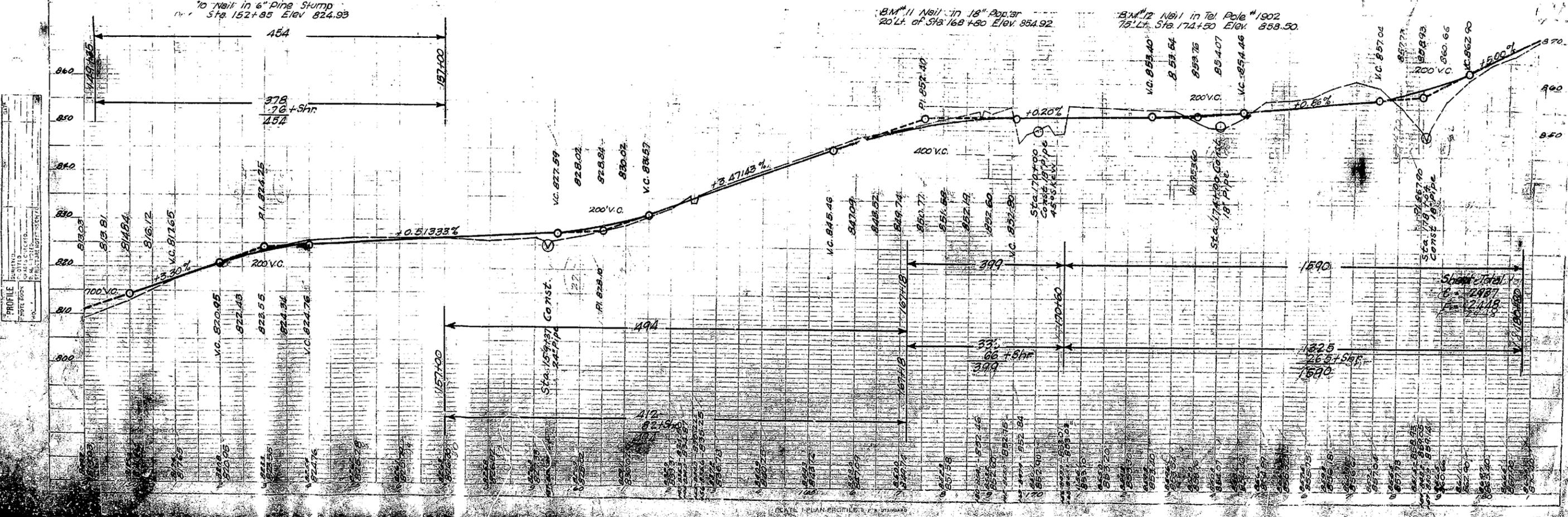
PROFILE	PLACED	DATE
PLACED	DATE	DATE
DATE	DATE	DATE





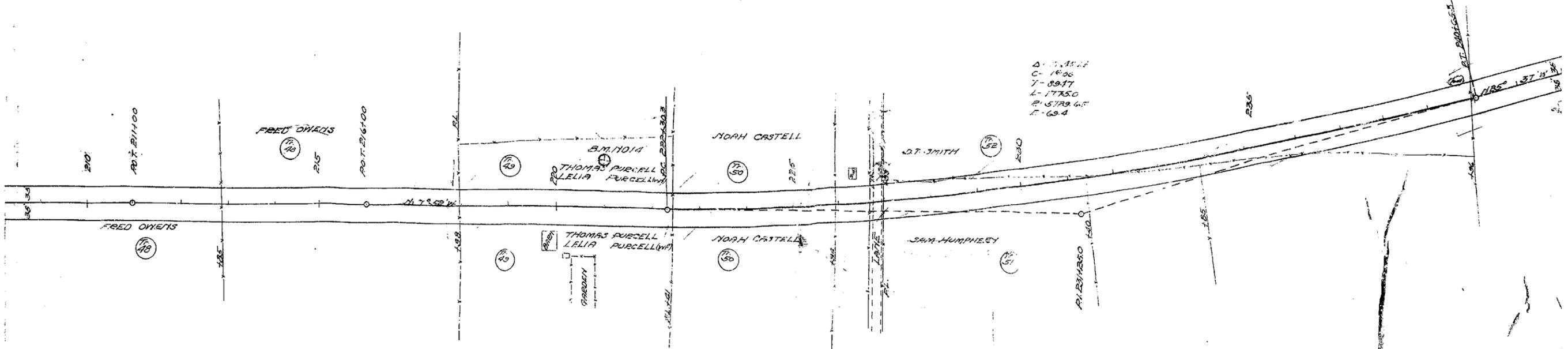
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 $C = 1400'$
 $T = 375.5$
 $L = 7800$
 $R = 5729.65$
 $E = 9.23$

FOR CONSTRUCTION
 STA. 149+35 TO STA. 180+80
 CLEARING & CR. 188110 5.05 ACRES
 UNCL. ROADWAY & DRAIN, EXC. 1937 C.Y. 705



PROFILE

DATE	1933
PROJECT	ROADWAY & DRAIN
SCALE	1" = 40'
BY	[Signature]
CHECKED	[Signature]

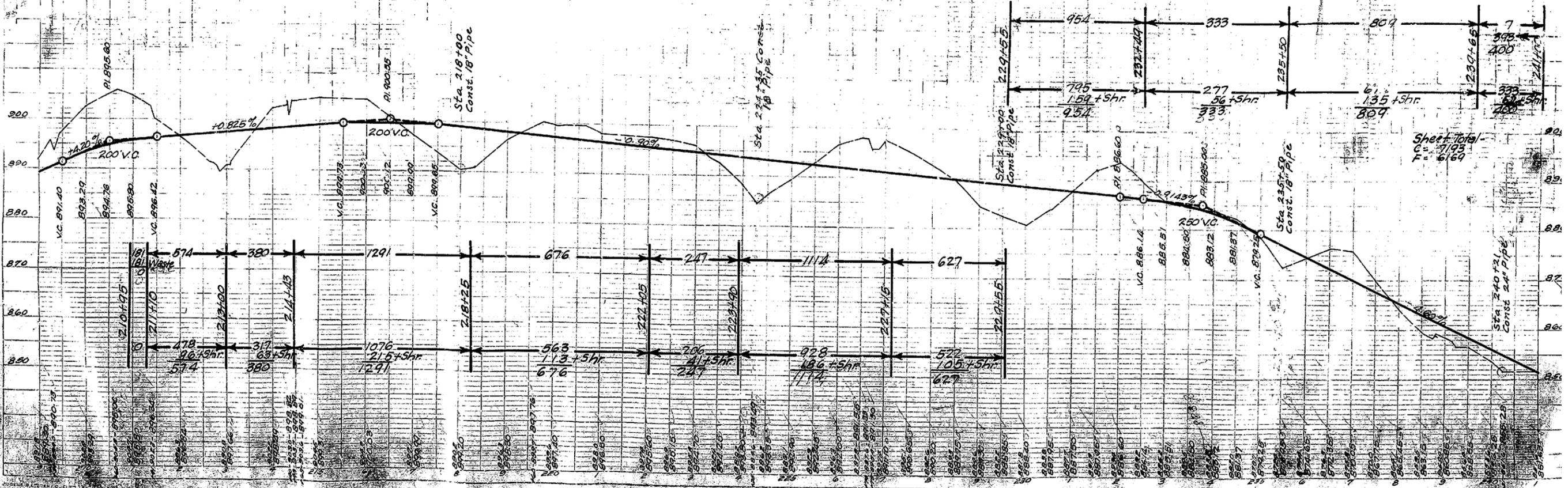


D = 7.3814
 C = 18.06
 Y = 89.17
 L = 1775.0
 PI = 579.67
 T = 69.4

FOR CONSTRUCTION
 STA. 210+95 TO STA. 241+00
 CLEARING & GRUBBING 4.83 ACRES.
 UNCL. ROADWAY & DRAIN EAC. 7193 CU. YDS.

B.M. 17014 nail in 12" Apple
 100' L.A. Sta. 221+00 Elev. 902.13.

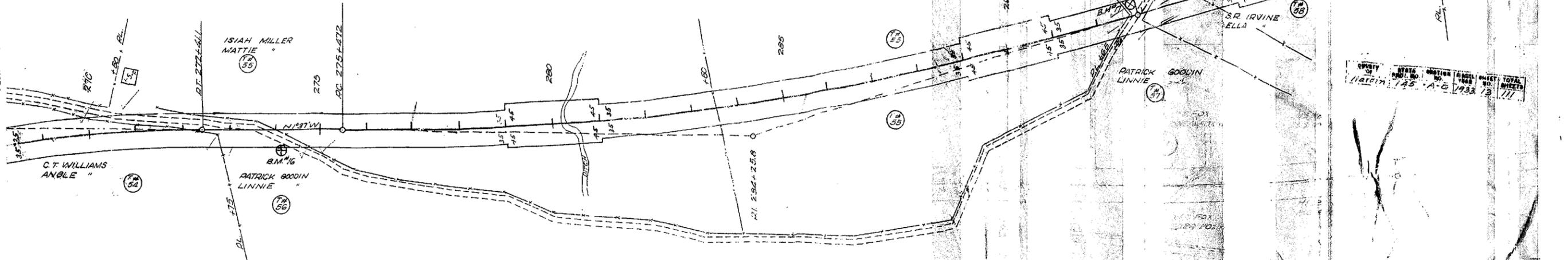
DATE	
BY	
SCALE	
PROJECT	
NO.	



Sheet Total
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 F = 6169



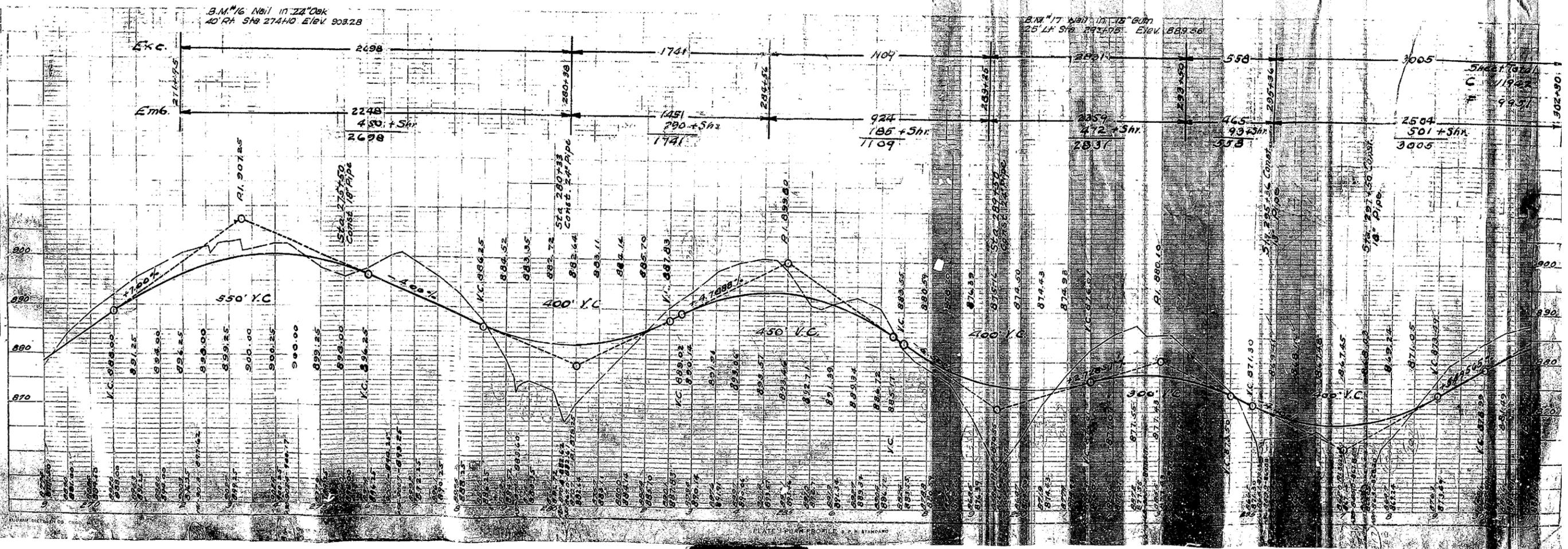
$\Delta = 17^\circ 26' 14''$
 $C = 100'$
 $T = 878.6$
 $L = 1743.3$
 $Q = 3729.6$
 $E = 67.05$



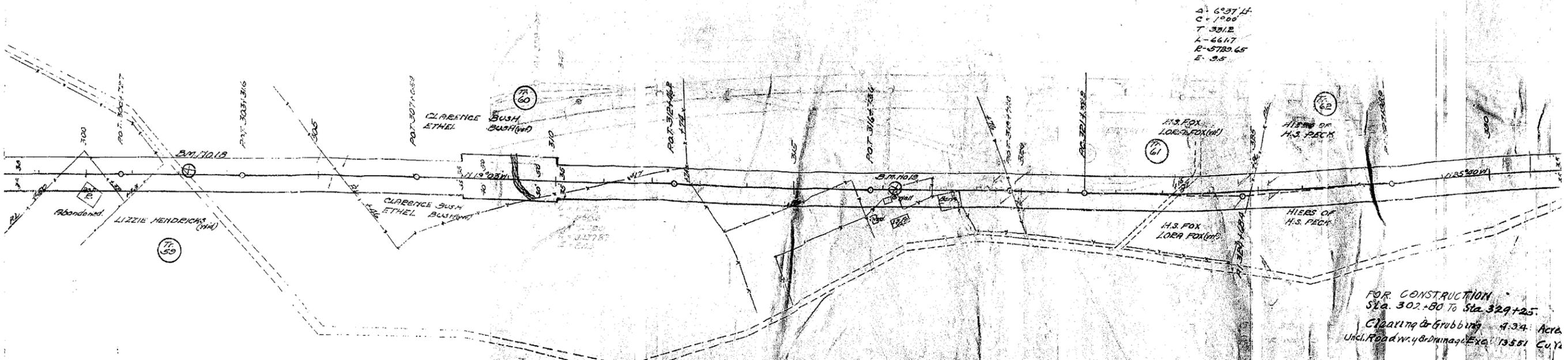
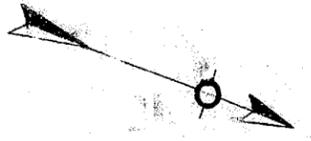
SECTION	DATE	BY	SCALE	TOTAL SHEETS
1145-A-G	1933	J.B.	1/2"	111

FOR CONSTRUCTION.
 STA. 271+95 TO STA. 302+80.
 CLEARING & GRUBBING 5.28 ACRES.
 INCLAS. ROADWAY & DRAIN 11942 Cu. Yds.

PROFILE	BY	DATE
PLOTTED		
CHECKED		
APPROVED		



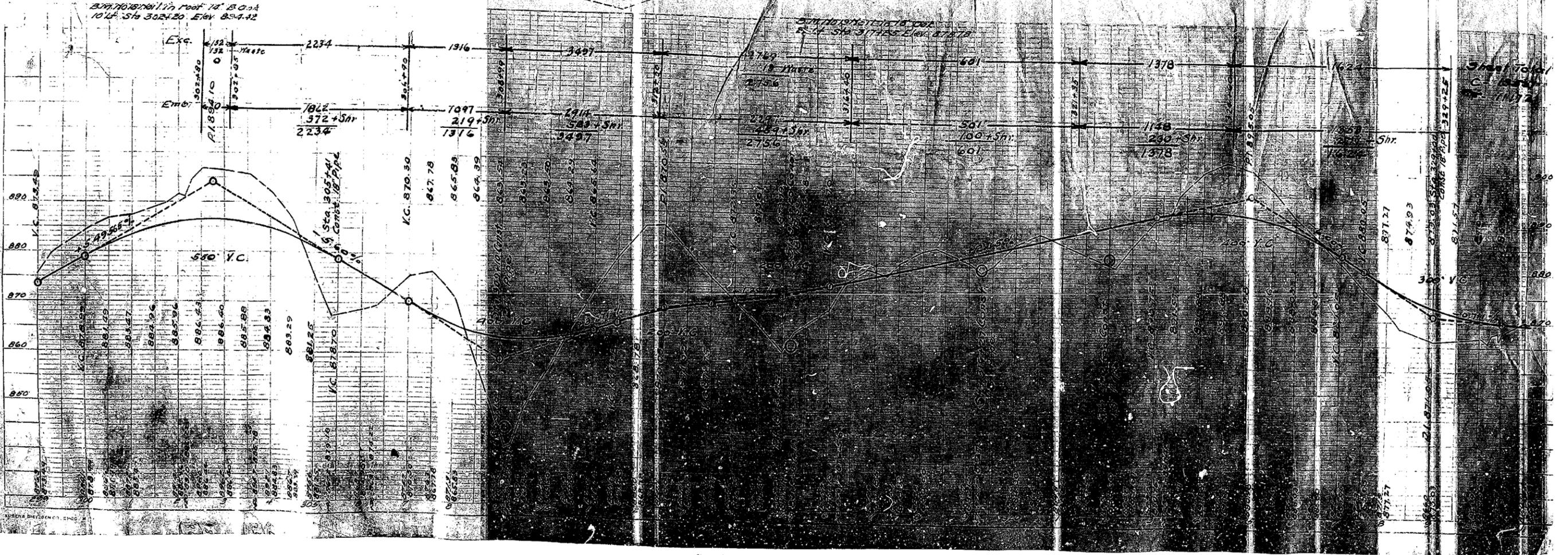
SHEET TOTAL
 C 11942
 E 9957



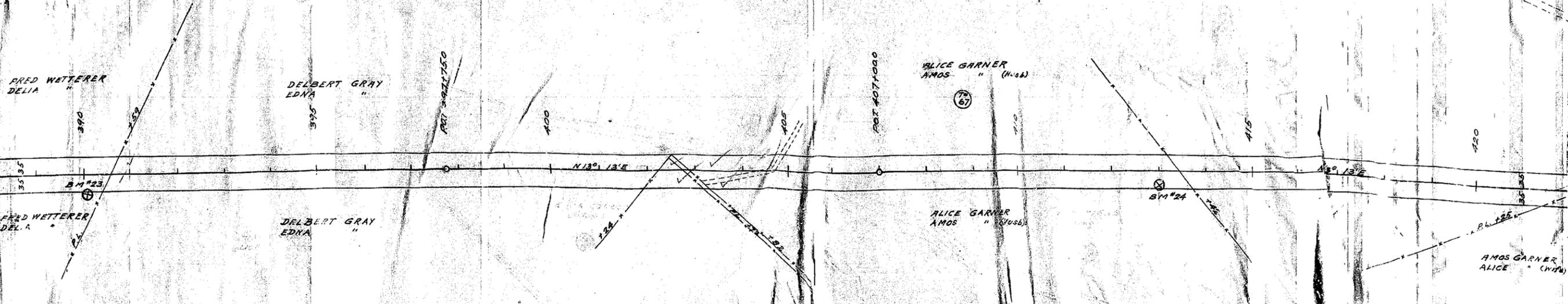
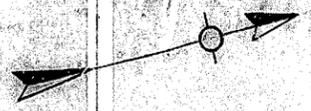
Δ: 6°37' 44"
 C: 1000
 T: 3312
 L: 4617
 R: 6729.65
 E: 9.5

FOR CONSTRUCTION
 Sta. 302+80 To Sta. 329+25
 Clearing & Grubbing 4.34 Acrs.
 Und. Road w. 4 Drainage Ex. 13551 Cu. Yd.

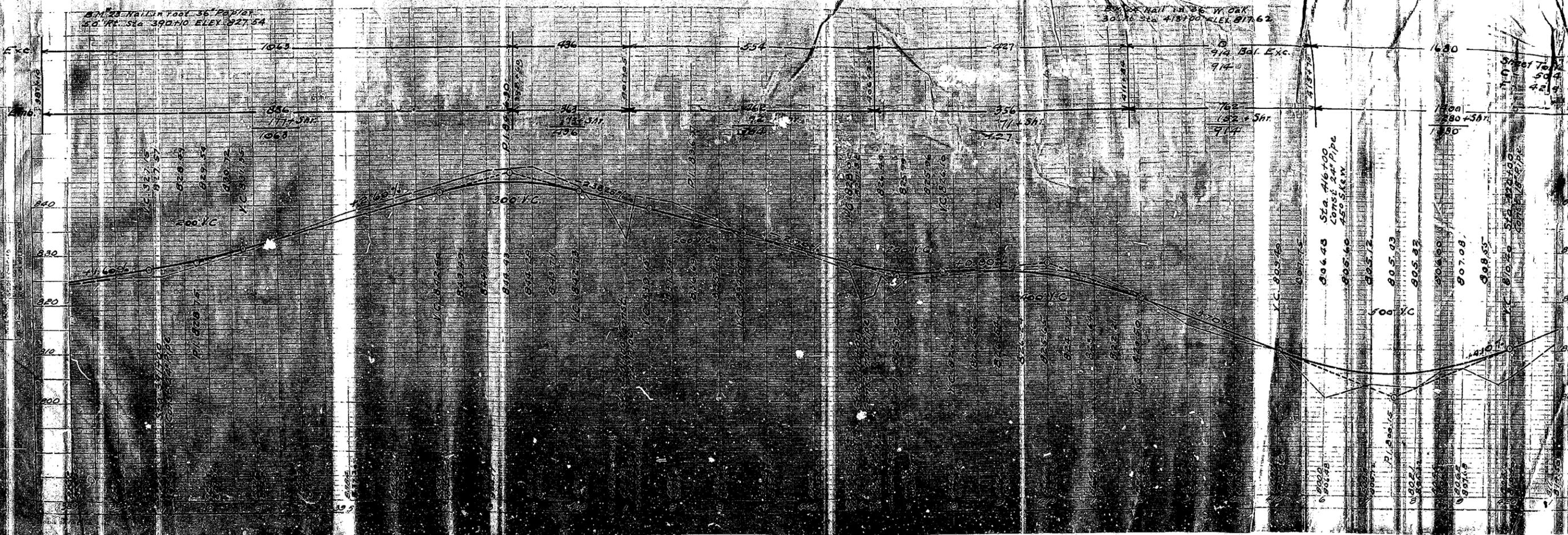
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 SOURCE ...
 DATE ...
 NO. ...

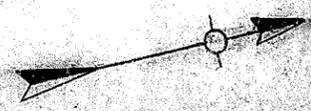


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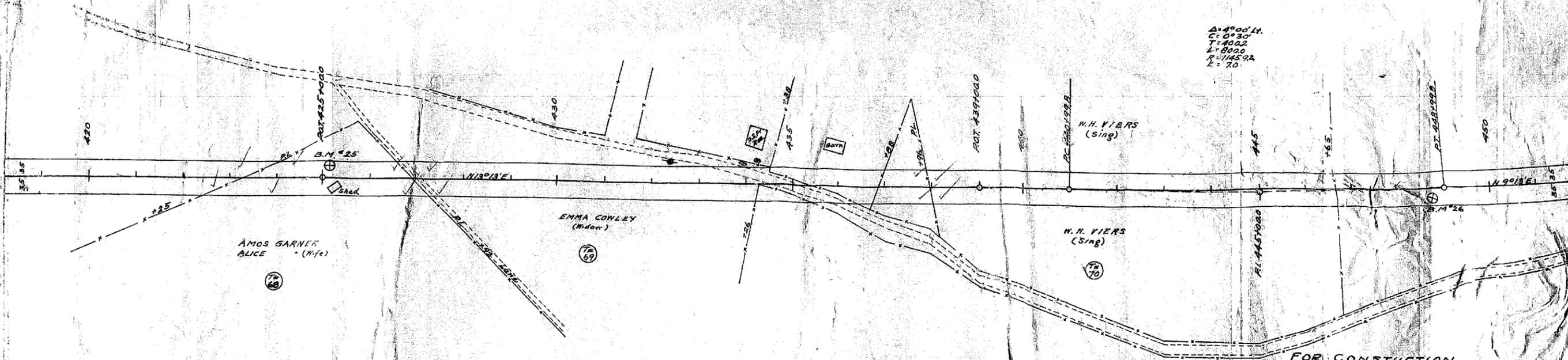


FOR CONSTRUCTION
STA. 38+10 TO STA. 425+75
CLEARING & GRADING 6.30 ACRES.
UNCLASS. ROADWAY & DRAIN. 5074 CU. YDS.





Δ=4°00' Lt.
C=0°30'
T=4002
L=8000
R=1145.92
E=70

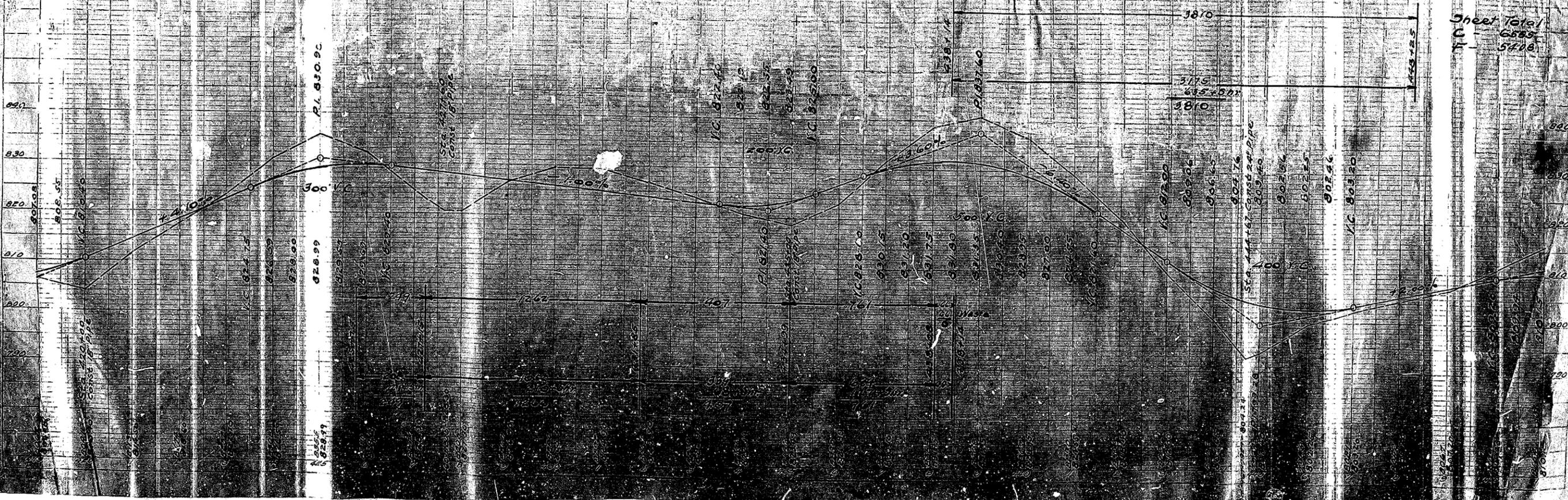


FOR CONSTRUCTION.
STA. 425+15 TO STA. 448+25
CLEARING & GRUBBING 3.62 ACRES.
UNCLD. ROADWAY & DRAIN 6555 CU YDS.

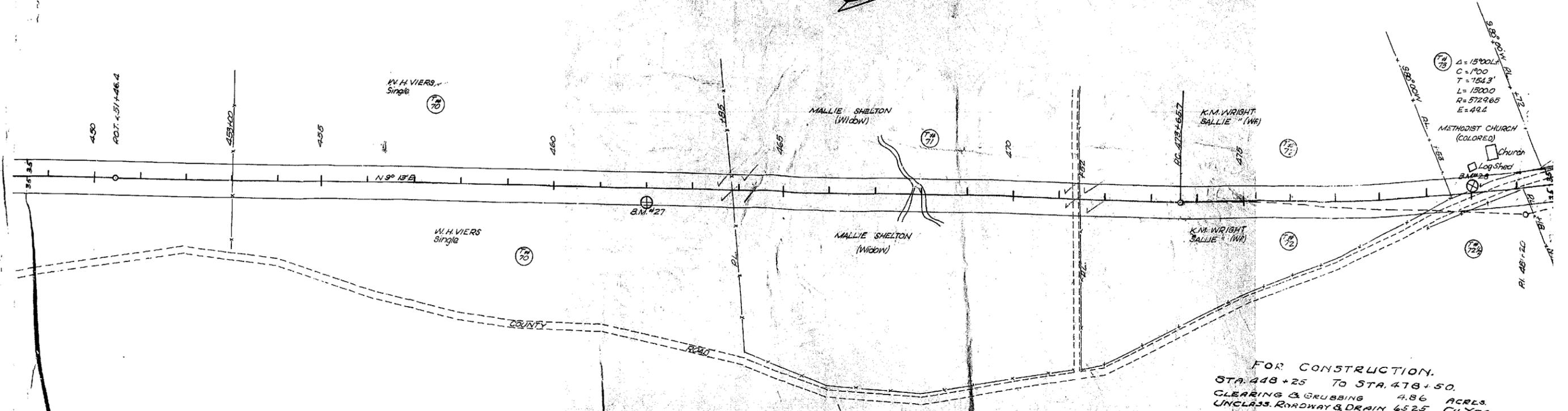
B.M. 25 Nail in root 24" B. Oak
25' Lt. Sta. 425+10 Elev. 835.74

B.M. 26 Nail in 18" B. Oak
20' Rt. Sta. 448+70 Elev. 807.87

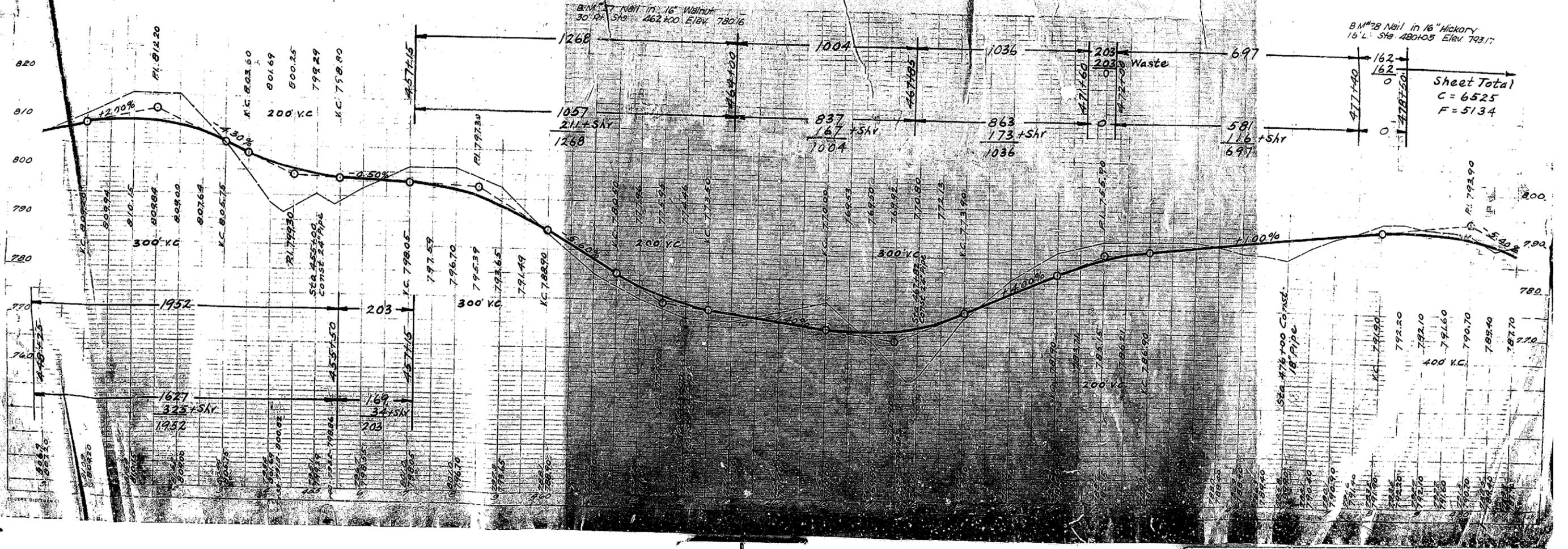
PROFILE
BY: [unclear]
CHECKED: [unclear]
DATE: [unclear]



Sheet Total
C 6589
F 5708



FOR CONSTRUCTION.
 STA. 448+25 TO STA. 478+50.
 CLEARING & GRUBBING 4.86 ACRES.
 UNCLASS. ROADWAY & DRAIN 6525 CU. YDS.





Height 143 A & V 13 20
BARBARA SHELTON (widow)

16 00 ft
C. 11 10
T. 7538
L. 1500
E. ST 3365
A.A.
H. MILLER
HILLS

MB. MILLER SH. DON

A-10°00'LL
C. 1°00'
L. 7000
E. 572045
H. 21.0

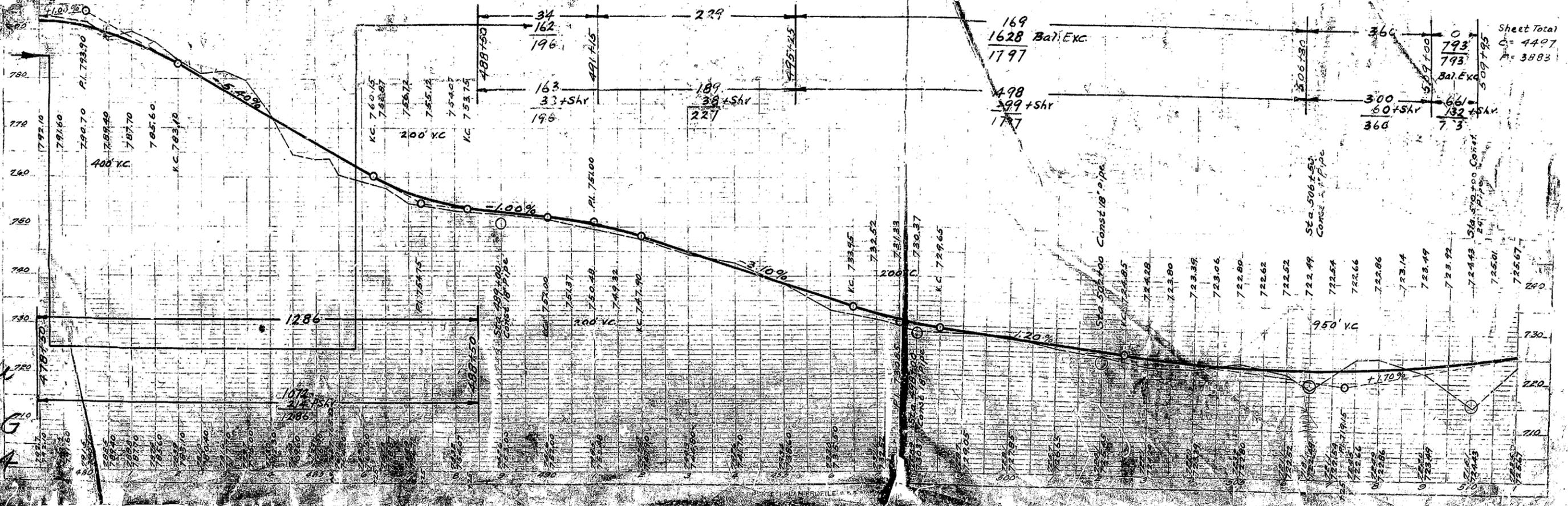
CC. CLARKSON
VILLE PARKS 7 1/2

WRIGHT
WRIGHT

B.M. 73
MRS. BARBARA SHELTON
(widow)

FOR CONSTRUCTION
Sta. 478+50 TO STA. 509+95
CLEARING & GRUBBING 5.05 ACRES.
UNGLASS ROADWAY & DRAIN 4497 CU. Yds.

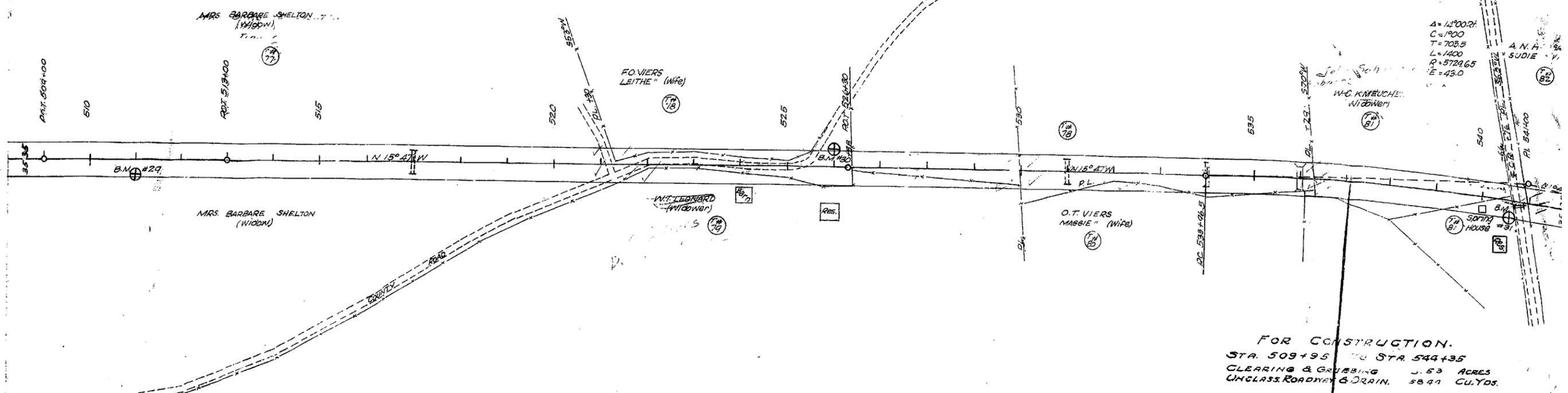
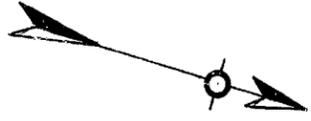
B.M. 70 23 7611 in 12" History
12 ft of Sta. 480+65 Elev. 702.17



Sheet Total
C = 4407
A = 3883

110
117
2/9

COUNTY OF MARDIN, MISSISSIPPI
STATE OF MISSISSIPPI
SECTION 145 A-G

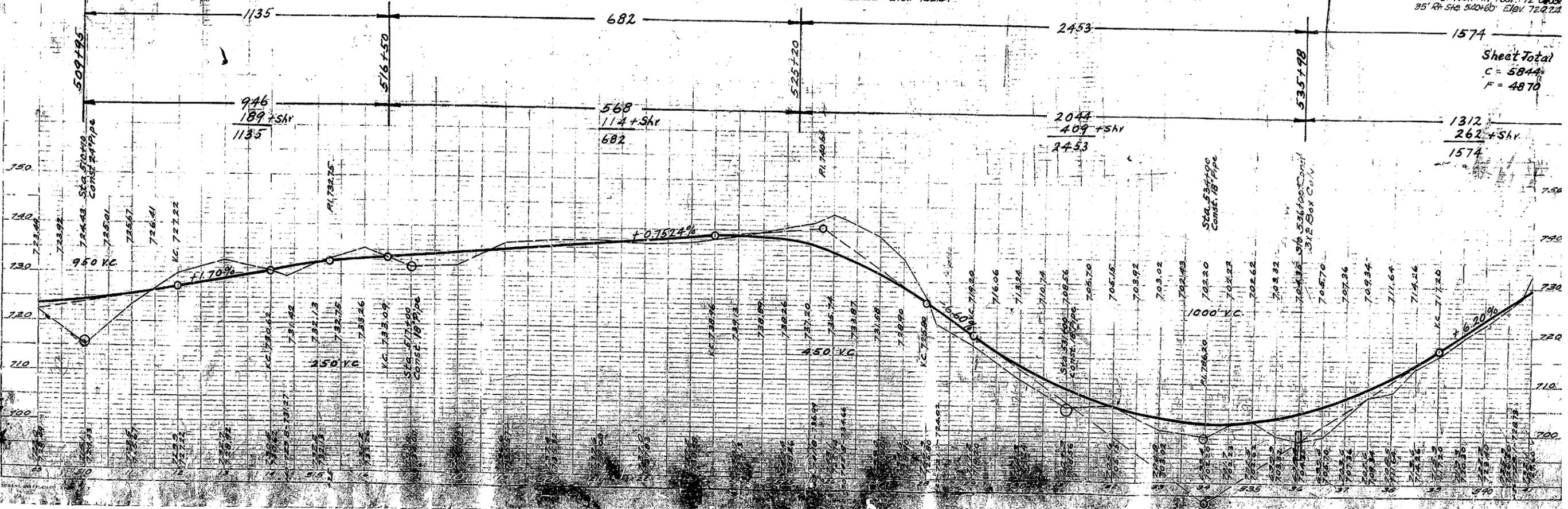


B.M. #29 Nail in 1 1/2" x 2 1/2" W. Oak
30' R. Sta. 511+09 Elev. 724.36

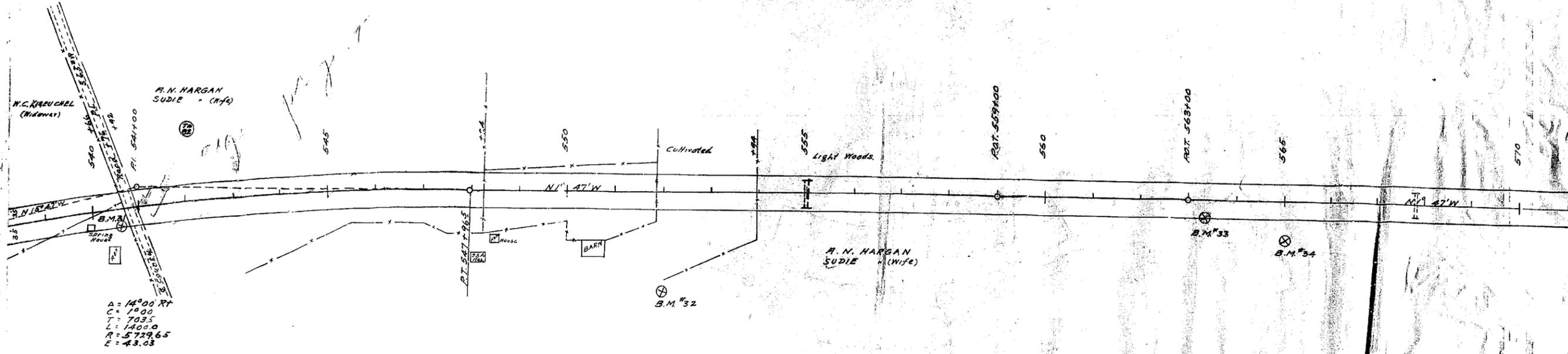
B.M. #30 Nail in Tooth 1 1/2" Oak
35' L. Sta. 526+00 Elev. 742.49

B.M. #31 Nail in roof, 12" Oak
35' R. Sta. 540+60 Elev. 729.22

Sheet Total
C = 5844
F = 4870



Mardin
S.P.
45 AG
-13-4



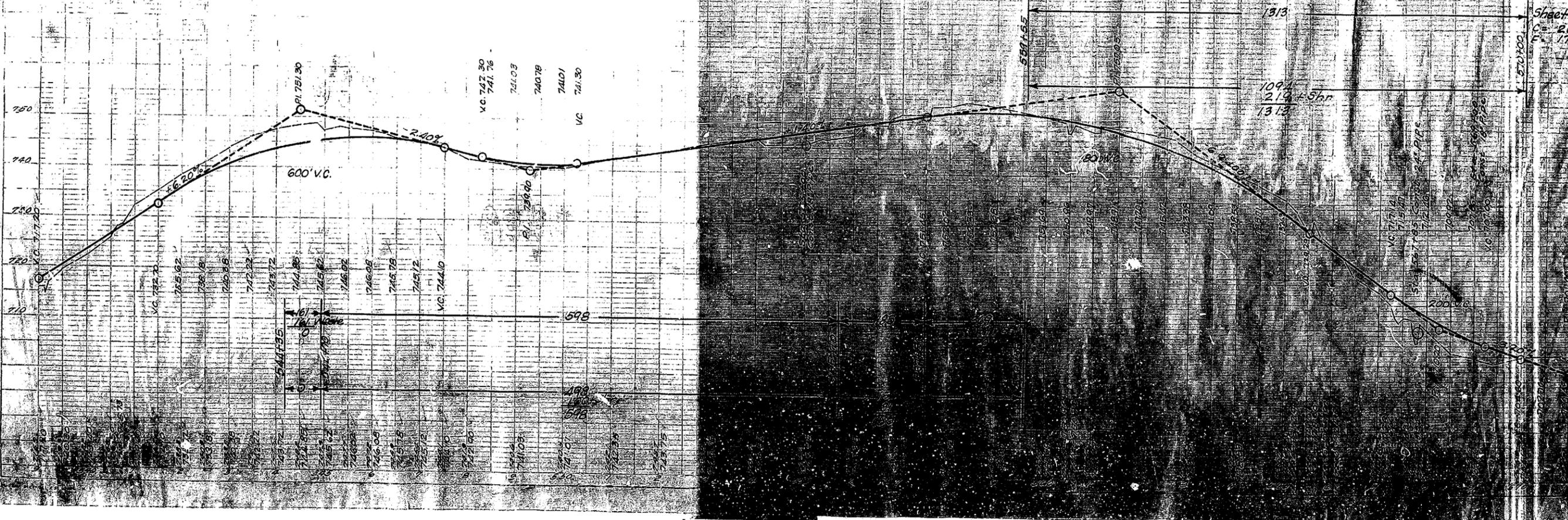
FOR CONSTRUCTION
 STA. 544+35 TO STA. 570+00
 CLEARING & GRUBBING 2.12 ACRES.
 UNCLASS. ROADWAY & DRAIN 2626 CLYOS.

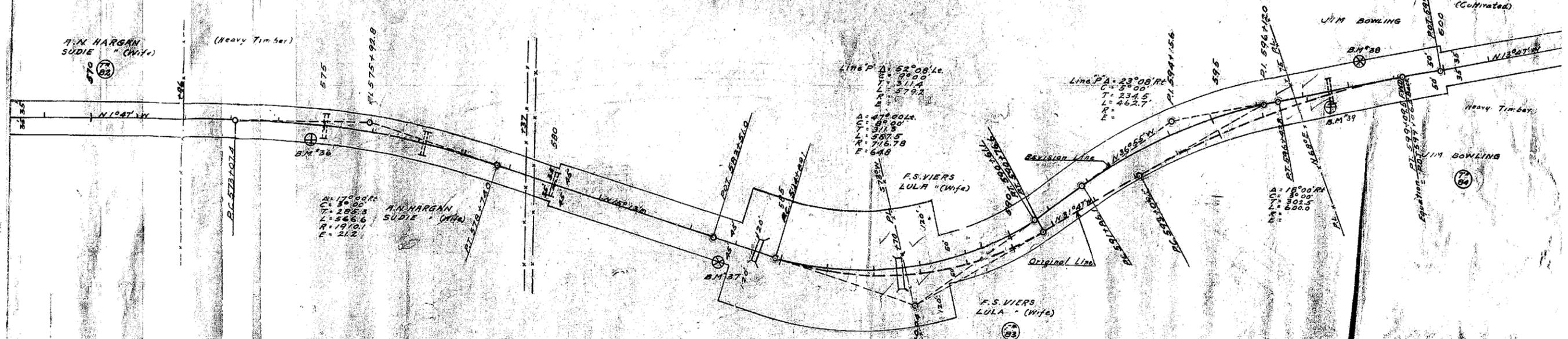
B.M. 31 Nail in Foot 12" Cedar
 3.5' Rt. Sta. 540+60 Elev. 729.24

B.M. 32 Nail in Foot 40" White Oak
 200 Rt. Sta. 552+50 Elev. 742.79

B.M. 33 Nail in 24" Walnut
 3.5' Rt. Sta. 565+30 Elev. 737.24

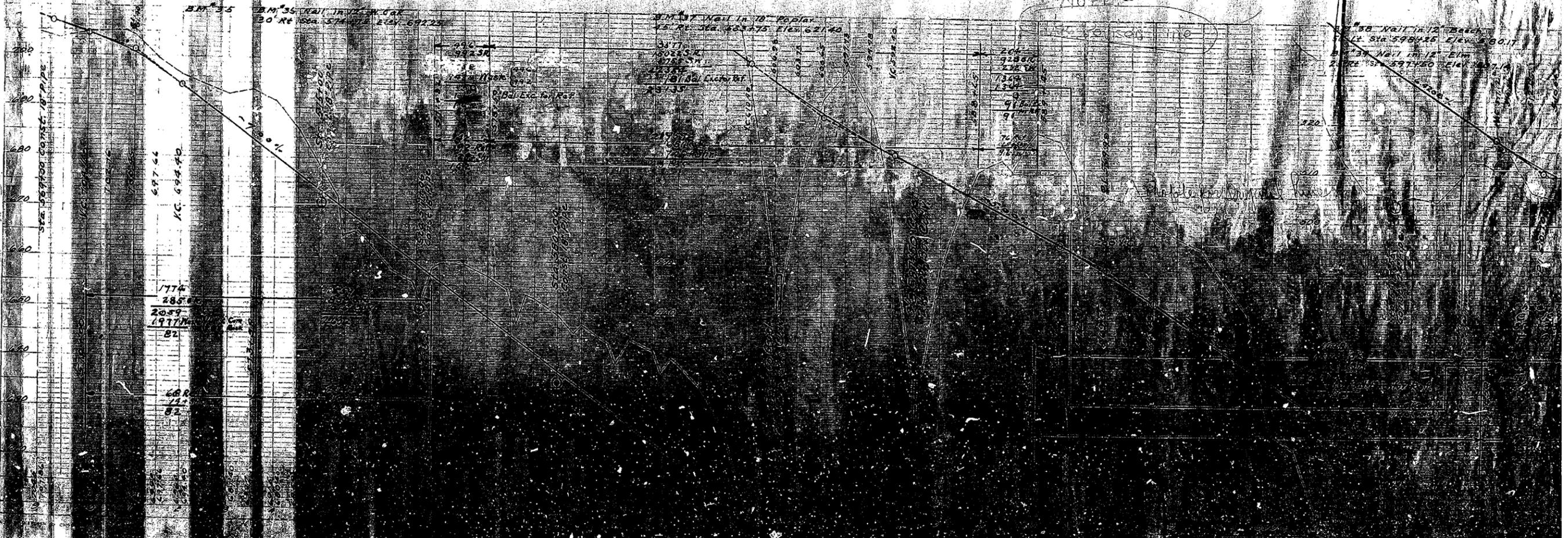
B.M. 34 Nail in Foot 8" Walnut
 80 Rt. Sta. 565+00 Elev. 740.34



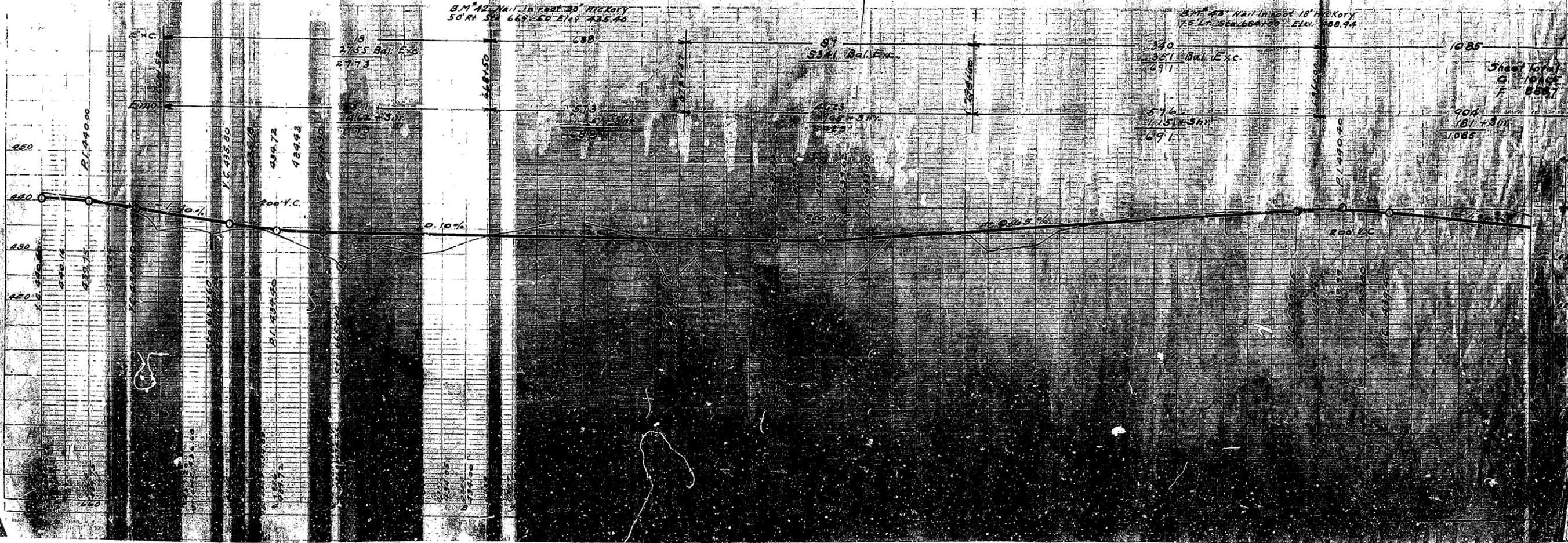
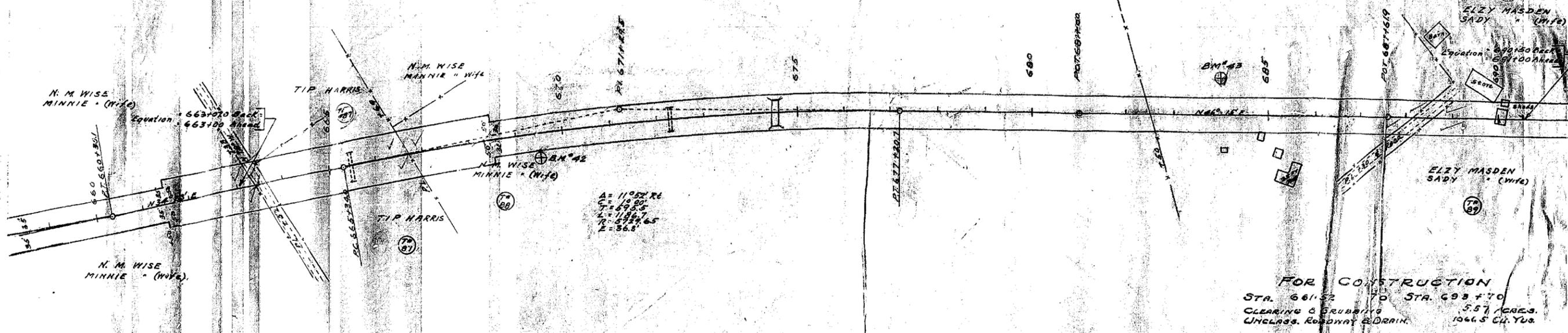
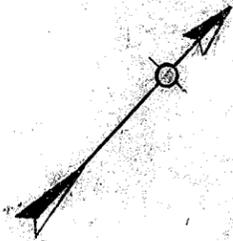


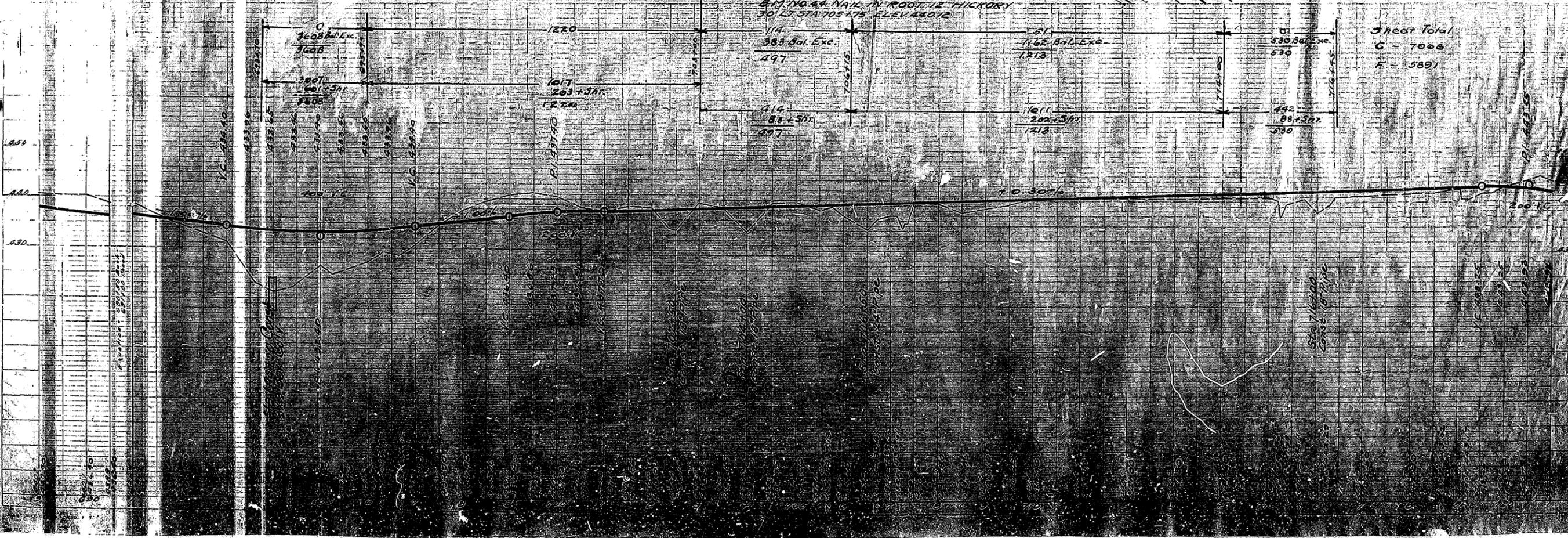
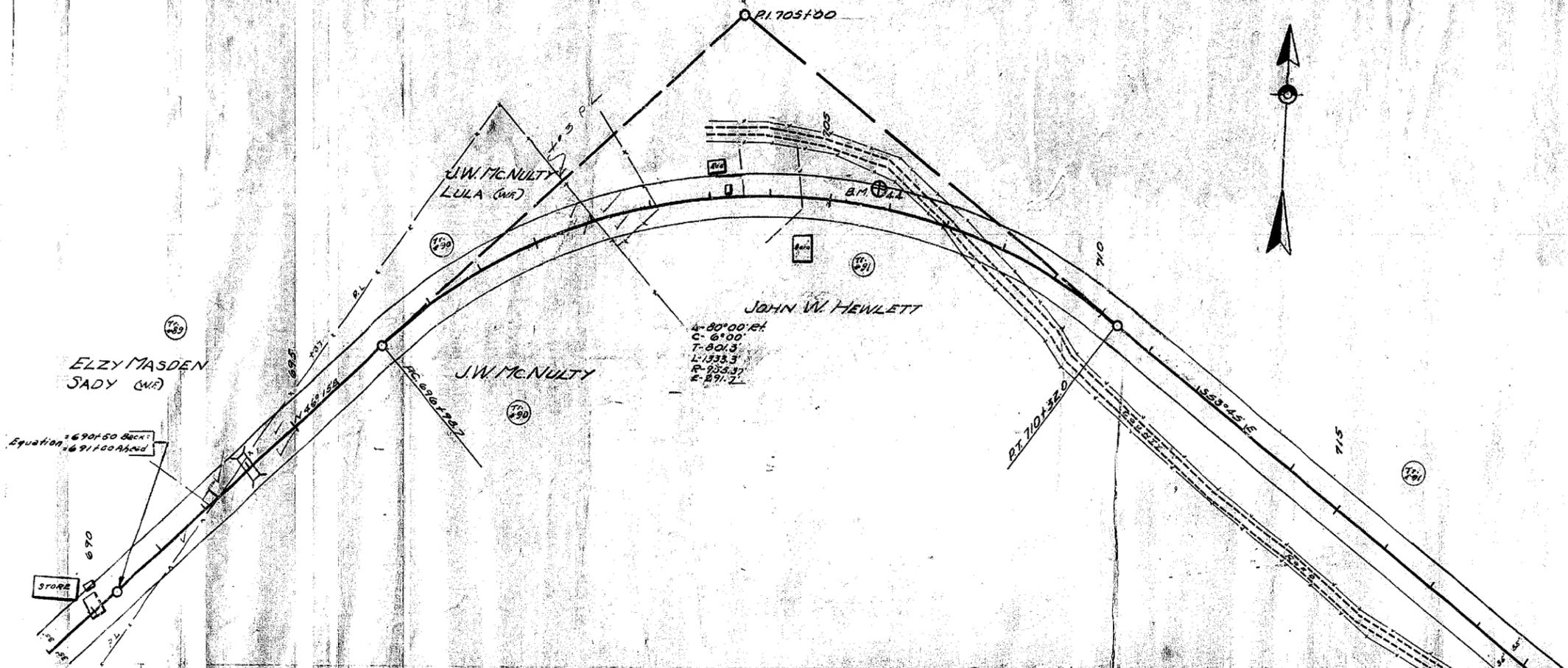
FOR CONSTRUCTION.
 STA. 570+00 TO STA. 601+20.
 CLEARING & RUBBING 17.12 ACRES
 UNCLAS. ROADWAY & DRAIN 24.630 CU. YDS.

NOTE



PROFILE
 CURVES
 LINES
 CHECKED
 DATE

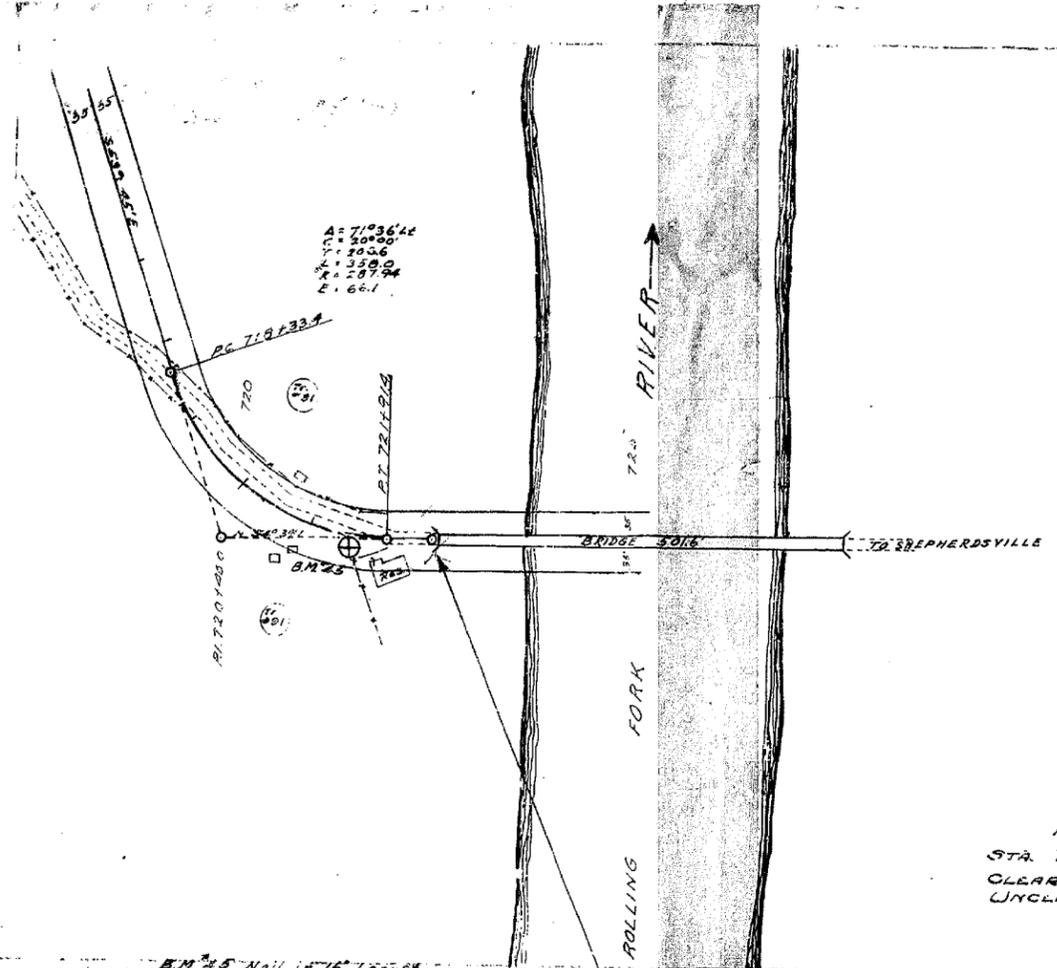




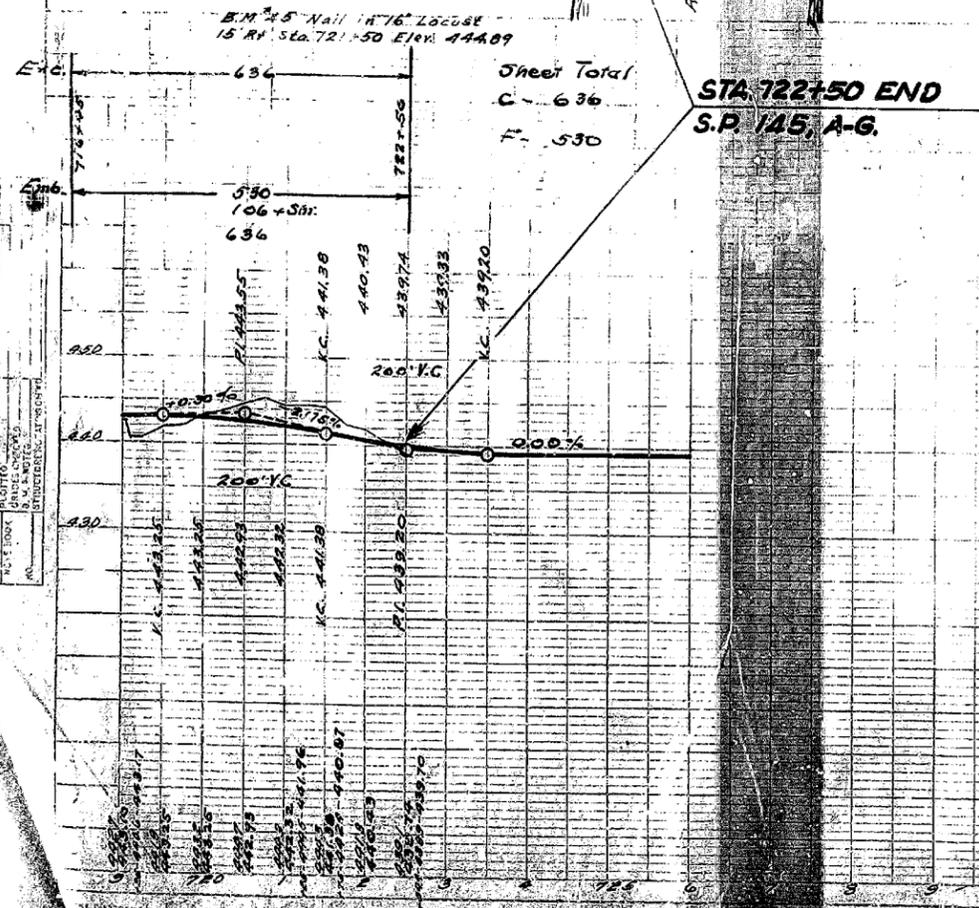
FOR CONSTRUCTION
 STA: 693+70 TO STA: 716+45
 Clearing & Grubbing 3.66 Acres.
 Embw. & Drainage Exc. Unless 706B Curb

Sheet Total
 C = 7066
 F = 5891

PROFILE
 VERTICAL CURVE
 POINTS
 P.C. 706+15.6
 P.T. 710+32.0
 P.O.C. 708+23.8



FOR CONSTRUCTION.
 STA. 716+45 TO STA. 722+50.
 CLEARING & GRUBBING 0.97 Acres.
 UNCLASS. ROADWAY & DRAIN 636 Cu. Yds.



APPENDIX D

2008-2010 Biennial Highway Construction Plan

2008-2010 Biennial Highway Construction Plan

Governmental Branch: Executive
Cabinet/Function: Transportation

Agency: Highways
Unit: Construction

County	District	Item No.	Route	Type of Work	Description	Phase	Fund	FY 2007-08	FY 2008-09	FY 2009-10
HANCOCK	2	02-197	KY-69	RECONSTRUCTION(O)	IMPROVE CONNECTION BETWEEN US-60 AND CANNELTON DAM APPROACH. (06CCR)	PL				
						DN				
						RW			1,770,000	
						UT			760,000	
						CN				
PROJECT COST								0	2,530,000	0
Total for HANCOCK county						PL				
						DN			1,000,000	
						RW			1,770,000	
						UT			760,000	
						CN				3,123,000
TOTAL AMOUNTS								0	3,530,000	3,123,000
HARDIN	4	04-153	KY-251	SCOPING STUDY(O)	KY-251; FROM RING ROAD TO KY-313. (BRAC)	PL				
						DN				
						RW				
						UT				
						CN				
PROJECT COST								0	0	600,000
HARDIN	4	04-153.01	KY-251	PHASE I DESIGN(O)	KY-251; FROM RING ROAD TO KY-434. (BRAC)	PL				
						DN				
						RW				
						UT				
						CN				
PROJECT COST								0	0	0
HARDIN	4	04-153.05	KY-251	PHASE I DESIGN(O)	KY-251; FROM KY-434 TO KY-313. (BRAC)	PL				
						DN				
						RW				
						UT				
						CN				
PROJECT COST								0	0	0

APPENDIX E

**ENVIRONMENTAL
OVERVIEW**

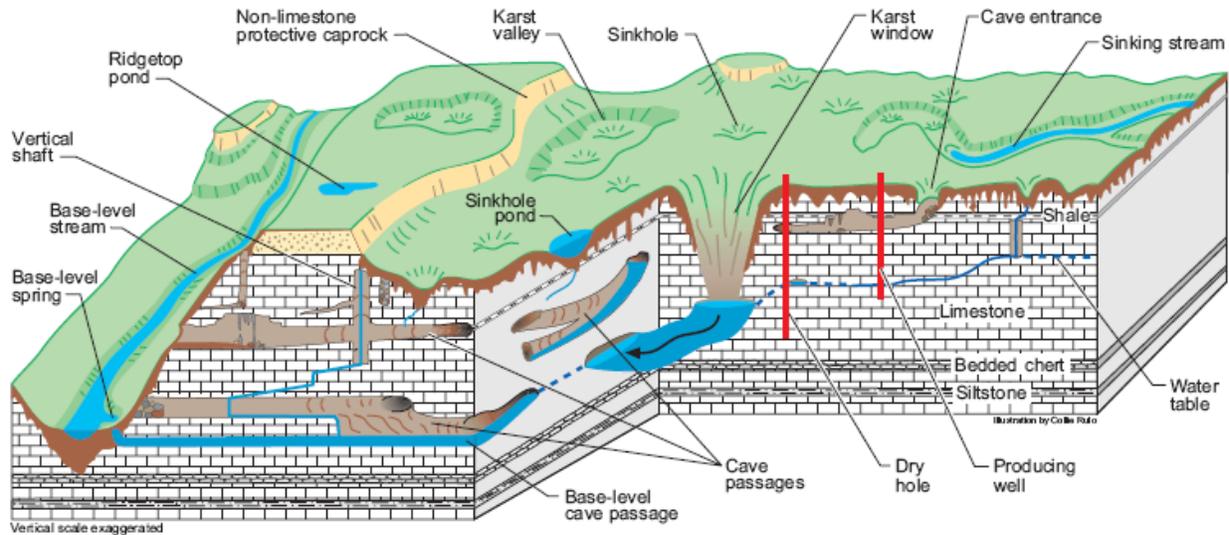
Environmental Footprint for 4-8103.50

Project Description

Physical Setting

Physiographic Region – Western Pennyroyal

The Western Pennyroyal is an upland plain primarily that covers a large portion of the state (underlain by Mississippian aged limestone and shale). The area is dominated by karst topography with numerous caves, sinkholes and subsurface channels into which many streams disappear. In fact there are areas in Hart, Barren and Edmonson counties that are devoid of surface streams. Mammoth Cave National Park is located in this physiographic region. Prior to human settlement the area was primarily a grassland or prairie landscape, but only remnants of these remain. The soils are deep and rich, proving exceedingly suitable for agriculture.



(Taken from Currens 2001)

The Knobs

The Knobs Region, 2,300 square miles in area, forms a horseshoe-shaped boundary to the Bluegrass Region. Knobs, from which the region gets its name, are dome-shaped hills with erosion resistant caprocks overlying 400 million year old shale and siltstone that were easily eroded. An indicator rock of the knobs is the black shale or oil shale. The knobs are interspersed among valleys of streams and plains and have been farmed extensively. However, farming has been reserved to the plains because knobs often are too steep for agriculture. Most of the area has been logged. Forest that cover the knobs are predominantly oak-hickory, oak-pine, and pine communities. (Taken from KGS Website “Geology of Kentucky” www.uky.edu/KGS/geoky/regionknobs.htm)

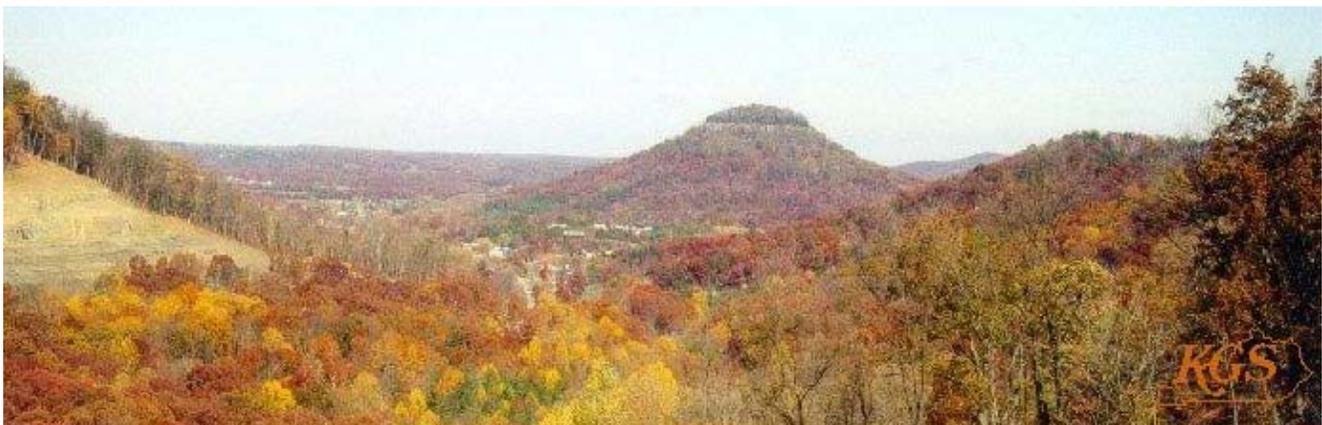
Level IV Ecoregion – Mitchell Plain

The rolling Mitchell Plain is underlain by Mississippian limestones and is characterized by well developed karst, low relief, and extensive agriculture. Sinkholes, ponds, springs, sinkhole wetlands, subterranean drainage, and dry valleys occur. Drainage density (stream miles per square mile) is lower than in other Interior Plateau ecoregions except the Western Kentucky Karst Plain. Mean elevation, relief, and stream gradient are typically lower than in the neighboring ecoregions. Potential natural vegetation is a mosaic of bluestem prairie and oak–

hickory forest. Today, cropland and pastureland is extensive, mixed oak forests are found on steep slopes, and pin oak, swamp white oak, and sweetgum grow in poorly drained areas. Sinkhole wetlands are common.



The **Knobs–Norman Upland** is underlain by Pennsylvanian-age through Silurian-age sedimentary rocks. Its rounded hills and ridges are mostly forested and divide the Bluegrass from the rest of the Interior Plateau. Inceptisols and Ultisols occur on slopes and support mixed deciduous forests. Narrow, high gradient valleys are also common. In addition, a few wide, locally swampy valley floors occur and are used for livestock farming, general farming, and woodland. This ecoregion is characterized by large amounts of geological, topographical, and ecological diversity. Overall, however, physiography, soils, lithology, and land use are distinct from the limestone- and Alfisol-dominated agricultural plains of the Mitchell Plain, Outer Bluegrass and Western Pennyroyal Karst ecoregions. The density of perennial upland streams is far greater than on nearby limestone plains.



Utilities

A six inch gravity fed water distribution line runs along KY 251. There are also utility poles on mostly the eastern side of existing KY 251.

Social Impacts

The study area lies primarily within the 10.01 Census Tract from the 2000 Decennial Census. The total population of the tract was 5,215 representing 1,932 households. There were 382 individuals of non-white race within the census tract (5.4% of population). The largest minority groups identified by

a single race were Asian (163) and Black or African American (105). Another large portion identified themselves as two or more races (101). The number of households reporting incomes below 1.50 times the poverty level in 2000 was 270 (14% of households). A visual reconnaissance of the area identified several areas (see map) with environmental justice potential, more information about the impacts of the project will be necessary to determine if there are disproportionate impacts to minority or low income populations.

There are several business located along existing KY 251. These are typically clustered at the intersection of KY 251 and KY434 and scattered along KY 251. There are also churches located along the corridor as well as a Religious Campsite off KY 251 near KY 313. Impacts to businesses and community resources such as these can have a negative effect on the community (see map).

Historic Resources

A review of aerial photography from 1959 and reconnaissance of the study area show the possibility of structures 50 years of age or older. A windshield survey by DEA Cultural Historian is recommended.

Archaeological Resources

Phase I archaeological site investigations will be needed to determine the presence of significant archaeological sites exist within the study area.

Section 4(f)

There are no 4(f) resources known in this area.

Section 6(f)

There are no 6(f) resources known in this area

Noise Impacts

Similar projects typically have minimal impacts by increasing noise levels typically as the result of relocating the road closer to existing residences. Further analysis will be required to sufficiently determine the extent of impacts.

Air Quality Impacts

This project may have additional air quality impacts. Currently Hardin County resides in an attainment area and projects of this scale do not require detailed air quality modeling.

Hazardous Materials

There are three sites that should be investigated as possible UST/Hazmat sites. There is a trucking company near the KY313 intersection where several parked trucks were observed. There is a gas station located on the corner of KY434 and KY251. McMillen Mechanical (6671 Shepherdsville Rd) is a service company located along KY251 near the intersection with Sycamore Rd (see map).

Threatened and Endangered Species

There known T/E species within Hardin County. The Gray and Indiana Bat are known to exist on the FKMR including maternity colonies and hibernacula. Potential Habitat exists within the corridor for the two bat species. The streams located near the corridor are probably not large enough for the mussel species. Eggert's sunflower habitat includes barrens, open Oak-Hickory woodlands, forest

edges, rocky hillsides and roadside remnants of these habitats. There is potential for these habitats to be present within the corridor. If federal funds are used or if a USACE permit is required KYTC will need to complete Section 7 coordination with USFWS prior to ROW (federally funded) or Construction (USACE).

Typical mitigation measures for listed species include:

- Tree clearing restrictions (October 15 – March 31 or November 15 – March 31 if known hibernaculum within 5 miles)
- Payment to the IBCF (limited to 25 acres total available habitat)
- Restricting construction activities to daylight hours only
- Relocation of Eggert’s sunflower populations
- Existing KYTC erosion control measures

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	<i>Myotis grisescens</i>	gray bat	E	K
	<i>Myotis sodalis</i>	Indiana bat	E	K
Mussels	<i>Pleurobema clava</i>	clubshell	E	K
	<i>Plethobasus cooperianus</i>	orangefoot pimpleback	E	P
	<i>Plethobasus cyphus</i>	sheepnose	C	P
	<i>Pleurobema plenum</i>	rough pigtoe	E	P
	<i>Potamilus capax</i>	fat pocketbook	E	P
Plants	<i>Helianthus eggertii</i>	Eggert's sunflower	T	K

Wetlands Impacts

There are approximately 51 wetlands identified by the NWI map. Site evaluations will be required to determine if wetlands impacted are Jurisdictional under the 404 Permitting process.

Floodplains Impacts

The entire project area lies outside of the 100 and 500 year floodplains so no impacts should occur.

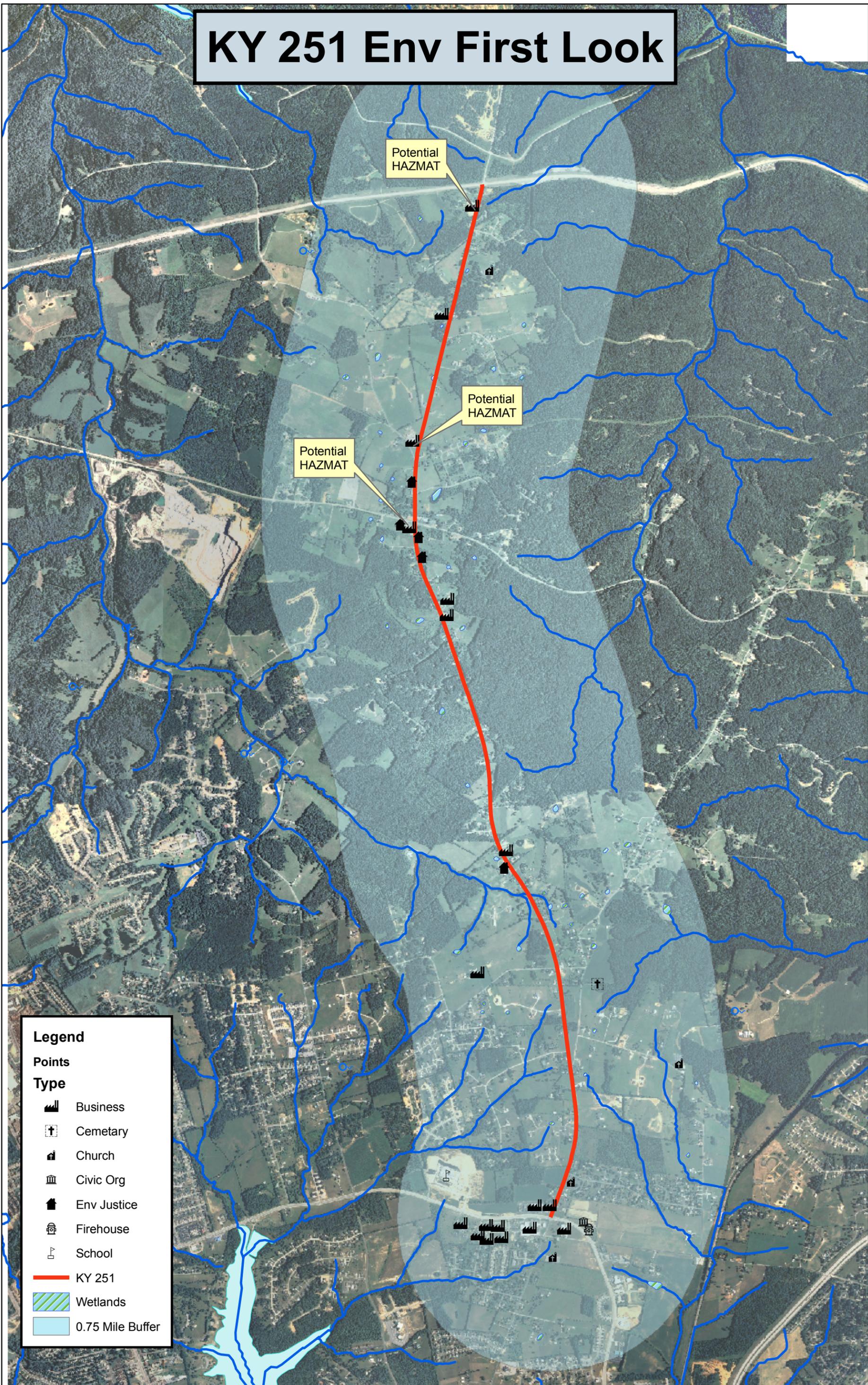
Surface Water and Water Quality Concerns

The potential alignment would be located in Mill Creek, Cedar Creek, Freeman Creek and Valley Spring Creek watersheds. There could be impacts to ephemeral stream channels. Further onsite investigation would be required.

References

Currens, James C. (2001). “Generalized Block Diagram of the Western Pennyroyal Karst.” Kentucky Geological Survey Map and Chart 16 Series XII.

KY 251 Env First Look



Legend

Points

Type



Business



Cemetery



Church



Civic Org



Env Justice



Firehouse



School

 KY 251

 Wetlands

 0.75 Mile Buffer