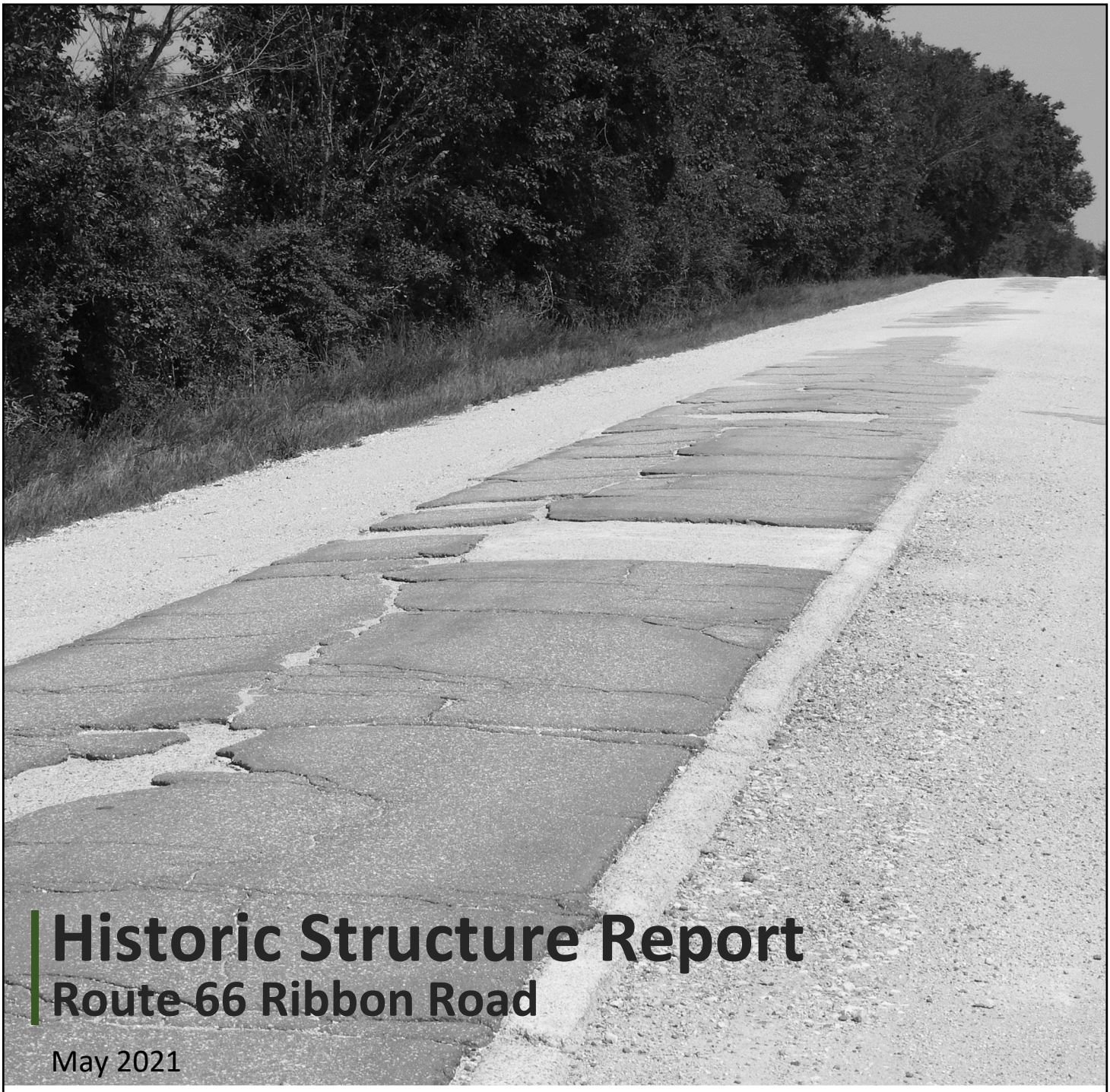


Historic Structure Report
Route 66 Ribbon Road

May 2021

Prepared by:

COX | McLAIN
Environmental Consulting

320 S. Boston Avenue, Suite 1104
Tulsa, OK 74103

Prepared for:

GUY ENGINEERING

ACKNOWLEDGEMENT

Acknowledgement of Support

The activity that is the subject of this report has been financed in part with federal funds from the Route 66 Corridor Preservation Program, National Park Service, U.S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior.

Nondiscrimination Statement

This program receives federal financial assistance for identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, as amended, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, disability, or age in its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to:

Chief, Office of Equal Opportunity
United States Department of the Interior
National Park Service
1201 Eye Street, NW (2740)
Washington, D.C. 20005

TABLE OF CONTENTS

1. Introduction 5
Purpose of Report 5
Key Discoveries 5
2. Project Data 7
Location of Historic Structure 7
Ownership of Historic Structure 10
Landmark Status 10
Historic Structure Report Methodology 10
Funding 11
Project Participants 11
3. Historical Background 12
Early Roads in Oklahoma, Pre-statehood to 1924 12
4. Chronology of Development and Use 20
Miami-Afton Federal Road, 1918–1924 20
State Highway No. 7, 1924–1926 29
United States Highway 66, 1926–1937 30
Route 66 Ribbon Road, 1937-present 39
5. Physical Description 42
6. Evaluation of Significance 47
Significance Summary: Upper Segment 47
Current Assessment 48
Significance Summary: Lower Segment 51
Current Assessment 52
7. Condition Assessment 54
8. Historic Preservation Objectives 55
The Secretary of the Interior's Standards for Treatment of Historic Properties 55
Route 66 Ribbon Road Preservation Objectives 56
9. Work Requirements, Recommendations, and Alternatives 65
The Secretary of the Interior's Standards for Rehabilitation 65
Requirements, Recommendations, and Alternatives 68

LIST OF APPENDICES

Appendix A. As-built Highway Plans
Appendix B. Annotated Photographs
Appendix C. Roadway Evaluation Report Historic Route 66 Ribbon Road JP #33565 and 33568
Appendix D. Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3
Appendix E. Results of Petrographic Examination and Laboratory Testing of Concrete Core
Appendix F. Re: Asphalt Testing Services

LIST OF FIGURES

Figure 1. Project location, upper portion. Figure by Cox|McLain Environmental Consulting, Inc. (CMEC). 8
Figure 2. Project location, lower portion. Figure by CMEC. 9
Figure 3. Federal Aid Project Number 8. Image by CMEC. 13
Figure 4. Federal Aid Project Number 8. Image by CMEC. 14
Figure 5. Designations of Route 66 Ribbon Road, 1918 through 1939. 20
Figure 6. Ottawa County FAP No. 8. From *State of Oklahoma Showing Locations of Federal Aid Projects*, 1924. 24
Figure 7. Image of Miami-Afton Federal Road as originally constructed. Reprinted from *Annual Report Of The State Highway Commission For The Years 1919 To 1924 Inclusive*, 159. 28
Figure 8. The Oklahoma State Highway System in 1926. From *Oklahoma State Highway System*, 1926. 30
Figure 9. Route 66 historic alignments in Oklahoma. Oklahoma Department of Transportation (ODOT) Roadway & Bridge Data Master Inventory Viewer layer. 31
Figure 10. Popular map of Route 66. Reprinted from *Miami News-Record*, March 11, 1928, 1. 32
Figure 11. Advertisement promoting U.S. 66 Highway Convention in Miami, Oklahoma. Reprinted from *Miami Daily News-Record*, March 11, 1929, 12. 33
Figure 12. Advertisement touting U.S. 66 as the "Main Street" of America. Reprinted from *Miami Daily News-Record*, June 12, 1927, 14. 34
Figure 13. U.S. 66 through Ottawa County. From *Oklahoma State Highway System,* 1928. 35
Figure 14. Original and new U.S. 66 alignments. Image reprinted from *Miami Daily News-Record*, September 5, 1937, page 1, with additional annotations by CMEC. 38

Figure 15. Typical section of FAP No. 8. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 3. 42

Figure 16. FAP No. 8 Standard reinforced concrete arch culvert plans. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 30. 43

Figure 17. FAP No. 8 Standard reinforced concrete arch bridge plans. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 31. 44

Figure 18. No-longer-extant section of 9-foot-wide Route 66 Ribbon Road roadbed. Detail of historic aerial photograph with annotation by CMEC, Oklahoma Corporate Commission, 1939. 45

Figure 19. Route 66 Ribbon Road proposed Alternative #1. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 8*. 59

Figure 20. Route 66 Ribbon Road proposed Alternative #2. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 9.* 59

Figure 21. Route 66 Ribbon Road proposed Alternative #3. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 10.* 60

Figure 22. Route 66 Ribbon Road proposed Alternative #4. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 11.* 60

Figure 23. Route 66 Ribbon Road proposed Alternative #5. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 11.* 62

1. INTRODUCTION

PURPOSE OF REPORT

The purpose of this Historic Structure Report (HSR) is to document the history and current condition of the National Register-listed Route 66 Ribbon Road (also known colloquially as the Nine-Foot Highway and the Sidewalk Highway) in Ottawa County, Oklahoma, and develop treatment and management alternatives that will inform rehabilitation plans. The roadway is a unique and significant resource along the national length of Route 66 that serves the needs of both local residents and visitors from all over the world who come to drive and experience the road. The structure is in fair physical condition and in need of a rehabilitation strategy focused on the resource's character-defining features. This project describes treatments that would preserve the road with a goal of making it usable and available for future generations.

This report begins with an introduction to Route 66 Ribbon Road and a summary of the road's historical significance, followed by a discussion of the roadway's historical background and context, a chronology of development and use, a physical description, an evaluation of significance, and a condition assessment. A description of the historic preservation objectives is presented, along with requirements for work, work recommendations, and alternatives. The report concludes with a bibliography and appendices.

KEY DISCOVERIES

The first major research finding concerns the nature of Route 66 Ribbon Road's 9-foot width. Previous studies had speculated about why the single-lane roadway was constructed with such a limited capacity. Research conducted for this HSR has determined that at the time of its construction the roadway was considered experimental. Although several factors contributed to

the roadway's design, the construction of highways in Oklahoma was in its infancy in the early twentieth century, and the state was willing to experiment with innovative designs and materials.[1]

The second major research finding concerns Route 66 Ribbon Road's as-built construction. The roadway's 1918 plans indicate specifications for a 9-foot-wide, 5-inch-thick concrete base with a 2-inch layer of Topeka asphalt, and 8-foot-wide gravel shoulders.[2] A roadway evaluation produced for this report by Guy Engineering indicates the current shoulder widths are typically less than 8 feet and closer to 5 feet. A geotechnical analysis of the roadway indicates that the concrete base ranges in thickness between 5 and 5.75 inches thick. And a pavement mix investigation determined a sample of the current pavement is of a finer gradation than the typical Topeka mix (Michael H. Homan to John Blickensderfer, April 6, 2021). The evaluation concludes that the roadway was not constructed in strict accordance with the 1918 construction plans.[3]

[1] Oklahoma Department of Transportation, "Annual Report of the State Highway Commission for the Years 1919 to 1924 Inclusive," 87. This early report includes a discussion of the different types of roadway materials being used across the state, including gravel, macadam, and asphalt surfaces.
[2] Guy Engineering, "Roadway Evaluation Report Historic Route 66 Ribbon Road JP #33565 and 33568," 3.
[3] Guy Engineering, "Roadway Evaluation Report," 4.

2. PROJECT DATA

LOCATION OF HISTORIC STRUCTURE

Route 66 Ribbon Road comprises two discontiguous roadway segments: an upper, northern segment and a lower, southern segment. The roadways, which were formerly joined as a single highway and part of the original U.S. Highway (U.S.) 66 alignment, are in southwest Ottawa County, Oklahoma. Depending on the discussion's context, this road may be referred to as Route 66 Ribbon Road, Miami-Afton Federal Road, Oklahoma State Highway (SH) 7, or U.S. Route 66 throughout this document.

The upper portion is southwest of Miami, Oklahoma (Figure 1). It is approximately 3.5 miles long and is coterminous with West 130 Road, South 540 Road, and East 140 Road. The roadway is continuous and follows section lines from the intersection of East 130 Road and East Street Southwest to U.S. 59 (formerly U.S. 66).

The lower portion is northeast of Afton, Oklahoma (Figure 2). It is approximately 3 miles long and is coterminous with East 200 Road, South 520 Road, and East 220 Road. The roadway is continuous and follows section lines from US 59 to US 60. A portion of this roadway crossing Interstate Highway (IH) 44 was removed when an overpass over the highway was constructed in 1957.

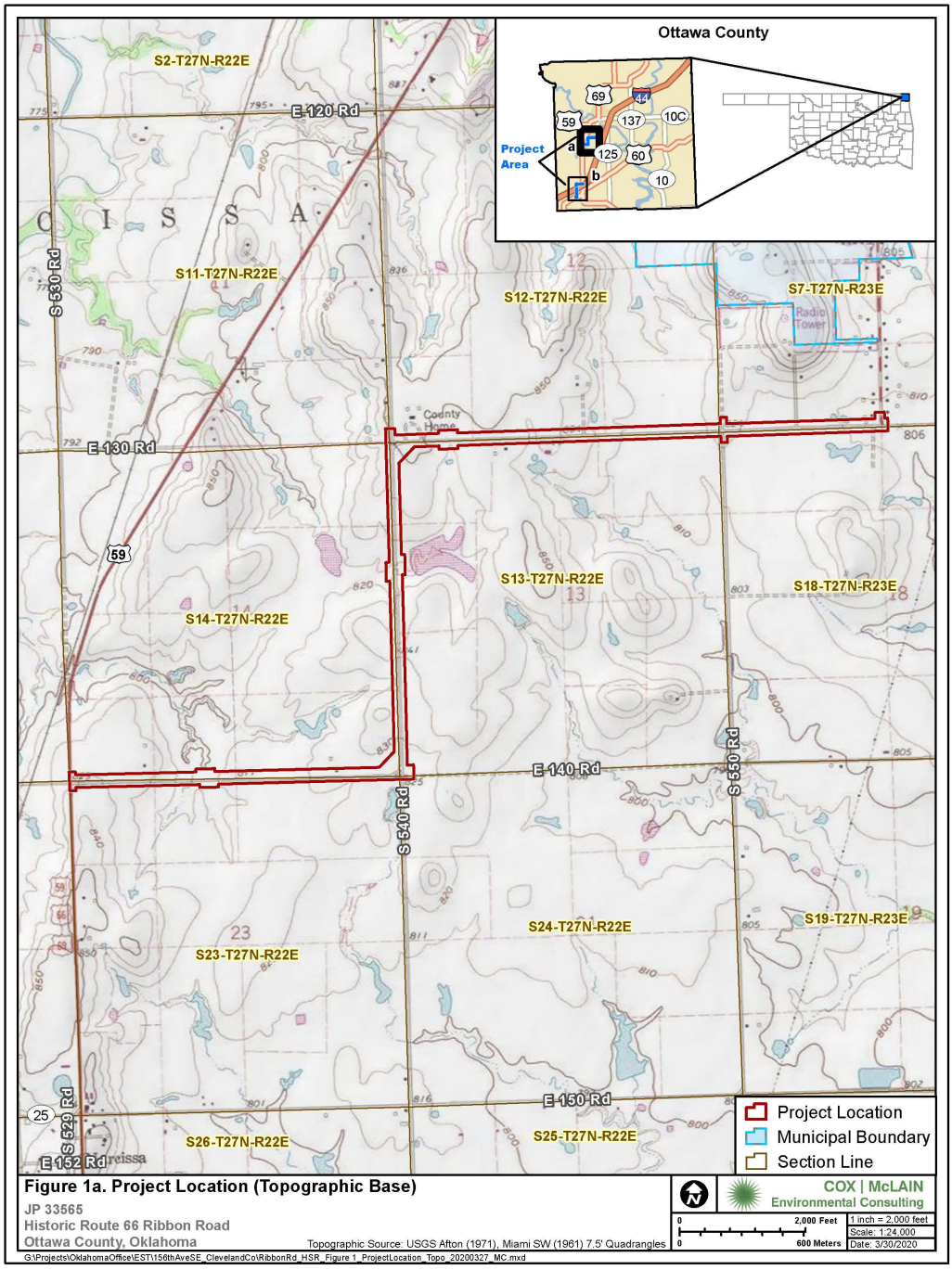


Figure 1. Project location, upper portion. Figure by Cox|McLain Environmental Consulting, Inc. (CMEC).

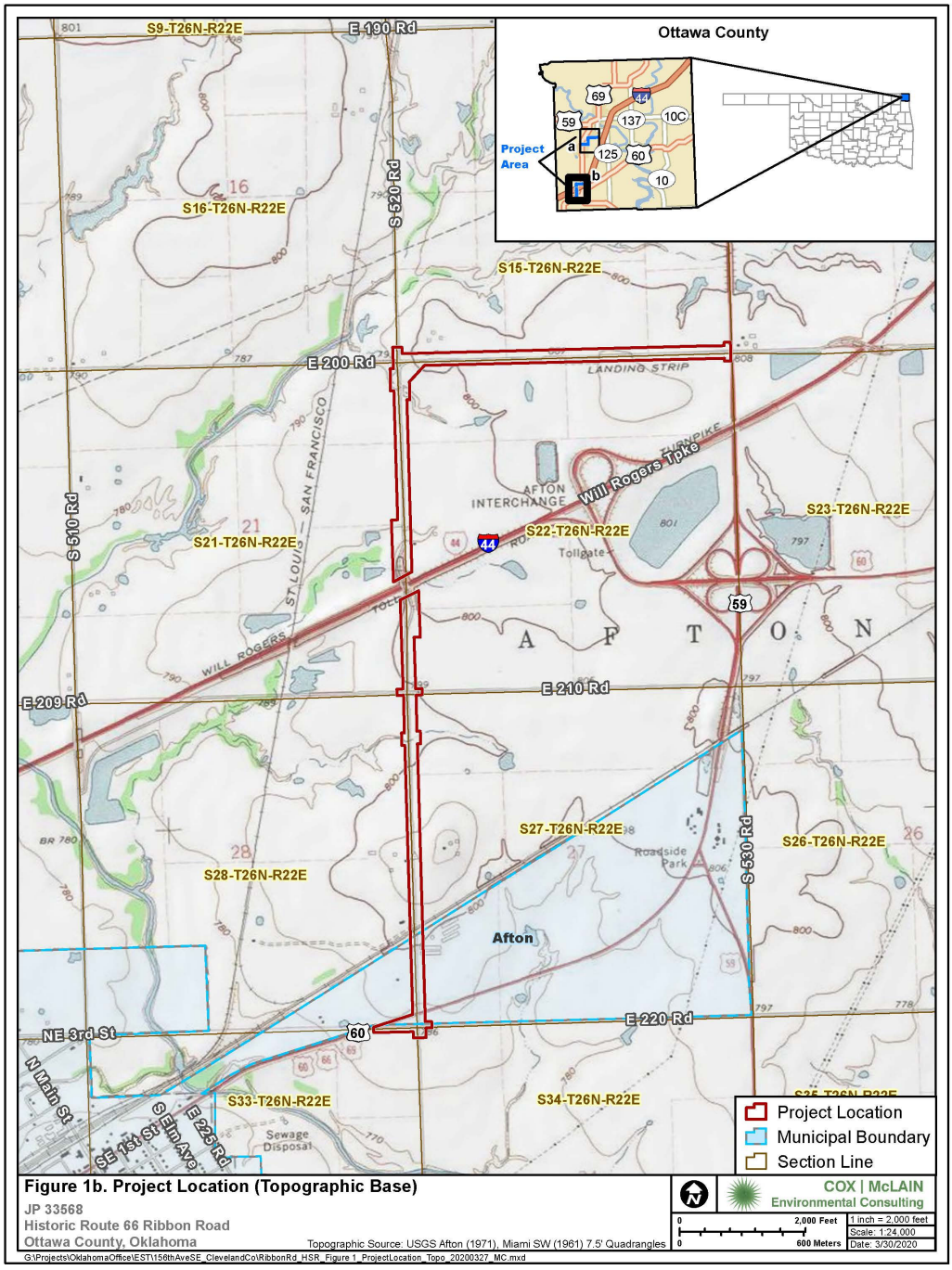


Figure 2. Project location, lower portion. Figure by CMEC.

OWNERSHIP OF HISTORIC STRUCTURE

The two roadway sections are currently owned and maintained by Ottawa County, Oklahoma.

LANDMARK STATUS

In 1994 the northern portion of Route 66 Ribbon Road was individually listed as the *Miami Original Nine-Foot Section of Route 66 Roadbed* in the National Register of Historic Places (NRHP).[4] This listing is related to the multiple property listing *Route 66 and Associated Historic Resources in Oklahoma*.[5]

HISTORIC STRUCTURE REPORT METHODOLOGY

Several methods for collecting supporting information were used for this HSR. Initially, a literature review was conducted to evaluate what previous studies and documentation had been completed for Route 66 Ribbon Road. Books, articles, websites, nomination forms, and previous surveys were reviewed to assess the depth of research currently available about Route 66 Ribbon Road and the contexts in which the resource had appeared. The literature review also illuminated the extent to which other historic roadways have been studied and documented. Next, archival research was conducted to gain knowledge about the structure's history, its construction, and use. While this activity consisted primarily of newspaper research,

[4] Maryjo Meacham, Brenda Peck, Lisa Bradley, and Susan Roth, "Miami Original Nine-Foot Section of Route 66 Roadbed," National Register of Historic Places Inventory/Nomination Form (Norman, OK: University of Oklahoma, College of Architecture, December 21, 1994).

[5] Maryjo Meacham, Brenda Peck, Lisa Bradley, and Susan Roth, "Route 66 and Associated Historic Resources in Oklahoma." National Register of Historic Places Inventory/Nomination Form (Norman, OK: University of Oklahoma, College of Architecture, December 19, 1994). Note that in 2002 this nomination's historic context was revised and the period of significance end date was extended from 1944 to 1970.

archival photographs, maps, and roadway plans were also reviewed. Professional reports related to this project and prepared by Guy Engineering were consulted extensively. Finally, field research was conducted on several occasions to evaluate the roadway's condition and setting. This report has been prepared based on guidance published by the National Park Service in *Preservation Brief 43: The Preparation and Use of Historic Structure Reports*.[6]

FUNDING

This HSR was supported by the National Park Service Route 66 Corridor Preservation program.

PROJECT PARTICIPANTS

Principal Investigator
Emily Reed, MS
CMEC

Project Historians
Marcus Huerta, MS
Sandy Shannon, MHC
Amy Dase, MA
CMEC

Roadway Evaluation Report
John Blickensderfer
Guy Engineering Services, Inc.

National Park Service
Kaisa Barthuli
Route 66 Corridor Preservation Program

[6] "Preservation Brief 43: The Preparation and Use of Historic Structure Reports," accessed May 21, 2020, https://www.nps.gov/tps/how-to-preserve/briefs/43-historic-structure-reports.htm.

3. HISTORICAL BACKGROUND

EARLY ROADS IN OKLAHOMA, PRE-STATEHOOD TO 1924

The proposed project concerns the original 9-foot-wide section of U.S. 66 roadbed in southwest Ottawa County, Oklahoma, commonly referred to as the "Route 66 Ribbon Road." The roadway was constructed as a continuous highway, of which two discontiguous portions remain: an upper, northern segment and a lower, southern segment. As originally constructed, Route 66 Ribbon Road was a 15.47-mile highway between Miami, Oklahoma, and Afton, Oklahoma, and upon its completion in 1922 was known as the Miami-Afton Federal Road (during construction, it was also known as Federal Aid Project [FAP] Number 8) (Figure 3 and Figure 4). In 1924 when the Oklahoma State Highway System was established, the highway was designated SH 7. In 1926, the highway became part of U.S. 66 extending from Chicago, Illinois, to Los Angeles, California. As one of the first paved highways in Oklahoma, the events that transpired to fund and construct Route 66 Ribbon Road illustrate Oklahoma's early challenges in constructing a state highway system. The roadway's unique design characteristics and its limited service as a U.S. highway (only 11 years) illustrate the rapid evolution of early highway design in Oklahoma.

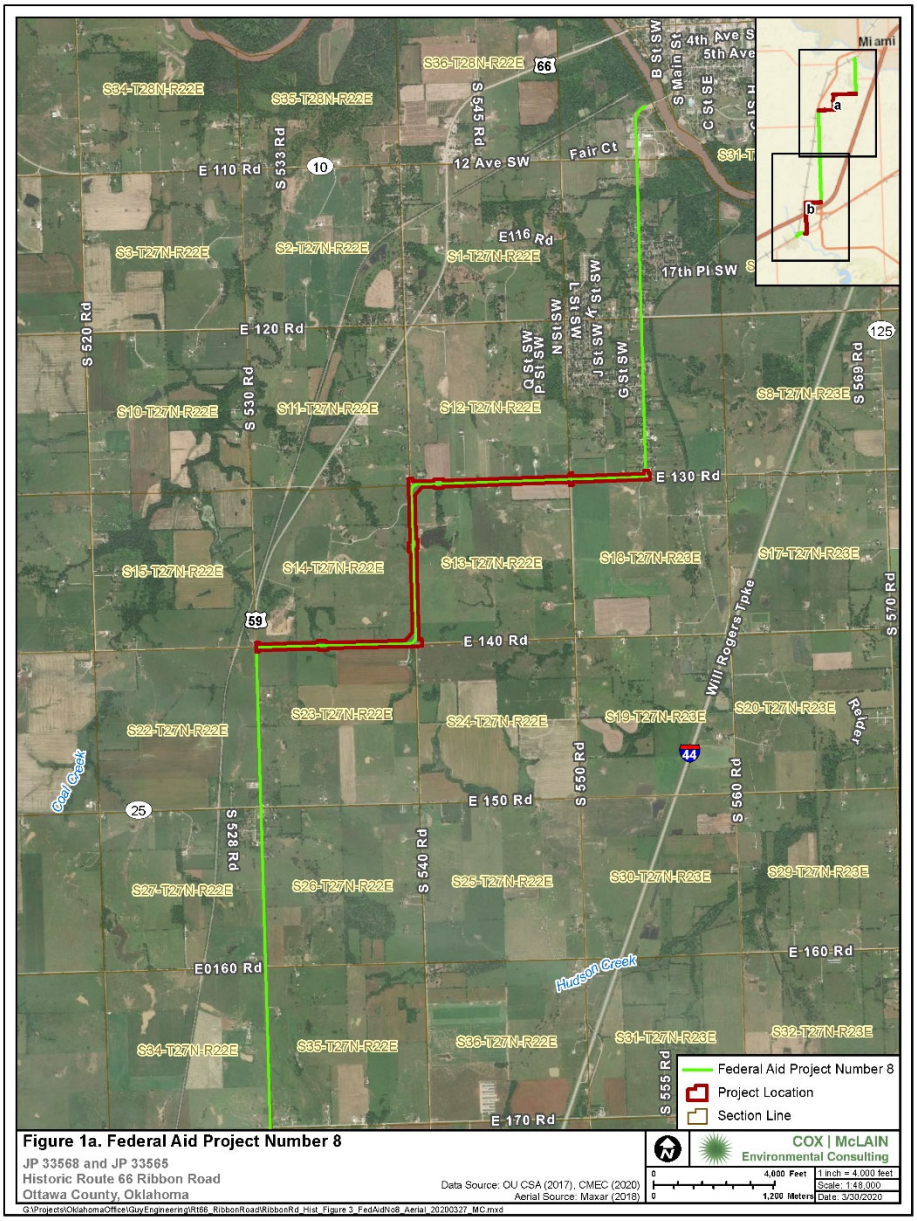


Figure 3. Federal Aid Project Number 8. Image by CMEC.

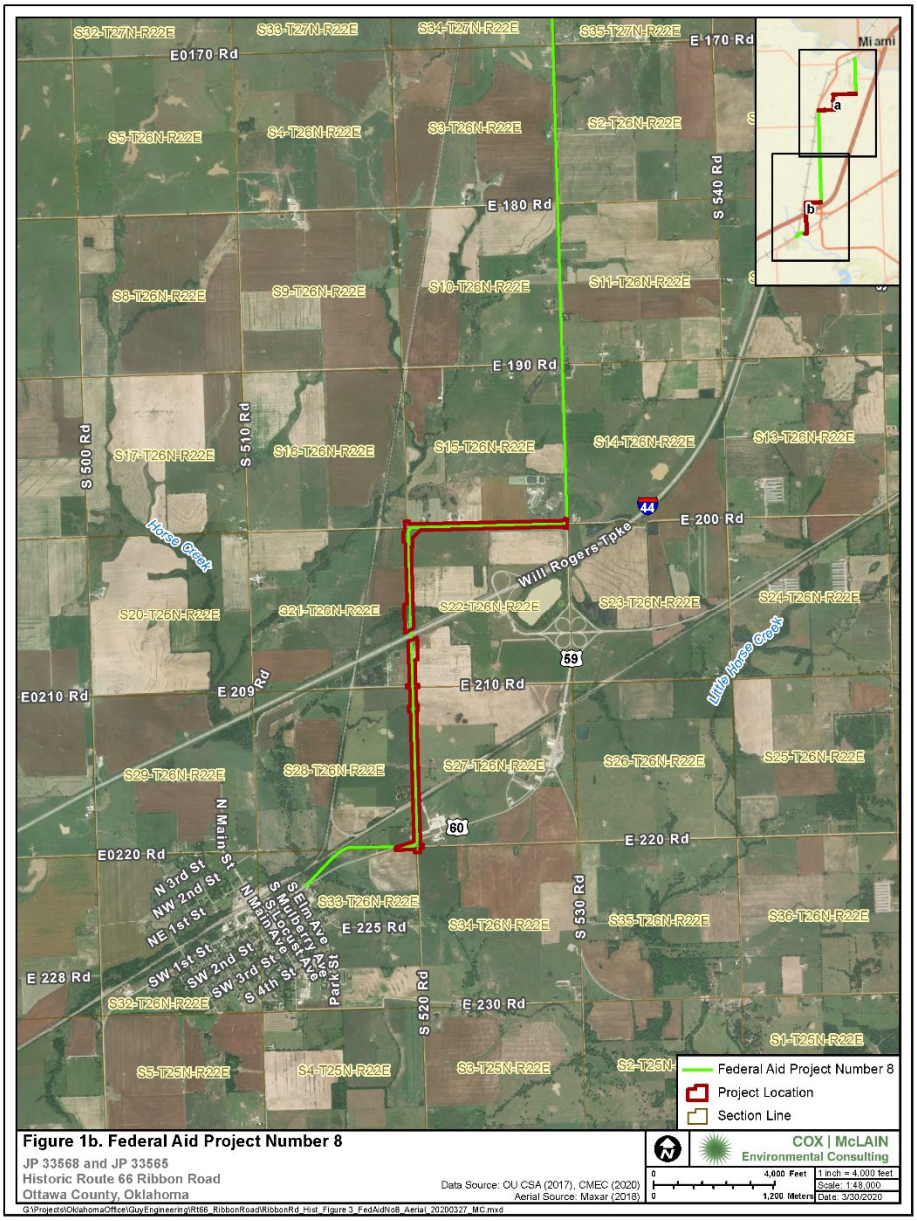


Figure 4. Federal Aid Project Number 8. Image by CMEC.

Prior to statehood, roadways typically formed along footpaths and trails linking rural residences with villages. As foot traffic transitioned to wagon traffic these networks expanded over time and the earliest system of public roadways in Oklahoma emerged. Indian nations

largely relied upon private enterprise for road construction, granting toll concessions to individuals who built public roads.[7] Townships in Oklahoma Territory bore the primary responsibility for roadway construction and maintenance. By law, all section lines served as highway right-of-way (ROW).[8] The constructed roadways, oftentimes built by citizen road crews, were of inconsistent quality and varying specification.[9] By statehood in 1907, 1,211 miles of section line roads had been established.[10]

That year the territorial organizations deliberated statehood, and road boosters and good roads associations successfully lobbied the Oklahoma Constitutional Convention to create a state highway department. These efforts illustrated the limits of an otherwise piecemeal local approach to road construction during the territorial era. Until this time farmers had initiated the call for better roads to get their yields to market. The matter of interconnected counties and cities began to take on increased importance to the regional economy as urban areas emerged, but the territorial governments had neither expertise nor resources to provide roadways. As the value of dependable roads became apparent, organizations such as the Sand Valley Good Roads Association in Logan County and the Oklahoma-Indian Territory Good Roads Association emerged in 1902 and 1906, respectively.[11] These advocacy groups recognized the ability of a road network to stimulate economic growth and the need for regional planning beyond local needs. Upon adoption of the Oklahoma State Constitution on September 17, 1907, Article XVI

[7] William Corbett, "Oklahoma's Highways : Indian Trails to Urban Expressways," PhD Dissertation, Oklahoma State University, 1982, 136.
[8] Corbett, "Oklahoma's Highways," 168–69.
[9] Bob Burke, *ODOT 100 Celebrating the First 100 Years of Transportation in Oklahoma*, Oklahoma Horizons Series (Oklahoma City: Oklahoma Heritage Association, 2011), 4.
[10] Corbett, "Oklahoma's Highways," 156.
[11] Burke, *ODOT 100*, 4–7.

directed the legislature to establish a Department of Highways with "the power to create improvement districts and provide for building and maintaining public roads."[12]

Despite lobbying efforts by boosters and roadway associations the long-held ethos of local control of roadway decisions was not easily changed, and in the years immediately following statehood the legislature showed no political will to advance the matter of state highways and roadway planning. Counties were ill-equipped to handle planning and project management on what was becoming a complex matter requiring statewide considerations, long-range planning, and intergovernmental coordination. Critically, they were unable to tap emerging federal roadway programs that required coordination with state highway agencies. Recognizing these limits, in 1911 the Oklahoma legislature took up the matter of Article XVI and established both the State Highway Department and the Office of State Highway Commissioner.[13]

These newly formed state agencies found themselves operating in an environment in which the de facto decision-making authority (the power to raise and allocate funds) was still in local hands. As originally structured, the department was funded by a new $1.00 license fee to be paid per vehicle by their owners. The enabling legislation was relatively weak, though, and provided neither seed money to fund the new department, nor a means to collect the tax. Moreover, the department was not given a clear mandate for construction and maintenance of roads.[14] By 1915, with the department's inadequacy apparent, the legislature reorganized the department and redirected a portion of ad valorem property taxes to a newly created central

[12] State of Oklahoma, "Constitution of the State of Oklahoma, Article XVI," Oklahoma Constitutional Convention, September 17, 1907.
[13] Burke, "*ODOT 100*," 7–8.
[14] Burke, "*ODOT 100*," 8.

road improvement fund.[15] As part of the reorganization, the department was given authority to establish construction standards and maintenance procedures. The legislature called for the establishment of a state highway system designed to connect major cities within counties and with the requirement for these highways to connect with state highways in adjacent counties.

A permanent shift in roadway funding began in 1916 when the U.S. Congress passed the Federal Aid Road Act (39 Statute 355), the first ongoing federal program to fund road construction, which was initially focused on FAPs to improve rural roads.[16] Prior to this program, the federal government had not played a significant role in the development of highways, and except for the Cumberland Road and various postal routes, very few federally funded roads existed. The law established fundamental federal-state roadway policies such as those requiring the development of state highway departments; state-sponsored construction, ownership, and maintenance of highways; a federal-state matching funds ratio; and an apportionment formula based on area, population, and post-road mileage, still in place today.[17] Projects constructed via this funding mechanism were known as FAPs. Route 66 Ribbon Road, known at the time as FAP Number 8 (FAP 8), was let with Oklahoma's first group of federal projects in 1918.[18] This group

[15] Burke, "*ODOT 100*," 10.

[16] Robert S. Kirk, "The Highway Funding Formula," EveryCRSRReport.com, May 20, 2019. https://www.everycrsreport.com/reports/R45727.html#fn3.; Wilbur E. Smith, "The Federal Urban Highway Program," Illinois Periodicals Online, October 1958, https://www.lib.niu.edu/1958/im5810227.html.

[17] Porter K. Wheeler, "Highway Assistance Programs : A Historical Perspective," Washington, DC: Congressional Budget Office, February 1978, https://www.cbo.gov/sites/default/files/95th-congress-1977-1978/reports/78-cbo-020.pdf, 2–3. Postal road mileage was determined using the following ratio: the mileage of rural free delivery routes (home delivery) in the state plus star routes (intercity bulk mail delivery, usually between post offices) in the state to the total mileage in all the states at the close of the preceding year (Kirk, "The Highway Funding Formula").

[18] The Oklahoma State Highway Commission let four FAP projects in 1918, FAPs 3, 4, 7, and 8. The 1919–1924 annual report identifies FAP 3 in Oklahoma County as "experimental," consisting of roadway sections constructed of macadam, Topeka asphalt on macadam, vitrified brick on concrete base, asphalt on concrete base, and concrete without asphalt surface. FAP 4 was a 2.18-mile concrete roadway without asphalt surface. Although FAPs 7 and 8 were both constructed of Topeka asphalt over a concrete base, FAP 8 is the only FAP project of the 194 planned through 1924 to feature a 9-foot-wide roadway.

totaled 22.78 miles of roadway with a value of $476,673.95. FAP 8, at 15.6 miles with a value of $313,912.88, was by far the state's largest highway project in the group, accounting for 69 percent of the total length and 66 percent of the total funding.[19]

The Oklahoma State Highway Commission's 1924 Annual Report's discussion of FAPs illustrates the environment under which these projects were let and contextualizes Route 66 Ribbon Road's unique design. As these first projects were largely experimental, the report notes their variety, characterizing the commission's willingness to experiment with new materials and specifications. The report indicates, for instance, projects with multiple roadway surfaces including gravel, macadam, and a "high" type (asphalt) of more permanence.[20] Although most roads mentioned in the report were being constructed to an 18-foot width, FAP 8, one of the state's largest roadway construction projects, was designed with a 9-foot width. The report notes that high fills and sharp curves were generally protected with guardrails designed to guide traffic, but FAP 8's short curves had no such guardrails.[21] The report ends with a notable discussion on long-range planning, including the need to move beyond a piecemeal approach to project planning, to one envisioning a fully realized highway system. The report notes that project planning had been haphazard, with mistakes that led to unnecessary distance and cost to connect short distances of road. In 1924 the State Highway Commission began to transition to a policy based on agreed-upon roadways subdivided into control points. Routes would be designed to be direct, consistent with the area topography, and aligned with local development.[22]

[19] Oklahoma Department of Transportation, "Annual Report of the State Highway Commission for the Years 1919 to 1924 Inclusive," Oklahoma City, 1924, https://digitalprairie.ok.gov/digital/collection/okresources/id/14207/rec/39, 87.
[20] Oklahoma Department of Transportation, "Annual Report," 9.
[21] Oklahoma Department of Transportation, "Annual Report," 20–21.
[22] Oklahoma Department of Transportation, "Annual Report," 64.

In summary, Route 66 Ribbon Road is a resource that embodies Oklahoma's earliest highway road construction efforts. The project bridged the shift from local to large-scale federal highway funding, and its experimental design, which quickly proved inadequate, helped advance the development of roadway standards concerning how and where highways were constructed.

4. CHRONOLOGY OF DEVELOPMENT AND USE

Constructed in 1922, Route 66 Ribbon Road has served northeast Oklahoma and the United States for almost 100 years. Over the course of its existence, the roadway has consisted, or been part, of four distinct designations (Figure 5):

- Miami-Afton Federal Road, 1918–1924
- SH 7, 1924–1926
- U.S. 66, 1926–1937
- Ottawa County Road/ "Route 66 Ribbon Road," 1937–present

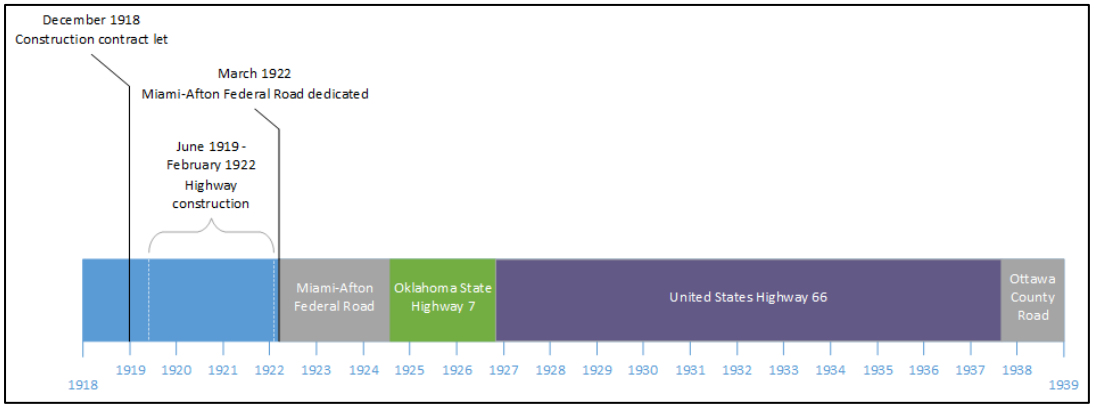


Figure 5. Designations of Route 66 Ribbon Road, 1918 through 1939.

MIAMI-AFTON FEDERAL ROAD, 1918–1924

Regional connectivity in northeast Oklahoma was the subject of much planning in the early twentieth century, especially in terms of the federal government's new highway assistance program and aspirations to create all-weather road networks. The 1916 passage of the Federal Aid Road Act, which provided funding for the improvement of any rural road over which U.S. mail was carried, marked the federal government's first program assisting with state highway

costs.[23] As virtually all inter-city roads were rural at this time, the aid program, known as "FAP," provided attractive possibilities to communities looking to connect to larger emerging regional networks. Early networks such as the Ozark Trail and the Jefferson Trail, which were the forerunners of state and national highway systems, endeavored to connect far-flung destinations such as St. Louis, Missouri, and El Paso, Texas, in the case of the Ozark Trail, and Winnipeg, Canada, and New Orleans, Louisiana, in the case of the Jefferson Trail. These routes were the subject of much boosterism as inclusion, which was often decided by national sponsoring associations, had the potential to provide reliable access to markets.[24] While these networks were relatively short lived (as state and federal government planning obviated their need), the importance of reliable all-weather highway connectivity only grew.

A key aspect of the FAP program was the requirement of communities to provide a share of construction project funding and long-term maintenance, which prompted counties to develop funding streams for these purposes. Anticipating the letting of a federal aid roadway project to connect the towns of Miami and Afton, the Ottawa County Commission held a special election on April 23, 1918, for a $350,000 road and bridge construction bond.[25] The matter failed. The commission, taking a different approach during the following summer, dedicated state-collected taxes on mineral production and vehicle registration to fund local roadway improvements, operating under the rationale that the county's mining industry was the chief

[23] National Stone, Sand, and Gravel Association, "History of the Federal-Aid Highway Program," accessed May 25, 2020, https://www.nssga.org/advocacy/grass-roots/reauthorization-roadmap/history-federal-aid-highway-program/.

[24] Dianna Everett, "Ozark Trail Highway," The Encyclopedia of Oklahoma History and Culture, 2019, https://www.okhistory.org/publications/enc/entry.php?entry=OZ005; "Enthusiastic Road Meet Here Saturday," *Miami Record-Herald,* March 10, 1916, 1.

[25] *Commissioner's Journal, Ottawa County*, vol. 3 (Miami, OK: Ottawa County Clerk, n.d.), 148.

source of wear on existing roads. On June 10, 1918, the county, signaling its commitment to roadway investments, established a permanent General Road and Bridge fund.[26]

On December 30, 1918, the Oklahoma State Highway Commission let the contract for FAP No. 8; the contract was one of the commission's first four federal highway projects. The commission awarded this project to the Western Paving Company of Oklahoma City. The $313,912.88 contract called for the construction of what was then referred to as the Miami-Afton Federal Road.[27] Quickly following suit, on January 7, 1919, the Ottawa County Commission authorized a matching local expenditure for the highway's construction and maintenance.[28] The project called for a well-drained concrete roadway topped with an asphalt surface and flanked by 8-foot-wide shoulders for turnouts. The specified Topeka asphalt mixture was similar to that on city streets, save for the addition of larger stones of up to one-half-diameter.[29] The type originated in 1909 and received its name in Topeka, Kansas, following a lawsuit the city filed against the product's patent holder, the Warren Brothers Company.[30] The Topeka product was a heated mixture of stone, sand, and fine dust or Portland cement, mixed with bituminous cement. Typically, the wearing course of this mixture was laid upon a concrete, broken stone, or gravel foundation to a thickness of 2 inches.[31] Asphalt could be used in place of bituminous cement to form an asphaltic concrete.

The 15.469-mile Miami-Afton Federal Road, 13.33 miles of which would consist of an experimental single-lane 9-foot-wide section, would extend from Miami to Afton via the

[26] *Commissioner's Journal, Ottawa County*, 174.
[27] Oklahoma Department of Transportation, "Annual Report," 87.
[28] *Commissioner's Journal, Ottawa County*, 227.
[29] Oklahoma Department of Transportation, "Annual Report," 24.
[30] Roy M. Green and L.W. Kemp, "Principles Of Pavement Selection With Statistics Of Pavements In Texas Cities And Towns Prior To January 1, 1920," Bulletin of the Agricultural and Mechanical College of Texas. College Station, TX, May 1, 1920
[31] Green and Kemp, "Principles Of Pavement Selection," 35.

intermediate town of Narcissa (Figure 6).[32] The combination of a single-lane roadway with ample shoulders was commonly viewed as an economical solution that reduced the project's cost and still delivered the performance of a 20-foot-wide section.[33] Construction of the roadway occurred in two staggered phases organized geographically into the Miami-Narcissa and Narcissa-Afton sections, and its major components consisted of clearing and grading the new alignment, followed by construction of the concrete base, application of the asphalt surface, and grading of the shoulders. Although the two phases were staggered, clearing and grading for both sections was scheduled to begin at the same time and run concurrently; after clearing and grading, construction of the Miami-Narcissa section was scheduled to begin first, with the Narcissa-Afton section preliminarily scheduled to follow its completion.[34] County engineer George J. Stein headed the overall project, with the first section scheduled for completion within four months of letting.[35]

[32] The Oklahoma Route 66 Association, "Oklahoma Route 66 Roadbed Documentation Project (1926–1970) A Survey of Roadbed and Integral Structures" (Oklahoma State Historic Preservation Office, 2002), 13.
[33] "Town Topics," *Baxter Daily Citizen*, May 23, 1921, 4.
[34] "Grading Miami-Afton Road," *Joplin Globe*, July 11, 1919, 9.
[35] "Road Work Begins," *Joplin Globe*, May 17, 1919, 5.

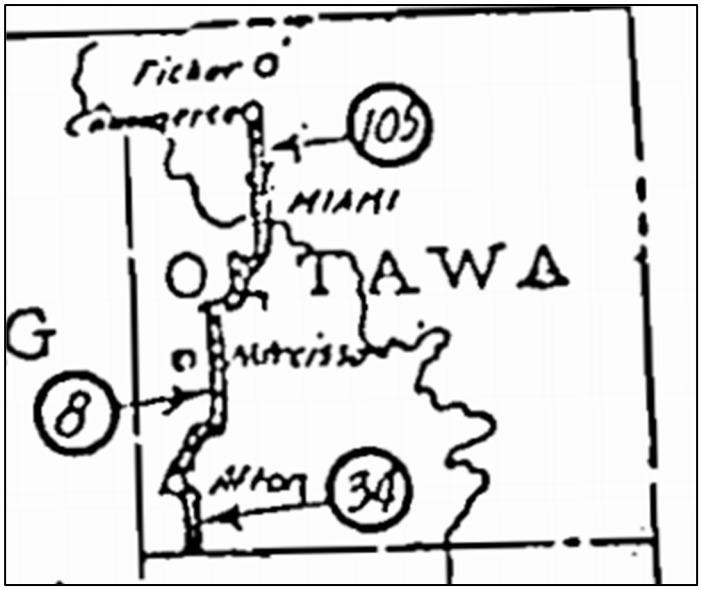


Figure 6. Ottawa County FAP No. 8. From *State of Oklahoma Showing Locations of Federal Aid Projects*, 1924.

Although other hard-surfaced roadways had already been constructed in Oklahoma, none approached the length or complexity of the Miami-Afton Federal Road. In 1916 Oklahoma had only 25.5 miles of hard-surfaced roads and 3,545 miles of gravel and dirt roads in the unofficial state highway system.[36] This new highway, consisting of a concrete base and asphalt surface, required engineers to design to federal roadway material specifications that had only recently been set. That the roadway was only 9 feet wide was not highly unusual for the time, since at least 1913 the State Highway Commission had promoted roadway standards that emphasized overall length over width to save on construction costs.[37]

[36] Burke, *ODOT 100,* 12.

[37] Oklahoma Department of Highways, "Biennial Report 1913–14," (Oklahoma City, OK: Oklahoma Department of Highways, 1914), https://digitalprairie.ok.gov/digital/collection/okresources/id/68764/rec/1, 13. The 1994 NRHP nomination proposes two theories for the roadway's peculiar width: 1) that there was not enough money to "finish the second half of the road, thus leaving the entire width at nine feet," and 2) that "in order to get more road for the money, they constructed the road half the width at twice the distance," (Meacham et al. 12). The second theory is supported by the Oklahoma Department of Highway's policy established in 1913. The report's road standards discussion clearly emphasizes length over width and established a 16-foot-wide upper limit. The guidance further indicates that while a 16-foot width is allowed, in most cases a 12-foot width is sufficient. Given the experimental FAP projects let between 1918 and 1924, the 9-foot width is not unusual.

Although grading and clearing for both sections was set to begin in July 1919, slow progress was made leading to the kickoff as the contractor and State Highway Department worked through the first of several previously unencountered impediments particular to highway construction of this magnitude.[38] By May 1919 the project was already facing delays as the project team, unaccustomed to operating under federal oversight, awaited federal approval of the roadway plans.[39] The matter was cleared and work began in July as planned.[40] Another issue concerned the 90-degree turns along section lines, as construction plans had not considered the increased width required for banked turns. On January 6, 1920, the Ottawa County Commission voted to reimburse the contractor for the additional pavement installation above the roadway's 9-foot width required for the banked turns.[41] Although construction superintendent J. J. McCauley reported that more than 3 miles of concrete had been laid by the end of January, the ability to progress on future construction activities was not assured.[42] In some cases, protracted ROW acquisition delayed the project. In the only condemnation action related to the project, on April 6, 1920, the Ottawa County Commission identified a public necessity to take land along 3,960 feet of the project's footprint after negotiation with the landowner had failed.[43] The commission's vote that day condemned the property, taking the strip for required additional ROW through the state's eminent domain statute.

Given the project's high profile, state officials became involved with the project's periodic quality reviews. The completion of 4.5 miles of roadway in March 1920 prompted an inspection that Oklahoma Governor J. B. A. Robertson headed; other participant-experts

[38] "Miami-Afton Federal Road Dedicated This Afternoon Before Large Crowd," *Miami Daily Record-Herald*, March 14, 1922, 1.
[39] "Road Work Begins," 5.
[40] "Grading Miami-Afton Road," 9.
[41] *Commissioner's Journal, Ottawa County*, 336.
[42] "Road Work Progresses," *Joplin Globe*, January 7, 1920, 5.
[43] *Commissioner's Journal, Ottawa County*, 365.

included state highway engineer Robert Terrill, highway department official Henry Wood, and federal highway expert J. L. Fauntleroy. The governor expressed desire that the roadway's construction be a model for other counties to follow, but the inspection revealed that some of the roadway construction materials were of inconsistent quality, resulting in condemnation of 6,000 square yards of already-constructed concrete roadway. The project was halted. After a two-month delay to clarify specifications and materials, construction resumed with the contractor ordered to pay for replacement pavement.[44]

As completion of the concrete base approached Narcissa and work turned to the application of the asphalt surface and grading of the highway's shoulders, one final impediment was encountered. In July 1920 the state highway engineer refused to approve the contractor's proposed surface materials, causing a delay.[45] Responding to increasing public frustration, Governor Robertson explained that the entire process required "ironing out," and that in some cases work had either not been performed according to specification or the specifications themselves were incorrect.[46] Roadwork was delayed through the summer and early fall, and on October 14 the contractor received a 60-day extension from the State Highway Commission to complete the final elements of the first phase.[47] Work on the dirt "wings," or shoulders, commenced in December 1920, and the Miami-Narcissa section was officially completed in March 1921.[48]

[44] "Inspectors View New Miami-Afton Highway," *Joplin Globe*, March 9, 1920, 3; "Miami Builds Concrete Road," *The Daily Ardmoreite*, May 24, 1920, 1; "Builder Must Pay Cost Of Replacing Pavement," *Joplin Globe*, May 26, 1920, 5.
[45] "Progress On Highway," *Joplin Globe*, July 11, 1920, 16.
[46] "Miami-Afton Highway Is Really to Be Built," *Miami Daily Record-Herald*, July 21, 1920, 1.
[47] "State News Notes," Craig County Gazette. October 14, 1920, 2.
[48] "Miami And Afton Concrete Road Nears Completion," Joplin Globe, December 9, 1920, 4; "Miami-Afton Federal Road Dedicated This Afternoon Before Large Crowd," *Miami Daily Record-Herald,* March 14, 1922, 1.

The lessons learned during the first phase of construction enabled the project's second phase between Narcissa and Afton to proceed at a quicker pace. The alignment's rough grading south of Narcissa to Afton, which had begun in 1919, was complete, and a temporary bypass through adjacent fields was set up to circumvent the prepared roadbed awaiting construction.[49] Construction by contractor Fuller and Co. of Tulsa began in July 1921 and, in just four months, the road had been completed within 3 miles of Afton (Figure 7).[50] In January 1922 the entire highway between Miami and Afton was opened to traffic despite incomplete shoulder grading and a one-half mile section that still needed application of the asphalt surface.[51] The second phase was officially complete in February 1922.[52]

The Miami-Afton Federal Road was dedicated on March 14, 1922, in a day of celebratory events in both terminal cities. The program began with a ribbon-cutting at the Hotel Miami followed by an automobile parade to the Afton train station to meet visiting dignitaries. After a dirt-turning ceremony and addresses, which included a history of the project by county engineer George J. Stein, the inauguration party returned to Miami for a banquet. More than 300 persons attended the entertainments and speeches at the Hotel Miami. The completed 15.47-mile-long roadway cost $347,370.52, of which $104,156.75 was provided from federal aid.[53]

[49] "Highway Is Open," *Joplin Globe*, October 1, 1920, 5.
[50] "Rapid Progress On Road Made," *Joplin Globe*, November 30, 1921, 2; "Miami-Afton Federal Road Dedicated This Afternoon Before Large Crowd," 1.
[51] "Miami-Afton Highway Is Open To Traffic," *Joplin Globe*, January 17, 1922, 5; "Happenings In Oklahoma," *The Adair Citizen*, January 26, 1922, 3.
[52] "Miami-Afton Federal Road Dedicated This Afternoon Before Large Crowd," 1.
[53] Oklahoma Department of Transportation, "Annual Report," 78.

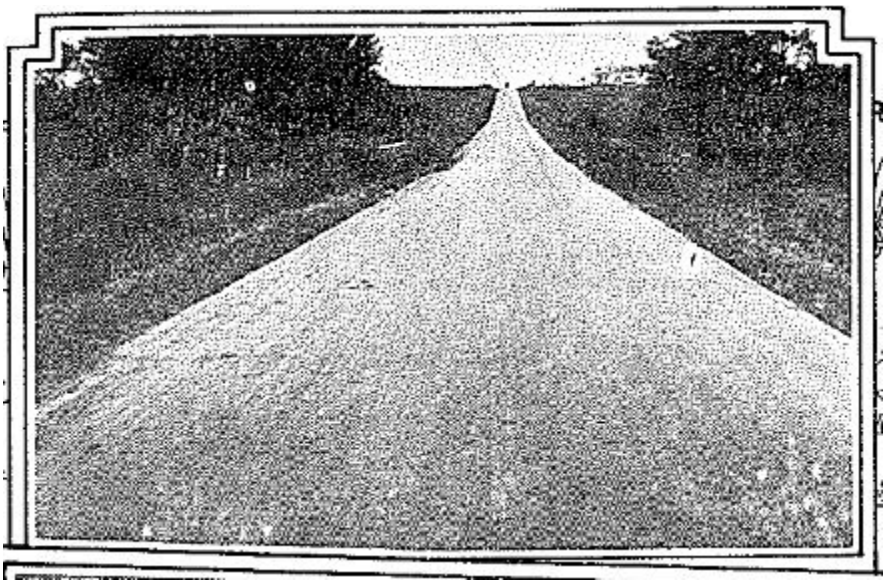


Figure 7. Image of Miami-Afton Federal Road as originally constructed. Reprinted from *Annual Report Of The State Highway Commission For The Years 1919 To 1924 Inclusive*, 159.

As the Miami-Afton Federal Road approached completion, federal developments began to shape the long-term future of Oklahoma roadway construction and finance. In 1921 Congress modified the Federal Highway Act and called for an interstate highway system. In order to tap federal funds, states would be required to centralize construction and maintenance under a single organization. The law further defined national roadway standards and established a minimum 18-foot width.[54] Responding to these new policies, in 1924 the Oklahoma legislature restructured the State Highway Department and roadway funding. Roadways were classified into three tiers: state highways, county highways, and township roads, with the State Highway Commission given authority to designate state highways. Construction and maintenance of highways became the sole responsibility of the State Highway Department. To fund the

[54] Mary Ann Anders, ed., "Route 66 in Oklahoma: An Historic Preservation Survey" (Oklahoma State University, Stillwater Oklahoma: Oklahoma Historic Preservation Survey, 1984), 24.

department and future improvements, the state gasoline tax was increased to 2.5 cents per gallon with a full cent allocated to the highway department.[55]

STATE HIGHWAY NO. 7, 1924–1926

In August 1924, the State Highway Commission announced the establishment of six numbered state highways. Initially, existing routes such as the Miami-Afton Federal Road formed these highways along with section line roads, railroad rights-of-way, parts of the Ozark Trails network, and postal highways. Odd-numbered roadways extended east-west and even-numbered roadways ran north-south.[56] Among these was SH No. 7 from the Kansas state line at Baxter Springs, through Miami and Afton via the completed highway section, and westward through Oklahoma to the Texas state line at Dodson (Figure 8).[57] As the name "Miami-Afton Federal Road" was not an official highway designation, following the formation of SH 7, the name fell out of use. Although more than 3,000 miles of Oklahoma roadway were classified as state highways, by the end of 1924 only 290 miles of those roads were paved.[58]

[55] Burke, *ODOT 100,* 26.
[56] Note that this system is the opposite of the federal numbering system that designates east–west routes with an even number and north–south routes with an odd number.
[57] The Oklahoma Route 66 Association, "Oklahoma Route 66," 4.
[58] Anders, ed., "Route 66 in Oklahoma," 4.



Figure 8. The Oklahoma State Highway System in 1926. From *Oklahoma State Highway System*, 1926.

UNITED STATES HIGHWAY 66, 1926–1937

In 1926 the American Association of State Highway Officials, a newly formed non-governmental organization representing state highway and transportation departments, approved plans for the U.S. highway system called for by Congress.[59] This followed years of planning by the federal Joint Board of Interstate Highways and the U.S. Bureau of Public Roads. As in the formation of the state highway system, the inaugural national system largely utilized existing roadways. Of the nine U.S. Highways crossing Oklahoma, the newly designated U.S. 66, ran cross-country from Chicago to Los Angeles. In Oklahoma, the route utilized SH 3, SH 7, and

[59] Burke, *ODOT 100*, 30.

SH 39 following a path across the state from Baxter Springs to Texola (Figure 9). A notice in the November 14, 1926, edition of the *Miami News-Record* announcing the federal roadway's route across the state indicated that new roadway signs would be installed to assist tourists.[60]

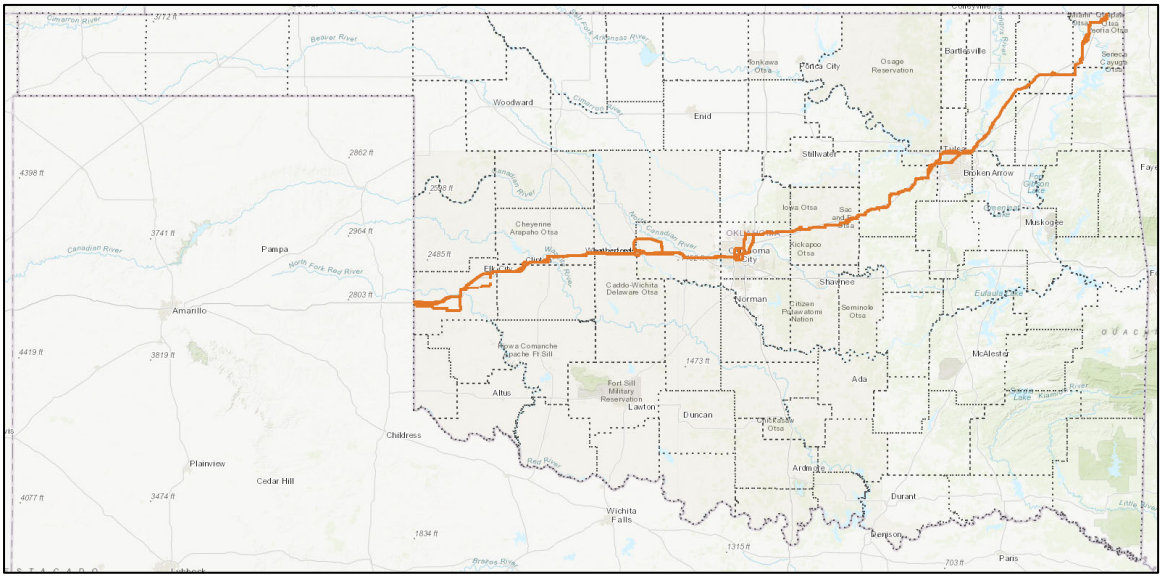


Figure 9. Route 66 historic alignments in Oklahoma. Oklahoma Department of Transportation (ODOT) Roadway & Bridge Data Master Inventory Viewer layer.

U.S. 66 instantly captured the nation's rapidly emerging automobile culture and the aspirations of drivers to see the country (Figure 10). The highway, touted as a year-round, all-weather, transcontinental road, quickly became known as the "Main Street of America."[61] The U.S. 66 Highway Association formed in St. Louis, Missouri, in 1927, and the fledgling organization launched a tourism campaign promoting business interests along the route.[62] The association cultivated tourism as means to increase local tax revenue and attract new residents to stimulate the nascent industrial sector.[63] As a result, local businesses developed services to

[60] "Federal Highway In County Is Marked," *Miami News Record*, November 15, 1926, 1.
[61] Lon Scott, "The Main Street of America," *Miami Daily News-Record*, April 10, 1027, 9; "Steady Stream of Tourist Traffic Toward Highway 66 and Miami Being Diverted by Lack of Full Publicity," *Miami Daily News-Record*, July 22, 1927, 1.
[62] "Association Will Promote Travel On Highway 66," *Miami Daily News-Record*, February 6, 1927, 9.
[63] "U.S. 66 Officials Stress Highway's Vast Possibilities," *Miami News Record*, February 29, 1928, 1.

accommodate new visitors and changed their marketing and advertising to appeal to these new customers (Figure 11 and Figure 12).


SUNDAY EDITION
SECOND SECTION

MIAMI NEWS-RECORD

Associated Press Leased Wire—N. E. A. Feature Service TRI-STATE DISTRICT DAILY Member of the Audit Bureau of Circulations

7,800
FEBRUARY DAILY AVERAGE

VOL. XXV; NO. 227 MIAMI, OKLA., SUNDAY, MARCH 11, 1928 PRICE FIVE CENTS

When you glide about on soft cushions behind the purring motor of your car, today, hearken back to the time of your Grandfather-- Our staff artist has portrayed for you a few of the modes of travel common 100 years ago in the states now served by U.S. 66 which is shorter than any railroad or other highway between Great Lakes and Los Angeles.-- It is maintained now as all-year-all-weather-road and will be paved, without detours soon, from Chicago to Pacific Coast.--

NEV. UTAH COLO. KAN. MO. CAL. ILL. CHICAGO SPRINGFIELD ST. LOUIS ROLLA SPRINGFIELD MIAMI JOPLIN OKLA. TEX. TULSA OKLA. CITY ARK. BARSTOW NEEDLES FLAGSTAFF GALLUP SANTA FE. TUCUMCARI AMARILLO HOLBROOK ALBUQUERQUE SANTA ROSA NEW MEXICO. ARIZ. LOS ANGELES SAN BERNARDINO PACIFIC OCEAN

IMMENSE TOURIST | JUDGE IS BOUND OVER FOR TRAIL | ROADS IMPROVED | BEEF REPLIES TO | Politicians Beginning to 'Hear From | GRAIN BELT NEEDS

Figure 10. Popular map of Route 66. Reprinted from *Miami News-Record*, March 11, 1928, 1.



Figure 11. Advertisement promoting U.S. 66 Highway Convention in Miami, Oklahoma. Reprinted from *Miami Daily News-Record*, March 11, 1929, 12.

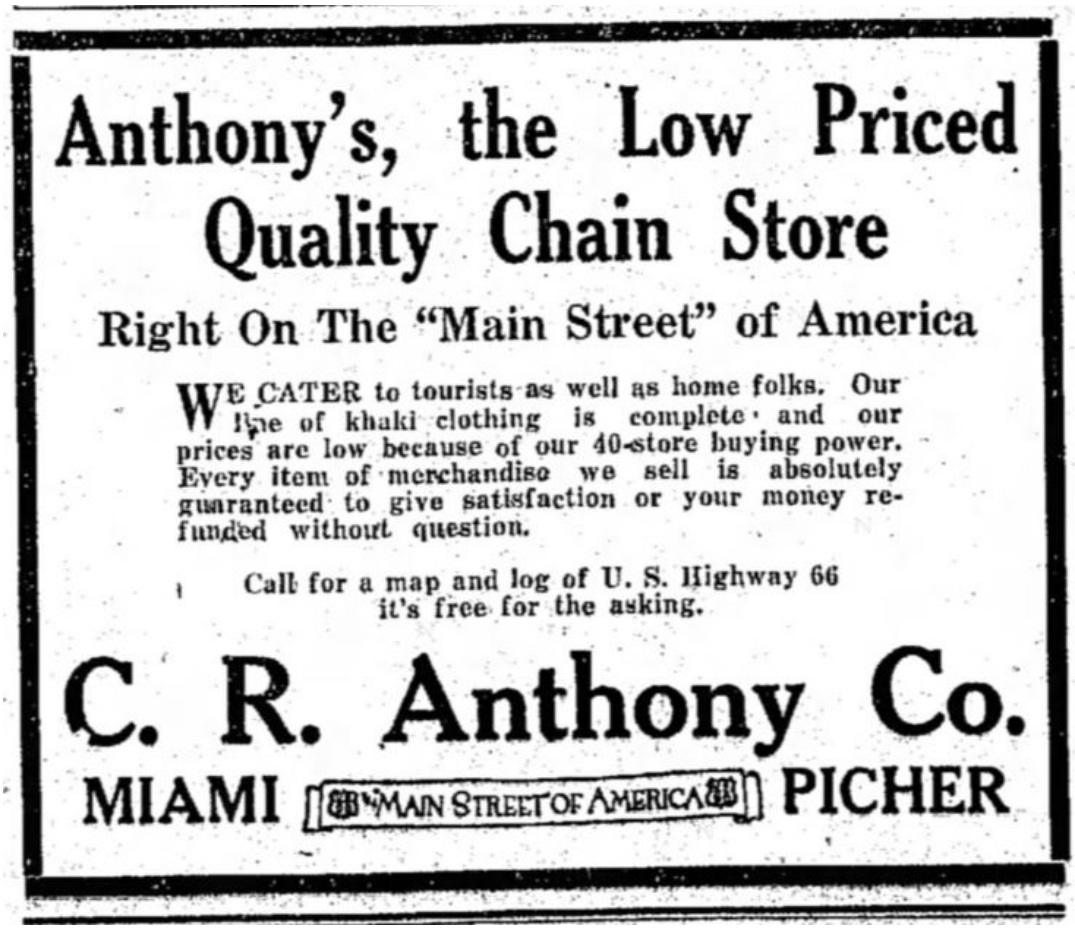


Figure 12. Advertisement touting U.S. 66 as the "Main Street" of America. Reprinted from *Miami Daily News-Record*, June 12, 1927, 14.

As the highway was initially cobbled together from existing roadways, the task of developing an attractive "Main Street" identity was challenging. The existing roads provided inconsistent driving conditions, the highway sometimes took roundabout routes, and the notion of establishing the route as a destination in and of itself was an unheard-of idea (Figure 13). At its establishment, portions of U.S. 66 through Oklahoma were unpaved. As the highway was a work in progress, the route underwent rerouting, widening, straightening, and resurfacing at various points (these changes shortened U.S. 66 though Oklahoma by 47 miles between 1926 and 1951).[64] Many potential motorists from either coast, reportedly afraid of traveling through

[64] "Oklahoma Road Segments—Route 66: A Discover Our Shared Heritage Travel Itinerary," accessed May 25, 2020, https://www.nps.gov/nr/travel/route66/oklahoma_road_segments.html.

Oklahoma due to reports of poor roadway conditions, bypassed U.S. 66 for more familiar routes.[65] Over the next 10 years efforts to pave the highway to a uniform standard across the state resulted in changes to its alignment as cities competed for access.[66]

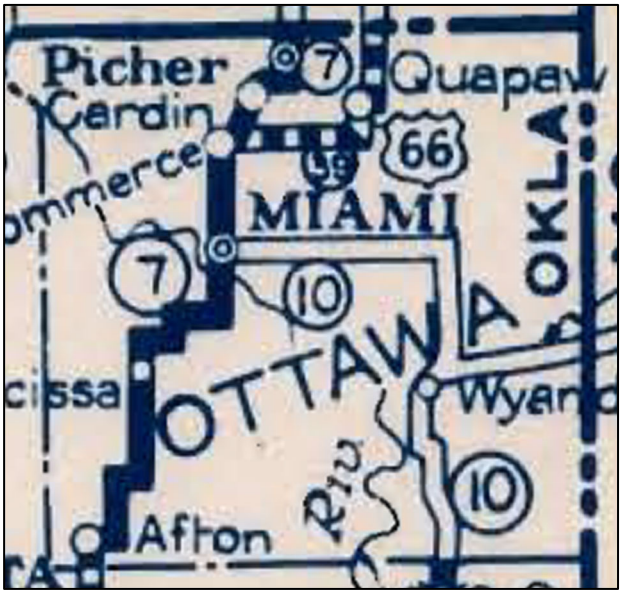


Figure 13. U.S. 66 through Ottawa County. From *Oklahoma State Highway System,* 1928.

Within just years of its completion and designation as a national highway the 9-foot-wide section between Miami and Afton, once considered cutting-edge, revealed fundamental deficiencies, became obsolete, and acquired a bad reputation. Because of its narrow width, the situation for oncoming or passing drivers required one motorist to pull onto the gravel shoulder when negotiating a pass. If performed too fast, the pull-off driver risked clipping the soft drainage ditch and overturning.[67] Similarly, the highway's sharp 90-degree banked turns often caught drivers by surprise, particularly in inclement weather, and could be overshot at higher speeds.[68] Dryden Corner three miles northeast of Afton became known as "death corner"

[65] "Steady Stream of Tourist Traffic," 1.
[66] The Oklahoma Route 66 Association, "Oklahoma Route 66," 4.
[67] "Two Girls Injured, One Seriously, In Automobile Wreck," *Miami Daily Record-Herald*, October 2, 1922, 1; "Afton Woman Injured When Auto Turns Over," *Miami Record-Herald*, November 9, 1923, 1.
[68] "Driver Is Killed As Car Plunges Off Road In Fog," *Miami Daily News-Record*, January 29, 1935, 1.

because of the many fatal accidents that occurred there.[69] In the summer of 1928, the State Highway Department, in a matter of public safety, painted center lines down all double-lane state highways, and in 1930 the State Highway Commission adopted a new standard for all state highways requiring a 20-foot width for two-lane roads, with 8-foot earthen shoulders.[70] These actions made the 9-foot-wide section functionally obsolete. By the early 1930s the 9-foot-wide section of U.S. 66 had gained a reputation as a dangerous road. In a Miami campaign stop gubernatorial candidate Frank M. Bailey referred to the highway as a "sidewalk" and characterized it as a "menace to public travel," calling for a full-width direct replacement route.[71] Conditions on the highway were such that the curves could not be safely taken above 5 miles per hour, the shoulders had developed dangerous drop-offs, and the act of passing traffic was a very risky endeavor, especially at night. Moreover, the roadway sections on either end of the slender route were built as 18-foot-wide sections that readily accommodated two lanes of traffic, resulting in a traffic bottleneck between Miami and Afton.[72] In the mid-1930s local newspapers regularly reported accidents and fatalities on the roadway and the community began referring to the roadway derisively as the "Scotch" highway.[73]

Plans to bypass the roadway began in 1934 when the State Highway Department conducted a preliminary survey between Miami and Afton.[74] This set off months of area controversy and speculation surrounding the nature of the project and whether the existing roadway would be improved or a new route determined. A plan emerged wherein the sections

[69] Anders, ed., "Route 66 in Oklahoma," 6.
[70] Burke, *ODOT 100*, 46.
[71] "Bailey Speaks At Courthouse," *Miami Daily News-Record*, July 20, 1930, 1.
[72] "Built," *Miami Daily News-Record*, June 10, 1931, 1.
[73] "'Scotch' Paving Will Continue To Take Its Toll In Life And Property," *Miami Daily News-Record*, July 28, 1933, 8.
[74] "Surveys Revive Hopes For New Slab To Afton," *Miami Daily News-Record*, January 30, 1934, 1; "Miami-Afton Road Survey Continuing," *Miami Daily News-Record*, February 13, 1934, 7.

of road immediately outside of Miami and Afton would be realigned, with the central 6-mile straightaway portion through Narcissa upgraded to a 20-foot-wide section.[75] Right-of-way acquisition began by August 1935 to address the so-called Miami-Afton "gap" through construction of two planned new alignments, a 5.896-mile section of road northeast of Afton and a 5.993-mile section southwest of Miami, both connected via the Narcissa straightaway (Figure 14).[76]

Unlike the original Miami-Afton Federal Road project, whose major construction components were awarded to a single contractor, the gap bypass components were apportioned to multiple contractors. The first set of projects related to the realignment were let in October 1935 when the Oklahoma Department of Highways awarded the Gaines Brothers of Miami a project to construct two new highway overpasses over St. Louis and San Francisco Railroad ROW that intersected the path of the new alignment.[77] Pharoah & Company of Henryetta, Oklahoma, received contracts for grading, drainage, and graveling of the new alignments, with construction of the permanent roadbed held off as a separate letting.[78]

[75] "Right-of-Way Is Sought for New Highway," *Miami Daily News-Record*, August 29, 1935, 1.
[76] "Work Orders Awaited for Four Projects on Miami-Afton Highway," *Miami Daily News-Record*, November 7, 1935, 2.
[77] "Order Is Expected Soon for Road Work," *Miami Daily News-Record*, October 24, 1935, 1; "66 Gap To Be Closed," *American Saturday Night*, November 9, 19353.
[78] "Work Orders Awaited,"1935, 2.

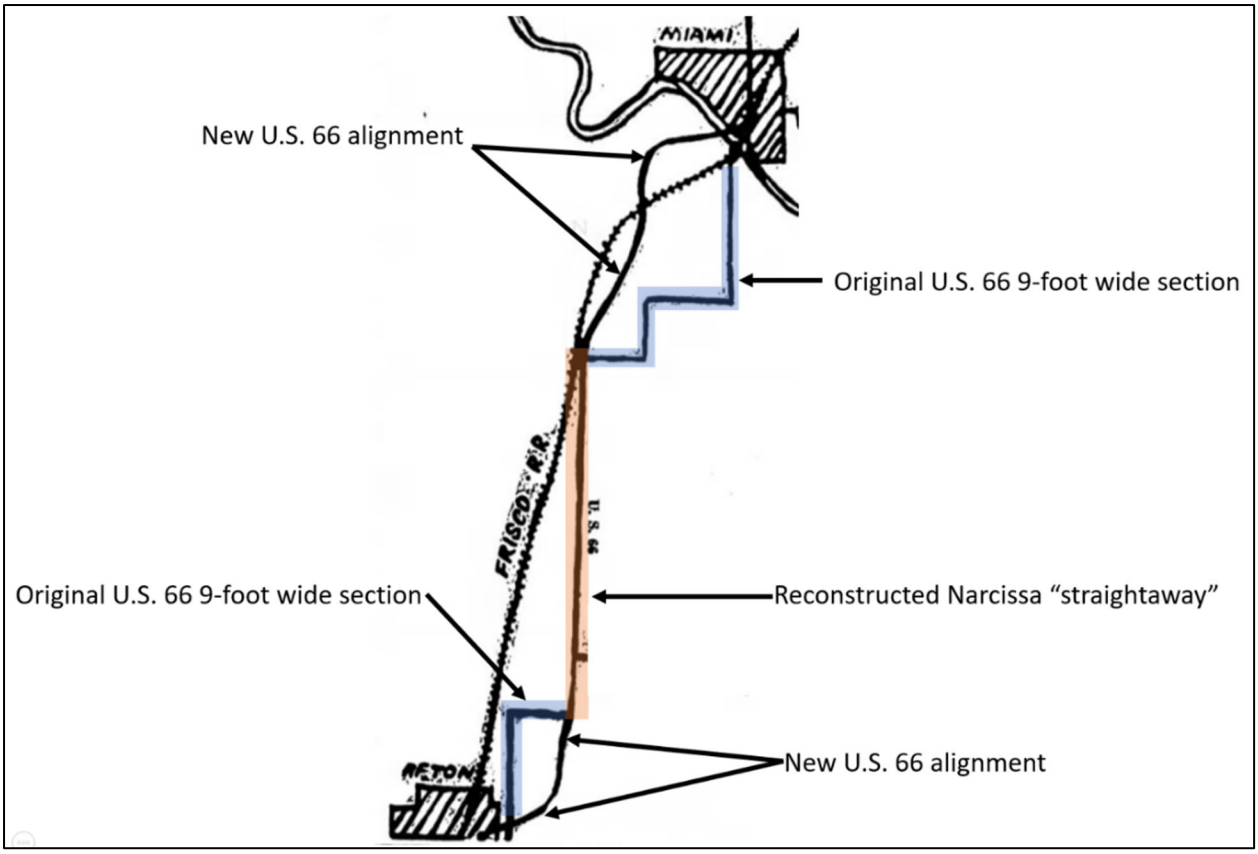


Figure 14. Original and new U.S. 66 alignments. Image reprinted from *Miami Daily News-Record*, September 5, 1937, page 1, with additional annotations by CMEC.

These projects sourced their workers in part through the National Reemployment Service, a federal program that registered applicants seeking public employment.[79] As part of this project included ripping out the 9-foot-wide pavement along the Narcissa straightaway, a temporary detour south of Miami through Fairland was established.[80] The Pharoah & Company projects eliminated the sharp curves outside of Miami and Afton, yet the roadway remained unpaved through 1936. State Highway Engineer Van T. Moon advocated for paving of the new alignment within the year, but in September 1936, as the Pharoah & Company realignment

[79] "Third Work Order on U.S. 66 Paving Project," *Miami Daily News-Record*, May 3, 1937, 1; Social Security Administration, "'Social Security In America' Appendix IV The History and Development of the United States Employment Service," Reports & Studies, https://www.ssa.gov/history/reports/ces/cesbookapen4.html.

[80] "Detour In Use South Of City," *Miami Daily News-Record*, December 20, 1935, 1.

projects were winding down, the eight highway engineers assigned to the project were transferred to other projects.[81] The project stalled, and the completed gravel road between Miami and Afton became the final remaining unpaved stretch of US 66 in the state. In January 1937, the State Highway Commission announced that bids to complete hard surfacing of the prepared realignment would be accepted. The project was divided into separate phases: a 7.605-mile section extending southwest from Miami and a 6.208-mile section extending northeast from Afton.[82] The construction contract was awarded by the Oklahoma Department of Highways to Brooks & Dahlgren, Inc., of Oklahoma City, which employed 180 men working double shifts through the summer to complete the concrete slab and shoulders.[83] The project proceeded through the summer, and on September 13, 1937, Governor E.W. Marland led a ribbon-cutting ceremony to inaugurate the newly completed roadway.[84]

ROUTE 66 RIBBON ROAD, 1937-PRESENT

Since 1937, when the two remaining 9-foot-wide roadway sections were taken out of highway service, the two sections have remained in use by the community and have become meaningful historic resources. After the bypass's opening, the two remaining sections of 9-foot-wide highway immediately outside of Miami and Afton became part of the Ottawa County road system. The roadways remained virtually unchanged until 1957 when construction of an overpass for the Will Rogers Turnpike destroyed a small section outside of Afton. In 1984 the

[81] "Engineer Urges Elimination Of Road Gap Here," *Miami Daily News-Record*, August 20, 1936, 1; "Highway Engineers Here Transferred," *Miami Daily News-Record*, September 24, 1936, 6.
[82] "Slab To Cover Last Oklahoma Gap In U.S. 66," *Miami Daily News-Record*, January 6, 1937, 1; "Paving Of Miami-Afton Gap Expected To Start Shortly After Feb. 15," *Miami Daily News-Record*, January 20, 1937, 1.
[83] "Work Order On Paving Of U.S. 66 Gap Issued," *Miami Daily News-Record*, March 17, 1937, 1; "Slab To Afton Due To Be Laid By Mid-August," *Miami Daily News-Record*, June 13, 1937, 1.
[84] "Miami-Afton Pavement, New Gateway To Southwest, Officially Opened When Gov. E.W. Marland Cuts Ribbon," *Miami Daily News-Record*, September 13, 1937, 1.

roadway was partially obscured when the county covered portions of the old road with loose gravel.[85] The roadway section south of Miami was listed in the NRHP in 1994. The nomination is associated with the 1994 Multiple Property Listing *Route 66 and Associated Historic Resources in Oklahoma*, which established two historic contexts for Oklahoma's Route 66 cultural resources.[86] The 1994 Multiple Property Listing itself was an update of a 1984 multi-property nomination that was never submitted. In September 2008 a portion of the roadway northeast of Afton by the Northeast Vocational School was overlaid in asphalt.[87] This action, coupled with increased community awareness of the unique resource and previous instances in which the roadway's integrity had diminished, prompted preservation efforts.[88] In 2011, the Oklahoma Route 66 Association erected two monuments, one at East 140 Road and U.S. 59, and another at East 220 Road and South 520 Road, commemorating Ottawa County's "Ribbon Road."[89]

In 1937, days before the new alignment opened, state highway commissioner A. L. Commons recalled the highway's original 1919 development. Commons indicated that, far from its current regard, the roadway's 9-foot width was considered experimental and hailed as an epochal departure in highway building. He noted the many lessons learned during the 18 years the roadway was in service as a highway. Commons thoughtfully suggested that roadways

[85] Meacham et al., "Miami Original Nine-Foot Section," 7.
[86] Meacham et al., "Route 66 and Associated Historic Resources in Oklahoma."
[87] Ron Warnick, "Leave the Old Road Alone," Route 66 News (blog), September 18, 2008. https://www.route66news.com/2008/09/18/leave-the-old-road-alone/.
[88] Ron Warnick, "County Will Seek Grant for Sidewalk Highway," Route 66 News (blog), October 1, 2014, https://www.route66news.com/2014/10/01/county-will-seek-rails-trails-grant-sidewalk-highway/; Warnick, "County Seeks Grant for Sidewalk Highway," Route 66 News (blog), March 22, 2016, https://www.route66news.com/2016/03/22/county-seeks-grant-sidewalk-highway/; Warnick, "Preservationists Will Approach County to Preserve Sidewalk Highway," Route 66 News (blog), August 31, 2017, https://www.route66news.com/2017/08/31/preservationists-will-approach-county-preserve-sidewalk-highway/.
[89] Ron Warnick, "Monument Dedicated at Sidewalk Highway Site near Afton," Route 66 News (blog), November 13, 2011, https://www.route66news.com/2011/11/13/monument-dedicated-at-sidewalk-highway-site-near-afton/.

should be built for the traffic demands of the future.[90] As the roadway approaches its 100th year of continuous service, Commons' words are especially meaningful given Route 66 Ribbon Road's place in Oklahoma history and its prospects for continued use.

[90] A.L. Commons, "New Highway 'Last Word in Design and Type of Construction,' Commons Says," *Miami News Record*, September 5, 1937, 2.

5. PHYSICAL DESCRIPTION

Route 66 Ribbon Road, in southwest Ottawa County, Oklahoma, comprises two separate 9-foot-wide concrete roadway sections with gravel shoulders. The upper portion south of Miami, Oklahoma, is 3.5 miles long and is coterminous with West 130 Road, South 540 Road, and East 140 Road. The lower portion northeast of Afton, Oklahoma, is 3 miles long and is coterminous with East 200 Road, South 520 Road, and East 220 Road (see Figure 1 and Figure 2).

The roadway's original construction plans indicate a 9-foot-wide roadbed with 8-foot-wide gravel shoulders. In section, the roadbed consisted of a 5-inch-thick concrete base with a 2-inch-thick Topeka asphalt top (see Figure 15).[91]

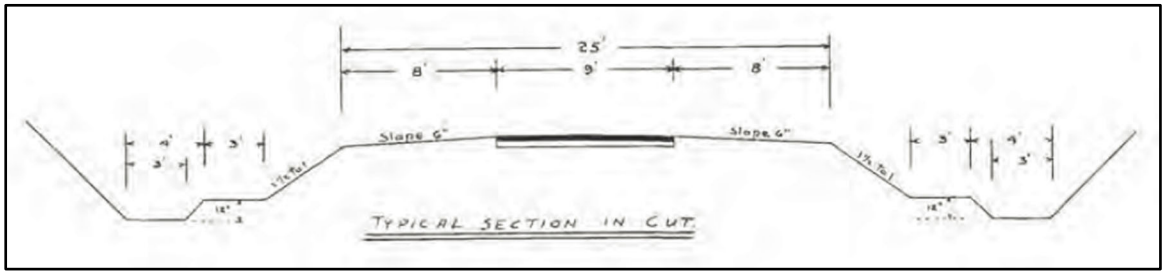


Figure 15. Typical section of FAP No. 8. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 3.

The existing roadway was constructed as a 9-foot-wide concrete base with 2-inch-high curbs. A 2-inch-thick layer of Topeka asphalt was laid over this base between the curbs. The roadway's curves at perpendicular section lines were super-elevated at an approximately 10 percent cross slope. Super-elevation is the rotation of the pavement on the approach to and through a horizontal curve and is intended to assist drivers by counteracting the lateral

[91] Oklahoma State Department of Highways, "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," accessed May 25, 2020, https://www.nps.gov/nr/travel/route66/oklahoma_road_segments.html, 3.

acceleration produced by tracking the roadway curve.[92] Cross drains underneath the roadway were made of cast-in-place concrete arches with headwalls (Figure 16). Some of the larger structures included wingwalls (Figure 17).[93] The northern section has approximately 9 cross drains, 14 side drains, and approximately 22 drives. The southern section has approximately 6 cross drains, 19 side drains, and 20 drives.[94] As constructed, the gravel shoulders were 5-feet wide, not the 8-foot width indicted on the construction plans.[95]

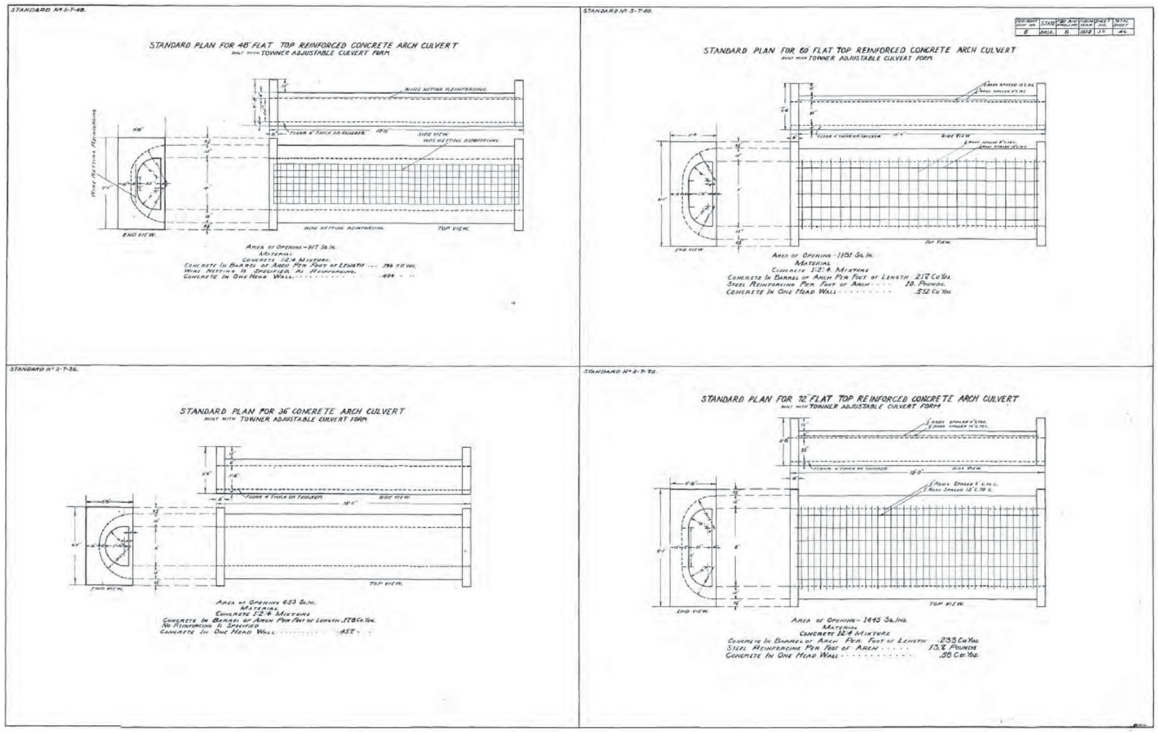


Figure 16. FAP No. 8 Standard reinforced concrete arch culvert plans. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 30.

[92] "Mitigation Strategies For Design Exceptions—Safety | Federal Highway Administration," accessed May 26, 2020, https://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_superelevation.cfm.
[93] Guy Engineering, "Roadway Evaluation Report," 2.
[94] Guy Engineering, "Roadway Evaluation Report," 6.
[95] Guy Engineering, "Roadway Evaluation Report," 3.

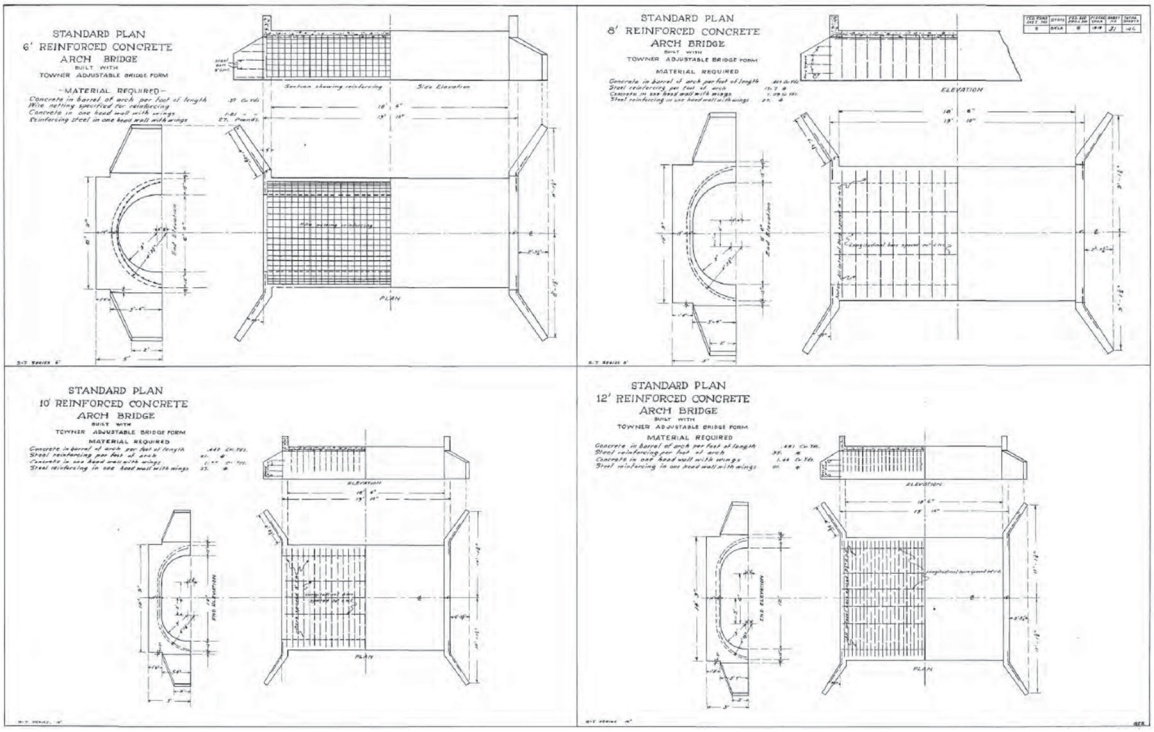


Figure 17. FAP No. 8 Standard reinforced concrete arch bridge plans. Reprinted from "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," Sheet 31.

The following sections of the original 9-foot-wide roadbed no longer exist or are not evident:

- As originally constructed, a central section of 9-foot-wide roadbed extending from East 140 Road to East 200 Road through Narcissa, Oklahoma, joined the two sections. This segment no longer exists as it was rebuilt to accommodate the new US 66 alignment between Miami and Afton in 1937.
- An original section approximately 3,000 feet in length immediately northeast of Afton, Oklahoma, beginning at Horse Creek, paralleling the St. Louis and San Francisco Railroad, then joining East 220 Road no longer exists (Figure 18). This section was abandoned when US 66 was realigned in 1937, and no longer exists.
- The portion of roadbed crossed by US 60 along South 520 Road no longer exists. This small section was overlain by US 60 in 1937.

- A section of roadbed on South 520 Road was removed in the mid-1950s to accommodate an overpass over Interstate 44.

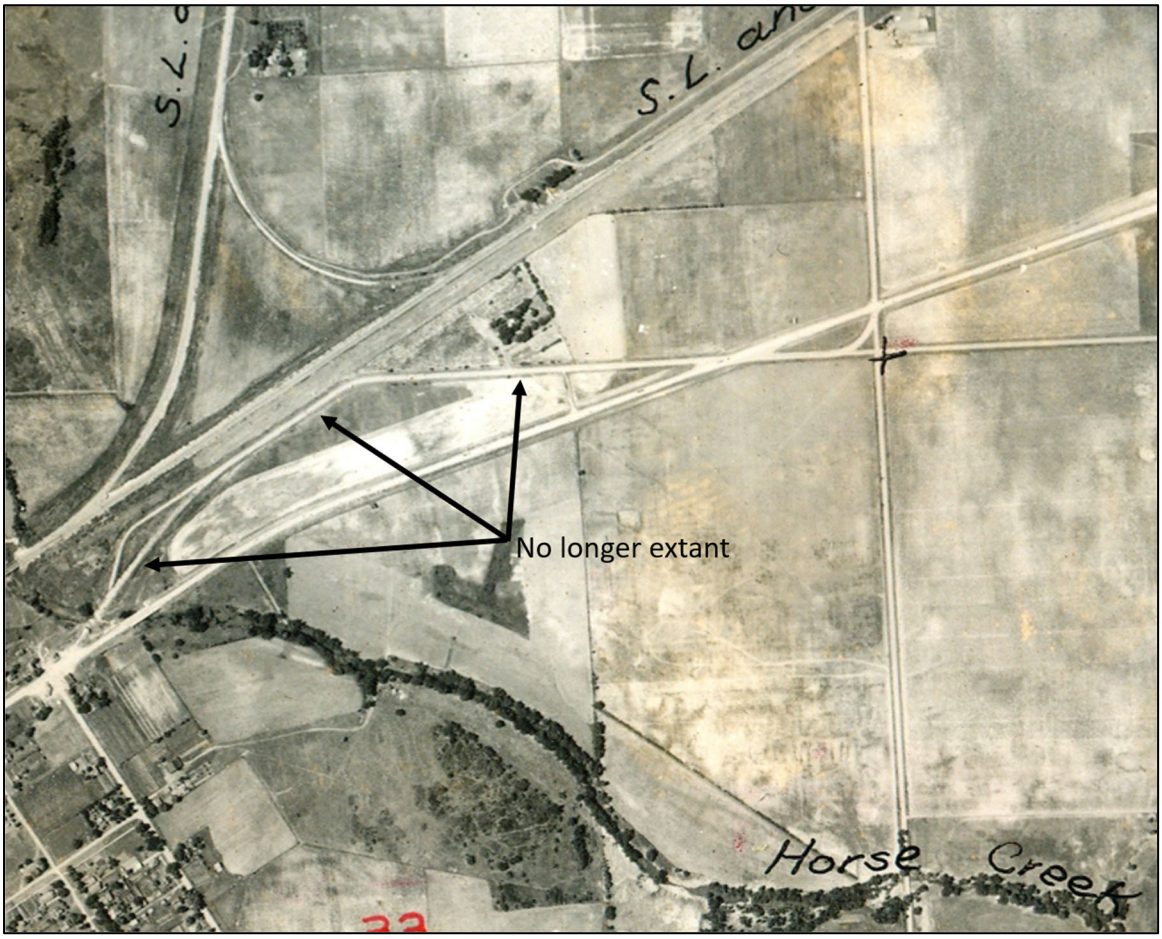


Figure 18. No-longer-extant section of 9-foot-wide Route 66 Ribbon Road roadbed. Detail of historic aerial photograph with annotation by CMEC, Oklahoma Corporate Commission, 1939.

The following sections are no longer evident:

- As originally constructed the 9-foot-wide roadbed began on present-day East Street Southwest at East 120 Road and ran south to East 130 Road. This section is no longer evident after the widening of East Street Southwest and may be underneath the extant layer of paving.

- The short section of original roadbed on East 130 Road between South 550 Road and East Street Southwest is no longer evident and may be underneath the extant layer of paving.
- The section of original roadbed on East 200 Road west of U.S. 59 has been overlain in asphalt.

The surfaces of both extant sections have been covered with gravel since 1984 as a way of protecting the original fabric.[96] An annotated appendix of photographs is included in this report, see Appendix B.

[96] Guy Engineering, "Roadway Evaluation Report," 1.

6. EVALUATION OF SIGNIFICANCE

SIGNIFICANCE SUMMARY: UPPER SEGMENT

The upper segment was listed in the NRHP as the "Miami Original Nine-foot Section of Route 66 Roadbed" in 1994 .[97] It was listed under Criterion A in the area of Transportation as an illustration of the evolution of Oklahoma's highway system and as a unique nine-foot wide section of U.S. Highway Route (U.S.) 66. When it was built, the nine-foot wide segment of road with five-foot wide gravel shoulders extended from Miami, Oklahoma to Afton, Oklahoma and was part of the first paved highway in Oklahoma and one of the first Federal Aid Projects in the state. Despite its narrow width, it later became part of the transcontinental U.S. 66. Of the two extant and in-use nine-foot wide segments (the connecting section through Narcissa, Oklahoma was demolished in 1937 when U.S. 66 was realigned), the nomination indicated that the upper segment had more integrity. The nomination describes the road as being lined on both sides with flat cultivated fields, pastures, and a few small farmhouses that appear to be contemporaneous with the roadbed. The road was originally surfaced with a "Topeka" asphalt mixture covering a concrete base. The nomination indicates that until 1984, the road was maintained with materials similar to the original construction, although the present asphalt is a dark material whereas the original material resembles the color of concrete. Since 1984, a mixture of gravel and dirt has been used to resurface the road. In recent years, "Route 66" logos were painted on the roadbed. The nomination indicates that the original material remains visible through the gravel and eroded overlays of asphalt, and that overall, the section retains a high degree of integrity.

[97] Meacham et al., "Miami Original Nine-Foot Section," 7.

The NRHP Period of Significance is 1919 to 1921 and 1926 to 1937. The years 1919 to 1921 reflect the years of construction and the road's importance as the first paved highway in Oklahoma as well as its early association with the federal aid program. The years 1926 to 1937 reflect the years the road was in use as Route 66. The nomination identifies the roadway as locally significant.

The NRHP boundary includes the original nine-foot-wide roadbed and the five-foot-wide gravel shoulders on either side of the road and extends approximately 3 miles. The nomination notes that where the road curves, the pavement widens and is banked upward at a slight angle to prevent vehicles from skidding off the road. The nomination also mentions a small, reinforced concrete bridge built between 1918-1919 over a small tributary of Coal Creek. The bridge has a round, hollow metal pipe railing on the west side; the railing on the east side is missing. According to the nomination, the bridge is not counted as a separate structure because it is rather indistinguishable from the road due to its small size and the consistency of material (gravel and dirt) covering the surface of both the road and bridge. Although it is still extant, ODOT classifies the structure as a culvert, not a bridge.

CURRENT ASSESSMENT

The NRHP nomination evaluates areas of significance within appropriate contexts, and the periods of significance and boundary are properly established. This is important to identify because it informs cost and effort of future work.[98] Although the nomination recommends local significance, the state level of significance appears to be applicable since the segment illustrates

[98] Slaton, Deborah. "Preservation Brief 43: The Preparation and Use of Historic Structure Reports." National Park Service, April 2005. https://www.nps.gov/tps/how-to-preserve/briefs/43-historic-structure-reports.htm#introduction.

the development of transportation in Oklahoma and is one of two nine-foot segments of Route 66 in the state.

The character-defining features of a historic property guide the treatment plan and work recommendations. Though the NRHP nomination describes the road and its elements, the character-defining features are not expressly identified. Furthermore, some of the road's elements are not described. A recent survey of the road revealed that it has numerous cast-in-place concrete cross-drains, which are original features.[99] Two types of culverts were identified: a 36-inch arch culvert and a 72-inch flat top arch culvert. The small bridge mentioned in the NRHP nomination likely referred to one of these culverts and the other culverts were overlooked. In some instances, the original cross-drain structure has been modified or removed and replaced with a modern reinforced concrete pipe or a corrugated metal pipe.[100]

Recent documentation also suggests that integrity is more compromised than the 1994 NRHP nomination indicates due to the loss of original asphalt in areas, patching over original asphalt, and the replacement of some culverts; however, the 2003 *Route 66 and Associated Historic Resources* Multiple Property Documentation (MPD) amended nomination recognizes that pavement is an inherently fragile feature of highways and is routinely covered over and replaced and that bridges and culverts associated with historical roadbeds are sometimes modified or replaced.[101]

[99] Guy Engineering, "Roadway Evaluation Report," 13.
[100] Guy Engineering, "Roadway Evaluation Report," 16.
[101] Guy Engineering, "Roadway Evaluation Report;" Cassity, Michael J. *Route 66 and Associated Historic Resources in Oklahoma*, National Register of Historic Places Multiple Property Documentation Amended Submission. Approved January 21, 2003, 63.

To identify the road's character-defining features, guidance from The National Cooperative Highway Research Program's (NCHPR) *Design and Management of Historic Roads* and the 2003 *Route 66 and Associated Historic Resources* MPD amended nomination were reviewed.[102] The NCHPRP states, "tying all the components of a particular road's design back to why it is historic is how the distinguishing characteristics, and thus features essential to conveying significance, are determined."[103] The NCHPRP also advises that all features of a historic road should not be considered equally significant. The MPD identifies the essential features of a NRHP-eligible rural Route 66 roadbed in Oklahoma. These features include cut banks, fill slopes, roadbed, and grade, and associated features like culverts and bridges.[104] Given this, the identified character-defining features of the upper segment include the stepped plan that follows section lines; the narrow, 9-foot wide roadbed segments with 5-foot wide gravel shoulders; the widened and banked curves; and the use of concrete and asphalt to construct the roadbed. These features convey the significance of the road and physically represent the road's context as an early highway in Oklahoma and a unique segment of Route 66 and should be given high priority in treatment selection. As noted in Section 7, the recent roadway evaluation report revealed that the road was not constructed exactly as the 1918 construction plans prescribed. Although most of the asphalt that is present today appears to be historic-age, laboratory testing has indicated either some of the original asphalt has been replaced with a different mixture, or that the original asphalt was not mixed strictly in accordance with the Topeka admixture (Michael H. Homan to John Blickensderfer, April 6, 2021) (see Recommendation 1.4). With

[102] McCahon, Mary E., Larry Sutherland, and Steven Shaup. "Design and Management of Historic Roads." National Cooperative Highway Research Program. January 2012. https://www.thc.texas.gov/public/upload/preserve/survey/highway/nchrp%20Design%20and%20Mgmt%20of%20Historic%20Roads.pdf; Cassity, *Route 66 and Associated Historic Resources in Oklahoma*.
[103] McCahon et al. "Design and Management of Historic Roads," 4-12.
[104] Cassity, *Route 66 and Associated Historic Resources in Oklahoma*.

respect to these materials, the high significance is associated with their use and not necessarily the specific type. The exact type of asphalt present is not immediately apparent to engineers, much less the lay public, and the type conveys the significance of the roadway to a lesser degree than other features like its plan and width. The road's concrete cross-drains are less important to the road's significance since they do not readily illustrate the reasons for which the road is listed in the NRHP, furthermore their construction design is not unique. .

Table 1. Character-defining features of the road and relative significance of those features

Character-defining Features	**Significance**
Stepped plan that follows section lines	High
9-foot wide roadbed segments with 5-foot wide gravel shoulders	High
Widened and banked curves	High
Roadbed materials (asphalt and concrete)	High
Culverts constructed during periods of significance (1919-1921, 1926 to 1937)	Medium

SIGNIFICANCE SUMMARY: LOWER SEGMENT

Like the NRHP-listed upper segment, the lower segment was also part of the first paved highway in Oklahoma, has an early association with the federal aid program, and is one of two historical segments of Route 66 that is only nine-feet wide.[105] Also like the NRHP-listed segment, the lower segment is also approximately 3 miles long. The NRHP-listed upper segment and the lower segment are separated by a six-mile stretch of the present two-lane Route 66.

[105] Meacham et al., "Miami Original Nine-Foot Section."

The lower segment is mentioned in the NRHP nomination for the upper segment. It states that the lower segment possesses less integrity than the NRHP-listed segment due to a 0.3-mile disturbance to the roadbed caused by the construction of an overpass for the Will Rogers Turnpike; however, the authors of the nomination indicate that portions of the segment appear to be eligible for the NRHP.[106] Those portions are not identified. More recently, the lower segment was recommended eligible as two parts in a survey of Route 66 roadbeds in Oklahoma prepared for the Oklahoma State Historic Preservation office (OK/SHPO).[107] The two parts are a 1.4 mile section north of the interchange with the Will Rogers Turnpike and a 1.2 mile section south of the turnpike interchange. To date, a formal determination of eligibility has not been made by the OK/SHPO.

CURRENT ASSESSMENT

The lower segment is historically significant for the same reasons the upper segment is significant; however, its integrity is questionable due to the same integrity issues as the upper segment, plus a 0.3-mile disturbance at the intersection with the Will Rogers Turnpike. The MPD states that nominated segments of Route 66 should be sufficiently long to preserve the feeling and setting of a continuous road; however, it also states that segments which have been widened after the end of the period of significance may be included in a NRHP boundary if they link significant sections of portions of the route.[108] The part of the road that intersects the Will Rogers Turnpike appears to fit this criterion. Given this, for the purposes of this project, the 3.0 mile lower segment is assumed eligible for the NRHP for the same reasons the upper segment is

[106] Meacham et al., "Miami Original Nine-Foot Section," 13.
[107] Anderson, Kathy., Jim Ross, and Gary Ray Howell. *Oklahoma Route 66 Roadbed Documentation Project (1926-1970): A Survey of Roadbed and Integral Structures*. Prepared for the Oklahoma Route 66 Association for the Oklahoma State Historic Preservation Office, 2001–2002.
[108] Cassity, *Route 66 and Associated Historic Resources in Oklahoma*.

listed and with the same area of significance, periods of significance, and level of significance. The character-defining features of the lower segment are the same as the upper segment (see above).

7. CONDITION ASSESSMENT

As part of this project, Guy Engineering completed a roadway evaluation of Route 66 Ribbon Road in March 2020 in which they concluded that the roadway is in fair condition. The full report details the existing roadway conditions, existing ROW conditions, private and public utilities, geotechnical studies, drainage, and an evaluation summary. The report's summary indicates the following:

> Overall, given the age and construction of the Historic Route 66 Ribbon Road, the roadway is in fair condition. The right of way and gravel shoulders are in very good condition while the asphalt and concrete base that make up the pavement section is in fair to poor condition. A gravel roadway has been placed over portions of the pavement section in attempts to prevent further damage. Two portions totaling approximately 0.75 miles have been overlaid with asphalt to provide a smooth driving surface. Many of the original cross drains still exist; the smaller arches are in good condition while the larger flat top arches are in fair to poor condition. A few of the cross drains have been replaced over time. The replacement of these cross drains required removal of a portion of the Historic Rt 66 Ribbon Road.[109]

The full report is attached as Appendix C.[110]

[109] Guy Engineering, "Roadway Evaluation Report," 17.

[110] Route 66 Ribbon Road is identified and discussed in the 2003 report *Oklahoma Route 66 Roadbed Documentation Project (1926-1970) Part 2: Priorities and Management Strategies*. The report discusses the roadway's gravel overlay as an example of improper maintenance by characterizing the entire overlay as an attempt by road crews to widen the cross section (Keene and Vogel, 13). As indicated by research in this report, although the gravel applied to the concrete section is not original, the gravel shoulders along the roadway's length were constructed as an integral part of the roadway in 1922.

8. HISTORIC PRESERVATION OBJECTIVES

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR TREATMENT OF HISTORIC PROPERTIES

The U.S. Department of the Interior, in its publication *The Secretary of the Interior's Standards for Treatment of Historic Properties*, has established guidance for the treatment of historic properties. This guidance provides four treatment standards that consider a resource's historic significance, as well as other considerations including: level of significance, physical condition, proposed use, and code and other regulations. The goal of the treatment standards is to provide a consistent philosophical approach that promotes responsible preservation practices.[111] The four treatment standards are preservation, rehabilitation, restoration, and reconstruction.

Per *The Secretary of the Interior's Standards for Treatment of Historic Properties*:

> **Preservation** is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. However, new exterior additions are not within the scope of this treatment. The Standards for Preservation require retention of the greatest amount of historic fabric along with the building's historic form.[112]
>
> **Rehabilitation** is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. The Rehabilitation Standards acknowledge the need to alter or add to a

[111] Anne E. Grimmer, "The Secretary of the Interior's Standards for the Treatment of Historic Properties," (Washington, D.C.: U.S. Department of the Interior National Park Service Technical Preservation Services, 1998), https://www.jstor.org/stable/1504550?origin=crossref, 3.

[112] Grimmer, "The Secretary of the Interior's Standards," 2.

historic building to meet continuing or new uses while retaining the building's historic character.[113]

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project. The Restoration Standards allow for the depiction of a building at a particular time in its history by preserving materials, features, finishes, and spaces from its period of significance and removing those from other periods.[114]

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. The Reconstruction Standards establish a limited framework for recreating a vanished or non-surviving building with new materials, primarily for interpretive purposes.[115]

ROUTE 66 RIBBON ROAD PRESERVATION OBJECTIVES

Route 66 Ribbon Road is unique in that the roadway sections, despite their narrow width, have been in continuous use since their construction in 1922. After the realignment of U.S. 66 in 1937 the remaining sections of the original FAP 8 roadway came under the ownership of Ottawa County, which has since maintained the roads as part of its county network. The National Park Service recognized the structure's significance, and a portion of the extant roadway was listed in the NRHP in 1994.

Although the roadway has received regular care, it is currently in fair condition and can no longer be the object of benign neglect if it is to continue serving the community and retain its historic and physical integrity. Ottawa County has not established treatment guidelines and

[113] Grimmer, "The Secretary of the Interior's Standards," 2.
[114] Grimmer, "The Secretary of the Interior's Standards," 3.
[115] Grimmer, "The Secretary of the Interior's Standards," 3.

requirements for the roadway above their standard maintenance practices. Given the nature of the county's ongoing and routine maintenance, the current nominal treatment plan is best characterized as preservation. As indicated in the Secretary of the Interior's (SOI) *Standards*, this treatment is consistent with the objective to retain the resource as it currently exists.[116] As the Guy Engineering condition assessment has identified, however, the roadway pavement section is reaching the end of its lifespan; therefore, preservation alone is not adequate if the roadway is to meet the county's objectives of maintaining its historic use and preserving its character-defining features.

Given the county's objectives, proposed treatment alternatives aligned with SOI standards for rehabilitation have been developed. Rehabilitation is the process of making possible a compatible use for a property through repair, alteration, and addition while preserving features that convey historical, cultural, or architectural values.[117] This treatment provides the latitude necessary in situations like that of the Route 66 Ribbon Road where components have become extensively deteriorated and damaged, where decisions regarding replacement materials must be considered, and where new additions are necessary to continue the resource's use.

In April 2020 Guy Engineering prepared an Alternatives Design Report discussing the rehabilitation project's preliminary intents, pertinent variables, proposed alternatives, and selection rationale.[118] The report also included a geotechnical investigation to determine the existing pavement materials and soil conditions below the pavement, and a report on public

[116] Grimmer, "The Secretary of the Interior's Standards," 29.
[117] Grimmer, "The Secretary of the Interior's Standards," 75.
[118] Guy Engineering, "Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3," Tulsa, OK, April 14, 2020.

comments related to the four proposals. Consistent with Ottawa County's objectives to maintain the roadway's historic use and preserve its character-defining features, the project's goals include:

- Rehabilitation of Route 66 Ribbon Road's existing asphalt surface
- Decrease traffic loads on the rehabilitated driving surface
- Maintain horizontal and vertical alignment of the original roadway

The full report is attached as Appendix C.

Initially, four proposed alternative roadway sections were developed and processed through a computer-generated surface model to reasonably consider the economic and technical feasibility of each solution. The surface model was used to plot the construction limits of the proposed alternatives and to identify the impacts of each alternative. Variables considered included additional ROW, impacts to private and public utilities, and impacts to environmental and cultural resources.[119]

As the current roadway's roadbed and shoulders are functionally obsolete, all four alternatives include the addition of 11-foot driving lanes with 2-foot shoulders and rehabilitation of the associated ditches to accommodate present-day traffic and roadway standards. The four alternatives differ according to the positioning of the driving lanes and shoulders relative to the original roadbed as follows:

[119] Guy Engineering, "Alternatives Design Report," 1.

- Alternative #1 locates the new driving lanes immediately adjacent to the original 9-foot-wide section's concrete curbs with the shoulders on the new roadway's outer edges (Figure 19).
- Alternative #2 locates both new driving lanes and shoulders offset on one side of the original 9-foot-wide section's concrete curb by a 5-foot-wide buffer (Figure 20).
- Alternative #3 offsets the driving lanes and shoulders on either side of the original 9-foot-wide section's concrete curbs by a 5-foot-wide buffer (Figure 21).
- Alternative #4 locates both new driving lanes and shoulders alongside Route 66 Ribbon Road separated by a drainage channel (Figure 22).

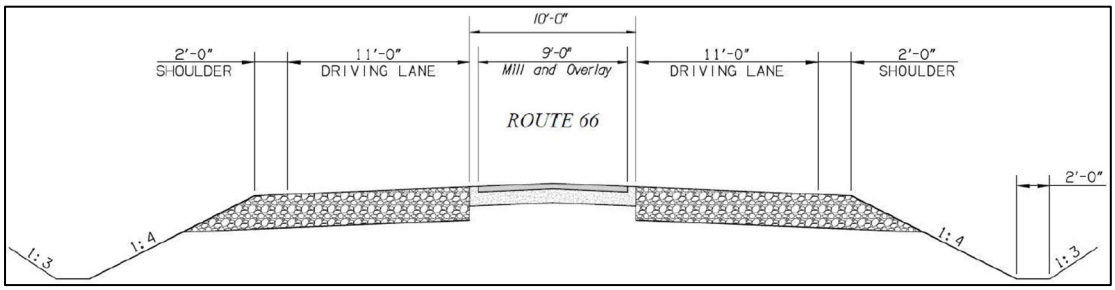


Figure 19. Route 66 Ribbon Road proposed Alternative #1. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 8*.

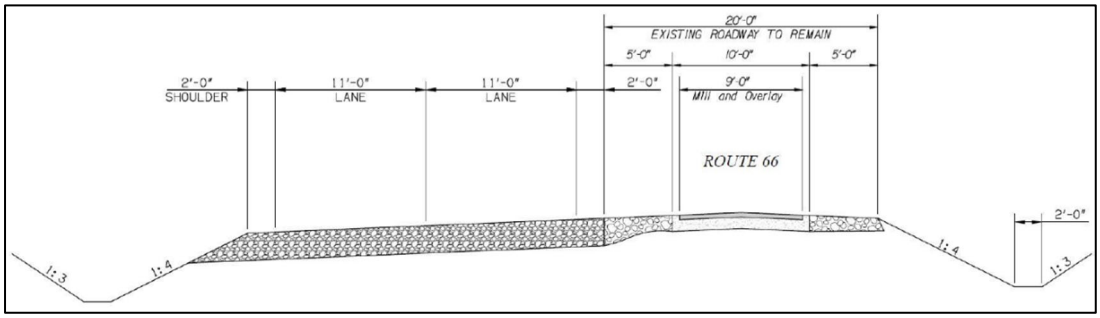


Figure 20. Route 66 Ribbon Road proposed Alternative #2. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 9.*

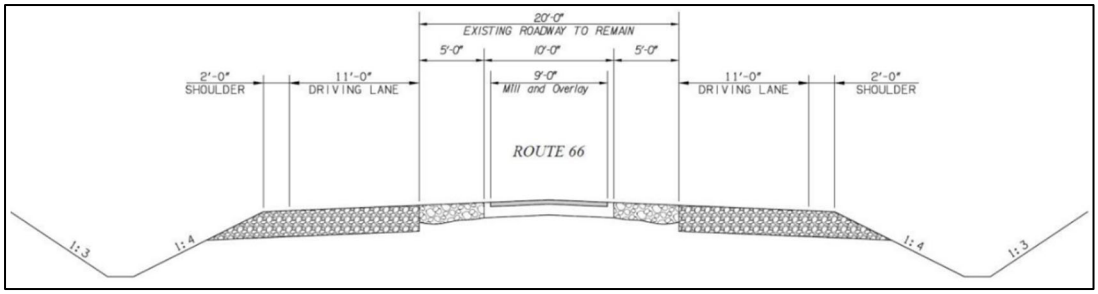


Figure 21. Route 66 Ribbon Road proposed Alternative #3. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 10.*

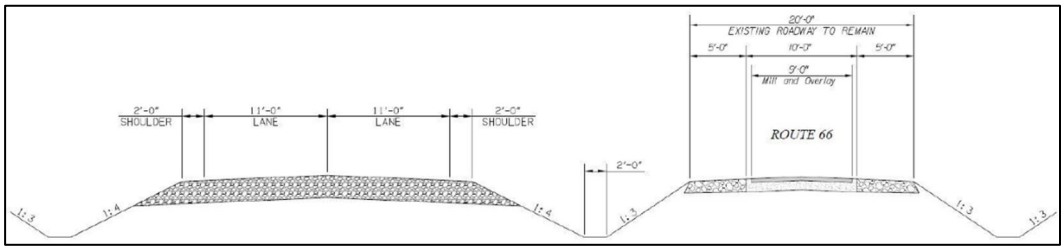


Figure 22. Route 66 Ribbon Road proposed Alternative #4. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 11.*

The technical and economic feasibility evaluation, which compared all four proposed alternatives and a do-nothing alternative, identified that the four are relatively equal in impacts, save one variable. In terms of environmental impacts, modeling indicated low impacts to wetlands, streams, and cultural resources for all four proposed alternatives. Modeling also indicated that although utility relocations would be required for all four proposed alternatives, their costs would be relatively equal. Right-of-way (ROW) acquisition, though, varied in location and amount. Proposed Alternatives #1 and #3 evenly distribute ROW acquisition along both sides of the existing roadway, and Alternatives #2 and #4 require more ROW on one side of the roadway than the other. For new ROW acquisition, Alternative #1 requires the least at approximately 36.4 acres, Alternatives #2 and #3 both require approximately 44 acres, and Alternative #4 requires the most at approximately 58.8 acres.[120] The probable cost analysis indicated all four proposed alternatives are relatively equal in terms of construction materials,

[120] Guy Engineering, "Alternatives Design Report," 12.

utility relocation, and environmental impacts; the major differentiator is the cost of ROW acquisition.

Similar to the feasibility evaluation, analysis of the proposed alternatives' effect on the roadway's character indicates similarities and distinct differences. While none of the alternatives would impact the roadway's location, Alternatives #2 and #4, which concentrate the new roadways and shoulders on a single side of the existing road, would disturb the roadway's setting, design, and feeling in a more apparent manner than the two alternatives that distribute the new parts evenly across the historic alignment. As materials used on all four proposed alternatives would be the same, there is no disparity on material integrity. Similarly, all four alternatives would retain the roadway's historic use and integrity of association.

Public comments were gathered at a public meeting held March 10, 2020, in Miami, Oklahoma, where Guy Engineering presented the four proposed alternatives. While public input overwhelmingly indicated support for Alternative #1, there was a mix of comments regarding whether the proposed shoulders should be constructed of gravel, asphalt, or chip and seal. Some comments indicated a preference for the project to not require additional ROW. Some comments were received in support of a do-nothing alternative, most comments were highly supportive of extending the usefulness of Route 66 Ribbon Road.[121]

In response to this community feedback and in consideration of Ottawa County's maintenance practices, a fifth alternative was developed (Figure 23). As with Alternatives #1–4, Alternative #5 offers a different position for the new driving lanes and shoulders relative to the original roadbed, and includes distinctive materials. Alternative #5 configures the 11-foot-wide

[121] Guy Engineering, "Alternatives Design Report," 15.

driving lanes to straddle both the original 9-foot-wide roadway section and its shoulders at a slight offset. Gravel would be removed from the roadway and the original 9-foot-wide section would be rehabilitated by patching or milling, and re-laying new asphalt as close to possible to the Topeka mix. The original shoulders would be reconstructed as an asphalt section topped with a gravel and oil mix. The new lanes' shoulder areas would consist of small brown pea gravel consistent with early roadway materials. This treatment would provide a harder and smoother surface, and mimic the roadway's original look. A chip seal surface would eliminate the requirement to occasionally grade the roadway surface, preventing maintenance from causing destruction since road grading equipment has previously damaged and worn parts of the original concrete curbs and asphalt. Finally, as part of the chip seal treatment, removing the non-historic gravel overlay surface would remove a major source of abrasion that has also caused damage.

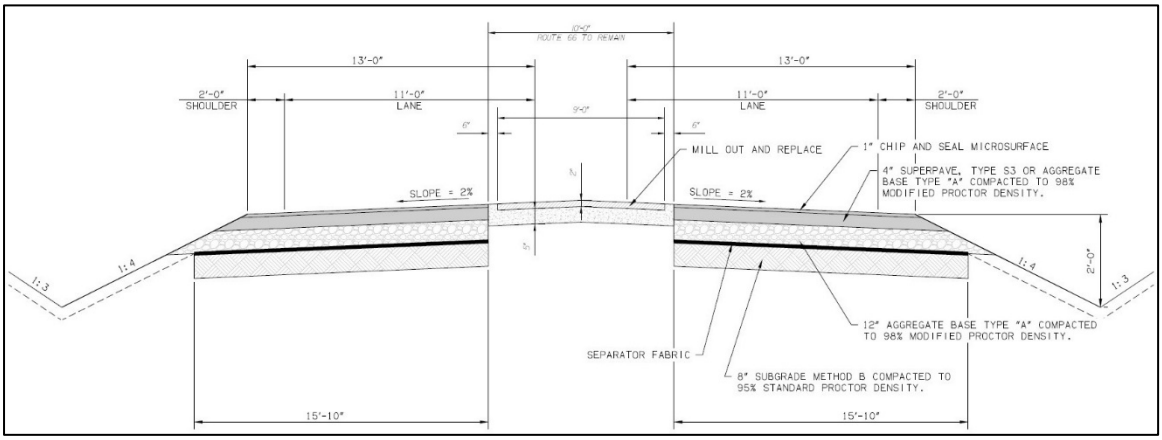


Figure 23. Route 66 Ribbon Road proposed Alternative #5. Image reprinted from *Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3, 11.*

The report recommends Alternatives #1 and #5. Both alternatives would minimize impacts to streams, utilities, and the natural environment. Both would minimize ROW acquisition, with Alternative #1 requiring approximately 36.4 acres of new ROW and Alternative #5 requiring minimal acquisitions, mostly around drainage crossings. In terms of effect on the

resource's character, both alternatives would impact the resource's integrity of setting, design, and feeling, but in different ways. Alternative #1 would widen the existing gravel shoulders from an average of only 5 feet wide to 13 feet wide. The 13-foot-wide sections would wholly accommodate new 11-foot-wide driving lanes with 2-foot-wide shoulders. This alternative entirely removes traffic from the original 9-foot-wide roadbed. Alternative #5 would widen the shoulders to 10 feet and replace the gravel with stabilized asphalt surfaced with chip seal that has a gravel-like appearance. The 10-foot widening would accommodate 8-foot-wide driving sections and 2-foot-wide shoulder sections. The new 11-foot-wide driving lanes would occupy 8 feet of the newly stabilized shoulders and 3 feet of the original 9-foot-wide concrete roadbed. This two-lane arrangement straddling both parts of the roadway mimics how the county road has been used for generations.

In considering both alternatives, a very careful balance must be struck between SOI allowances for rehabilitation and the overarching imperative to preserve the roadway's identity as an early experimental highway. The roadway is a functional transportation corridor for the community and must be brought to current safety and other standards. As a historic resource, the roadway is ideally appreciated while traveling in an automobile, emphasizing setting and feeling as its most essential aspects of integrity. The resource's setting, which addresses the property's character in terms of its relationship with its surroundings; and feeling, which addresses its ability to express a sense of a particular period of time, combine to convey its historic significance. [122] Potential changes to the character-defining features identified in Part 6 (Table 1) should be evaluated in context of these aspects so as not to introduce anachronism that would diminish the experience and feeling of driving on an early highway. Drivers can

[122] Andrus, *How to Apply the National Register Criteria for Evaluation*, 44.

appreciate its other aspects of integrity, such as materials and workmanship, by parking along the roadway and appreciating its attributes from a stationary view. However, its integrity of setting and feeling, experienced while traveling at speed, that enables this resource to evoke a sense of Oklahoma's earliest days of highway design when experimental approaches were regularly implemented and tested to their limits.

9. WORK REQUIREMENTS, RECOMMENDATIONS, AND ALTERNATIVES

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

SOI treatment recommendations for rehabilitation provide a framework mindful of the objective of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values. The recommendations are a logical set of considerations that build upon each other and establish a holistic approach to treatment. The standards for rehabilitation consist of the following:[123]

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

[123] Grimmer, "The Secretary of the Interior's Standards," 76.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The standard gives latitude to replace extensively deteriorated, damaged, or missing features using either the same material or compatible substitute materials. The standard also allows for alterations and the construction of new additions, if necessary, for a continuing or

new use for the historic resource.[124] These considerations are consistent with Route 66 Ribbon Road's preservation objectives discussed in Section 8 and will guide the recommended work to implement the project's treatment plan.

[124] Grimmer, "The Secretary of the Interior's Standards," 77.

REQUIREMENTS, RECOMMENDATIONS, AND ALTERNATIVES

This section of the HSR organizes the proposed project's work requirements, recommendations, and alternatives in the context of the roadway's character-defining features and their current condition. Work requirements outline the laws, regulations, and functional requirements applicable to the recommended work areas. Work recommendations are the tasks recommended to realize the proposed treatment approach, an evaluation of the proposed solution, and a description of specific recommendations for work, including alternate solutions, when applicable.[125]

The tables below consist of a section specific to tasks recommended to realize the proposed treatment alternative and a section including those outside of the proposed alternative but necessary to consider given the resource's current condition and its long-term care. The table includes the following:

- **Work Recommendation**: A specific action item.
- **Condition**: A brief discussion elaborating on the roadway's original or as-built condition versus its current state, and how the roadway has changed.
- **SOI Standard**: For the purpose of discussion, contextual reference tying the work recommendation to a specific SOI standard.
- **Recommendation**: A discussion of the treatment possible in the context of the identified SOI standard and general work requirements. Recommendations are consistent with treatment priorities indicated in the SOI's guidelines and considerations for replacement of missing historic features, alterations, code-

[125] "Preservation Brief 43."

required work, resilience to natural hazards, sustainability, and new alterations and related new construction.

- **Alternative**: A discussion of alternatives, when applicable.

Route 66 Ribbon Road's character-defining features include:

- Stepped plan that follows section lines.
- Nine-foot wide roadbed segments with 5-foot wide gravel shoulders.
- Widened and banked curves.
- Culverts constructed during periods of significance (1919-1921, 1926-1937).
- Roadbed materials (asphalt and concrete).

Part 1: Tasks Recommended to Realize the Proposed Treatment Approach					
Task #	**Work Recommendation:**	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
1.1	Construct gravel or chip/seal driving lanes	The highway's main lane and gravel shoulders were designed to accommodate passing necessary on a single traffic lane. The as-built specification indicates 8-foot shoulders, but currently the shoulders are usually 5-feet wide.[1]	1	Work recommendation 1.1, which addresses Route 66 Ribbon Road's current inability to accommodate present-day vehicular traffic, is consistent with the standard to retain a resource's historic use. The construction of driving lanes will extend the resource's usefulness regarding current vehicle size and preserve its historic use. Work recommendation 1.1 is required to conform with specifications indicated by current FHWA and ODOT design guidelines. In terms of materials, as the shoulders were originally of gravel construction, the same material should be used in their reconstruction. A chip/seal option using pea gravel giving the same appearance as the original would be acceptable as well. Modern construction techniques, such as filter fabric that is not visible, are acceptable so long as they do not impair the roadway's workmanship.	The driving lanes and associated shoulders should be designed as a continuous gravel or chip/seal surface, constructed at the most minimal widths possible. If possible, design exceptions reducing the new roadway's width should be pursued. This approach is consistent with the minimal change aspect of SOI Rehabilitation standard 1 and looks to balance preservation and use goals.
1.2	Construct 2-foot-wide gravel or chip/seal shoulders	The highway's main lane and gravel shoulders were designed to accommodate passing necessary on a single traffic lane. The as-built specification indicates 8-foot shoulders, but currently the shoulders are usually 5-feet wide.[124]	1	Work recommendation 1.2 is related to 1.1 and is an integral part of updating the roadway to meet current requirements. The work recommendation is consistent with the standard to retain a resource's historic use and current road engineering standards. Work recommendation 1.2 is required to conform with specifications indicated by current FHWA and ODOT design guidelines.	Consistent with recommendation 1.1, the driving lanes and shoulders should be designed as a continuous gravel or chip/seal surface and if possible, design exceptions reducing the new shoulder's width should be pursued. This approach is consistent with the minimal change aspect of SOI Rehabilitation standard 1 and looks to balance preservation and use goals.

Part 1: Tasks Recommended to Realize the Proposed Treatment Approach					
Task #	**Work Recommendation:**	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
1.3	Reconstruct ditches	The original design included 3ft bottom ditch with 3ft bench 12 inches above flowline on the inside slope. The original shape and size of the grass lined ditches no longer exists. The ditch has been altered through natural erosion and sedimentation.	9	Work recommendation 1.3 is an integral part of updating the roadway to meet current requirements. In instances where construction of new drainage elements is required, the new work shall be compatible with the roadway's massing, size, scale, and architectural features.[125] This recommendation is consistent with the standard to preserve spatial relationships that characterize the resource. Furthermore, reconstruction of the ditches to the historic design would be desirable if the historic design meets modern standards and requirements. Doing so would enhance the historic setting and design.	

1.4	Mill and replace original Topeka asphalt, as needed <u>Encompassing:</u> Broken asphalt Cracked asphalt Missing asphalt Previously repaired asphalt	Currently the roadway's surface varies in appearance, has some large cracks, and portions are missing. The highway's original construction plans call for a 2-inch-thick asphalt top of "Topeka Specification" over the 5-inch concrete base.[126] Laboratory analysis conducted in 2021 indicated the sample taken was not strictly Topeka asphalt. The tested sample's design mix post-dated the Topeka specification, indicating that portions of the roadway's surface had been milled and replaced in the past, or that the original was not prepared in strict accordance with the Topeka admixture.[127]	6	Work recommendation 1.4 addresses portions of the roadway's surface that have failed or are no longer extant. As the current asphalt varies in appearance and laboratory analysis has indicated that portions of the surface have been milled and replaced with a different mixture, this discussion is framed in multiple scenarios. In instances where Topeka asphalt is determined to exist, per SOI guidelines, preservation of historic fabric is prioritized; therefore, to the extent possible, original Topeka asphalt should remain in place. When the fabric's condition is such that it requires additional work, SOI guidance recommends repair with the least degree of intervention possible. Repair encompasses limited in-kind replacement, but a substitute material may be an acceptable alternative if the material can effectively replicate the appearance of the remaining features. In instances where the fabric's condition precludes repair or is missing, replacement is recommended. Like the guidance for repair, the preferred option is the use of in-kind (Topeka) material. A compatible substitute that reproduces the overall appearance of the historic material can be used in instances where in-kind replacement is not feasible. In instances where Topeka asphalt does not exist, alternatives include: 1) mill existing asphalt and replace with Topeka asphalt, 2) make repairs with Topeka asphalt, and/or 3) leave existing asphalt in place and repair with in-kind materials (with the understanding that in certain scenarios, in-kind materials may not be Topeka asphalt). In any case, the limits of what is possible, and the nature of asphalt should be considered. The possibility of using genuine	Regarding asphalt, a key assumption to consider is the asphalt layer's role in the roadway system and its expected wear and replacement. Rehabilitating the roadway should consider the implications of restoring the full roadway system.

Part 1: Tasks Recommended to Realize the Proposed Treatment Approach					
Task #	**Work Recommendation:**	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
				Topeka asphalt is dependent on whether the product can be recreated, and whether the proper materials for its formulation are still available. Further, as asphalt is a frangible material, its appearance over time (including its color and tone) is expected to change as it wears. Although the Topeka product is a character-defining feature, as with all asphalt, its integrity is in its ability to perform, not its appearance.	

[124] Guy Engineering, "Roadway Evaluation Report Historic Route 66 Ribbon Road JP #33565 and 33568," (Tulsa, OK, February 26, 2020), 3.

[125] An entirely new element, not the replacement or reconstruction of an existing feature.

[126] Oklahoma State Department of Highways, "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton," (Oklahoma City, OK, December 26, 1918).

[127] Terracon Consultants, Inc., "Re: Asphalt Testing Services," April 6, 2021.

Part 2: Other Considerations/ Ongoing Maintenance Tasks					
	Work Recommendation:	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
2.1	Treatment of non-historic gravel overlay	A gravel layer has been routinely applied over the historic roadbed since the 1980s as a means of preserving the roadway, but the gravel's abrasion is contributing to wear and damage of the roadway's asphalt and curbs.[128]	5	As the 1980s-era gravel overlay is causing wear to the roadbed, consistent with Rehabilitation standard 5, it should be removed from the 9-foot section in order to preserve the roadway's distinctive features. In order to protect the historic fabric from damage, the gravel layer should be removed through sweeping in as gentle a manner as possible.	This recommendation is consistent with findings in the 2003 report *Oklahoma Route 66 Roadbed Documentation Project (1926-1970) Part 2: Priorities and Management Strategies* prepared for the Oklahoma SHPO.[129]

Part 2: Other Considerations/ Ongoing Maintenance Tasks					
	Work Recommendation:	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
2.2	Repairing concrete base and curbs Encompassing: Cracked concrete Heaving Worn curbs Fractured curbs	The Guy Engineering evaluation report indicates portions of the concrete roadway have cracked or heaved, and that some of the curbs are worn and fractured.[130]	6	Rehabilitation standard 6, addressing deteriorated historic features, indicates that repair be prioritized over replacement. When replacement of a distinctive feature such as the curbs is unavoidable, the replacement will match the old in design, color, texture, and, where possible, material. As the impacts of new materials should be minimized, replacement should be limited to only instances where necessary, as when necessary to maintain structural integrity.	SOI recommendations for masonry and concrete repair stress the importance of identifying and treating the causes of deterioration as part of a rehabilitation program.[131]
2.3	Treatment of overlain sections and driveways onto the roadway.	Research has identified at least three sections of 9-foot-wide road bed that have been completely paved over with modern asphalt. Driveways have also been attached to the road over the course of its existence.	4	Rehabilitation standard 4 addresses the preservation of changes to historic properties that have acquired historic significance in their own right. Regarding the sections that have been paved over and the driveways that have been connected to the road, additional research is warranted to identify when the changes took place and how these changes have affected the roadway's historic and physical integrity. Specifically, these changes should be evaluated for any significance associated with the community's planning and development.	The possibility of restoring extant sections that have been overlain should be explored. Although additional research would be necessary, the reversal of non-historic modifications is desirable.
2.4	Treatment of I-44 overpass	The Oklahoma Turnpike Authority is engaged in a long-term overpass replacement project.	9	Rehabilitation standard 9 addresses the potential for new additions, alterations, and related new construction to destroy historic materials, features, and spatial relationships that characterize the resource. Although the construction of a turnpike overpass in the 1950s already destroyed a portion of Route 66 Ribbon Road, careful coordination with the Oklahoma Turnpike Authority will be required to protect the historic and physical integrity of the areas around any proposed overpass replacements. Furthermore, close attention must be paid to the matter of the roadway itself as a historic resource. Section 106 review of any proposed undertaking should consider any adverse effects to the roadway's historic and physical integrity.	

Part 2: Other Considerations/ Ongoing Maintenance Tasks					
	Work Recommendation:	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
2.5	Ongoing Ottawa County routine roadway maintenance.		2 & 7	The development of Ottawa County's ongoing maintenance plan should be informed by SOI guidelines, the recommendations in this report, and the guidance of preservation professionals. Rehabilitation standard 2, addressing the preservation of historic character, and standard 7, addressing chemical and physical treatments, in particular should guide policies and procedures. Specifically, policies and procedures must ensure the ongoing preservation of the resource and consider the potential of maintenance activities to adversely affect the resource. Moreover, the County should anticipate actions necessary to protect the resource following its rehabilitation. Consideration should be given to steps like directional and interpretive signage. Also, as the new driving lanes are intended to remove traffic from the 9-foot section, actions educating drivers may be necessary to reinforce this intent.	Signage should be minimum/low impact and utilize a context-sensitive approach that maintains the setting's rural feel. Drivers should be encouraged to use the new driving lanes and avoid the historic road.
2.6	Treatment of the roadway's curved corners.	As designed and constructed the roadway has super elevated banked turns at section line corners.	2	Regarding the construction of gravel driving lanes and shoulders, consideration must be given to the preservation the roadway's character at its banked corners. To the extent possible, the new design should follow the original roadway's treatment of road and shoulder as the corners are turned. Similarly, the original relationship with other roadways at section-line intersections should be maintained.	

Part 2: Other Considerations/ Ongoing Maintenance Tasks					
	Work Recommendation:	**Condition:**	**SOI:**	**Recommendation:**	**Notes/Alternative:**
2.7	Extension of existing culverts and cross-drains.	The roadway features two types of culverts, a 36-inch arch culvert and a 72-inch flat top arch culvert. Some of the culverts have been completely replaced. All cross-drains will need to be extended in order to accommodate the new driving lanes and shoulders.	2	Although the culverts are character-defining features, they are less important to the road's significance since they do not readily illustrate the reasons for which the road is listed in the NRHP. As the culverts are largely buried within the roadway, there is less concern over their material or design. In terms of their extension to accommodate the wider roadway and shoulders, of primary concern is the preservation of the spatial relationship between the roadway, shoulders, and drainage ditch to the culvert's headwalls (the culvert's most visible feature). Although (for the most part) the culvert headwalls are not apparent, to the extent possible, care must be taken to not introduce new visual features that disturb the rural historic setting.	

[128] Guy Engineering, "Roadway Evaluation Report," 5.

[129] Keene and Vogel, "Oklahoma Route 66 Roadbed Documentation Project," 27.

[130] Guy Engineering, "Roadway Evaluation Report," 6.

[131] Grimmer, "The Secretary of the Interior's Standards," 80.

BIBLIOGRAPHY

"66 Gap To Be Closed." *American Saturday Night*. November 9, 1935.

"Afton Woman Injured When Auto Turns Over." *Miami Record-Herald*. November 9, 1923.

Anders, ed., Mary Ann. "Route 66 in Oklahoma: An Historic Preservation Survey." Oklahoma State University, Stillwater Oklahoma: Oklahoma Historic Preservation Survey, 1984.

Andrus, Patrick W. *How to Apply the National Register Criteria for Evaluation*. Edited by Rebecca H. Shrimpton. National Register Bulletin 15. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, National Register of Historic Places, 1995. https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

"Association Will Promote Travel On Highway 66." *Miami Daily News-Record*. February 6, 1927.

"Bailey Speaks At Courthouse." *Miami Daily News-Record*. July 20, 1930.

"Builder Must Pay Cost Of Replacing Pavement." *Joplin Globe*. May 26, 1920.

"Built." *Miami Daily News-Record*. June 10, 1931.

Burke, Bob. *ODOT 100 Celebrating the First 100 Years of Transportation in Oklahoma*. Oklahoma Horizons Series. Oklahoma City: Oklahoma Heritage Association, 2011.

Commissioner's Journal, Ottawa County. Vol. 3. Miami, OK: Ottawa County Clerk, n.d.

Commons, A.L. "New Highway 'Last Word in Design and Type of Construction,' Commons Says." *Miami News Record*. September 5, 1937.

Corbett, William Paul. "Oklahoma's Highways : Indian Trails to Urban Expressways." Dissertation, Oklahoma State University, 1982.

"Detour In Use South Of City." *Miami Daily News-Record*. December 20, 1935.

"Driver Is Killed As Car Plunges Off Road In Fog." *Miami Daily News-Record*. January 29, 1935.

"Engineer Urges Elimination Of Road Gap Here." *Miami Daily News-Record*. August 20, 1936.

"Enthusiastic Road Meet Here Saturday." *Miami Record-Herald*. March 10, 1916.

Everett, Dianna. "Ozark Trail Highway." The Encyclopedia of Oklahoma History and Culture, 2019. https://www.okhistory.org/publications/enc/entry.php?entry=OZ005.

"Federal Highway In County Is Marked." *Miami News Record*. November 15, 1926.

"Grading Miami-Afton Road." *Joplin Globe*. July 11, 1919.

Green, Roy M., and L.W. Kemp. “Principles Of Pavement Selection With Statistics Of Pavements In Texas Cities And Towns Prior To January 1, 1920.” Bulletin of the Agricultural and Mechanical College of Texas. College Station, TX, May 1, 1920.

Grimmer, Anne E. “The Secretary of the Interior’s Standards for the Treatment of Historic Properties.” Washington, D.C.: U.S. Department of the Interior National Park Service Technical Preservation Services, 1998. https://www.jstor.org/stable/1504550?origin=crossref.

Guy Engineering. “Alternatives Design Report Historic Route 66 Rehabilitation Ottawa County, District 3.” Tulsa, OK, April 14, 2020.

———. “Roadway Evaluation Report Historic Route 66 Ribbon Road JP #33565 and 33568.” Tulsa, OK, February 26, 2020.

“Happenings In Oklahoma.” *The Adair Citizen*. January 26, 1922.

“Highway Engineers Here Transferred.” *Miami Daily News-Record*. September 24, 1936.

“Highway Is Open.” *Joplin Globe*. October 1, 1920.

NSSGA. “History of the Federal-Aid Highway Program.” Accessed May 25, 2020. https://www.nssga.org/advocacy/grass-roots/reauthorization-roadmap/history-federal-aid-highway-program/.

“Inspectors View New Miami-Afton Highway.” *Joplin Globe*. March 9, 1920.

Kirk, Robert S. “The Highway Funding Formula: History and Current Status.” EveryCRSRReport.com, May 20, 2019. https://www.everycrsreport.com/reports/R45727.html#fn3.

Meacham, Maryjo, Brenda Peck, Lisa Bradley, and Susan Roth. “Miami Original Nine-Foot Section of Route 66 Roadbed.” National Register of Historic Places Inventory/Nomination Form. Norman, OK: University of Oklahoma, College of Architecture, May 31, 1992.

———. “Route 66 and Associated Historic Resources in Oklahoma.” Norman, OK, February 9, 1995. http://nr2_shpo.okstate.edu/pdfs/64500493.pdf.

“Miami And Afton Concrete Road Nears Completion.” *Joplin Globe*. December 9, 1920.

“Miami Builds Concrete Road.” *The Daily Ardmoreite*. May 24, 1920.

“Miami-Afton Federal Road Dedicated This Afternoon Before Large Crowd.” *Miami Daily Record-Herald*. March 14, 1922.

“Miami-Afton Highway Is Open To Traffic.” *Joplin Globe*. January 17, 1922.

“Miami-Afton Highway Is Really to Be Built.” *Miami Daily Record-Herald*. July 21, 1920.

"Miami-Afton Pavement, New Gateway To Southwest, Officially Opened When Gov. E.W. Marland Cuts Ribbon." *Miami Daily News-Record*. September 13, 1937.

"Miami-Afton Road Survey Continuing." *Miami Daily News-Record*. February 13, 1934.

"Mitigation Strategies For Design Exceptions - Safety | Federal Highway Administration." Accessed May 26, 2020. https://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_superelevation.cfm.

Oklahoma Department of Highways. "Biennial Report 1913-14." Oklahoma City, OK: Oklahoma Department of Highways, 1914. https://digitalprairie.ok.gov/digital/collection/okresources/id/14189/rec/39.

Oklahoma Department of Transportation. "Annual Report of the State Highway Commission for the Years 1919 to 1924 Inclusive." Oklahoma City, 1924. https://digitalprairie.ok.gov/digital/collection/okresources/id/14207/rec/39.

"Oklahoma Road Segments--Route 66: A Discover Our Shared Heritage Travel Itinerary." Accessed May 25, 2020. https://www.nps.gov/nr/travel/route66/oklahoma_road_segments.html.

Oklahoma State Department of Highways. "State of Oklahoma Plan Showing Federal Aid Project No8 for Paving, Miami to Afton." Oklahoma City, OK, December 26, 1918.

"Order Is Expected Soon for Road Work." *Miami Daily News-Record*. October 24, 1935.

"Paving Of Miami-Afton Gap Expected To Start Shortly After Feb. 15." *Miami Daily News-Record*. January 20, 1937.

"Preservation Brief 43: The Preparation and Use of Historic Structure Reports." Accessed May 21, 2020. https://www.nps.gov/tps/how-to-preserve/briefs/43-historic-structure-reports.htm.

"Progress On Highway." *Joplin Globe*. July 11, 1920.

"Rapid Progress On Road Made." *Joplin Globe*. November 30, 1921.

"Right-of-Way Is Sought for New Highway." *Miami Daily News-Record*. August 29, 1935.

"Road Work Begins." *Joplin Globe*. May 17, 1919.

"Road Work Progresses." *Joplin Globe*. January 7, 1920.

"'Scotch' Paving Will Continue To Take Its Toll In Life And Property." *Miami Daily News-Record*. July 28, 1933.

Scott, Lon. "The Main Street of America." *Miami Daily News-Record*. April 10, 1927.

"Slab To Afton Due To Be Laid By Mid-August." *Miami Daily News-Record*. June 13, 1937.

"Slab To Cover Last Oklahoma Gap In U.S. 66." *Miami Daily News-Record*. January 6, 1937.

Smith, Wilber E. "The Federal Urban Highway Program." Illinois Periodicals Online, October 1958. https://www.lib.niu.edu/1958/im5810227.html.

Social Security Administration. "'Social Security In America' Appendix IV The History and Development of the United States Employment Service." Reports & Studies, n.d. https://www.ssa.gov/history/reports/ces/cesbookapen4.html.

"State News Notes." *Craig County Gazette*. October 14, 1920.

State of Oklahoma. "Constitution of the State of Oklahoma, Article XVI." Oklahoma Constitutional Convention, September 17, 1907.

"Steady Stream of Tourist Traffic Toward Highway 66 and Miami Being Diverted by Lack of Full Publicity." *Miami Daily News-Record*. July 22, 1927.

"Surveys Revive Hopes For New Slab To Afton." *Miami Daily News-Record*. January 30, 1934.

Terracon Consultants, Inc. "Re: Asphalt Testing Services," April 6, 2021.

The Oklahoma Route 66 Association. "Oklahoma Route 66 Roadbed Documentation Project (1926-1970) A Survey of Roadbed and Integral Structures." Oklahoma State Historic Preservation Office, 2002.

"Third Work Order on U.S. 66 Paving Project." *Miami Daily News-Record*. May 3, 1937.

"Town Topics." *Baxter Daily Citizen*. May 23, 1921.

"Two Girls Injured , One Seriously, In Automobile Wreck." *Miami Daily Record-Herald*. October 2, 1922.

"U.S. 66 Officials Stress Highway's Vast Possibilities." *Miami News Record*. February 29, 1928.

Warnick, Ron. "County Seeks Grant for Sidewalk Highway." *Route 66 News* (blog), March 22, 2016. https://www.route66news.com/2016/03/22/county-seeks-grant-sidewalk-highway/.

———. "County Will Seek Grant for Sidewalk Highway." *Route 66 News* (blog), October 1, 2014. https://www.route66news.com/2014/10/01/county-will-seek-rails-trails-grant-sidewalk-highway/.

———. "Leave the Old Road Alone." Route 66 News, September 18, 2008. https://www.route66news.com/2008/09/18/leave-the-old-road-alone/.

———. "Monument Dedicated at Sidewalk Highway Site near Afton." *Route 66 News* (blog), November 13, 2011. https://www.route66news.com/2011/11/13/monument-dedicated-at-sidewalk-highway-site-near-afton/.

———. “Preservationists Will Approach County to Preserve Sidewalk Highway.” *Route 66 News* (blog), August 31, 2017. https://www.route66news.com/2017/08/31/preservationists-will-approach-county-preserve-sidewalk-highway/.

Wheeler, Porter, K. “Highway Assistance Programs : A Historical Perspective.” Washington, DC: Congressional Budget Office, February 1978. https://www.cbo.gov/sites/default/files/95th-congress-1977-1978/reports/78-cbo-020.pdf.

“Work Order On Paving Of U.S. 66 Gap Issued.” *Miami Daily News-Record*. March 17, 1937.

“Work Orders Awaited for Four Projects on Miami-Afton Highway.” *Miami Daily News-Record*. November 7, 1935.

APPENDIX A: AS-BUILT HIGHWAY PLANS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	1	46

STATE OF OKLAHOMA

PLAN

Showing

FEDERAL AID PROJECT No 8

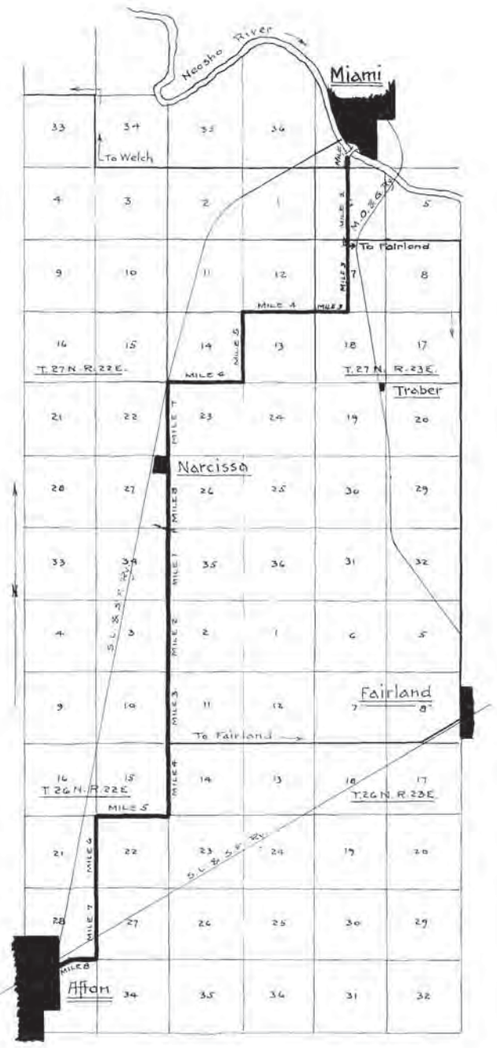
...FOR...

PAVING, MIAMI TO AFTON,

covering miles 1 to 8 of section H and miles 1 to 8 of section 1 of the State Road System

of

OTTAWA COUNTY.



Layout Map.

One mile to an inch.

Section, Township and Range lines

The road to be improved

Branch roads - part of the State Road system

Index		
Sheet	Description	Scale
1	Title Sheet and Layout Map	1 Mile to an inch
2	Project Located on State Map	
3	Typical Cross Sections	1 inch = 5 feet
4	Plan and Profile Mile 1 & 2 Sec I	Ver. 1"=10' Hor 1"=100'
5	" " " " 2 " "	" " " "
6	" " " " 2 " "	" " " "
7	" " " " 2 & 3 "	" " " "
8	" " " " 3 & 4 "	" " " "
9	" " " " 4 "	" " " "
10	" " " " 4 & 5 "	" " " "
11	" " " " 5 "	" " " "
12	" " " " 5 & 6 "	" " " "
13	" " " " 6 & 7 "	" " " "
14	" " " " 7 "	" " " "
15	" " " " 7 & 8 "	" " " "
16	" " " " 8 "	" " " "
17	" " " " 8 Sec I & 1 Sec H	" " " "
18	" " " " 1 " 2 "	" " " "
19	" " " " 2 "	" " " "
20	" " " " 2 & 3 "	" " " "
21	" " " " 3 "	" " " "
22	" " " " 3 & 4 "	" " " "
23	" " " " 4 & 5 "	" " " "
24	" " " " 5 "	" " " "
25	" " " " 5 & 6 "	" " " "
26	" " " " 6 "	" " " "
27	" " " " 6 & 7 "	" " " "
28	" " " " 7 & 8 "	" " " "
29	" " " " 8 "	" " " "
30	Culverts	"
31	Culverts	
32-46	Cross Sections	

Scale Used on Sheets.

Typical Cross Section, 1"=5'

Profile Vertical, 1"=10'

Profile Horizontal 1"=100'

Alignment 1"=100'

Approvals.

The accompanying plans, for paving Miami to Afton, Ottawa County, have been examined and approved, for the State Department of Highways, this 26 day of December 191 8.

Thos. R. Cunningham State Engineer.

Geo. B. Cobb Commissioner of Highways.

Examined and approved, for the Federal office of Good Roads, this [redacted] day of [redacted] 191[redacted]

[redacted]

Examined and approved, for the Department of Agriculture, this [redacted] day of [redacted] 191[redacted]

[redacted]

Examined and approved, for the [redacted] this [redacted] day of [redacted] 191[redacted]

[redacted]

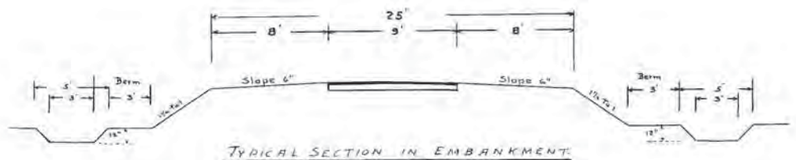
Sheet Number 1

FED ROAD DIST. NO	STATE	FED. AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ORLA	S	1918	3	46

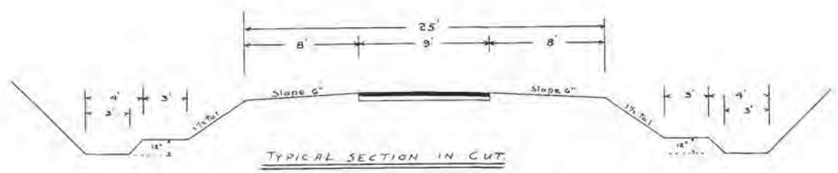
TYPICAL CROSS SECTIONS.

5' To 1"

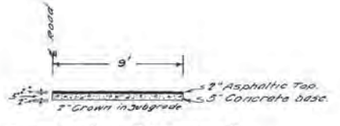
Two inch asphaltic top, "Topeka Specifications," on one course concrete base 5" Thick.
Circular Crowning.



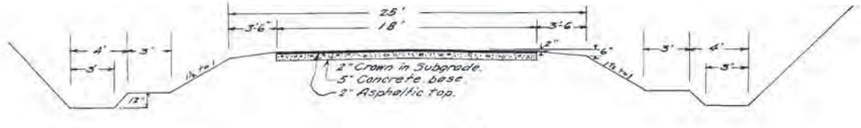
TYPICAL SECTION IN EMBANKMENT



TYPICAL SECTION IN CUT.



Typical Section of 9' Pavement.



Typical Section of 18' Pavement.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	4	46

Sta 0+00
Pt. End of Neosho River Bridge

66' Right of Way
25' Roadway
18' Pavement
3½" Shoulders

PT. 7+97

30° C.P. Takeoff
Δ = 73°52'
R = 193.19
T = 150.87
PI = 6+46.6
L = 252.88

PC 4+72.8

STA. 6+46.6

N

Sec. 1 Mi. 1 State Road System, Ottawa Co.
Sec. 31 T. 28 N. R. 22 E.

1915 6.25 CY. Conc. Collvt. reported Drainage 200 lin. ft.

Sec. 31 T. 28 N. R. 22 E.

SCALE OF PLAN
1" = 100'

Sta. 28+14

To Welch

Sec. 1 Mi. 2 State Road System, Ottawa Co.
Sec. 6 T. 27 N. R. 22 E.

Sec. 6 T. 27 N. R. 22 E.

Sta. 32+00

SCALE
Ver. 1" = 10'
Hor 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

West End Neosho River Bridge
Elev 763.95
Sta 0+00

Bridge #1

Sta 1+80
Elev 764.4

Sta 1+30

Bridge #2

Sta 3+08
Elev 764.7

Sta 4+02
Elev 764.7

Sta 6+80
Elev 766.0

10+10.6 Elev 766.0
10+85 Elev 766.03
11+10 Elev 766.12
11+35 Elev 766.27
11+60 Elev 766.50
11+85 Elev 766.77
12+13 Elev 767.18
12+35 Elev 767.53
12+60 Elev 767.98

Inlet No. 3

11+40
Elev 766.0

14+20
Elev 766.20

22+00
Elev 768.2

26+00
Elev 771.2

28+40
Elev 771.44

32+20
Elev 767.4

-0.4%
0.0%
+.15
0.0%
+2.0%
+2.5%
+0.8%
0.0%
-1.43%

Flow line 759.0

3-13'3" I.B. Overflow Concrete Bridge, 18' Roadway to be extended to 25'.

Flow line 759.0

3-33' Spans (19' Roadway) 3 Trusses 13'-3" Wood Floor Beams Steel Floor Beams & Angles Ottawa Con. Co. Specifications

Flow line 759.0

drainage

Drainage

+ 24" ST. Con. Cul. Pipe Drainage 200 lin.

B.M. No. 1 Elev 763.95
On pile N.W. pier Neosho bridge.

B.M. No. 2 Elev 756.77
Tack in 18" Poplar 30' N. Sta 4+00

B.M. No. 3 Elev 766.09
Tack in head & S. end of Barn N. of Rd.

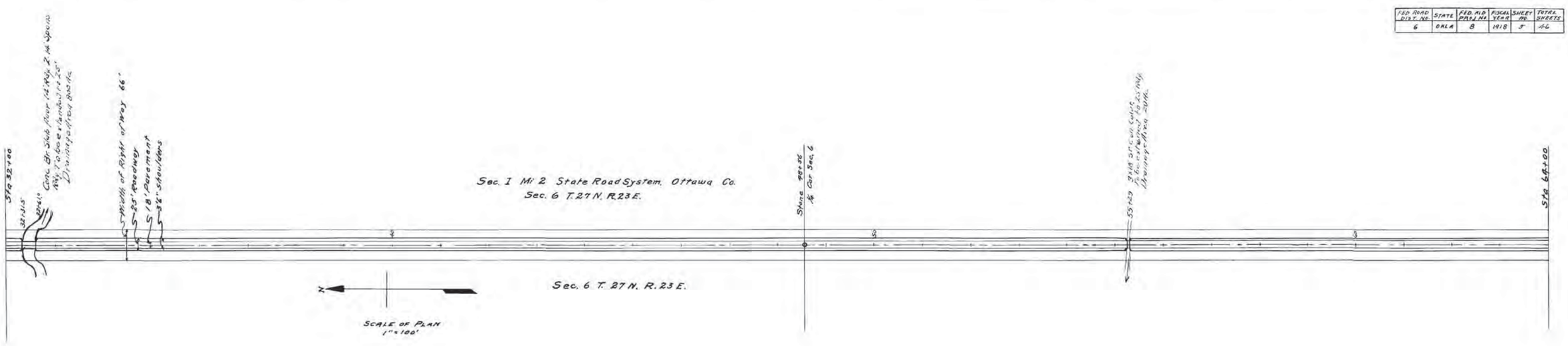
B.M. No. 4 Elev 756.67
Tack in stake E. of 11+20

B.M. No. 5 Elev 767.55
Tack in stake E. of 22+00 in fence.

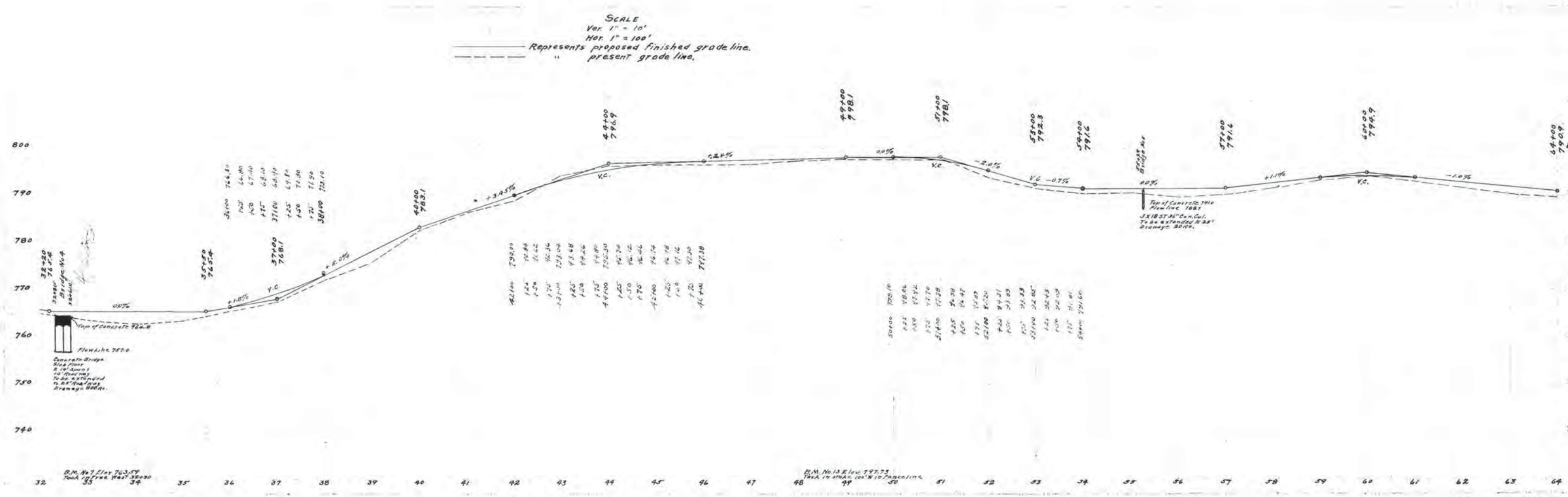
B.M. No. 6 Elev. 771.38
Tack in stake W. of 28+00

SHEET No. 4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	5	46

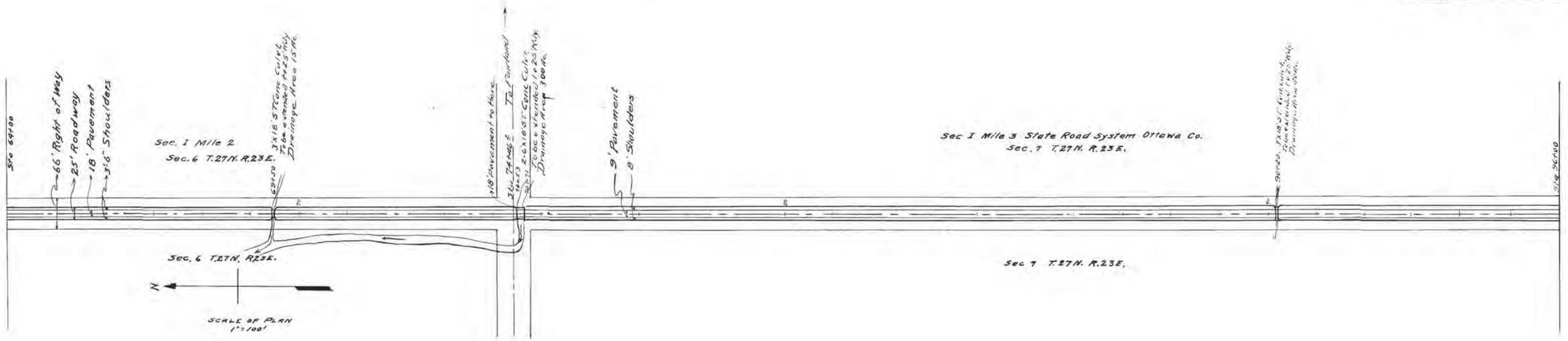


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
— — — — " present grade line.

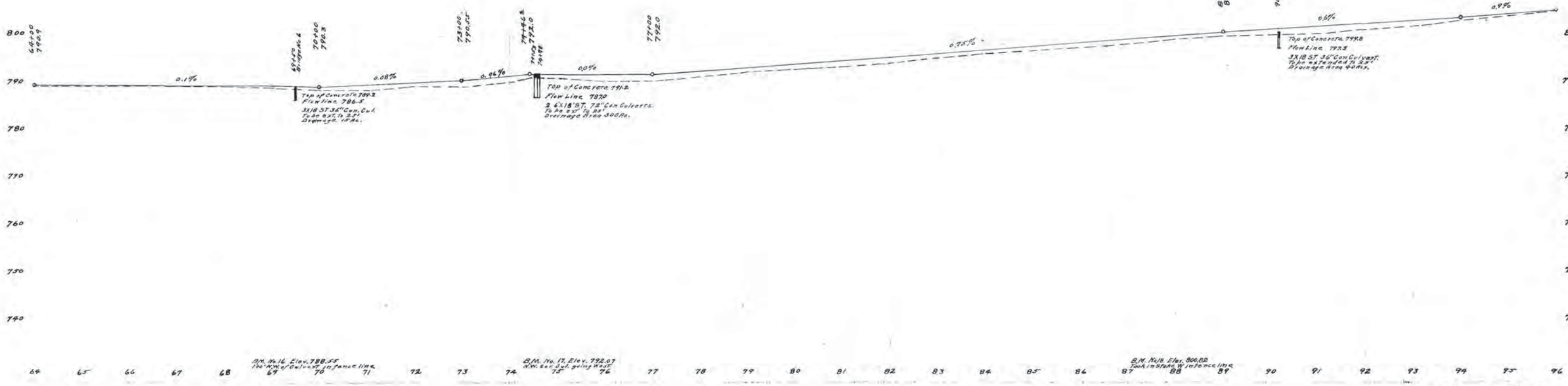


SHEET No. 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	6	44

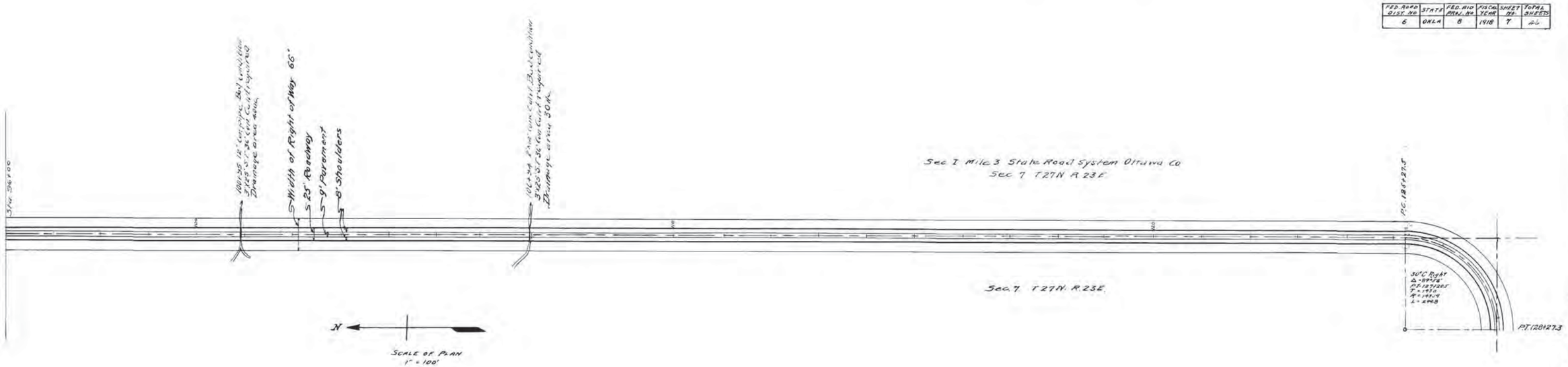


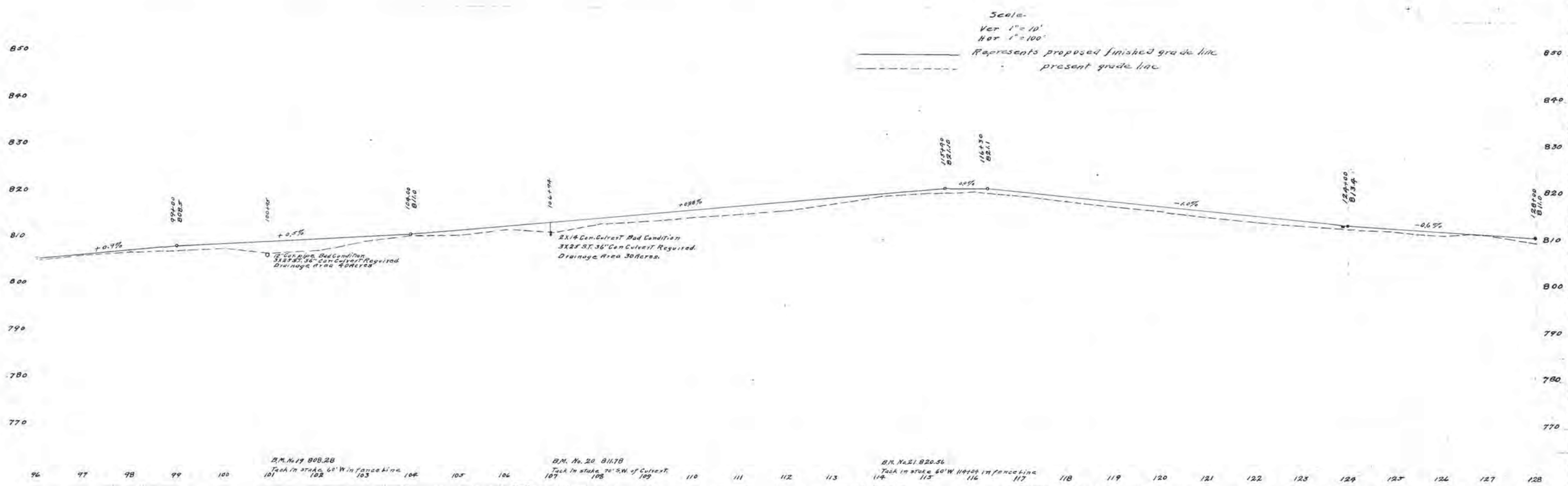
SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.



SHEET No. 6

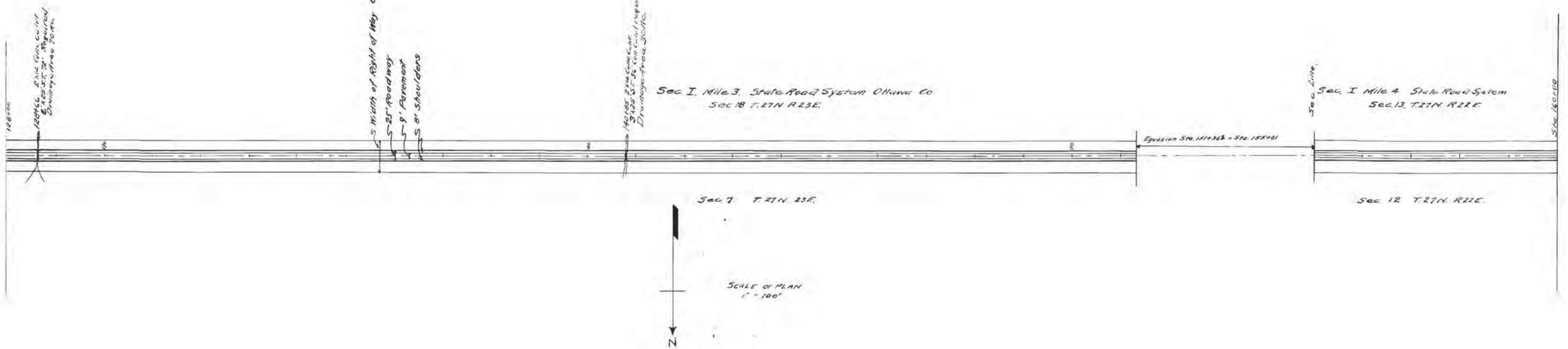
FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	7	46



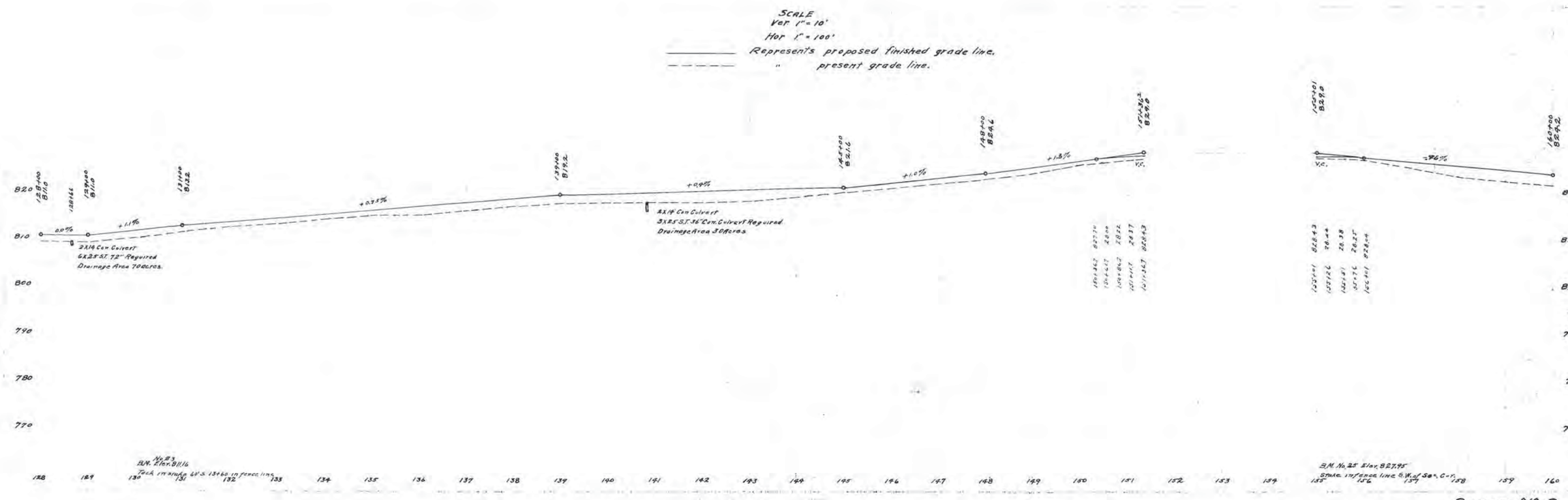


SHEET No. 7

FED ROAD DIST. NO	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	8	46



SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – " present grade line.



SHEET No. 8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	9	46

Sta 162+00

Width of Right of Way 66'

25' Roadway

9' Pavement

8' Shoulders

162+00 5'x18' St. Conc. Culvert
To be extended to 25 ft.
Drainage area 20 Ac.

Sec 1 Mile 4 State Road System Ottawa Co
Sec. 13 T. 27 N. R. 22 E.

185+00 3'x36' St. Conc. Culvert Required
Drainage area 20 Ac.

Sta 192+00

Sec 12 T. 27 N. R. 22 E.

N

SCALE OF PLAN
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

162+00 824.2 | 163+00 | 164+00 824.2 | 170+00 826.0 | 172+00 828.4 | 176+00 832.6 | 182+00 846.2 | 182+00 848.0 | 184+00 848.0 | 188+00 833.6 | 190+00 835.6 | 192+00 835.6

0.0% | +.36% | +1.21% | +1.89% | +2.75% | +.67% | -.66% | 0.0% | +2.28% | +1.00% | 0.0%

V.C. | V.C.

Top of Concrete 824.0
Flow line 822.0
3'x18 Sf. 36" Concrete Culvert
To be extended to 25 ft.
Drainage Area 20 Acres

Top of Concrete 844.00
Flow line 842.5
3'x30 Sf. 36" Required
Drainage Area, 20 Acres.

B.M. No. 26 Elev. 822.22
Stake 50' W. of Sta 162+00

B.M. No. 28 Elev. 849.50
Sta Ac. 70' W. Sta 181+90

860 | 850 | 840 | 830 | 820 | 810 | 800 | 790 | 780

160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192

SHEET No. 9

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	10	46

Sec I Mile 5 State Road System Ottawa Co.
Sec. 13 T27N R22E

Sec. 14 T27N. R22E.

N
Scale 1"=100'

Sta. 192+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

192+87 3'x8'6" Conc. Culv. required
Drainage Area 50 Acres

POND

Sec. I Mile 4
Sec. 13 T27N. R22E.

PT. 208+87.4

Sec. 12 T27N. R 22E.

PC 207+08.2

30° Curve Left
Δ = 89°42'
R = 193.19
T = 192.7
Ext = 79.59
PI = 207+80.8
LC = 279.5

N
Scale 1"=100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line.
" present grade line.

192+00 859.6
198+00 850.0
199+00 850.0
205+00 847.8
208+08 865.0
213+00 852.0
222+00 839.4

-.93%
0%
+1.33%
-.93%
-1.75%
-1.26%
-3.75%

Top of Concrete = 849.7
Flow line 846.5
199+00 3'X8'6" T.36" Con Cul. Required
Drainage Area 50 Acres.

V.C.

B.M. No 33 Elev. 850.16
On S. Head Wall Culvert SE Cor

B.M. No 34 Elev. 851.93
State line fence line, Corner W. 209+60

192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224

860 850 840 830 820 810 800 790 780

SHEET No. 10

F.A.P. AND DIST. NO.	STATE	F.A.P. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	11	40

Sta 224+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

224+94 12'x2.5' S.T. Conc. Culv. required
Drainage area 300 Ac.

232+98 3'x2.5' S.T. Conc. Culv. required
Drainage area 10 Ac.

245+42 3'x2.5' S.T. Conc. Culv. required
Drainage area 15 Ac.

Sec 1 Mile 3 State Road System Ottawa Co
Sec 13 T.27 N. R.22 E.

Sec. 14 T.27 N R.22 E.

N

Sta 256+00

SCALE OF PLAN
1" = 100'

224+94 12'x2.5' S.T. Conc. Culvert Required
Drainage Area 300 Acres
Flow Line 821.0

Top of Concrete 823.0
Flow Line 821.0
224+94 12'x2.5' S.T. 12' Concrete Culvert Required
Drainage Area 300 Acres

Top of Concrete 836.6
Flow Line 833.6
232+98 3'x2.5' S.T. 36' Con Culvert Required
Drainage Area 10 Acres.

Top of Concrete 840.8
Flow Line 838.0
245+42 3'x2.5' S.T. Con. Cul. Req.
Drainage Area, 15 Acres

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.

B.M. No 37. Elev. 826.89 N.E. Cor. Headwall of Culvert.

B.M. Elev. 844.75
Gastake 30' W. 237+00

SHEET No. 11

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	12	46

Sec. I Mi. 6 State Road System Ottawa Co.
Sec 23 T. 27N. R 22E

Sec 14 T 27N R 22E.

Sec I Miles
State Road System Ottawa Co
Sec 13 T27N R22E

Sec 14 T27N R22E

Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line
" present grade line.

B.M. Elev. 830.88 On Sec. Cor. Stone at P.I. of Cu. Vc.

B.M. Elev. 822.87 Tack S.W. Cor. John Hayes's Porch.

SHEET No. 12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	13	46

Sta. 288+00

S width of Right of Way 80'

S 22.5' Roadway

S 9' Pavement

S 8' Shoulders

292 ft² CMS 5'0" Conc. Culvert required Drainage area 200 Ac.

Sec. 1 Mile 6 State Road System, Ottawa Co.
Sec. 23 T.27N. R.22E.

Sec. 14. T.27N. R.22E.

P.T. 3+21.7 Lt. = 1+63.2

30°0' I. L. of P.T.
Δ 90°32'
T 193.66
R 193.19
L 301.82
P.I. 311.6 Lt.
E.I.T 80.90

P.C. 304+20

Sec 1 Mile 7
Sec. 23 T.27N. R.22E.

Sec. 22 T.27N. R.22E.

P.C. 3+21.7 Lt. = 1+63.2

Sta. 5+00

N

SCALE OF PLAN
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line
" present grade line.

288+40 B.S. 0

283+54

293+00 B.S. 0

301+00 B.S. 0

302+00 B.S. 0

307+00 B.S. 0

314+72 B.S. 0

1+63.2 B.S. 0

2+00 B.S. 0

-1.87%

+0.5%

+2.12%

0.05%

+1.0%

Y.C.

Top of Con. Bk. Pilot line 808.8
289+54 6'X2.5' S.T. 72" Con. Culvert Required Drainage Area 850 Acres.

Top of Con. 810.9 H.W. Line 807.18
292+11.2 6'X2.5' S.T. 72" Con. Cul. Required Drainage Area. 200 Acres.

B.M. Elev. 818.88 On Hedge Fence line N. 288+50

B.M. Elev. 838.49 on Sec. Cor Stone P.I. of Curve = 833.11 going South

SHEET No. 13

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	S	1918	14	46

Sta. 5+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

9+60 3'x6'S.T. 36" Conc. C.M.P. Culvert Improved
To be extended to 25' Hdp
Drainage area 40 Ac.

Sec. 1 Mile 7 State Road System Ottawa County

Sec. 23 T. 27 N. R. 22 E.

26+12 3'x2.5' S.T. 36" Conc. C.M.P. Culvert Improved
Drainage area 20 Ac.

Sta. 37+00

Sec. 22 T. 27 N. R. 22 E.

N

Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

6+00 El. 850
10+60 El. 836.0
13+20 El. 838.0
16+00 El. 851.0
18+00 El. 855.6
20+00 El. 857.0
22+00 El. 857.0
24+00 El. 854.0
26+12
28+00 El. 854.0
31+00 El. 857.0
33+00 El. 857.0
36+00 El. 852.0

+1.0%
-0.25%
+0.08%
+3.42%
+2.3%
+0.7%
0.0%
-1.0%
0.0%
+1.0%
0.0%
-1.66%
-1.8%

9'CO
V.C.

Top of Cur. 833.0 V.C.
Flow Line 833.0
9+60 3'x1.8' S.T. 36" Con. Cul.
In place to be extended To 25'
Drainage Area 40 Acres.

Top of Cur. 853.6
Flow Line 848.0
26+12 3'x2.5' S.T. 36"
Con. Cul. Required
Drainage Area 20 Acres.

| | | |

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	15	46

Sta 37+00 — ℄ Width of Right of Way — 33' Roadway — 9' Pavement — 8' Shoulders

Sta 40+17.4 3'X2.5' S.T. 36" Conc. Culvert required Drainage area 20 Acres

Sec 1 Mile 7 State Road System Ottawa County
Sec. 23 T. 27 N. R. 22 E.

Sec 22 T. 27 N. R. 22 E.

Sta 51+24.1 3'X2.4' Conc. Culvert Top of Con 848.7 Flow line 844.8 Drainage area 14 Acres

Sta 52+31 3'X2.4' S.T. 36" Conc. Culvert to be ext. 3' on R. end Drainage area 14 Acres

Sta 52+66 3'X1.8' S.T. 36" Conc. Culvert to be ext. to 25' Drainage area 30 Acres

Sec. 1 Mile 8 State Road System Ottawa County
Sec. 26 T. 27 N. R. 22 E.

Sec. 27 T. 27 N. R. 22 E.

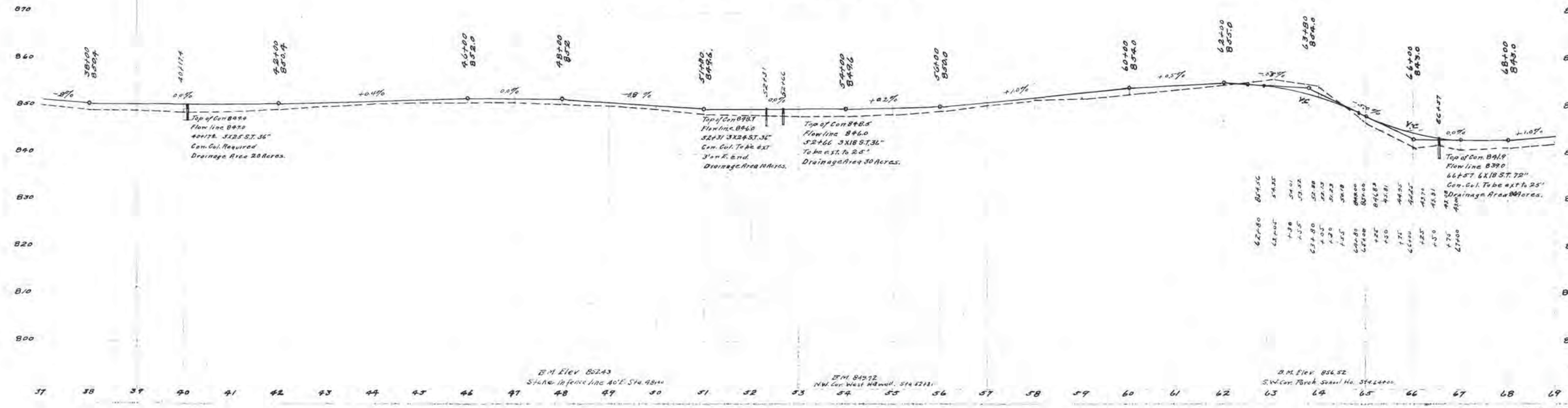
Sta 62+37 3'X1.8' Conc. Culvert To be extended to 25' Drainage area 80 Acres

Sta. 69+00

N

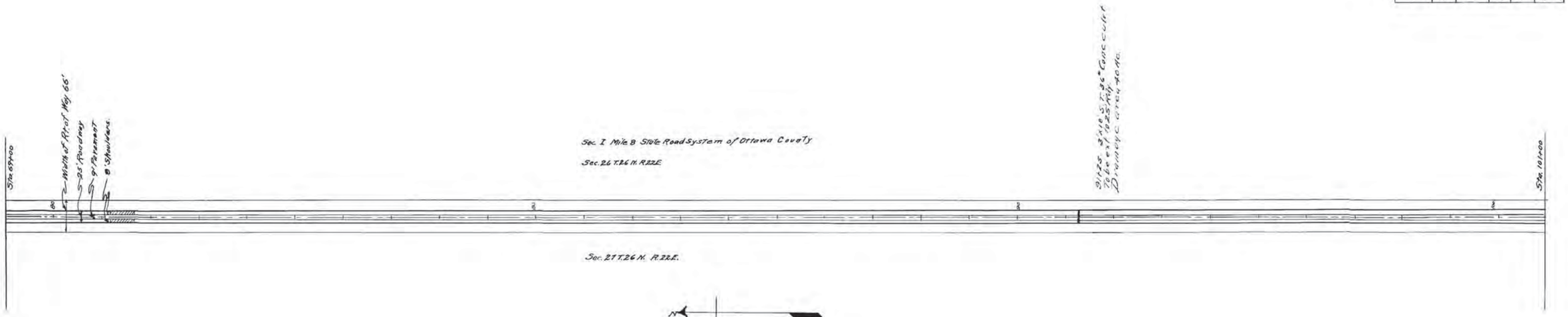
Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.

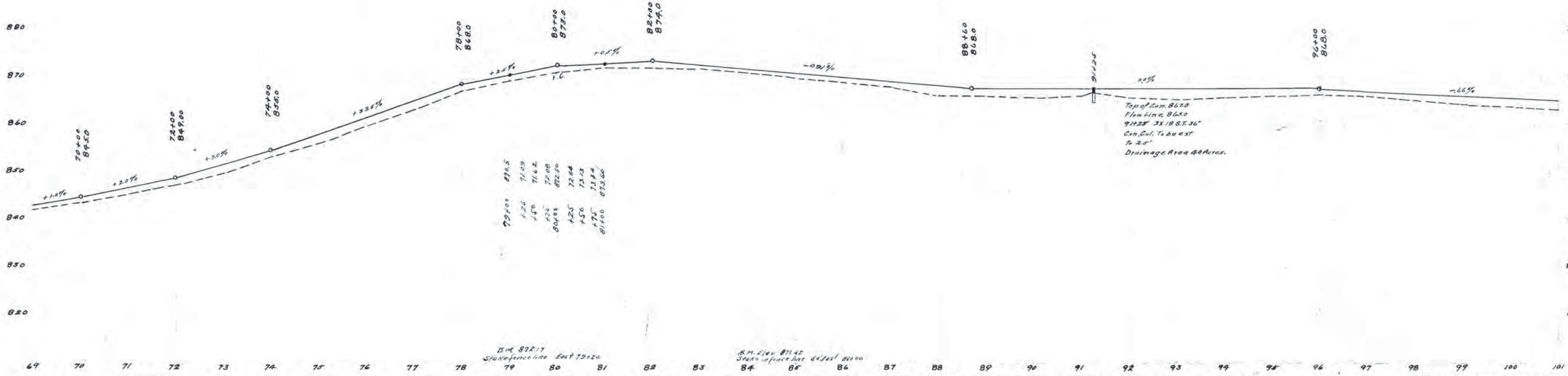


SHEET No. 15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	16	26

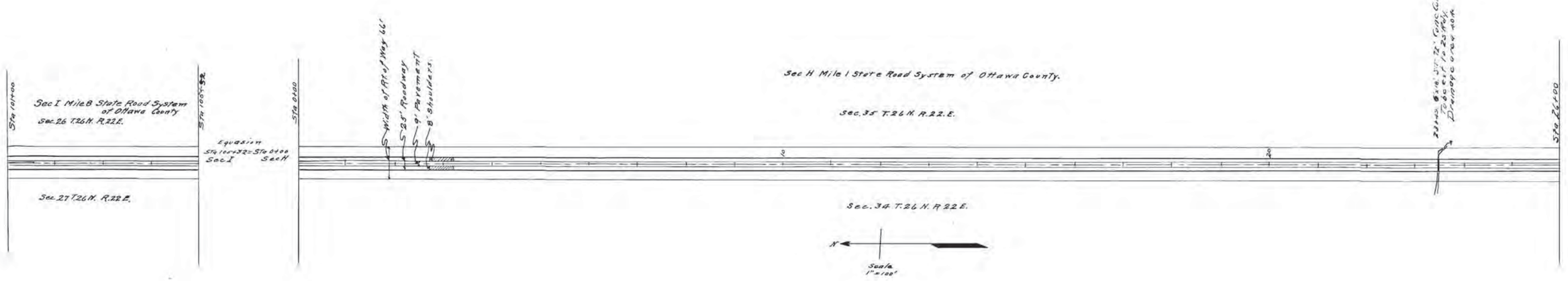


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
_____ Represents proposed finished grade line
- - - - - - - " present grade line.

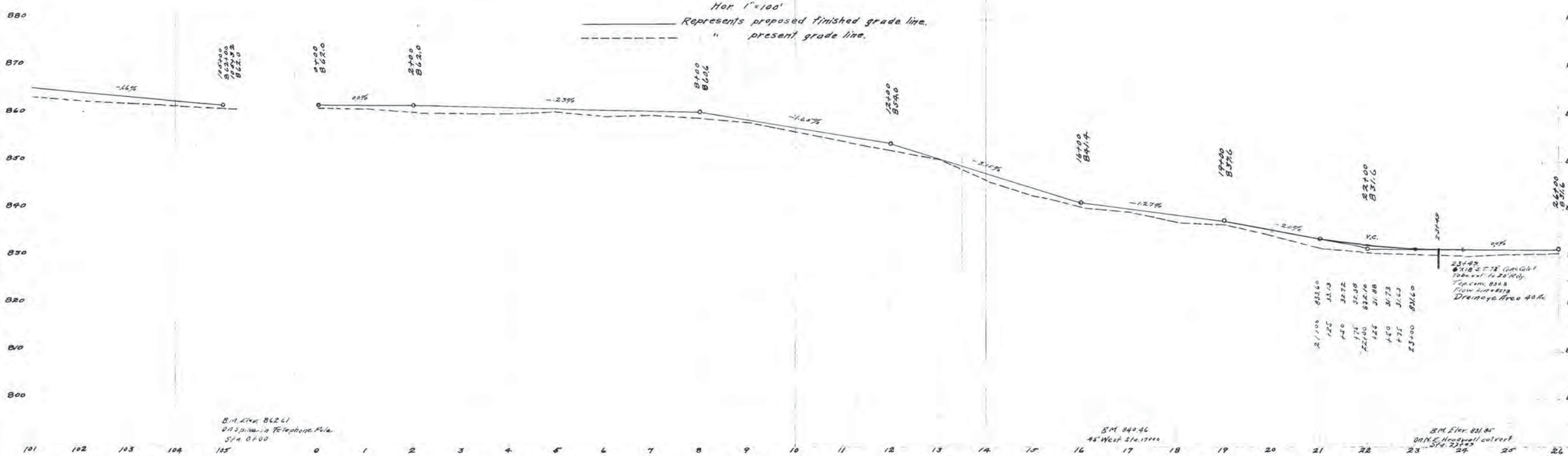


SHEET No 16

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	B	1918	17	46



SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
- - - - - - - - - " present grade line.



SHEET No. 17

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	18	44

Sta. 26+00

Width of Rt. of Way 66 ft.

25' Roadway

9' Pavement.

8' Shoulders.

Sta. 30+00

33+30 3'x6'S.R.C. Box Conc. Culvert to 25 Rdy. Drainage area 40 Ac.

Sec. H-Mile 1 State Road System of Ottawa County

Sec. 35. T.26N, R.22E.

Sta. 40+00.

44+37 6'x6'S.R.C. Box Conc. Culvert to 25 Rdy. Drainage area 80 Ac.

Sta. 50+00

Sta. 52+73.

Sec. H, Mile 2 State Road System of Ottawa County.

Sec. 2, T.26N, R.22E.

Sec. 34, T.26N, R.22E.

Sec. 3, T.26N, R.22E.

N.

— Scale —
1" = 100'.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – – " present grade line.

26+00 831.2
27+00 829.8
32+00 826.0
33+30 = 3'x6' SR Con. Cul.
38+00 826.0
40+00 826.0
44+37 = 6'x6' Conc. Culvt.
46+00 821.0
48+00 823.4
52+00 825.0
52+73
54+00 828.0
56+00 826.0
58+00.

-1.6%
-1.275%
+0.00%
-2.5%
-1.07%
0.0%
+1.13%
+1.5%
0.0%
-1.97%

To be Ext. to 25' Rdy.
Top Conc. = 82.
Flow = 822.1
Drainage Area = 40 Ac.

To be Ext. to 25 ft.
Top of Conc. = 88.
Flow Line = 816.7
Drainage Area = 80 Ac.

B.M. = 33+30 = N.E. Headwall Elev. 826.72

B.M. = 44+34 N.E. Headwall Elev. 821.11

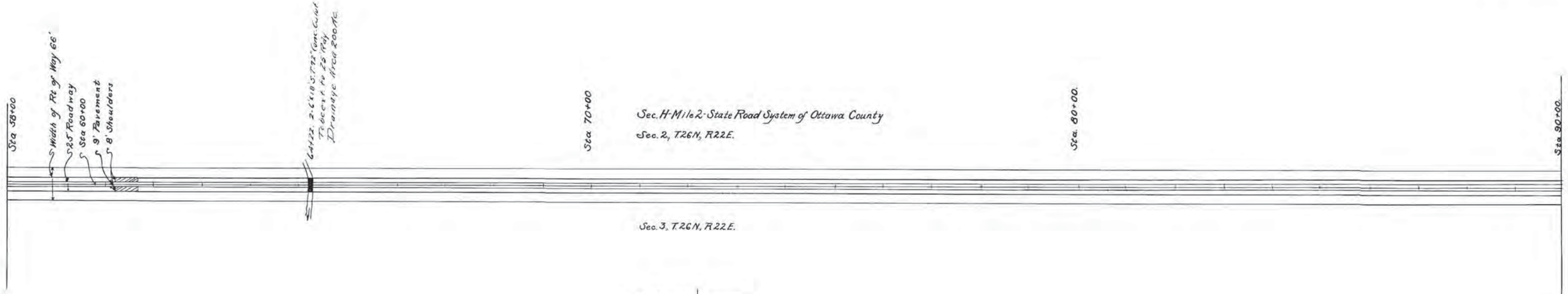
B.M. 52+30 S.E. Conc. Conc. Porch Elev. 823.97

850
840
830
820
810
800

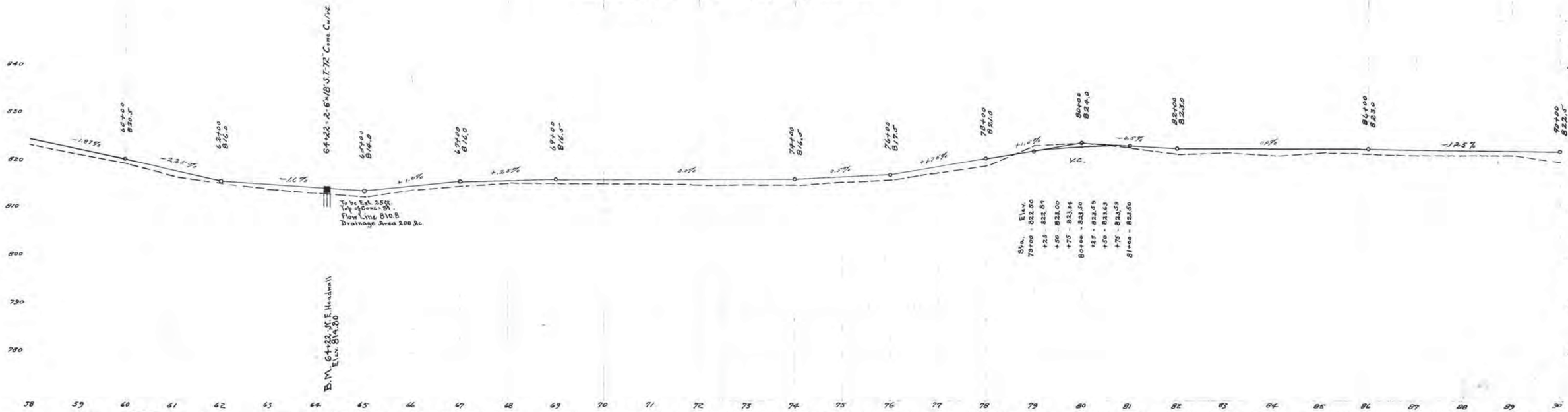
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

SHEET No. 18

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	19	26



SCALE
Ver. 1"=10'
Hor. 1"=100'
———— Represents proposed finished grade line
– – – – – – " present grade line



SHEET No 19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	20	46

Sta. 90+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

Sec. H-Mile 2-State Road System Ottawa County
Sec. 2, T.26N., R.22E.

Sta 100+00

Sta 105±71 Sec. H. Mile 2.
Sta 0+00 Sec. H. Mile 3.

Equation

Sta 0+00 Sec. H. Mile 3.
Sta 105+71 Sec. H. Mile 2.

Sec. 3, T.26N., R.22E.

Sec. H-Mile 3-State Road System Ottawa County
Sec. 11., T.26N., R.22E.

6'x20' S.T. 72° Conc. Culvert Required
Drainage area 200 Ac.
5+80

6'x18' S.T. 72° Conc. Culvert
Drainage area 200 Ac.
8+41

Sta 10+00

Sta. 15+00

N

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – – " present grade line

90+00 B225
-.12%
95+20 B222.0
-.42%
100+20 B214.5
-.33%
103+00 B181.5
-.18%
105+71 B178.0

0+00 B178.0
-.9%
3+00 B153.5
5+80: 6'x20' S.T. 72° Conc. Culvert Required
-.75%
7+00 B132.0
8+41: 6'x18' S.T. 72° Conc. Culvert
+.5%
10+00 B132.0
12+00 B137.0
+2.5%

Drainage Area 200 Ac.

Tube Ent. to 26ft. Rdy
Top Conc. : 81.
Flow line : 808.00
Drainage Area = 200 Ac.

B.M. 0+30 - Mail top Mail Box Post.
Elev.: 818.94.

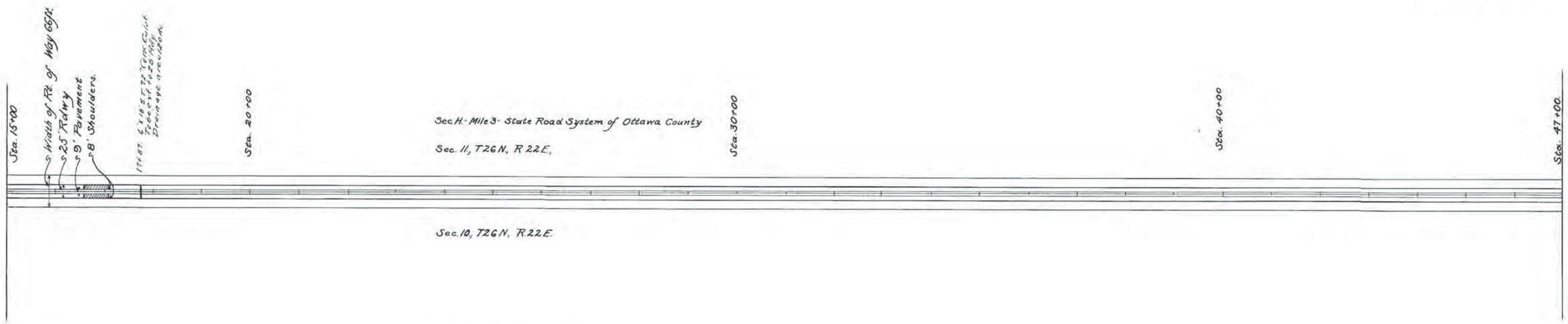
B.M. 8+42 - NE Headwall Conc. Culvt.
Elev. 812.90

850 840 830 820 810 800 790 780

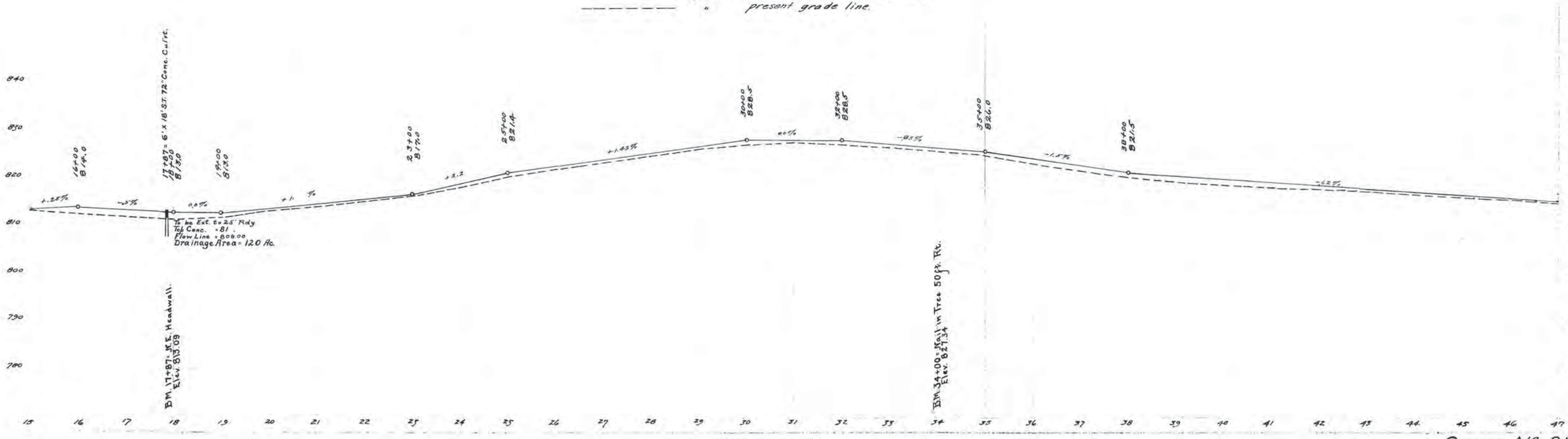
90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 +71. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SHEET Nº 20

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	21	41



SCALE
Ver. 1"=10'
Hor. 1"=100'
——— Represents proposed finished grade line.
– – – – – " present grade line.



SHEET No. 21.

FED ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	22	45

Sta. 47+00

Sec. H, Mile 3.

Sec. 11, T26N, R22E.

Sta. 50+00

Width of Rt. of Way 66 Ft.
24 Ft. Roadway
9 Ft. Pavement
8 Shoulders

Sta. 52+58

Sec. 10, T26N, R22E.

53+16 - 6'x8' S.T. 72" Conc. Culvert
To be Ext. to 25' Rdy.
Drainage area 120 Ac.

Sta. 60+00

Sec. H-Mile 4- State Road System of Ottawa County

Sec. 14, T26N, R22E.

Sec. 15, T26N, R22E.

Sta. 70+00
70+05 - 3'x8' S.T. 36" Conc. Culvert
To be Ext. to 25 Rdy.
Drainage area 40 Ac.

Sta. 79+00

N

— Scale —
1" = 100 ft.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – – " present grade line

Sta.	Elev.
50+00	814.00
52+58	813.66
	813.00
54+00	812.0
58+00	811.4
60+00	813.0
65+00	813.2
68+00	812.0
70+00	811.0

-.62%
-.36%
-.87%
-.15%
+.83%
+.12%
-.53%
-.65%
-.15%

53+16 - 6'x8' S.T. 72" Conc. Culvert
To be Ext. to 25 Rdy.
Top of Conc. = 81
Flow Line = 807.6
Drainage Area = 120 Ac.

B.M. 55+16 N.E. Headwall Conc. Culvert
Elev. 811.56

70+05 - 3'x8' S.T. 36" Conc. Culvert
To be Ext. to 25 Rdy.
Top Conc. = 81
Flow Line = 807.5
Drainage Area = 40 Ac.

B.M. 70+05 N.E. Headwall Conc. Culvert
Elev. 811.48

840 830 820 810 800 790 780

47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79

SHEET No. 22

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	23	46

Sta 79+00

Width of Rt. of Way 66 ft.

25' Roadway.
9' Pavement.
8' Shoulders.

Sta 90+00
Install 2-6'x8'x32' Conc. C&L
Trash Rack to 25' Rdy.
Drainage area 500 Ac.

37°45' 6'x8'x32' Conc. C&L
Trash Rack to 25' Rdy.
Drainage area 620 Ac.

Sec. H-Mile 4-State Road System of Ottawa County

Sec. 14, T.26N, R.22E.

Sec. 15, T.26N, R.22E.

Sta. 100+00

P.C. 103+75.4

D=30° Rt.
Δ=90°26'
T=134.65
R=193.19
L=301.43

Sec. 23, T.26N, R.22E.

Sec. 22, T.26N, R.22E.

P.T. 108+76.4

P.T. 106+76.4
+194.4

Sec. H-Mile 5.
State Road System
of Ottawa County.

Sec 23, T26, R22E

Sec 22, T.26N, R.22E

Sta 4+00

Sec 14, T26N, R22E.

Sec. 15, T.26N, R.22E.

N.

—Scale—
1"=100'

N.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line

840
830
820
810
800
790
780

80+00 B09.5
86+00 B01.0
90+00 B02.0
92+00 B02.0
94+00 B02.0
96+00 B05.0
98+00 B07.4
104+00 B11.0
106+76.4 B12.5
1+94.4 B12.5

-1.8%
-1.41%
-1.25%
0.0%
+1.15%
+1.2%
+.6%
+3.43%
+.46%

30-6'x8'x32' Conc. C&L

92+65 6'x8'x32' Conc. C&L

To be Ext. to 25' Rdy.
Top of Conc. 800.0
Flow Line 796.0
Drainage Area 500 Ac.

To be ext. to 25' Rdy.
Top of Conc 801.0
Flow Line 796.0
Drainage area 620 Ac.

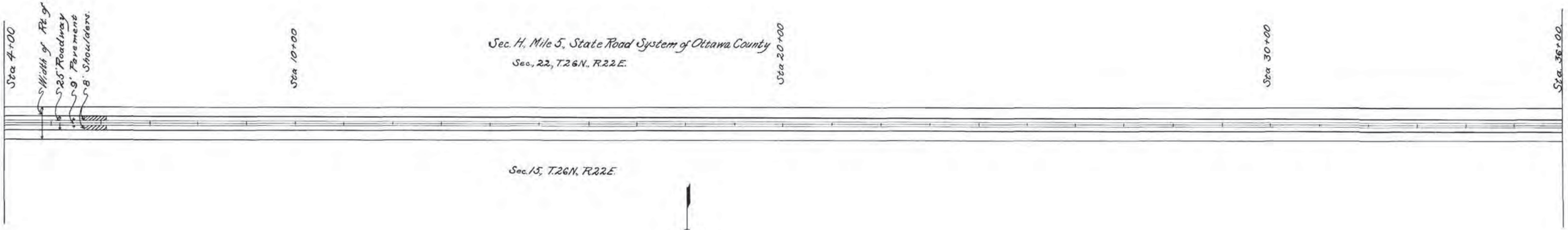
B.M. 90+04 Jct. E. Headwall
Elev. 801.45

B.M. on S.E. Headwall of 6' Conc. Culvt.
Elev. 813.46

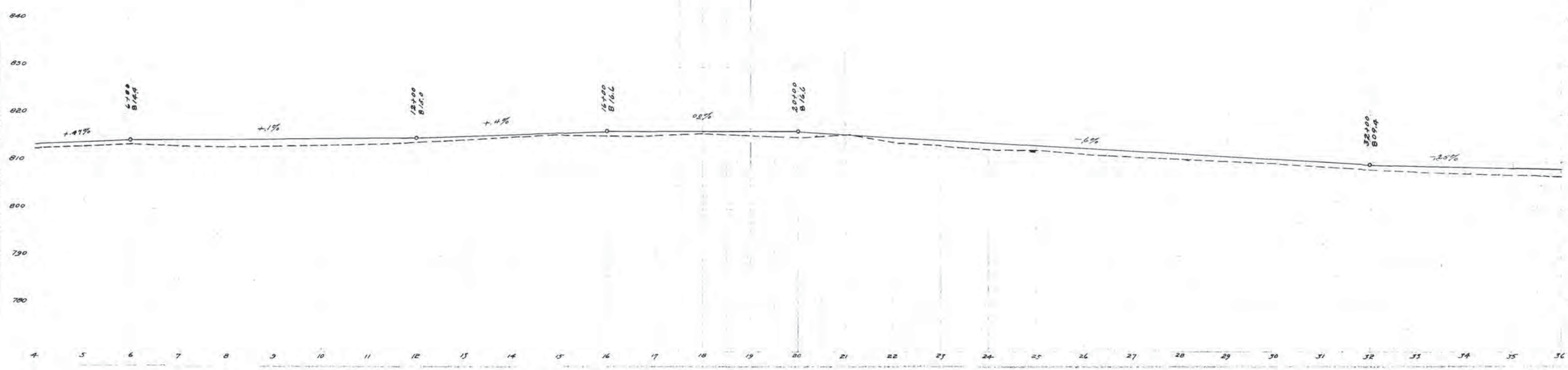
79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 0 1 2 3 4

SHEET No. 23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	24	46

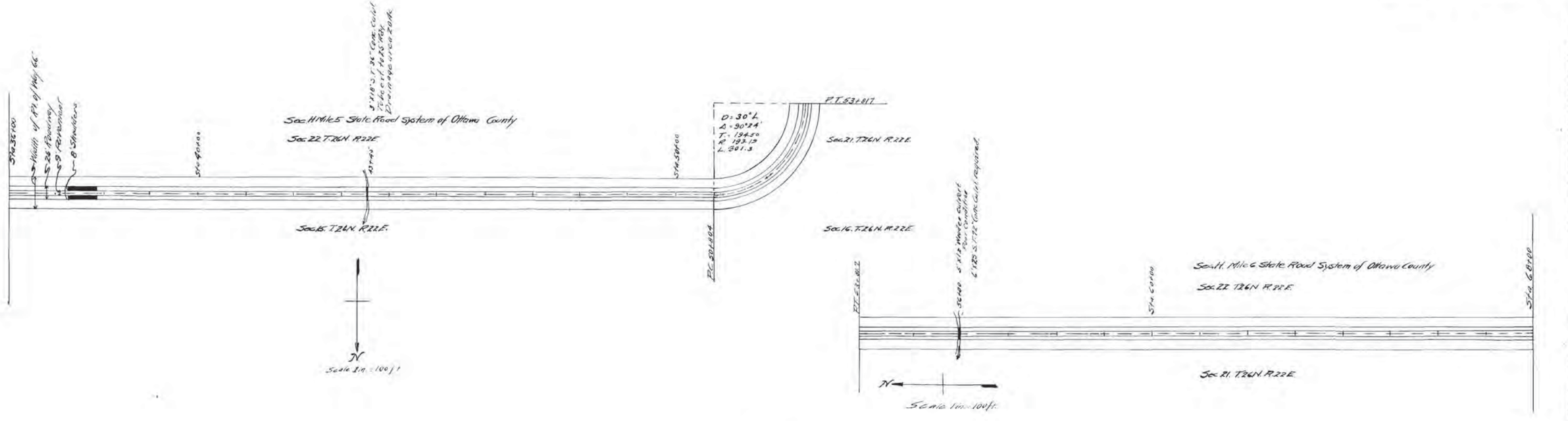


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line

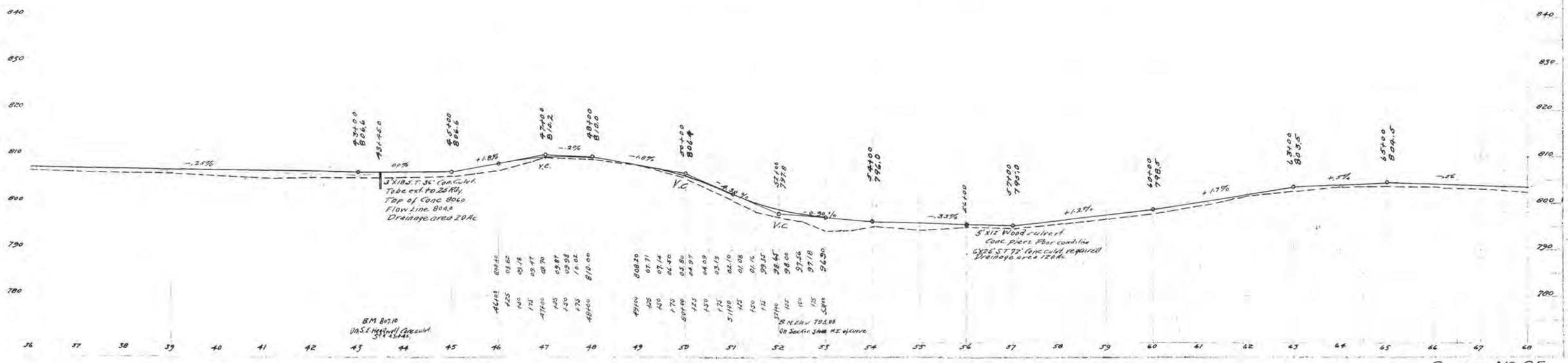


SHEET N.º 24

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	B	1948	25	46

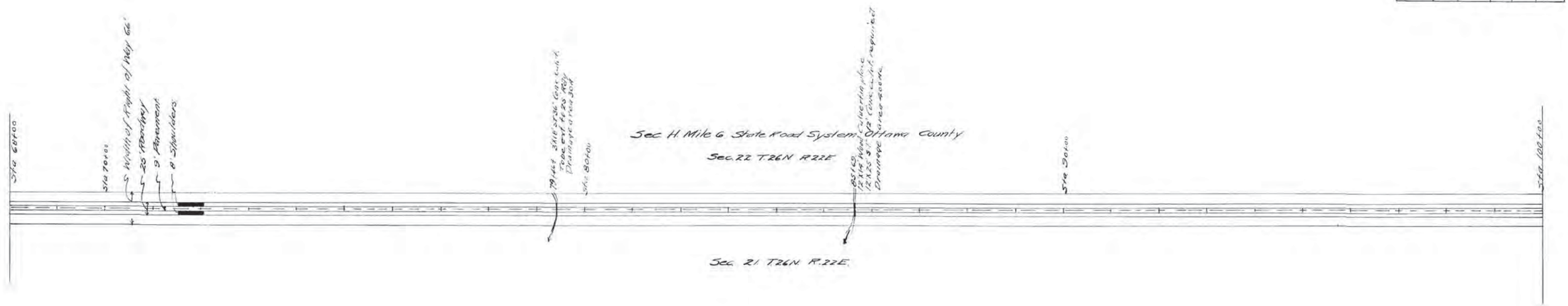


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – " present grade line



SHEET No. 25

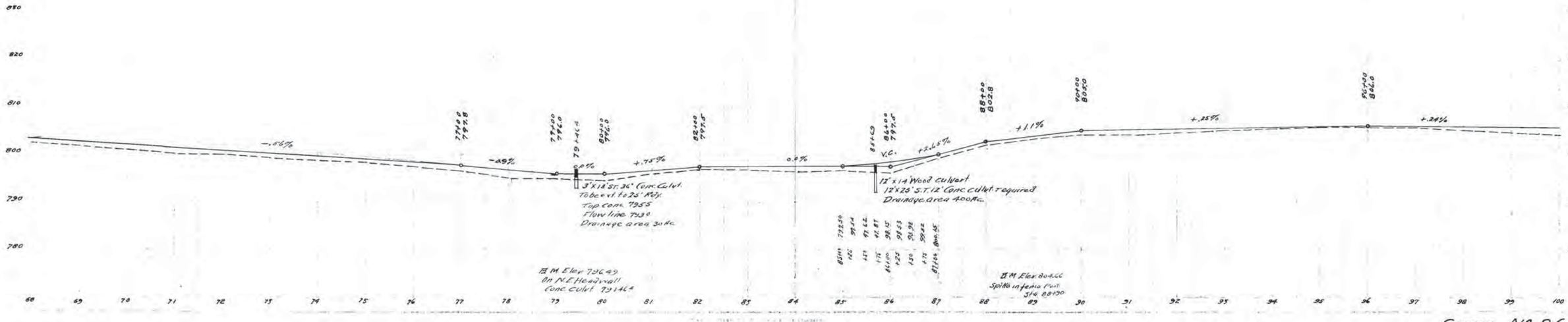
FED ROAD DIST NO	STATE	FED. AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	B	1918	26	46



N

Scale 1in = 100ft.

SCALE.
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line



SHEET No. 26

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	27	46

Sec H Mile 6

Sec. 22 T. 26 N. R. 22 E.

Sec. 21 T. 26 N. R. 22 E.

Sta 100+00

Sta 100+66 Sec H Mile 6
Sta 0+00 Sec H Mile 7

Sec H Mile 7 State Road System Ottawa County.

Sec 27 T. 26 N. R. 22 E.

Sec 28 T. 26 N. R. 22 E.

Sta 0+40 Sec H Mile 7
Sta 100+00 Sec H Mile 6

Width of right of Way 66'
25' Pavement
9' Pavement
8' Shoulders

7+44' 2-6'x18' ST 72° Conc. Culvt
To be ext. to 25' Fdy.
Drainage Area

Sta 10+00

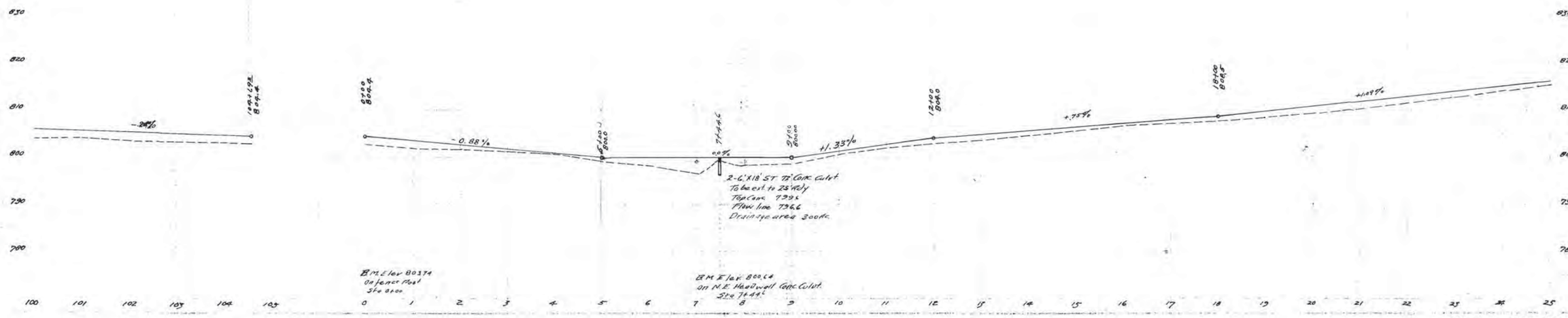
Sta 20+00

Sta 25+00

N

Scale 1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.



SHEET No. 27

FED ROAD DIST NO	STATE	FED AID PROJ NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	28	46

Sec H. Mile 7 State Road System Ottawa County

Sec 27 T 26N. R 22E

Sec 28 T 26N. R 22E

Sta 25+00 — ℄ Width of Pvmt of Hwy 66'

25' Roadway

9' Pavement

8' Shoulders

Sta 30+00

Sta 35+00

St. Louis & San Francisco Ry

Sta 37+46.4 ℄ of R.R.

Sta 40+00

PC Sta 52+32.9

D: 30°R
Δ: 90°0'
T: 1933.96
R: 1193.19
L: 300.8

PT Sta 53+32.9

52+50
3°25' 37.3"
Dgn. Curv. Hwy
Drainage Area
30 Acres

Sec 33 T 26N. R 22E

Sec H. Mile 8

Sta 57+00

Sec 28 T 26N. R 22E

Sta 53+00

SCALE
Ver 1" = 10'
Hor 1" = 100'
——— Represents proposed finished grade line
– – – – present grade line

830 820 810 800 790 780 770

2+00 B.M. 8+00 3+00 8+00 3+40 8+00 3+50 8+00 4+80 8+00 Top of Rail Elev 1193.19 3+80 8+00 4+00 8+00 4+00 8+00 7+00 7+00 7+50 7+00 8+25 7+00 8+50 7+00 8+74 7+00 9+25 7+00

-1.79% +0.5% -1.78% -0.0% -2.93 V.C. 100' -1.17% -1.67% -0.3% +0.6% -0.9%

3°25' S.T. 36' Conc Curb Hwy. Drainage area 30 A.

B.M. Elev 818.73 On Iron Pin Reference Point 25+00

B.M. Elev 793.08 On Head Wall of Culvert Lt. 140.5 ft at Sta. 54+00

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57

SHEET No 28

FED ROAD DIST. NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	S	1918	28	46

Sec. 61+87.8

To Tail Horse Creek Br.

P.C. 58+73.0
D = 5°4'
Δ = 30°13.4'
T = 104.7
R = 383.94
L = 202.8

P.T. 60+75.8

To St Louis

St Louis and San Francisco Ry → To Alton

Sec. H. Mile 8 State Road System Ottawa County

Sec. 33 T26N. R22E.

Sec. 28 T26N. R22E.

Sta. 57+00

Sta. 60+00

Sta. 70+00

P.C. 72+62.5
D = 13°2'
Δ = 30°13.4'
T = 104.7
R = 383.94
L = 202.8

Width of Right of Way 66'
25' Roadway
8' Pavement
8' Shoulders

N

Scale 1"=100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – present grade line

- 0.3%
- 0.5%
- 0.625%
+1.666%
- 0.25%
- 0.63%
+0.25%
+2.53%

62+00 780.0
68+00 780.0
72+00 782.5
75+01 783.0
81+00 780.3
84+00 779.0
88+00 780.0

+2.53%
88
89
Sta. 89+13.8
Elev. 779.65
Top of Rail
Horiz. & Vert. 20' Trusses

810
800
790
780
770
760

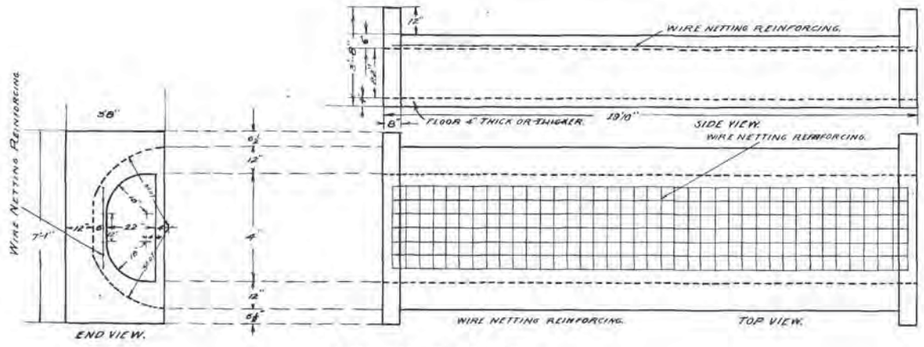
BM Elev. 783.08
On Bell Tel. Pole 24+50

57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89

SHEET No. 29

STANDARD Nº S-T-48.

STANDARD PLAN FOR 48" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM

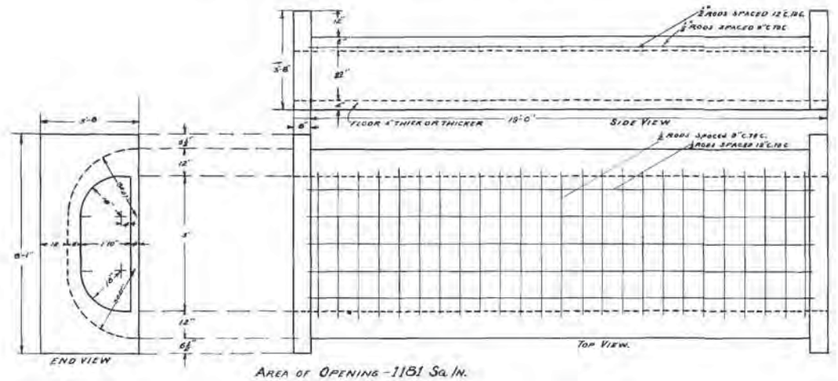


AREA OF OPENING - 917 Sq. IN.
MATERIAL
CONCRETE 1:2:4 MIXTURE.
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH --- 196 CU. YDS.
WIRE NETTING IS SPECIFIED AS REINFORCING.
CONCRETE IN ONE HEAD WALL . . . . . .484 " "

STANDARD Nº S-T-60.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
6	OKLA.	8	1918	30	46

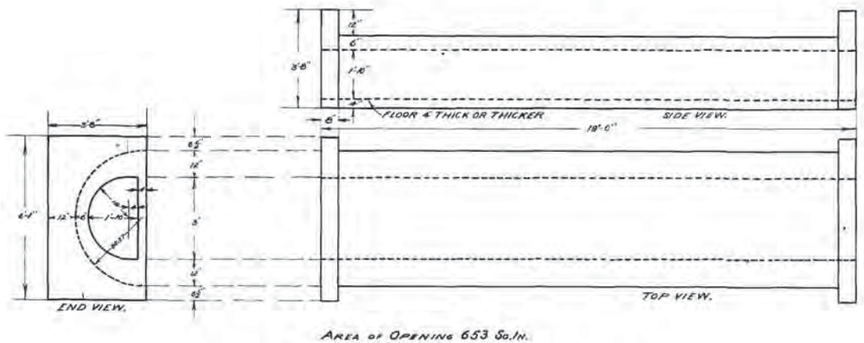
STANDARD PLAN FOR 60" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



AREA OF OPENING - 1181 Sq. IN.
MATERIAL
CONCRETE 1:2:4. MIXTURE
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH .217 CU YDS.
STEEL REINFORCING PER FOOT OF ARCH . . . . 10. POUNDS.
CONCRETE IN ONE HEAD WALL . . . . . .532 CU YDS.

STANDARD Nº S-T-36.

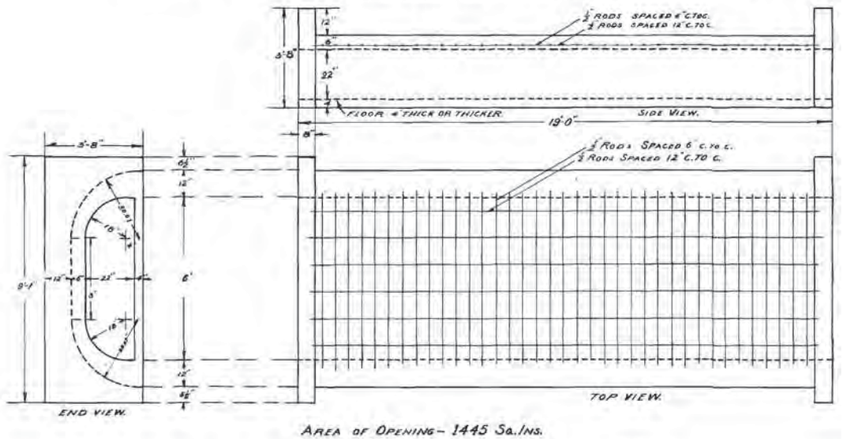
STANDARD PLAN FOR 36" CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



AREA OF OPENING 653 Sq. In.
MATERIAL
CONCRETE 1:2:4 MIXTURE
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH .178 Cu. Yds.
NO REINFORCING IS SPECIFIED
CONCRETE IN ONE HEAD WALL . . . . . .452 " "

STANDARD Nº S-T-72.

STANDARD PLAN FOR 72" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



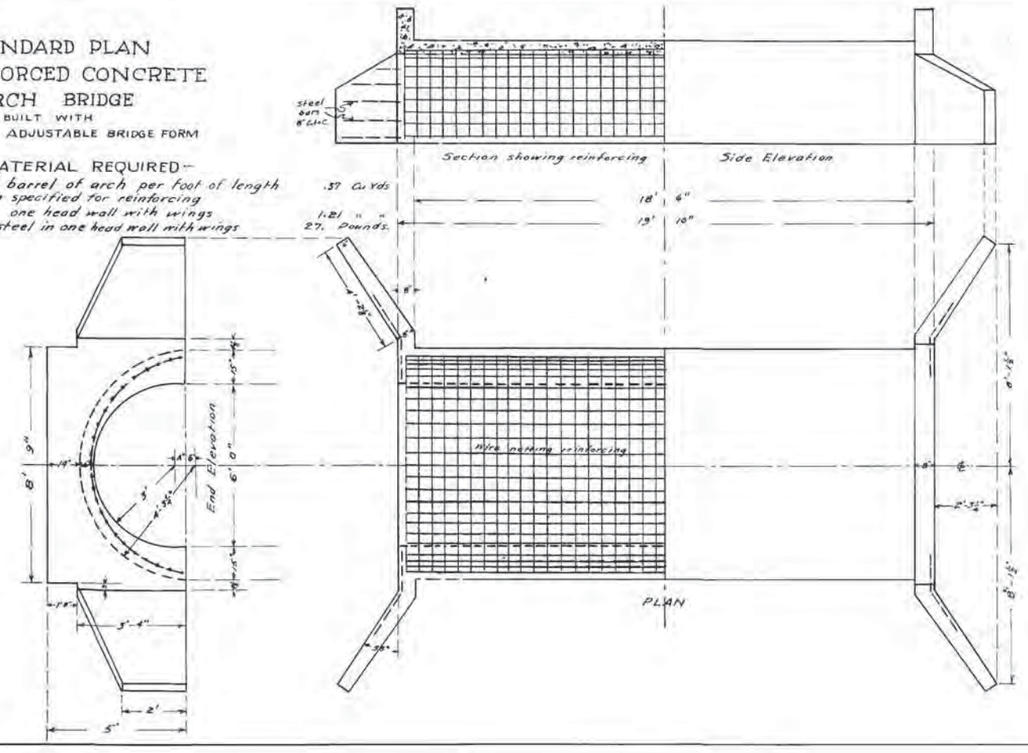
AREA OF OPENING - 1445 Sq. INS.
MATERIAL
CONCRETE 1:2:4 MIXTURE
CONCRETE IN BARREL OF ARCH PER. FOOT OF LENGTH .233 CU YDS.
STEEL REINFORCING PER FOOT OF ARCH . . . . . 13.6 POUNDS
CONCRETE IN ONE HEAD WALL . . . . . .58 CU. YDS.

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	31	40

STANDARD PLAN
6' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

--MATERIAL REQUIRED--

Concrete in barrel of arch per foot of length	.37 Cu Yds
Wire netting specified for reinforcing	1.21 " "
Concrete in one head wall with wings	27. Pounds.
Reinforcing steel in one head wall with wings	

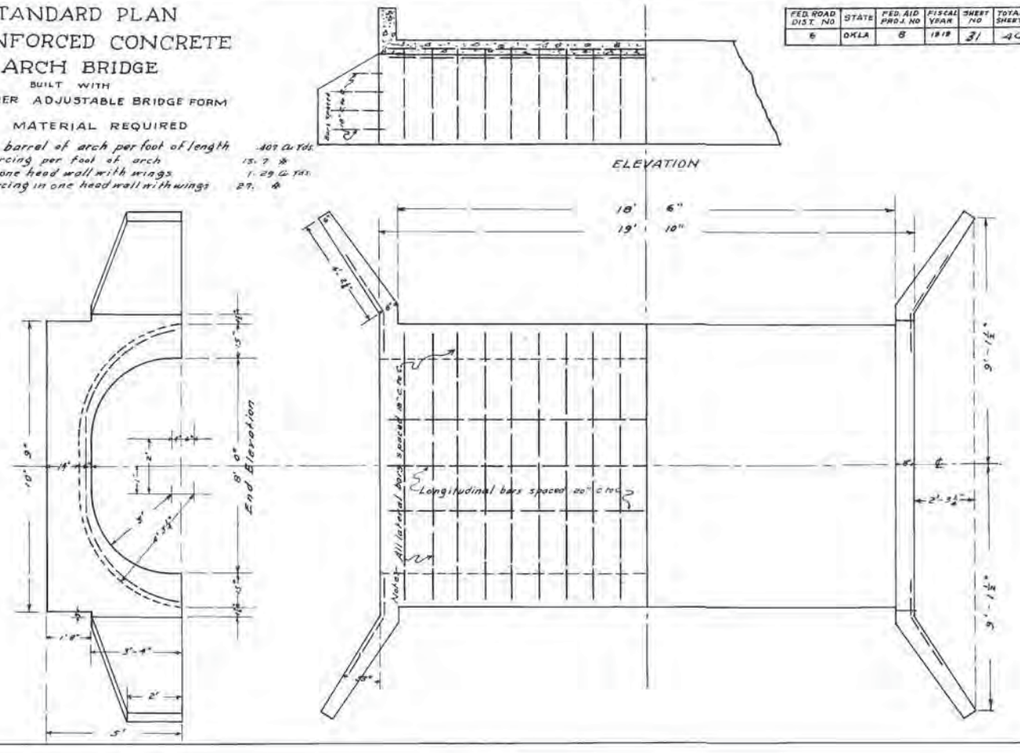


S-T SERIES 6'

STANDARD PLAN
8' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.401 Cu Yds.
Steel reinforcing per foot of arch	13.7 #
Concrete in one head wall with wings	1.29 Cu Yds.
Steel reinforcing in one head wall with wings	29. #

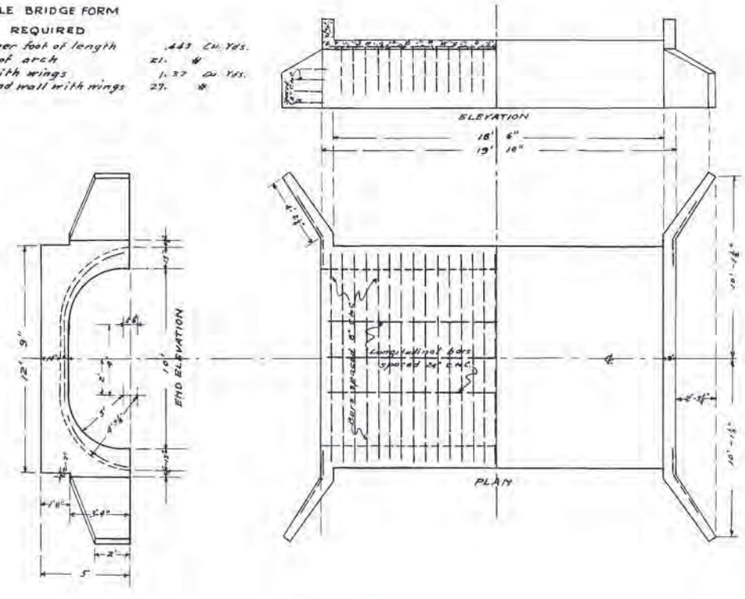


S-T SERIES 8'

STANDARD PLAN
10' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.443 Cu. Yds.
Steel reinforcing per foot of arch	21. #
Concrete in one head wall with wings	1.37 Cu Yds.
Steel reinforcing in one head wall with wings	27. #

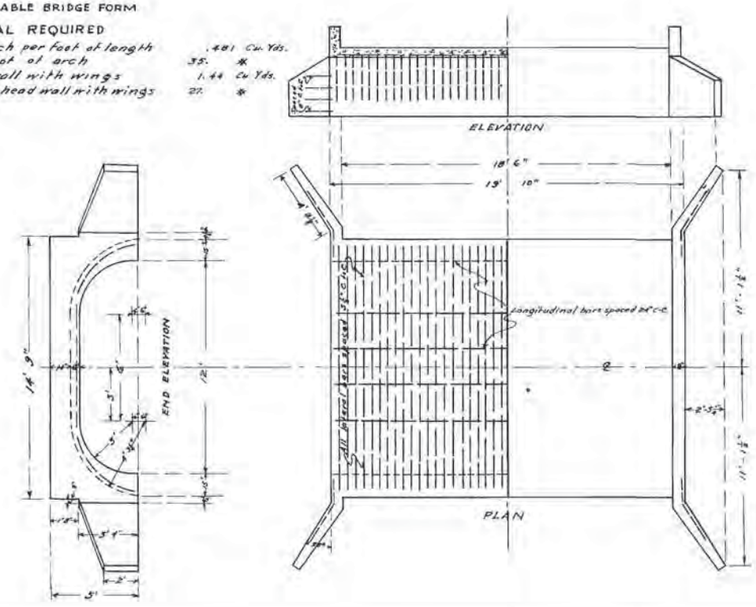


S-T SERIES 10'

STANDARD PLAN
12' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.481 Cu. Yds.
Steel reinforcing per foot of arch	35. #
Concrete in one head wall with wings	1.44 Cu Yds.
Steel reinforcing in one head wall with wings	27. #



S-T SERIES 12'

QEB.

SHEET Nº 31

B 1972

Contour Map at Salt Creek Bridge
Highway No. 8 North Watonga
Blaine County
Scale 1"=100'
Contour Intervals 2'

N.W. 1/4
SEC. 30 T18N R10W

N.E. 1/4
SEC. 25 T18N R11W

Cultivated

Clay

Not Cultivated

Sand

Sandy

Pasture

Alfalfa

Sec. Line

E. Road

S A L T C R E E K

102 100 98 96 94 92 90

B.M. N.E. Cor. Bridge Curb.
Elev. = 100.00 (Assumed Elev.)

Br. Floor Elev. = 99.6

Length Br. 156.8'

F.L. = 88.1

0+00 30'S Center of Bridge on Sec. Line

0+00	1	2	3	3+28	3+54	4+50	5+00	5+50	6	7	8	9	10+00	11	12	13	14	15+00
98.1	98.8	99.6	99.4	98.7	97.0	95.7	94.6	93.9	94.1	94.4	94.3	93.8	94.2	94.6	94.6	96.2	98.9	

110
100
90

APPENDIX B: ANNOTATED PHOTOGRAPHS



Photograph 1. Northern project terminus and view of asphalt overlay of 9-foot-wide section, East 130 Road at East Street Southwest; view facing west. Photograph by CMEC.



Photograph 2. East 130 Road at South 550 Road; view facing west. Photograph by CMEC.



Photograph 3. East 130 Road, approximately 1,375 feet west of South 550 Road, view facing east. Photograph by CMEC.



Photograph 4. Box extension of original cross drain on East 130 Road does not match original headwall design; view facing south. Photograph by CMEC.



Photograph 5. Portion of original roadbed removed during cross-drain rehabilitation at East 130 Road; view facing south. Photograph by CMEC.



Photograph 6. Super-elevated section line turn, East 130 Road at South 540 Road; view facing west. Photograph by CMEC.



Photograph 7. Remains of flat-top arch cross drain headwall, South 540 Road; view facing northeast. The pipe rail in the foreground is likely not original. Photograph by CMEC.



Photograph 8. South 540 Road; view facing north. Photograph by CMEC.



Photograph 9. Super-elevated section line turn, East 140 Road at South 540 Road; view facing northeast. Photograph by CMEC.



Photograph 10. Detail of roadbed showing the formation of a drop off from the curb to the shoulder, and erosion of the gravel shoulder, on East 140 Road. Photograph by CMEC.



Photograph 11. Section where the original roadbed is no longer extant over rehabilitated cross drain, East 140 Road; view facing southeast. Photograph by CMEC.



Photograph 12. Roadside marker on East 140 Road at US 59; view facing south. Photograph by CMEC.



Photograph 13. Remnants of super-elevated turn, East 140 Road at US 59; view facing southwest. Photograph by CMEC.



Photograph 14. Arched cross-drain headwall on East 200 Road; view facing west (the concrete cross drain is visible left of the headwall). Photograph by CMEC.



Photograph 15. Super-elevated section line turn, East 200 Road at South 520 Road; view facing west. Photograph by CMEC.



Photograph 16. Roadway conditions on South 520 Road; view facing north. Photograph by CMEC.



Photograph 17. South 520 Road approaching I-44 turnpike overpass; view facing north. Photograph by CMEC.



Photograph 18. Railroad crossing on South 520 Road at unnamed driveway; view facing north. Photograph by CMEC.



Photograph 19. Roadside marker on East 220 Road at South 520 Road; view facing southeast. Photograph by CMEC.



Photograph 20. Super-elevated turn and roadside marker on East 220 Road at South 520 Road; view facing northeast. Photograph by CMEC.

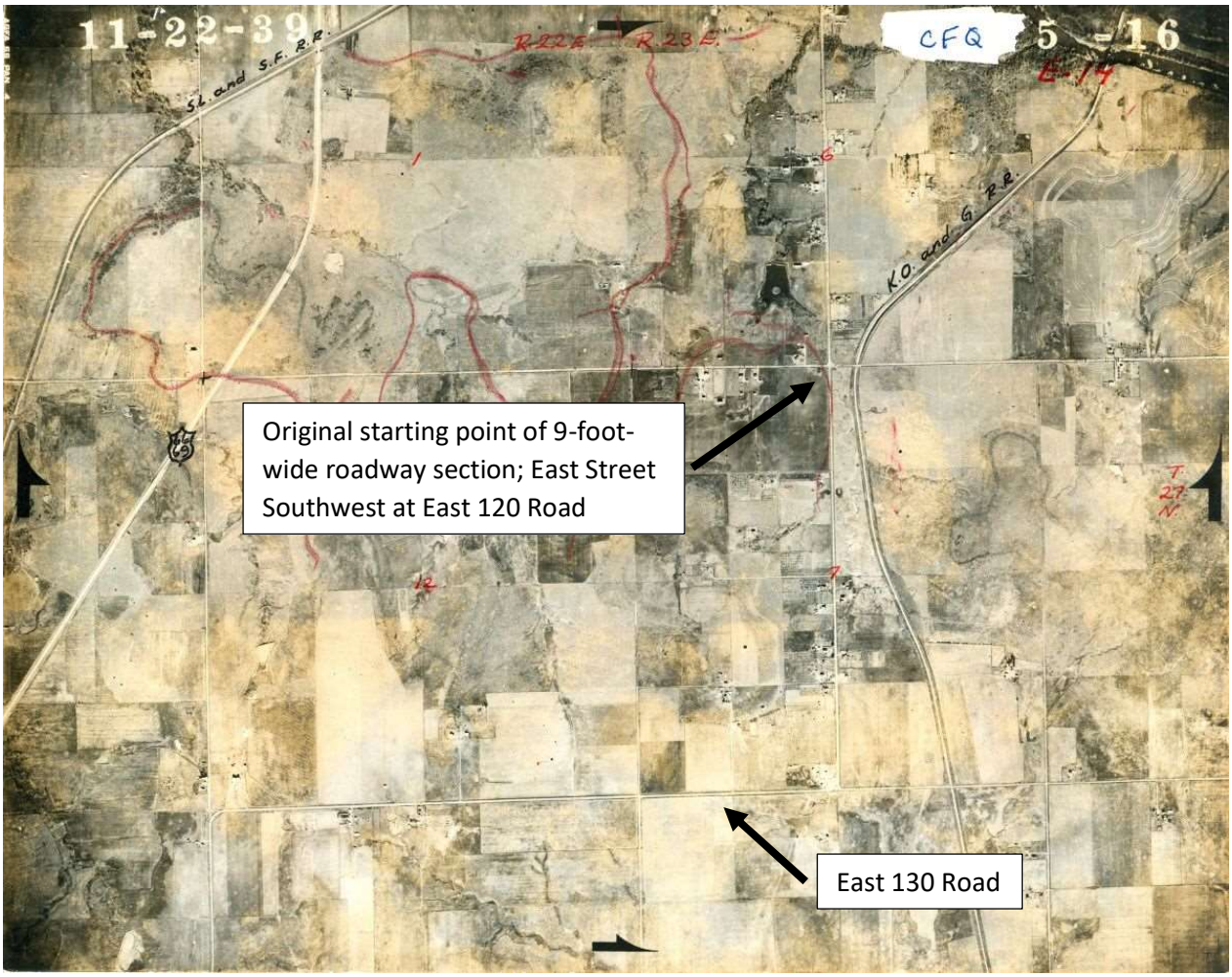


Photograph 21. Southern project terminus, East 220 Road at South 520 Road; view facing west. US 60 is on the upper right. Photograph by CMEC.

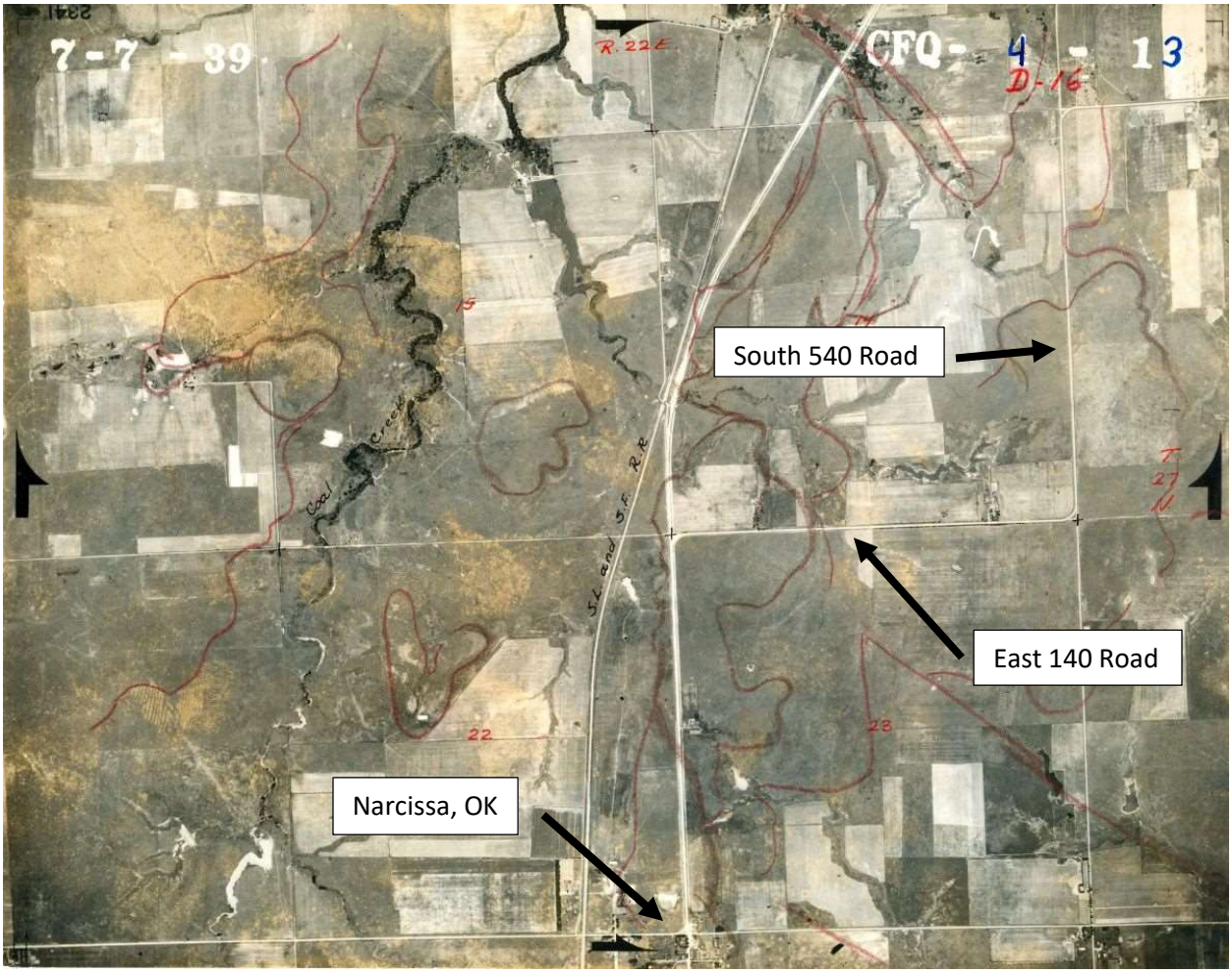
The following aerial photos were taken in 1939 and illustrate Route 66 Ribbon Road in relation to other highways, county roads, railway lines, and communities. The photographs follow the roadway's path from Miami to Afton.



Photograph 22. FAP No. 8 northern terminus. Photograph courtesy of Oklahoma Corporate Commission.



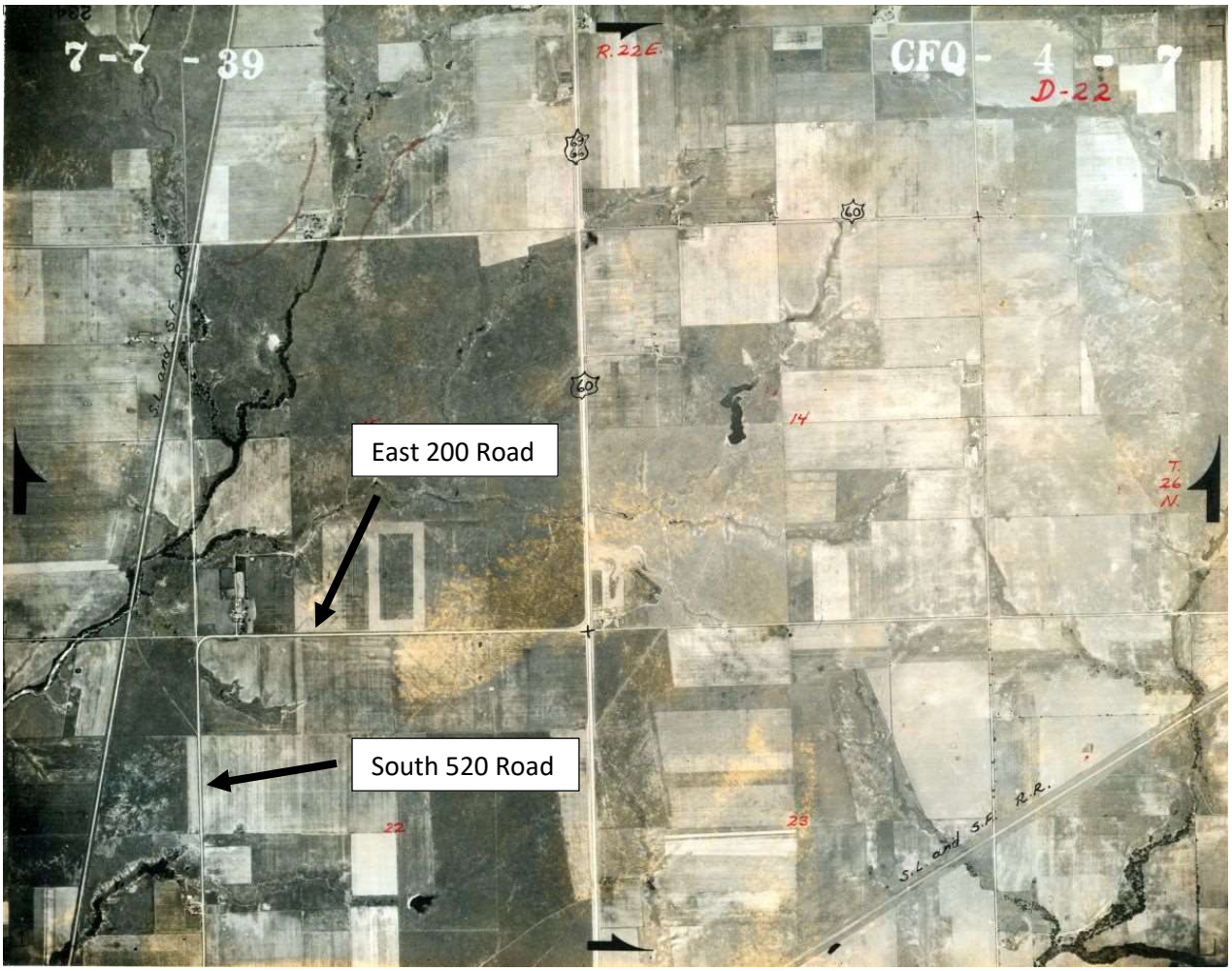
Photograph 23. Original starting point of 9-foot-wide roadway section and East 130 Road. Photograph courtesy of Oklahoma Corporate Commission.



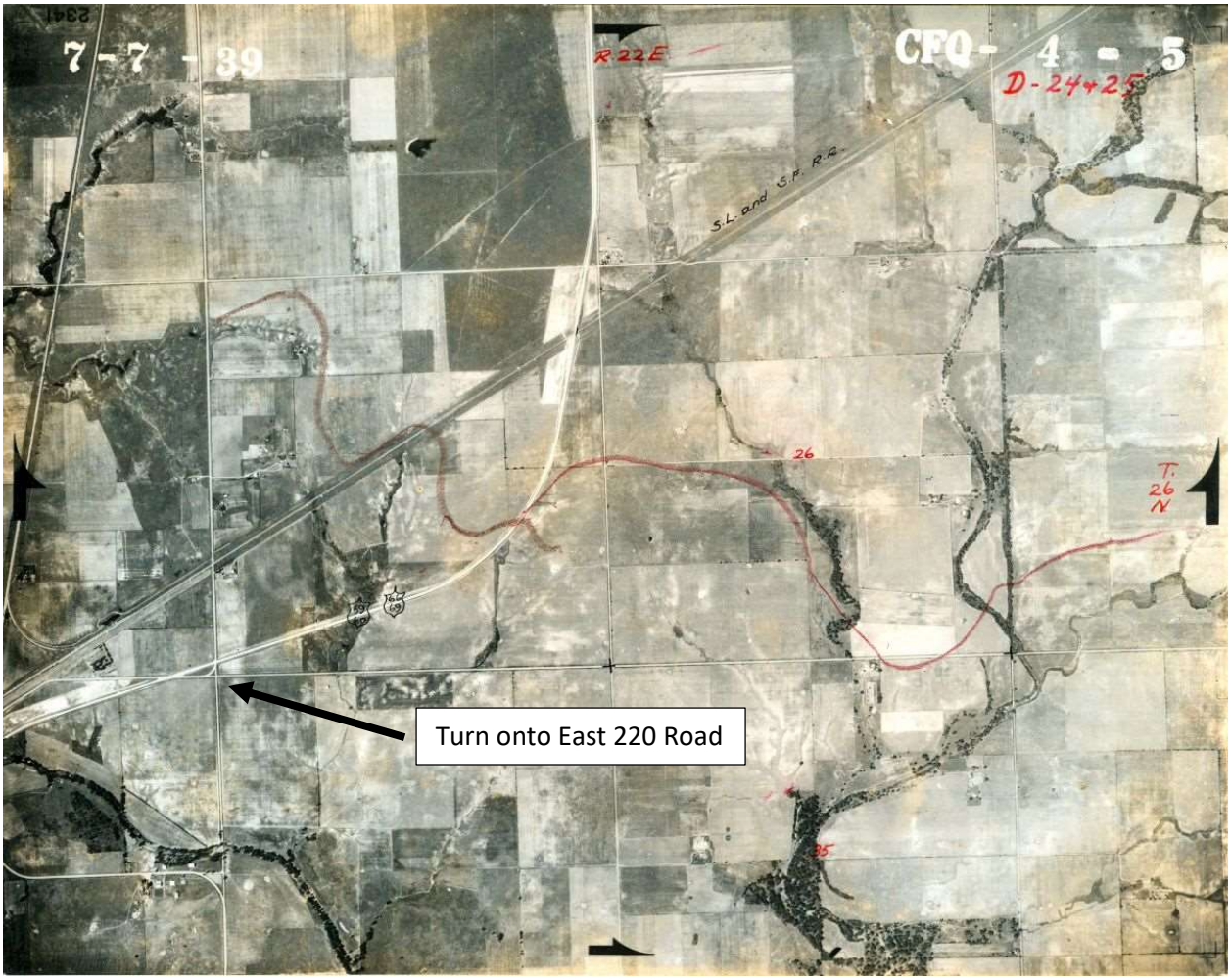
Photograph 24. Narcissa, Oklahoma, East 140 Road, and South 540 Road. Photograph courtesy of Oklahoma Corporate Commission.



Photograph 25. "Straightaway" section of 9-foot-wide roadbed replaced in 1937 with new U.S. 66. Photograph courtesy of Oklahoma Corporate Commission.



Photograph 26. East 200 Road and South 520 Road. Photograph courtesy of Oklahoma Corporate Commission.



Photograph 27. Turn onto East 220 Road. Photograph courtesy of Oklahoma Corporate Commission.



Photograph 28. FAP No. 8 southern terminus. Photograph courtesy of Oklahoma Corporate Commission.

APPENDIX C: ROADWAY EVALUATION REPORT HISTORIC ROUTE 66 RIBBON ROAD JP #33565 AND 33568

Roadway Evaluation Report

Historic Route 66 Ribbon Road

JP # 33565 and 33568







OTTAWA COUNTY 1907

GUY ENGINEERING

6910 E 14th St ◆ Tulsa, OK 74112 ◆ (918) 437-0282
1741 W 33rd St, Ste 110 ◆ Edmond, OK 73013 ◆ (405) 608-4217

Engineering safe and lasting infrastructure solutions for our communities

February 26, 2020

Commissioner Russell Earls
Ottawa County District 3
1201 Industrial Drive
Fairland, OK 74343

RE: Roadway Evaluation Report for Historic Route 66 Ribbon Road

Dear Commissioner:

GUY Engineering Services has completed the roadway evaluation report for the above referenced project. This report presents the findings of our site visit and professional opinion of the condition of the existing roadway.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
GUY Engineering Services, Inc.
Cert. of Auth. No. 1427, Exp. 6/30/2020





John E. Blickensderfer, PE
Oklahoma #20212

Introduction 1
Existing Roadway 3
Existing Right of Way 7
Private and Public Utilities 7
Geotechnical Studies 12
Drainage 13
Summary of Evaluation 17
Appendix 1 – North Section Photos Documentation – East to West 18
Appendix 2 – South Section Photos Documentation – South to North 19
Appendix 3 – Historic Roadway Plans FAP-8 20
Appendix 4 – Geotechnical Engineering Report 21
Appendix 5 – Topographical Survey 22

INTRODUCTION

This Roadway Evaluation Report outlines the condition of the existing Historic Route 66 Ribbon Road in preparation of a planned rehabilitation project. This roadway evaluation report is in support of the Historic Structure Report being established as part of the overall project documentation.

For the purpose of this report, the Historic Route 66 Ribbon Road is considered to include the 3.5 mile stretch south of Miami, Oklahoma and the 3.0 mile stretch NE of Afton, Oklahoma. These are the last known segments of the historic roadway that include a 9ft wide asphalt section with concrete curb and gravel shoulders. The historic roadway surface has been covered with gravel for many years as a way of protecting the old historic road. This evaluation was performed without destructive testing and was visual in nature. The roadbed, gravel shoulders, and cross drains were all viewed and evaluated. Some geotechnical investigations were also conducted by taking borings of the roadway surface, as shown in Figure 1 and Figure 2 by the labels B-#.

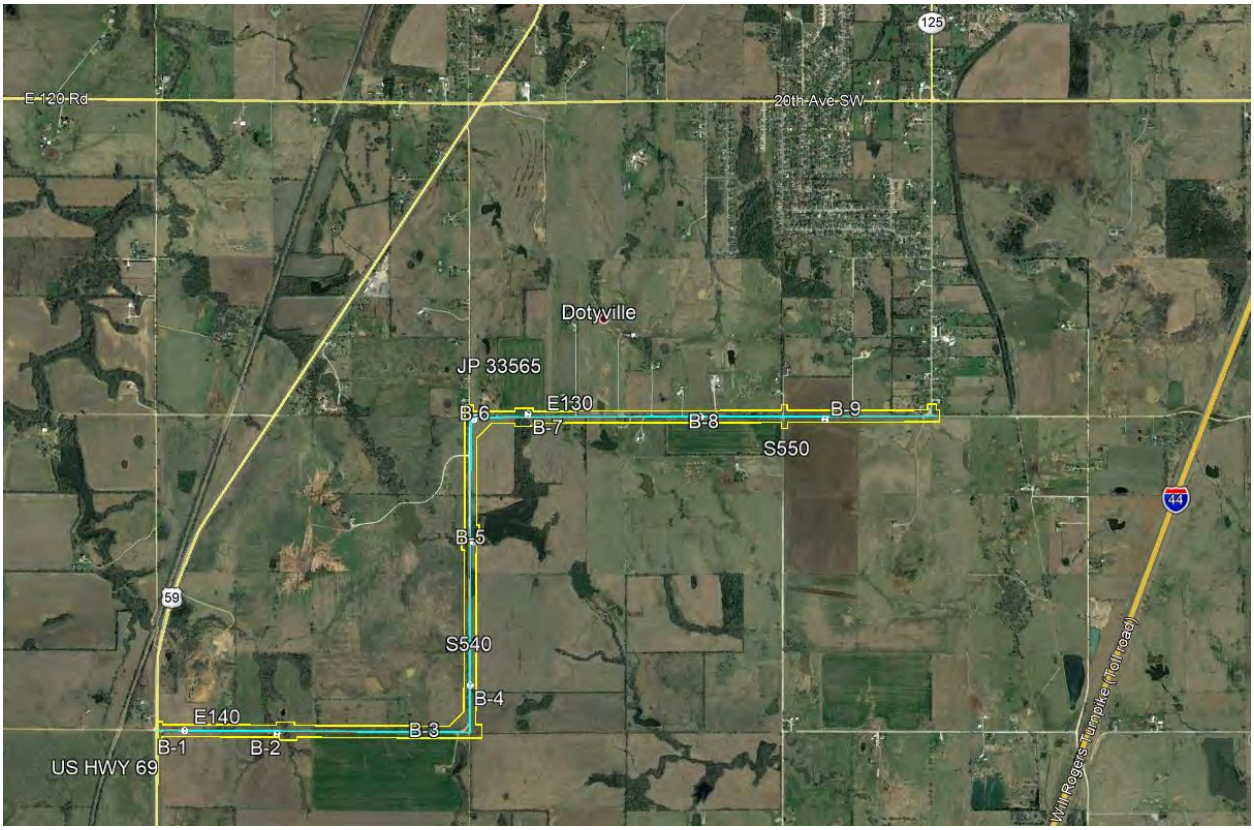


Figure 1: Northern Section

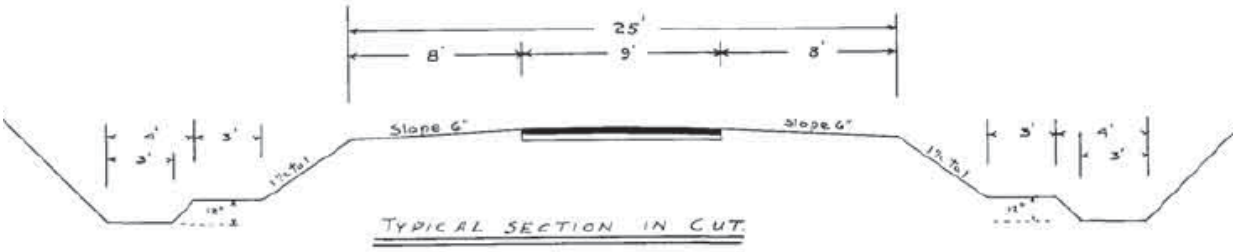


Figure 2: Southern Section

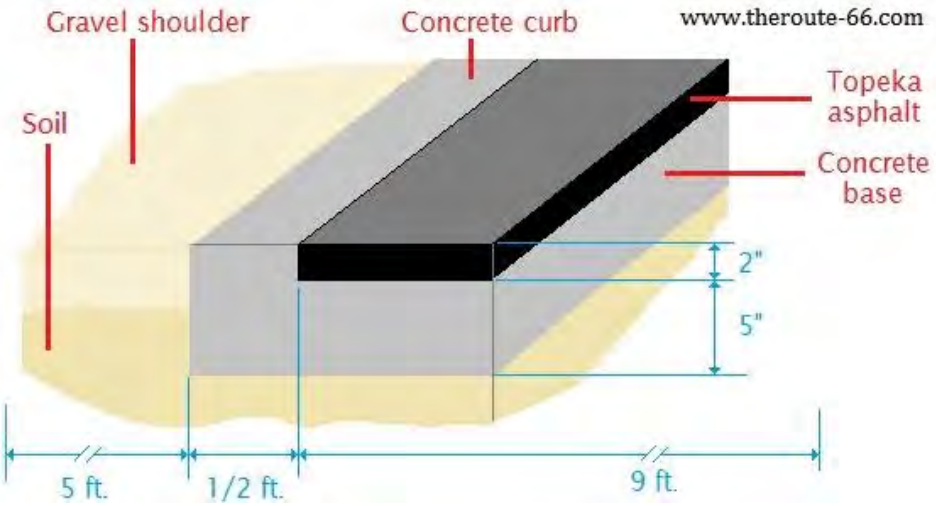
The existing historic roadway was constructed as a 9ft wide concrete base with a monolithic 2-inch high curb. Then over this base and between the curbs was a 2-inch asphalt layer using Topeka Asphalt. Gravel shoulders were then added to each side. The curves were super elevated at an approximate 10% cross slope. Cross drains were made of cast-in-place concrete arches with headwalls; some of the larger structures included wingwalls.

EXISTING ROADWAY

The original 1918 construction plans provided by the Oklahoma Department of Transportation (Federal Air Project No. 8) indicate a roadbed constructed of a 2-inch asphalt top over a 5-inch concrete base. The asphalt is indicated to be the "Topeka Specification." The 1918 plans also indicate a 9ftwide asphalt/concrete surface with 8ftwide gravel shoulders on both sides for a total roadway width of 25 feet.



As indicated by later documents (provided by the Oklahoma Route 66 Association), the Historic Route 66 roadway is a 9ft wide section; however, the concrete base includes a 2-inch-high curbing that supports the asphalt edge. Also, the documents indicate 5ft gravel shoulders instead of 8ft gravel shoulders.



It is evident from site visits that this narrower shoulder typical is the section that was actually constructed. The 2-inch high curbing is clearly evident as shown in the pictures below. It also appears in many areas that the gravel shoulders are 5ftwide and not 8ftwide. The shoulder width is somewhat uncertain as the County may have gradually widened the shoulders over time. But in some areas, it is clear that the shoulders are less than 8ftwide.



Figure 3: Shoulders narrower than 8ft



Figure 4: Shoulders narrower than 8ft

It is our conclusion that the roadway was not constructed in strict accordance with the 1918 construction plans. However, the horizontal alignment and overall asphalt width are the same.

The historic section of roadway on EW200 Rd from US-69 going west is covered in an asphalt overlay for approximately 0.25 miles. It appears from aerial photography that this portion was overlaid in approximately 2009 and abuts the south boundary of the Northeast Technology Center. According to geotechnical boring #18, the asphalt overlay is 3.0 inches thick.

The historic section of roadway on EW130 Rd from East St SW (NS555 Rd) going west is covered in an asphalt overlay for approximately 0.5 miles to NS550 Rd. It appears from aerial photography that this portion was overlaid in approximately 2008. According to geotechnical boring #9, the asphalt overlay is 6.0 inches thick.

The original asphalt overlay is broken and portions are missing. Some asphalt patching has taken place over time. Over 90% of the original asphalt is in place; however, large cracks and portions are missing. The pictures below are some of the better sections of asphalt.



Figure 5: Cracking in original asphalt

The concrete curb and base under the asphalt is in poor condition. There are large cracks in the pavement, some sections are heaving, and the curb section has been worn down through abrasion by the gravel road or by contact with road grader



Figure 6: Worn down curb

blades. The curbing is fractured along large stretches of roadway. The pictures below show how the 2-inch high concrete curbing is worn all the way down flush with the concrete base.

The northern section has approximately nine cross drains, 14 side drains and approximately 22 drives. This section has four intersections with other county roads and one intersection with US-69. There is a monument at the western termination of this section.



Figure 7: Route 66 monument at the northern section

The southern section has approximately six cross drains, 19 side drains and approximately 20 drives. This section has three intersections with other county roads and two intersections with US highways (US-60 and US-69). The eastern termination is at the intersection with US-69.

Near the southern termination point, the Historic Road crosses US-60. This section also has an overpass at I-44. In the area of this overpass, the Historic Route 66 roadway was demolished and no longer exists. There is a monument at the southern termination of this section.

Overall, the roadway pavement section is reaching the end of its life span. The asphalt is largely broken and spalling away. The concrete is cracked and heaving due to poor subsurface soils. The curbing is mostly visible but broken into pieces and worn down is some areas smooth with the pavement. The pavement section is in very poor condition.



Figure 8: Historic monument at the southern section

Existing Right of Way

According to the 1918 construction plans provided by the Oklahoma Department of Transportation, the entire stretch of Historic Route 66 Ribbon Road from Miami to Afton maintains a 66ft wide right of way. In a few locations (i.e. where I-44 intersects), additional right of way was obtained with subsequent transportation projects. The existing right of way provides for the roadbed, the drainage ditches, and utility systems.

The existing right of way is mostly clear of trees and heavy vegetation except near the larger streams. The right of way is maintained with frequent mowing, with ditches being cleaned as needed. Most the right of way is fenced with barbed wire fencing.

Overall, the existing right of way is in good condition.

Private and Public Utilities

There are several public and private utility systems located within the existing right of way.

ELECTRIC

Overhead electrical lines are located on the north end of the project, on the south side of E130 Road from NS540 Road to East Street SW approximately 8,044 feet paralleling the centerline of the roadway. This line is a 2-wire distribution line owned by the City of Miami.

Overhead electrical lines are located on the north end of the project, on the west side of NS540 Road from EW130 Road continuing north outside of the project limits. This line parallels the centerline of the road. This line is a 2-wire distribution line owned by the City of Miami.

Overhead electrical lines are located on the north end of the project, on the west side of Highway 59, crossing the highway to the east and south. The line continuing to the south parallels the centerline of Highway 59 outside of the project limits and is a 2-wire distribution line owned by Northeast Oklahoma Electric Cooperative. The line that crosses Highway 59 to the east, parallels the centerline of EW140 Road for approximately 163 feet then crosses to the south side of EW140 Road. This line parallels the centerline of the roadway for approximately 5,052 feet and continues outside of the project limits. This line is a 2-wire distribution line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south end of the project, on the west side of E200 Road. These lines parallel the centerline of the roadway at E200 Road, crossing the road to the east on the north side of the road for approximately 1,640 feet where the line dead ends, turning north to service a property outside of the project limits. This is a 2-wire distribution line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south end of the project, on the east side of Highway 59, crossing the highway to the west, on the south side or E200 Road for approximately 581 feet, where it the crosses E200 road to the north to service the NTC campus. This is a 2-wire distribution line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south send of the project, on the west side of S520 Road where it parallels the centerline of the roadway to the south for approximately 1,042 feet. This line turns west to service a property where is dead ends. This is a 2-wire distribution line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south end of the project, on the north side of Highway 69. This line parallels the centerline of Highway 69 for approximately 1,325 feet where it exists the project limits from the east and west. This is a 3-wire distribution line owned by Northeast Oklahoma Electric cooperative.

Overhead electrical lines are located on the south end of the project, on the west side of S520 Road running in a north direction. This line parallels the centerline of the roadway for approximately 6,084 feet, where it crosses S520 Road and parallels Interstate 44 in an east west direction out of the project limits. This is a 3-wire distribution line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south end of the project, on the south side of E210 Road. This line parallels the centerline of the roadway in an east and west direction for approximately 310 feet where it extends outside of the project limits. This line is a 4-wire transmission line owned by Northeast Oklahoma Electric Cooperative.

Overhead electrical lines are located on the south end of the project, on the east side of S520 Road, running in a north direction. This line parallels the centerline of the roadway for approximately 2,055 feet where it turns to the east and parallels Interstate 44 outside of the project limits. This is a 4-wire transmission line owned by Northeast Oklahoma Electric Cooperative.

WATER

Public water lines are located on the north end of the project, on the north side of E130 Road and S540 Road. This line parallels the centerline of the E130 roadway in

an east direction for approximately 7,982 feet to the intersection of E130 Road and East Street SW. At the intersection, this waterline turns north and parallels the centerline of East Street SW for approximately 318 feet where it exits the project limits. This line is of unknown size and is owned by the City of Miami.

Public water lines are located on the north end of the project, on the east side of S540 Road. This line parallels the centerline of the roadway in a south direction for approximately 5,334 feet to the intersection of S540 Road and E140 Road, where the line then turns west and parallels the centerline of the roadway for approximately 5,462 feet, existing the project limits. This line is of unknown size and is owned by Ottawa County RWD #4.

Public water lines are located on the south end of the project, on the west side of S520 Road where it enters the project limits. This line parallels the centerline of the roadway for approximately 447 feet, then turns to the east past the intersection of S520 Road and E200 Road. This line parallels the centerline of the roadway on the south side of the road for approximately 5,246 feet to the intersection of E200 Road and Highway 59. At the intersection, this waterline ties into another waterline that runs north and south, paralleling the centerline of Highway 59 and exists the project limits. This waterline is of unknown size and is owned by Ottawa County RWD #2.

Public water lines are located on the south end of the project, on the north side of Highway 69. This line parallels the centerline of Highway 69 for approximately 400 feet to the intersection of S520 Road and Highway 69, where the line turns north. The waterline parallels the centerline of the roadway of S520 Road on the west side of the road for approximately 876 feet where it crosses S520 road to the east side of the roadway. This line continues north for approximately 1,644 feet and dead ends to service a property. This line is of unknown size and is owned by Ottawa County RWD #2.

COMMUINICATIONS

Underground telephone lines are located on the north end of the project, on the north side of E130 Road. This line begins at the intersection of S540 Road and E130 road and parallels the centerline of the roadway to the east for approximately 7,840 feet where it exits the project limits to the east of East Street SW. This line is a 300 pair copper line that is owned by AT&T. At the intersection of S540 Road and E130 Road, the underground telephone line crosses E130 Road on the west side of S540 road, running south, paralleling the centerline of the roadway for approximately 5,425 feet where it exists the project limits. This line is a 300 pair cable that downsizes to a 50 pair copper line and is owned by AT&T.

Overhead telephone lines are located on the north end of the project, on the south side of E130 Road from NS550 Road to East Street SW approximately 2,172 feet

paralleling the centerline of the roadway. This line is an 18 pair line owned by AT&T and attached to the City of Miami electric poles.

Underground telephone lines are located on the north end of the project, on the south side of E130 Road, entering the project from the south at the intersection of S550 Road and E130 Road. This line parallels the centerline of the roadway for approximately 137 feet where it then goes areal on the City of Miami electric poles.

Underground telephone lines are located on the south end of the project, on the east side of S520 Road, entering the project limits from the north. This line parallels the centerline of the roadway for approximately 395 feet, to the intersection of S520 Road and E200 Road. This line crosses the road to the south side of E200 Road. This line parallels the centerline of the roadway for approximately 1,719 feet where the line dead ends after servicing a property. This is a 150 pair cable owned by AT&T.

Underground telephone lines are located on the south end of the project, on the south side for E200 Road. This line runs in an east direction, paralleling the centerline of the roadway for approximately 5,407 feet, existing the project limits east of the intersection of E200 Road and Highway 59. This is a 300 pair cable owned by AT&T.

Underground telephone lines are located on the south end of the project, on the east side of S520 Road and E200 Road. This line runs in a south direction, parallel to the centerline of the roadway for approximately 3,510 feet, crossing over Interstate 44 to the west side of S520 Road. The telephone line then continues south, paralleling the centerline of the roadway for approximately 832 feet, crossing over S520 Road to the east side. The line continues south, paralleling the centerline of the roadway for approximately 6,119 feet, turning east and paralleling the centerline of Highway 69, exiting the project limits. This is a 300 pair cable that downsizes to a 48 pair cable and is owned by AT&T.

Overhead telephone lines are located on the south end of the project, on the north side of Highway 69. This line runs east and west and parallels the centerline of Highway 69 for approximately 1,325 feet, exiting the project limits to the east and west. This line is an 18 pair line and is owned by AT&T.

Underground telephone lines are located on the south end of the project, on the east side of S250 Road. This line runs south and parallels the centerline of the roadway for approximately 500 feet where it enters a cell phone tower site. This cable line is of unknown size and is owned by AT&T.

Underground telephone lines are located on the south end of the project, on the east side of S250 Road. This line runs south and parallels the centerline of the roadway for approximately 500 feet where it enters a cell phone tower site. This cable line is of unknown size and is owned by AT&T.

NATURAL GAS

The natural gas distribution lines are located on the south end of the project, on the west side of S520 Road. This line parallels the centerline of the S520 Road in a north and south direction for approximately 790 feet where it exits the project limits. This line size is unknown and is owned by Afton Public Works.

CABLE/FIBER

Internet and cable TV are located on the north end of the project, on the south side of E130 Road and S550 Road. This line parallels the centerline of the roadway for approximately 2,560 feet where it turns north and exits the project limits at the intersection of S550 Road and East Street SW. This line is a 24 pair fiber and is owned by AT&T.

Internet and cable TV are located on the north end of the project, on the south side of E130 Road and S550 Road. This line parallels the centerline of the roadway for approximately 2,560 feet where it turns north and exits the project limits at the intersection of S550 Road and East Street SW. This line is an 18 pair fiber and is owned by AT&T.

Internet and cable TV are located on the north end of the project, on the south side of E140 Road and S540 Road. This line parallels the centerline of the roadway for approximately 2,576 feet to the west, where it dead ends. This line is an 18 pair fiber and is owned by AT&T.

Internet and cable TV are located on the south end of the project, on the east side of S520 Road. This line is running north to a cell phone tower site, from the intersection of E120 Road and S520 road where it begins outside of the project limits. This line parallels the centerline of the roadway for approximately 1,158 feet. This line is a 24 pair fiber line and is owned by AT&T.

Internet and cable TV are located on the south side of the project, on the north side of Interstate 44. This line parallels the centerline of Interstate 44 in an east/west direction for approximately 1,748 feet, exiting the project limits. This is a 60 pair fiber and is owned by Century Link.

PIPELINES

Natural gas pipeline is located on the south end of the project, on the west side of Highway 69 and E200 Road. This pipeline parallels the centerline of Highway 69 in a north and south direction for approximately 593 feet where it exits the project limits. This line is of unknown size and is owned by Marathon Pipe Line LLC.

Natural gas pipeline is located on the south end of the project, on the south side of the railroad tracks on S520 Road. This line parallels the centerline of the railroad tracks in an east and west direction for approximately 424 feet where it exits the project limits. This is a line of unknown size and is owned by Afton Public Works.

SUMMARY

Overall, the utility systems do appear to be encroaching on the actual roadway section. However, with a widening project several utilities will need to be relocated throughout the project. There are also several unknown facilities within the project limits for which their impacts will be determined during the design phase.

GEOTECHNICAL STUDIES

A geotechnical study dated October 23, 2019 was performed by Terracon Consultants. A total of 18 borings were obtained and analyzed: nine for the northern section and nine for the southern section. Additionally, half of these borings were obtained in the asphalt section of the Historic Route 66 roadway and half were obtained in the gravel shoulder areas. See maps within the appendices.

Borings in the northern section resulted in asphalt thicknesses ranging from 1.0 inches to 1.5 inches on the Historic Route 66 structure with a 6-inch overlay on the most eastern portion where an overlay had been placed over the roadway. Concrete thicknesses ranged from 4.0 inches to 5.75 inches. The gravel shoulder areas had gravel thicknesses ranging from 2.5 inches to 3.5 inches. The subsurface materials were made up of poorly graded sand with clay and fat clay with sand. The site geology for this area indicates the Hartshorne-Atoka Unit, which is mainly shale with some sandstone and siltstone.

Borings in the southern section resulted in asphalt thicknesses ranging from 0.75 inches to 1.75 inches in the Historic Route 66 pavement section, and in the most eastern section a 3-inch asphalt overlay was placed over the roadway. Concrete thicknesses ranged from 5.0 inches to 5.75 inches. The gravel shoulder areas had gravel thicknesses ranging from 2.5 inches to 6.0 inches. The subsurface materials were made up of native silty clay, lean clay, fat clay, and lean-to-fat clay soils with varying amounts of sand. The site geology for this area indicates the Boone Unit with limy chert with some limestone and shale as well as Chester-Meramec Unit with limestone, chert, shale, sandstone, and siltstone.

For additional details, see Terracon's geotechnical engineering report dated October 23, 2019 Project 04185018.

DRAINAGE

There are numerous cross drains throughout the project area. According to the 1918 plans provided by the Oklahoma Department of Transportation, these drains were constructed with cast-in-place concrete. The smallest drains are arch culvert designs with 90-degree headwalls (see 9). The next size larger structures are concrete flat top arches with 90-degrees headwalls (see 10). All of the design structures provided 18.5ft of clearance between headwalls.

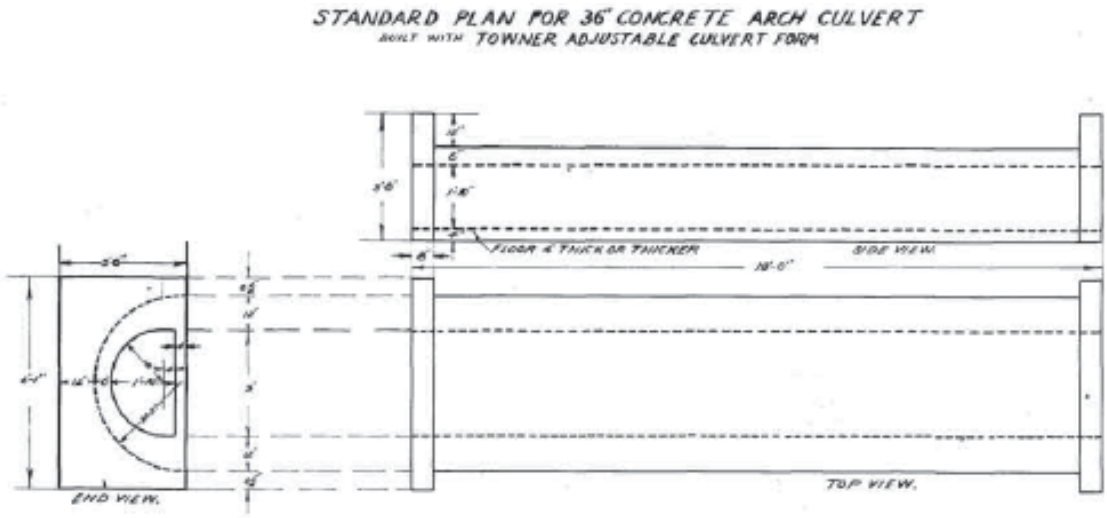


Figure 9: 36in concrete arch culvert detail

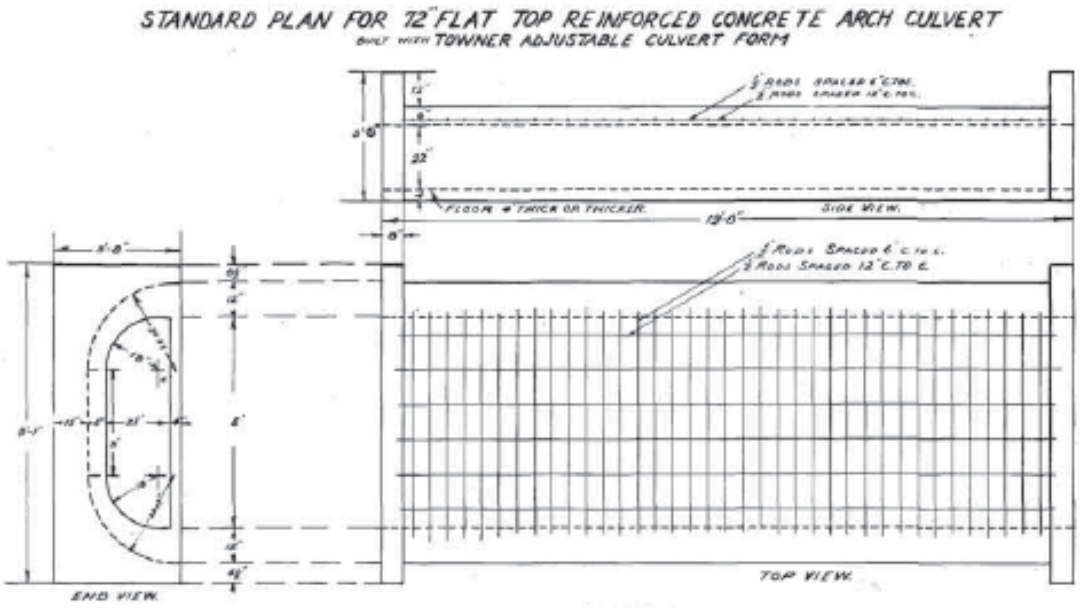


Figure 10: 72in flat top concrete arch culvert

On the larger streams, larger arches were used. These arches incorporated concrete headwalls with concrete wings for better stream hydraulics. See Figure 11 and Figure 12 for the 6ft arch and a 12ft flat top arch details.

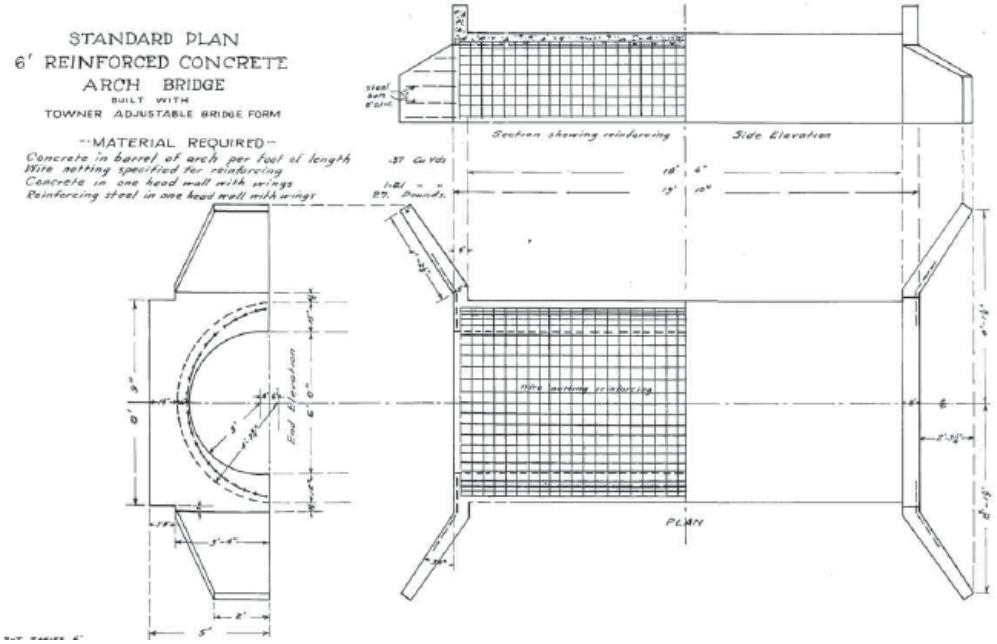


Figure 11: 6ft concrete arch bridge

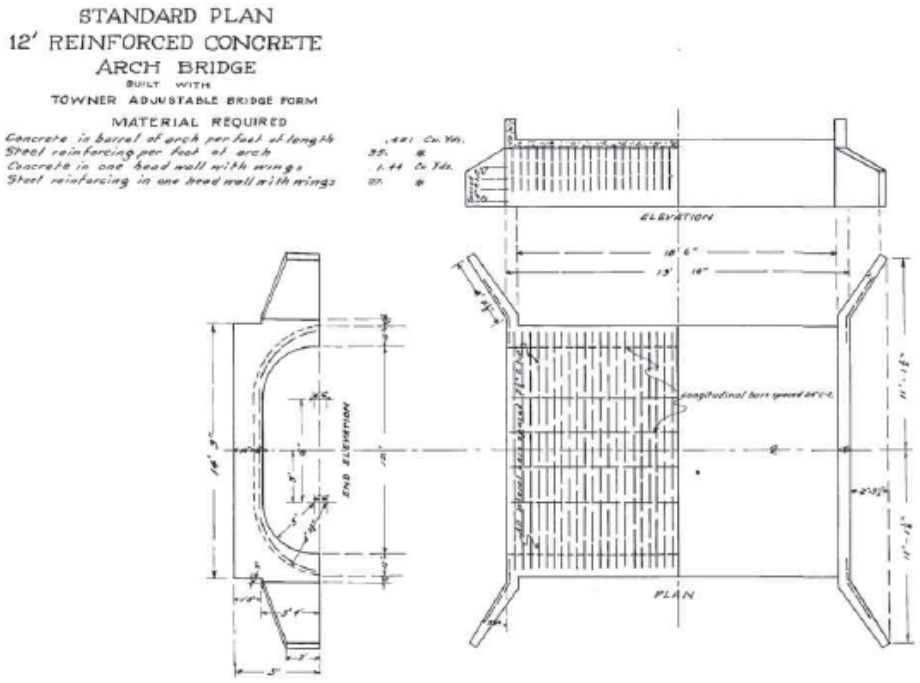


Figure 12: 12ft concrete arch bridge

Many of these structures remain in place; however, some have damage and deterioration. For example, headwalls have been knocked off due to impacts by vehicles and mowers. Some concrete deterioration has also occurred, weakening some structures, mainly the flat top arches. The most significant damage is on the larger flat top arches. The smaller arches are still in relatively good condition.





Figure 13: Cross drains along the project

Below is an example where the original cross drains were removed and replaced with modern reinforced concrete pipe or corrugated metal pipe. The roadbed above these pipes was demolished and removed. Note that some of the original asphalt and concrete roadbed no longer exists where cross drains were replaced.



Figure 14: Replaced pipes (not original)

The structure shown below appears to have been extended and the construction does not match the original arch designs indicated in the 1918 construction plans.



Figure 15: Box extension, does not match original design

Overall the smaller arch structures are in good condition and the larger flat top arches are in fair or poor condition. All of the cross-drain structures are too narrow, with only 18.5ft clear roadway. This clearance does not meet current standards.

SUMMARY OF EVALUATION

Overall, given the age and construction of the Historic Route 66 Ribbon Road, the roadway is in fair condition. The right of way and gravel shoulders are in very good condition while the asphalt and concrete base that make up the pavement section is in fair to poor condition. A gravel roadway has been placed over portions of the pavement section in attempts to prevent further damage. Two portions totaling approximately 0.75 miles have been overlaid with asphalt to provide a smooth driving surface. Many of the original cross drains still exist; the smaller arches are in good condition while the larger flat top arches are in fair to poor condition. A few of the cross drains have been replaced over time. The replacement of these cross drains required removal of a portion of the Historic Rt 66 Ribbon Road.

The Historic Route 66 Ribbon Road is in desperate need of rehabilitation, restoration, and partial replacement so that it can last another 100 years.

Appendix 1 – North Section Photos Documentation – East to West



1 Looking West on EW130 Rd at East St



2 EW130 Rd cross-drain



3 Looking West on EW130 Rd just West of NS550



4 EW130 Rd cross-drain



5 EW130 Rd cross-drain



6 Looking West on EW130 Rd 0.25 West of NS550



7 EW130 Rd cross-drain



8 EW130 Rd cross-drain



9 Looking West on EW130 Rd 0.3 mile West of NS550



10 EW130 Rd cross-drain



11 Looking West on EW130 Rd 0.5 mi West of NS550



12 EW130 cross-drain



13 Closeup of curb on EW130 Rd about 0.5 mi West of NS550



14 Closeup of curb on EW130 Rd about 0.7 mi West of NS550



15 Looking West on EW130 Rd at curve to the South onto NS540



16 Looking South on NS540 at EW130 Rd



17 Looking South on NS540 conc curb worn down flush



18 Typical conc arch cross-drain



19 Typical conc arch cross-drain



20 Looking South on NS540 0.5 mi South of EW130



21 Looking South on NS540 0.7 mi South of EW130



22 Looking Northeast at curve to North on NS540 RD at EW140 Rd



23 Looking West on EW140 Rd 0.5 mi West of NS540



24 EW140 cross-drain pipes



25 EW140 cross-drain 0.6 mi west of NS540 original road section removed



26 EW140 cross-drain pipes



27 EW140 Rd cross-drain pipes



28 Monument at EW140 Rd and US-69



29 Curbing at EW140 Rd and US-69



30 Curve on EW140 at US-69



31 Monument at EW140 Rd and US-69

Appendix 2 – South Section Photos Documentation – South to North



1 Segment at NS520 and US-60



2 Looking West on EW220 just South of US-60



3 EW220 cross-drain near monument at US-60



4 Looking North on NS520 at EW210 Rd



5 Monument at NS520 and US-60



6 Looking South on NS520 at E210 Rd



7 Looking South on NS520 closeup of curb 0.2 mi South of EW210



8 Looking North on NS520 just North of I-44



9 Looking West on EW200 at NS520 curve



10 NS520 cross-drain



11 NS520 cross-drain



12 Looking East on EW200 at NS520 curve



13 EW200 cross-drain



14 EW200 cross-drain failure



15 Looking East on EW200 0.5 mi West of US-69



16 Looking East on EW200 0.25 West of US-69

APPENDIX 3 – HISTORIC ROADWAY PLANS FAP-8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	1	46

STATE OF OKLAHOMA

PLAN

showing

FEDERAL AID PROJECT No 8

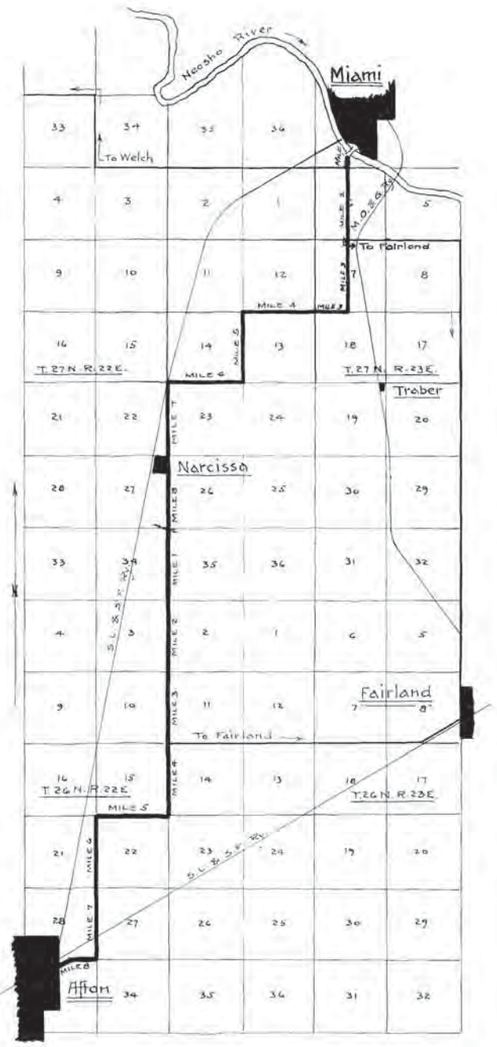
...FOR...

PAVING, MIAMI TO AFTON,

covering miles 1 to 8 of section H and miles 1 to 8 of section 1 of the State Road System

of

OTTAWA COUNTY.



Layout Map.

One mile to an inch.

Section, Township and Range lines _____

The road to be improved ▬▬▬▬

Branch roads - part of the State Road system _____

Index		
Sheet	Description	Scale
1	Title Sheet and Layout Map	1 Mile to an inch
2	Project Located on State Map	
3	Typical Cross Sections	1 inch = 5 feet
4	Plan and Profile Mile 1 & 2 Sec I	Ver. 1"=10' Hor 1"=100'
5	" " " " 2 " "	" " " "
6	" " " " 2 " "	" " " "
7	" " " " 2 & 3 "	" " " "
8	" " " " 3 & 4 "	" " " "
9	" " " " 4 "	" " " "
10	" " " " 4 & 5 "	" " " "
11	" " " " 5 "	" " " "
12	" " " " 5 & 6 "	" " " "
13	" " " " 6 & 7 "	" " " "
14	" " " " 7 "	" " " "
15	" " " " 7 & 8 "	" " " "
16	" " " " 8 "	" " " "
17	" " " " 8 Sec I & 1 Sec H	" " " "
18	" " " " 1 " 2 "	" " " "
19	" " " " 2 "	" " " "
20	" " " " 2 & 3 "	" " " "
21	" " " " 3 "	" " " "
22	" " " " 3 & 4 "	" " " "
23	" " " " 4 & 5 "	" " " "
24	" " " " 5 "	" " " "
25	" " " " 5 & 6 "	" " " "
26	" " " " 6 "	" " " "
27	" " " " 6 & 7 "	" " " "
28	" " " " 7 & 8 "	" " " "
29	" " " " 8 "	" " " "
30	Culverts	"
31	Culverts	
32-46	Cross Sections	

Scale Used on Sheets.

Typical Cross Section, 1"=5'

Profile Vertical, 1"=10'

Profile Horizontal 1"=100'

Alignment 1"=100'

Approvals.

The accompanying plans, for paving Miami to Afton, Ottawa County, have been examined and approved, for the State Department of Highways, this 26 day of December 191 8.

Mac Cunningham State Engineer.

Geo. B. Cobb Commissioner of Highways.

Examined and approved, for the Federal office of Good Roads, this [redacted] day of [redacted] 191[redacted]

[redacted]

Examined and approved, for the Department of Agriculture, this [redacted] day of [redacted] 191[redacted]

[redacted]

Examined and approved, for the [redacted] this [redacted] day of [redacted] 191[redacted]

[redacted]

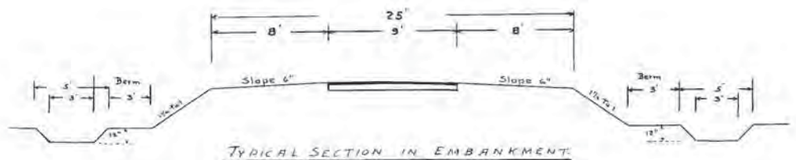
Sheet Number 1

FED ROAD DIST. NO	STATE	FED. AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ORLA	S	1918	3	46

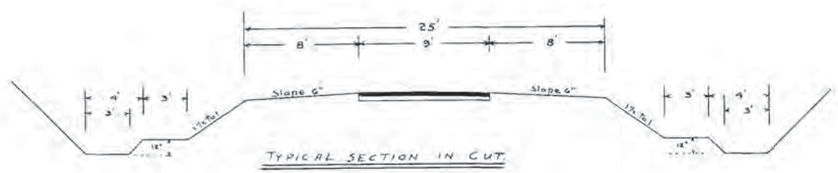
TYPICAL CROSS SECTIONS.

5' To 1"

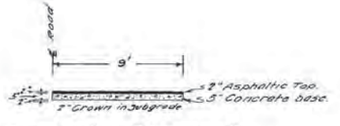
Two inch asphaltic top, "Topeka Specifications," on one course concrete base 5" Thick.
Circular Crowning.



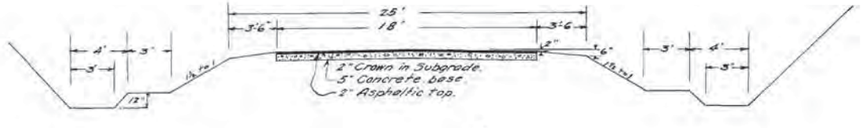
TYPICAL SECTION IN EMBANKMENT



TYPICAL SECTION IN CUT.



Typical Section of 9' Pavement.



Typical Section of 18' Pavement.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	4	46

Sta 0+00
Pt. End of Neosho River Bridge

66' Right of Way
25' Roadway
18' Pavement
3½" Shoulders

PT. 7+97

30° C.P. Takeoff
Δ = 73°52'
R = 193.19
T = 150.87
PI = 6+46.6
L = 252.88

PC 4+72.8

STA. 6+46.6

N

Sec. 1 Mi. 1 State Road System, Ottawa Co.
Sec. 31 T. 28 N. R. 22 E.

1915 6.25 CY. Conc. Collvt. reported Drainage 200 lin. ft.

Sec. 31 T. 28 N. R. 22 E.

SCALE OF PLAN
1" = 100'

Sta. 28+14

To Welch

Sec. 1 Mi. 2 State Road System, Ottawa Co.
Sec. 6 T. 27 N. R. 22 E.

Sec. 6 T. 27 N. R. 22 E.

Sta. 32+00

SCALE
Ver. 1" = 10'
Hor 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

West End Neosho River Bridge
Elev 763.95
Sta 0+00

Bridge #1

Sta 1+80
Elev 764.4

Sta 1+30

Bridge #2

Sta 3+08
Elev 764.7

Sta 4+02
Elev 764.7

Sta 6+80
Elev 766.0

10+10.6 Elev 766.0
10+85 Elev 766.03
11+10 Elev 766.12
11+35 Elev 766.27
11+60 Elev 766.50
11+85 Elev 766.77
12+13 Elev 767.18
12+35 Elev 767.53
12+60 Elev 767.98

Inlet No. 3

11+40
Elev 766.0

14+20
Elev 766.20

22+00
Elev 768.2

26+00
Elev 771.2

28+40
Elev 771.44

32+20
Elev 767.4

-0.4%
0.0%
+.15
0.0%
+2.0%
+2.5%
+0.8%
0.0%
-1.43%

Flow line 759.0

3-13'3" I.B. Overflow Concrete Bridge, 18' Roadway to be extended to 25'.

Flow line 759.0

3-33' Spans (19' Roadway) 3 Trusses 13'-3" Wood Floor Beams Steel Floor Beams & Angles Ottawa Con. Co. Specifications

Flow line 759.0

drainage

Drainage

+ 24" ST. Con. Cul. Pipe Drainage 200 lin.

B.M. No. 1 Elev 763.95
On pile N.W. pier Neosho bridge.

B.M. No. 2 Elev 756.77
Tack in 18" Poplar 30' N. Sta 4+00

B.M. No. 3 Elev 766.09
Tack in head & S. end of Barn N. of Rd.

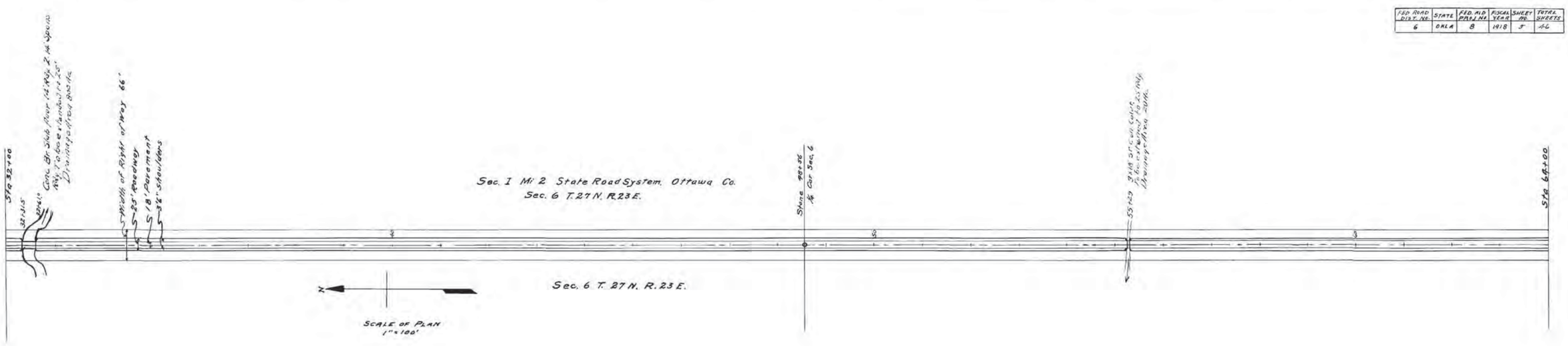
B.M. No. 4 Elev 756.67
Tack in stake E. of 11+20

B.M. No. 5 Elev 767.55
Tack in stake E. of 22+00 in fence.

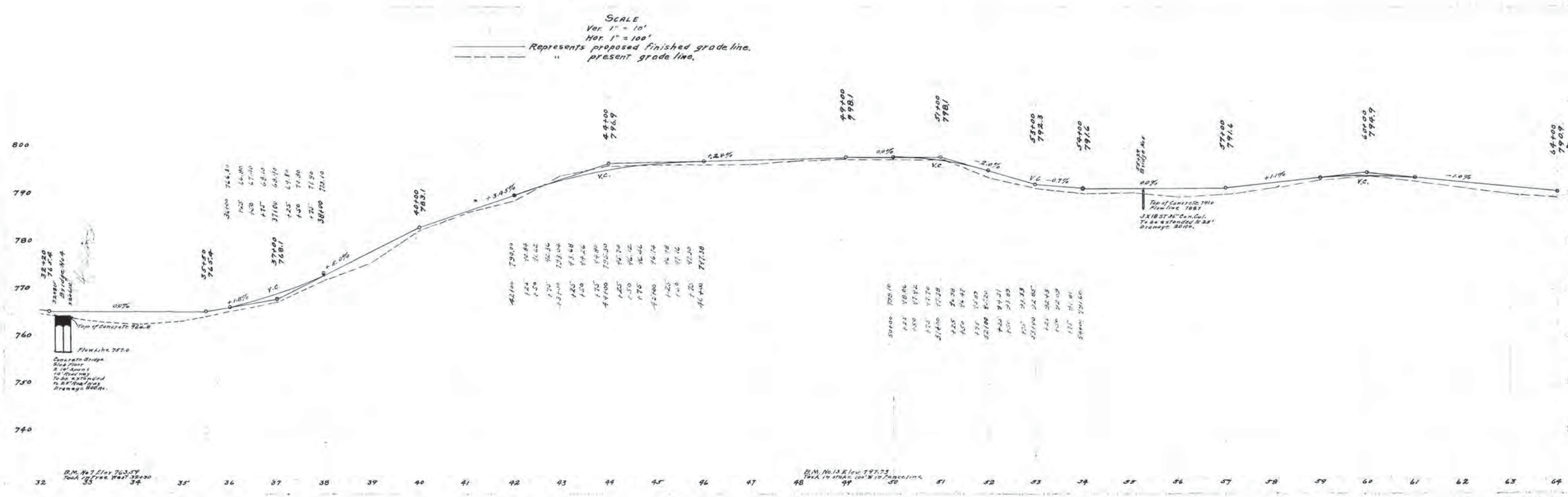
B.M. No. 6 Elev. 771.38
Tack in stake W. of 28+00

SHEET No. 4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	5	46

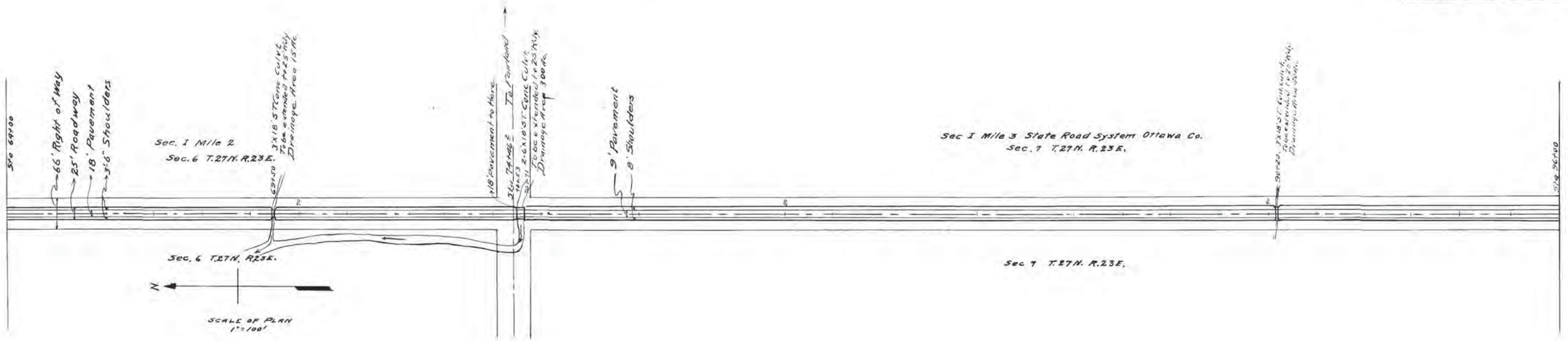


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
— — — — " present grade line.

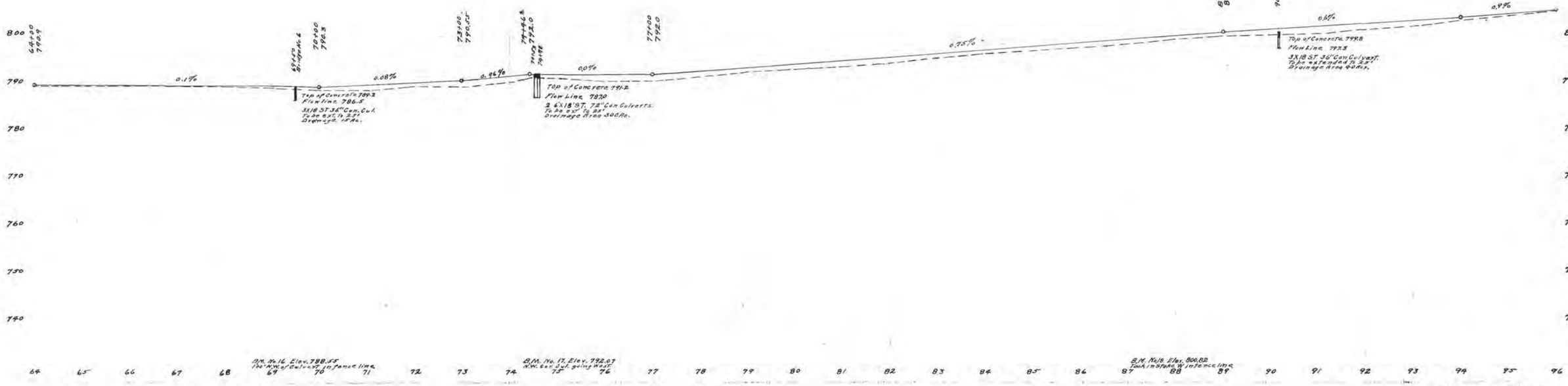


SHEET No. 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	6	44

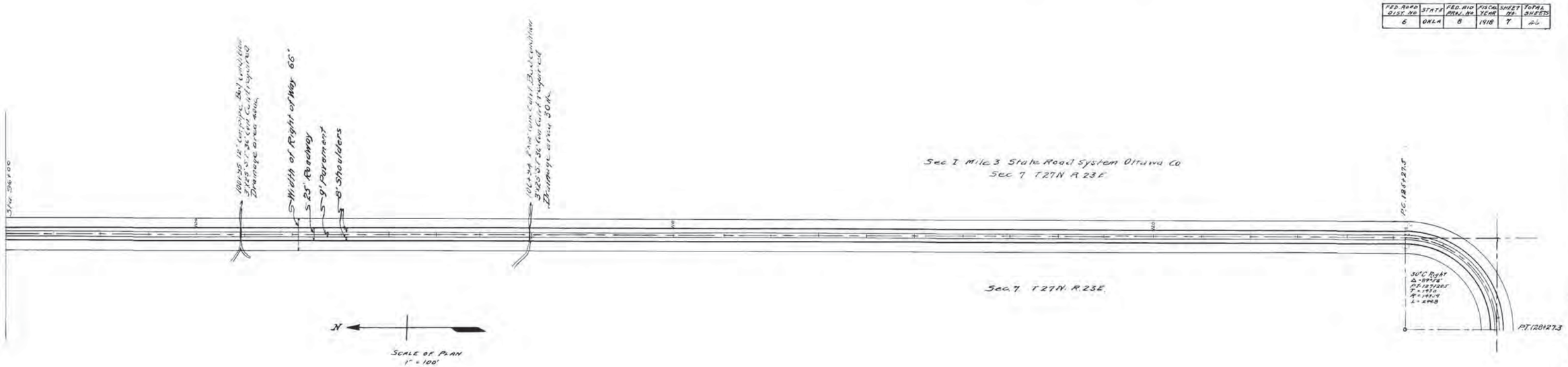


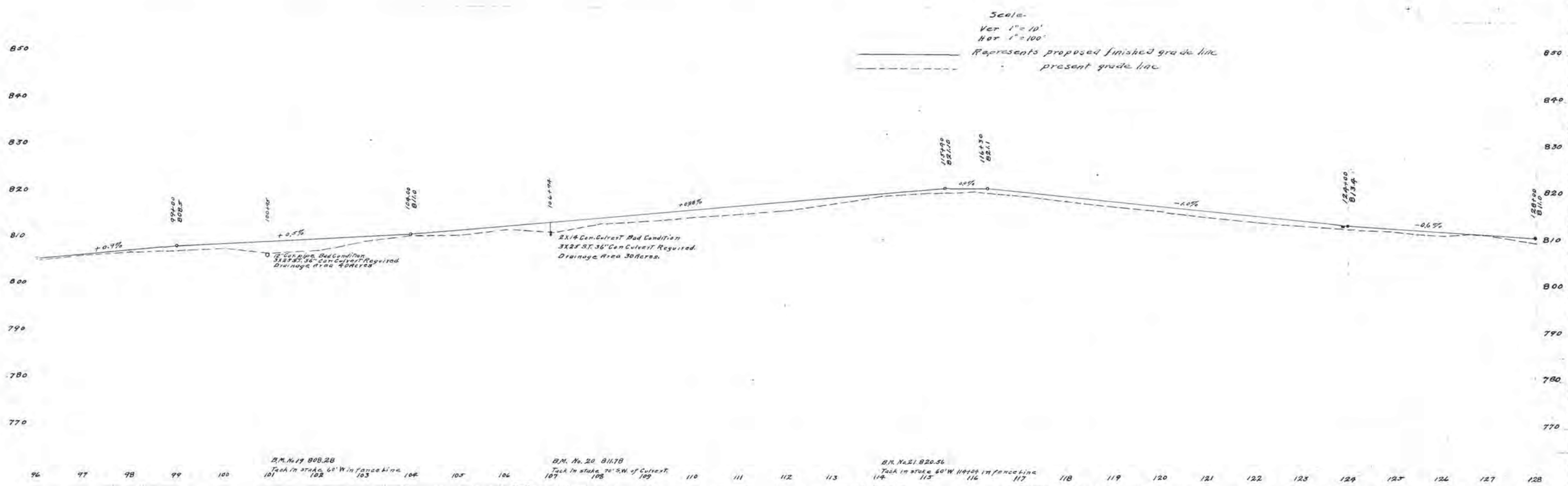
SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.



SHEET No. 6

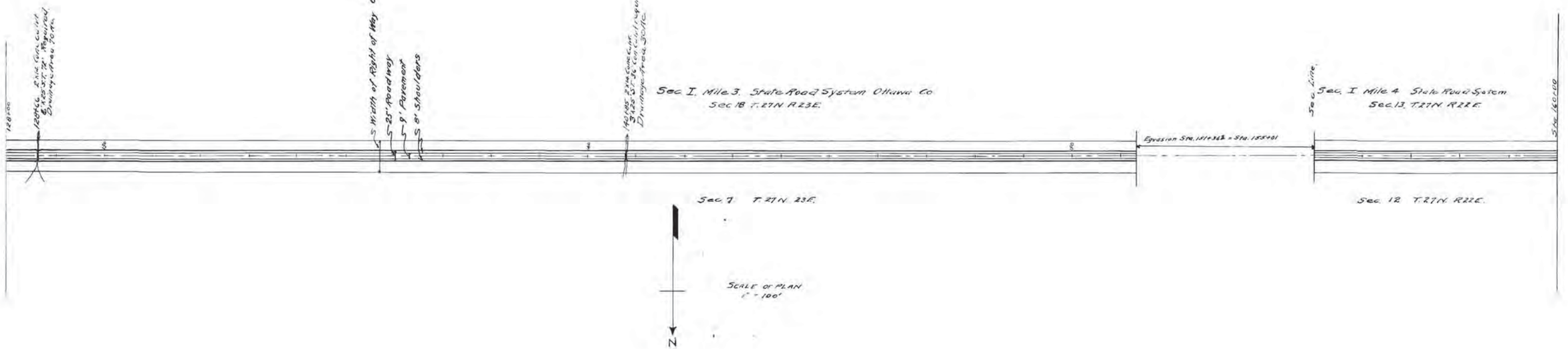
FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	7	46



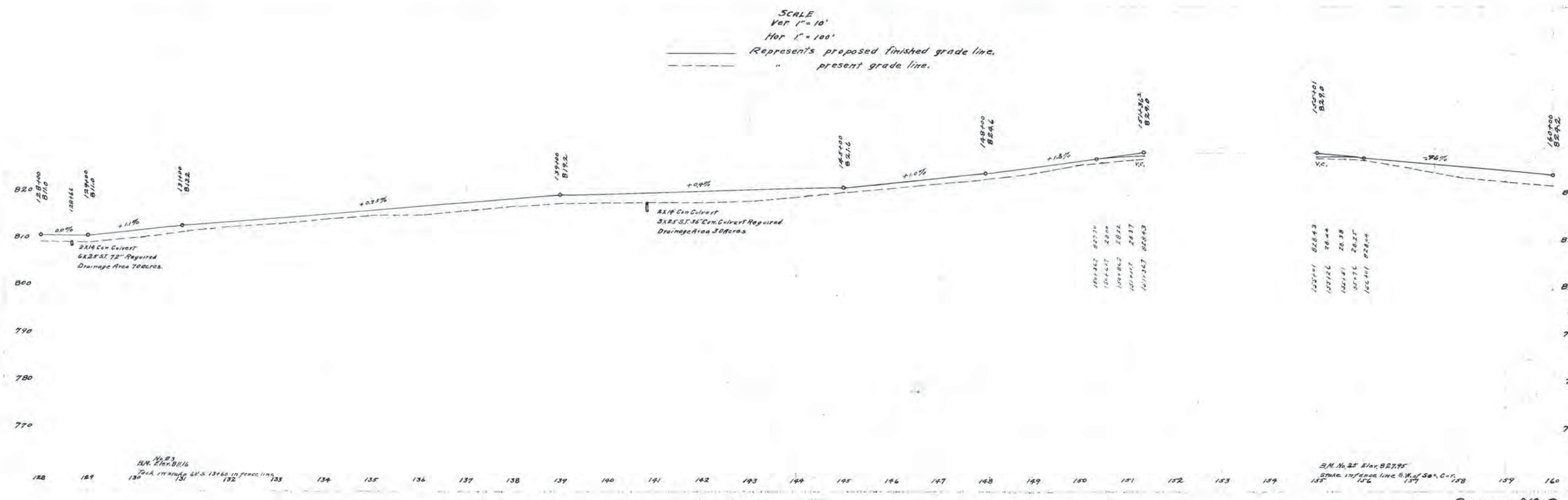


SHEET No. 7

FED ROAD DIST. NO	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	8	46



SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – " present grade line.



SHEET No. 8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	9	46

Sta 162+00

Width of Right of Way 66'

25' Roadway

9' Pavement

8' Shoulders

162+00 5'x18' St. Conc. Culvert
To be extended to 25 ft.
Drainage area 20 Ac.

Sec 1 Mile 4 State Road System Ottawa Co
Sec. 13 T. 27 N. R. 22 E.

185+00 3'x36' St. Conc. Culvert Required
Drainage area 20 Ac.

Sta 192+00

Sec 12 T. 27 N. R. 22 E.

N

SCALE OF PLAN
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

162+00 824.2 | 163+00 | 164+00 824.2 | 170+00 826.0 | 172+00 828.4 | 176+00 832.6 | 182+00 846.2 | 182+00 848.0 | 184+00 848.0 | 188+00 833.6 | 190+00 835.6 | 192+00 835.6

0.0% | +.36% | +1.21% | +1.89% | +2.75% | +.67% | -.66% | 0.0% | +2.28% | +1.00% | 0.0%

V.C. | V.C.

Top of Concrete 824.0
Flow line 822.0
3'x18 Sf. 36" Concrete Culvert
To be extended to 25 ft.
Drainage Area 20 Acres

Top of Concrete 844.00
Flow line 842.5
3'x30 Sf. 36" Required
Drainage Area, 20 Acres.

B.M. No. 26 Elev. 822.22
Stake 50' W. of Sta 162+00

B.M. No. 28 Elev. 849.50
Sta Ac. 70' W. Sta 181+90

860 | 850 | 840 | 830 | 820 | 810 | 800 | 790 | 780

160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192

SHEET No. 9

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	10	46

Sec I Mile 5 State Road System Ottawa Co.
Sec. 13 T27N R22E

Sec. 14 T27N. R22E.

N
Scale 1"=100'

Sta. 192+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

192+87 3'x8'6" Conc. Culv. required
Drainage Area 50 Acres

POND

Sec. I Mile 4
Sec. 13 T27N. R22E.

PT. 208+87.4

Sec. 12 T27N. R 22E.

PC 207+08.2

30° Curve Left
Δ = 89°42'
R = 193.19
T = 192.7
Ext = 79.59
PI = 207+80.8
LC = 279.5

N
Scale 1"=100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line.
" present grade line.

192+00 859.6
198+00 850.0
199+00 850.0
205+00 847.8
208+08 865.0
213+00 852.0
222+00 839.4

-.93%
0%
+1.33%
-.93%
-1.75%
-1.26%
-3.75%

Top of Concrete = 849.7
Flow line 846.5
199+00 3'X8'6" T.36" Con Cul. Required
Drainage Area 50 Acres.

V.C.

B.M. No 33 Elev. 850.16
On S. Head Wall Culvert SE Cor

B.M. No 34 Elev. 851.93
State line fence line, Corner W. 209+60

192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224

860 850 840 830 820 810 800 790 780

SHEET No. 10

F.A.P. AND DIST. NO.	STATE	F.A.P. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	11	40

Sta 224+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

224+94 12'x2.5' S.T. Conc. Culv. required
Drainage area 300 Ac.

232+98 3'x2.5' S.T. Conc. Culv. required
Drainage area 10 Ac.

245+42 3'x2.5' S.T. Conc. Culv. required
Drainage area 15 Ac.

Sec 1 Mile 3 State Road System Ottawa Co
Sec 13 T.27 N. R.22 E.

Sec. 14 T.27 N R.22 E.

N

Sta 256+00

SCALE OF PLAN
1" = 100'

224+94 12'x2.5' S.T. Conc. Culvert Required
Drainage Area 300 Acres
Flow Line 821.0

Top of Concrete 823.0
Flow Line 821.0
224+94 12'x2.5' S.T. 12' Concrete Culvert Required
Drainage Area 300 Acres

Top of Concrete 836.6
Flow Line 833.6
232+98 3'x2.5' S.T. 36' Con Culvert Required
Drainage Area 10 Acres.

Top of Concrete 840.8
Flow Line 838.0
245+42 3'x2.5' S.T. Con. Cul. Req.
Drainage Area, 15 Acres

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.

B.M. No 37. Elev. 826.89 N.E. Cor. Headwall of Culvert.

B.M. Elev. 844.75
Gastake 30' W. 237+00

SHEET No. 11

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	12	46

Sec. I Mi. 6 State Road System Ottawa Co.
Sec 23 T. 27N. R 22E

Sec 14 T 27N R 22E.

Sec I Miles
State Road System Ottawa Co
Sec 13 T27N R22E

Sec 14 T27N R22E

Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line
" present grade line.

B.M. Elev. 830.88 On Sec. Cor. Stone at P.I. of Cu. Vc.

B.M. Elev. 822.87 Tack S.W. Cor. John Hayes's Porch.

SHEET No. 12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	13	46

Sta. 288+00

S width of Right of Way 80'

S 22.5' Roadway

S 9' Pavement

S 8' Shoulders

292 ft² CMS 5'0" Conc. Culvert required Drainage area 200 Ac.

Sec. 1 Mile 6 State Road System, Ottawa Co.
Sec. 23 T.27N. R.22E.

Sec. 14. T.27N. R.22E.

P.T. 3+21.7 Lt. = 1+63.2

30°0' I. L. of P.T.
Δ 90°32'
T 193.66
R 193.19
L 301.82
P.I. 311.6 Lt.
E.I.T 80.90

P.C. 304+20

Sec 1 Mile 7
Sec. 23 T.27N. R.22E.

Sec. 22 T.27N. R.22E.

P.C. 3+21.7 Lt. = 1+63.2

Sta. 5+00

N

SCALE OF PLAN
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
Represents proposed finished grade line
" present grade line.

288+40 B.S. 0

283+54

293+00 B.S. 0

301+00 B.S. 0

302+00 B.S. 0

307+00 B.S. 0

314+72 B.S. 0

1+63.2 B.S. 0

2+00 B.S. 0

-1.87%

+0.5%

+2.12%

0.05%

+1.0%

Y.C.

Top of Con. Bk. Pilot line 808.8
289+54 6'X2.5' S.T. 72" Con. Culvert Required Drainage Area 850 Acres.

Top of Con. 810.9 H.W. Line 807.18
292+11.2 6'X2.5' S.T. 72" Con. Cul. Required Drainage Area. 200 Acres.

B.M. Elev. 818.88 On Hedge Fence line N. 288+50

B.M. Elev. 838.49 on Sec. Cor Stone P.I. of Curve = 833.11 going South

SHEET No. 13

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	S	1918	14	46

Sta. 5+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

9+60 3'x6'S.T. 36" Conc. C.M.P. Culvert Improved
To be extended to 25' Hdp
Drainage area 40 Ac.

Sec. 1 Mile 7 State Road System Ottawa County

Sec. 23 T. 27 N. R. 22 E.

26+12 3'x2.5' S.T. 36" Conc. C.M.P. Culvert Improved
Drainage area 20 Ac.

Sta. 37+00

Sec. 22 T. 27 N. R. 22 E.

N

Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line.
- - - - - " present grade line.

6+00 El. 850
10+60 El. 836.0
13+20 El. 838.0
16+00 El. 851.0
18+00 El. 855.6
20+00 El. 857.0
22+00 El. 857.0
24+00 El. 854.0
26+12
28+00 El. 854.0
31+00 El. 857.0
33+00 El. 857.0
36+00 El. 852.0

+1.0%
-0.25%
+0.08%
+3.42%
+2.3%
+0.7%
0.0%
-1.0%
0.0%
+1.0%
0.0%
-1.66%
-1.8%

9'CO
V.C.

Top of Cur. 833.0 V.C.
Flow Line 833.0
9+60 3'x1.8' S.T. 36" Con. Cul.
In place to be extended To 25'
Drainage Area 40 Acres.

Top of Cur. 853.6
Flow Line 848.0
26+12 3'x2.5' S.T. 36"
Con. Cul. Required
Drainage Area 20 Acres.

| | | |

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	15	46

Sta 37+00 — ℄ Width of Right of Way — 33' Roadway — 9' Pavement — 8' Shoulders

Sta 40+17.4 3'X2.5' S.T. 36" Conc. Culvert required Drainage area 20 Acres

Sec 1 Mile 7 State Road System Ottawa County
Sec. 23 T. 27 N. R. 22 E.

Sec 22 T. 27 N. R. 22 E.

Sta 51+24.1 3'X2.4' Conc. Culvert Top of Con 848.7 Flow line 844.8 Drainage area 14 Acres

Sta 52+31 3'X2.4' S.T. 36" Conc. Culvert to be ext. 3' on R. end Drainage area 14 Acres

Sta 52+66 3'X1.8' S.T. 36" Conc. Culvert to be ext. to 25' Drainage area 30 Acres

Sec. 1 Mile 8 State Road System Ottawa County
Sec. 26 T. 27 N. R. 22 E.

Sec. 27 T. 27 N. R. 22 E.

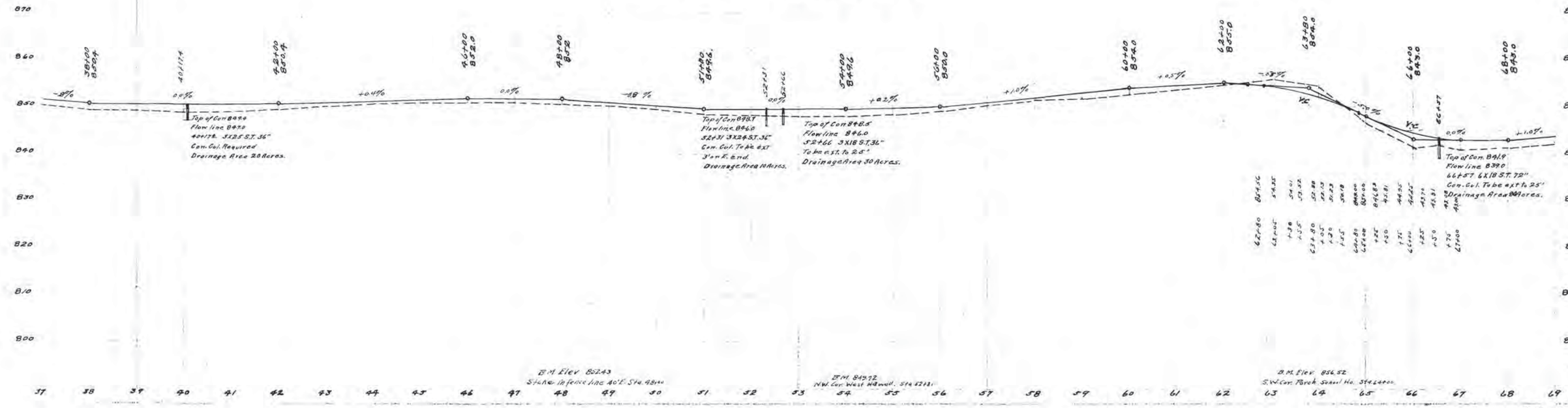
Sta 62+37 3'X1.8' Conc. Culvert To be extended to 25' Drainage area 80 Acres

Sta. 69+00

N

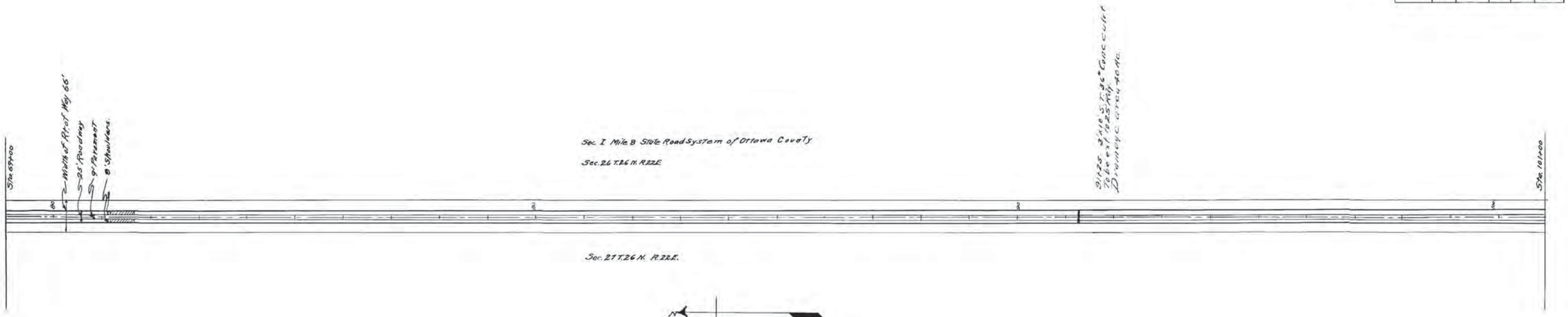
Scale of Plan
1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.

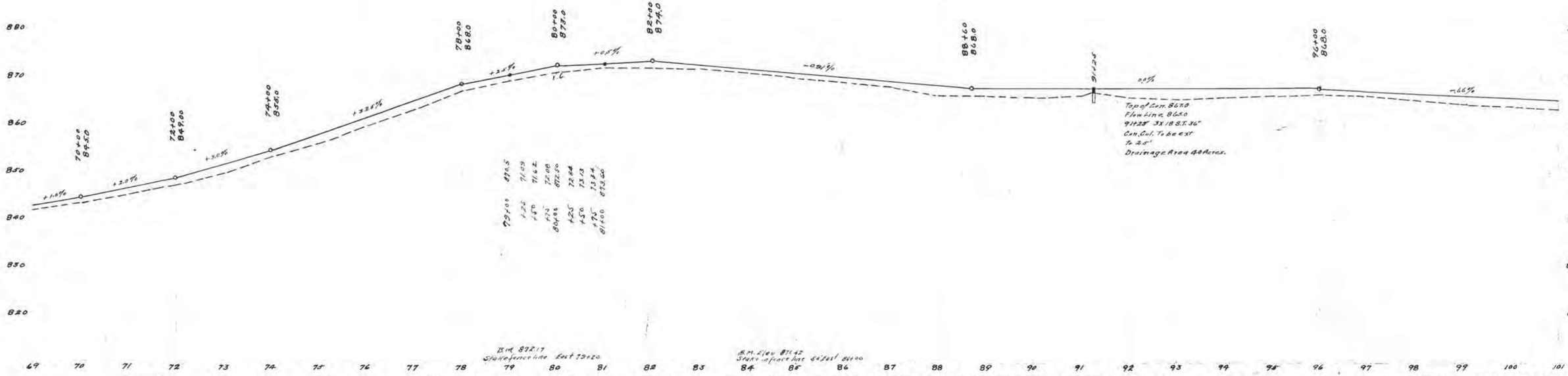


SHEET No. 15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	16	26

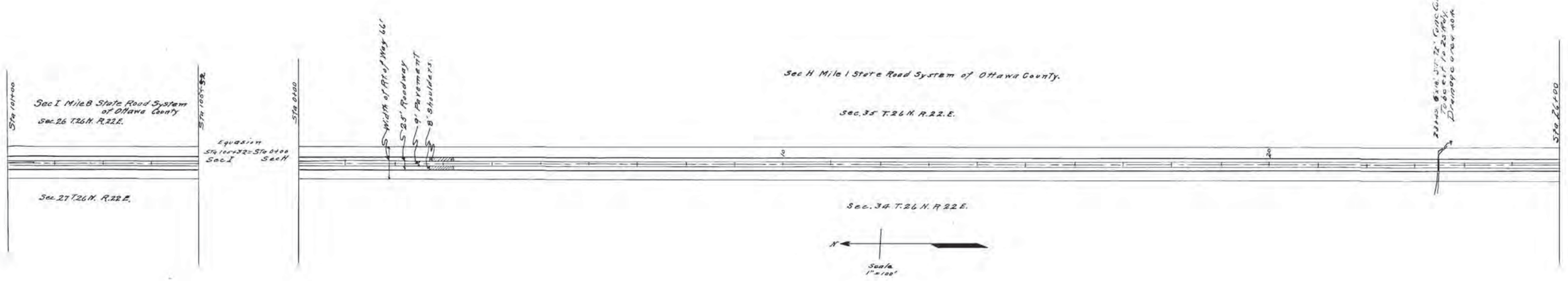


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
_____ Represents proposed finished grade line
- - - - - - - " present grade line.

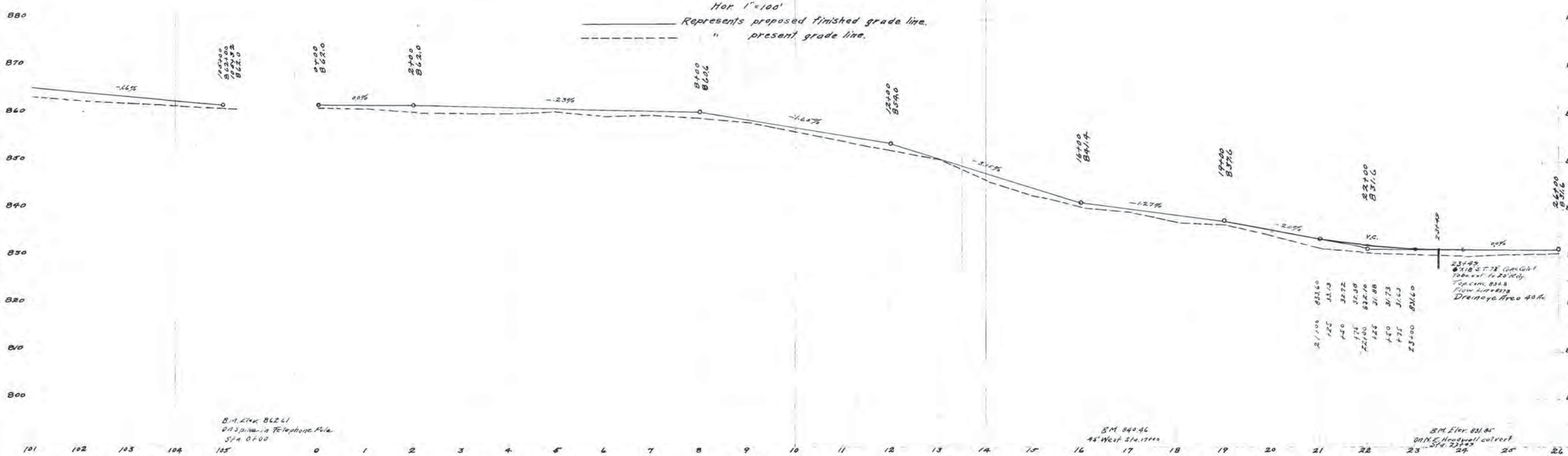


SHEET No 16

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	B	1918	17	46



SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
- - - - - - - - - " present grade line.



SHEET No. 17

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	18	44

Sta. 26+00

Width of Rt. of Way 66 ft.

25' Roadway

9' Pavement.

8' Shoulders.

Sta. 30+00

33+30 3'x6'S.R.C. Box Conc. Culvert to 25 Rdy. Drainage area 40 Ac.

Sec. H-Mile 1 State Road System of Ottawa County

Sec. 35. T.26N, R.22E.

Sta. 40+00.

44+37 6'x6'S.R.C. Box Conc. Culvert to 25 Rdy. Drainage area 80 Ac.

Sta. 50+00

Sta. 52+73.

Sec. H, Mile 2 State Road System of Ottawa County.

Sec. 2, T.26N, R.22E.

Sec. 34, T.26N, R.22E.

Sec. 3, T.26N, R.22E.

N.

— Scale —
1" = 100'.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – – " present grade line.

26+00 831.2
27+00 829.8
32+00 826.0
33+30 = 3'x6' SR Con. Cul.
38+00 826.0
40+00 826.0
44+37 = 6'x6' Conc. Culvt.
46+00 821.0
48+00 823.4
52+00 825.0
52+73
54+00 828.0
56+00 826.0
58+00.

-1.6%
-1.275%
+0.00%
-2.5%
-1.07%
0.0%
+1.13%
+1.5%
0.0%
-1.97%

To be Ext. to 25' Rdy.
Top Conc. = 82.
Flow = 822.1
Drainage Area = 40 Ac.

To be Ext. to 25 ft.
Top of Conc. = 88.
Flow Line = 816.7
Drainage Area = 80 Ac.

B.M. = 33+30 = N.E. Headwall Elev. 826.72

B.M. = 44+34 N.E. Headwall Elev. 821.11

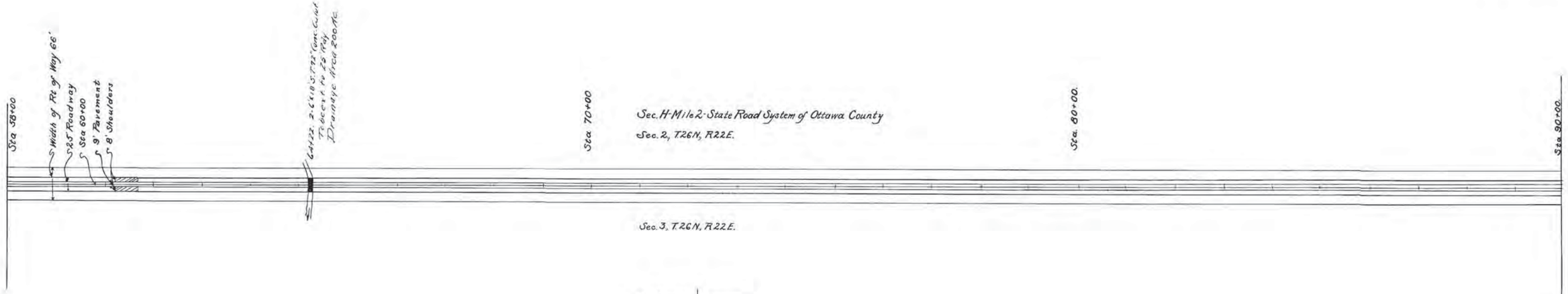
B.M. 52+30 S.E. Conc. Conc. Porch Elev. 823.97

850
840
830
820
810
800

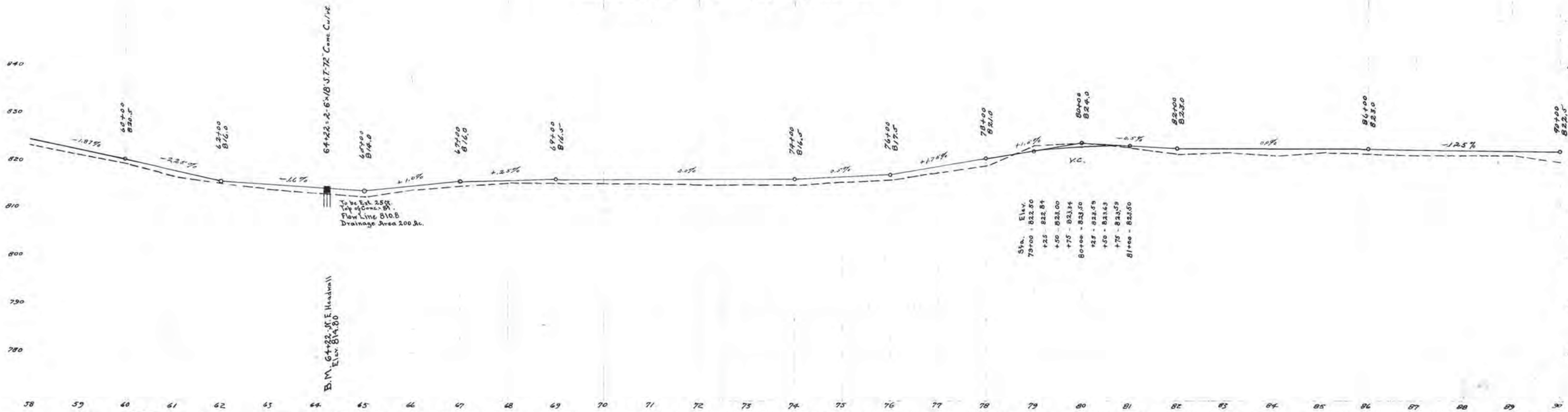
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

SHEET No. 18

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	19	26



SCALE
Ver. 1"=10'
Hor. 1"=100'
———— Represents proposed finished grade line
– – – – – – " present grade line



SHEET No 19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	8	1918	20	46

Sta. 90+00

Width of Right of Way 66'
25' Roadway
9' Pavement
8' Shoulders

Sec. H-Mile 2-State Road System Ottawa County
Sec. 2, T.26N., R.22E.

Sta 100+00

Sta 105±71 Sec. H. Mile 2.
Sta 0+00 Sec. H. Mile 3.

Equation

Sta 0+00 Sec. H. Mile 3.
Sta 105+71 Sec. H. Mile 2.

Sec. 3, T.26N., R.22E.

Sec. H-Mile 3-State Road System Ottawa County
Sec. 11., T.26N., R.22E.

6'x20' S.T. 72° Conc. Culvert Required
Drainage area 200 Ac.
5+80

6'x18' S.T. 72° Conc. Culvert
Drainage area 200 Ac.
8+41

Sta 10+00

Sta. 15+00

N

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – – " present grade line

90+00 B225
-.12%
95+20 B222.0
-.42%
100+20 B214.5
-.33%
103+00 B181.5
-.18%
105+71 B178.0

0+00 B178.0
-.9%
3+00 B153.5
5+80: 6'x20' S.T. 72° Conc. Culvert Required
-.75%
7+00 B132.0
8+41: 6'x18' S.T. 72° Conc. Culvert
+.5%
10+00 B132.0
12+00 B137.0
+2.5%

Drainage Area 200 Ac.

Tube Ent. to 26ft. Rdy
Top Conc. : 81.
Flow line : 808.00
Drainage Area = 200 Ac.

B.M. 0+30 - Mail top Mail Box Post.
Elev.: 818.94.

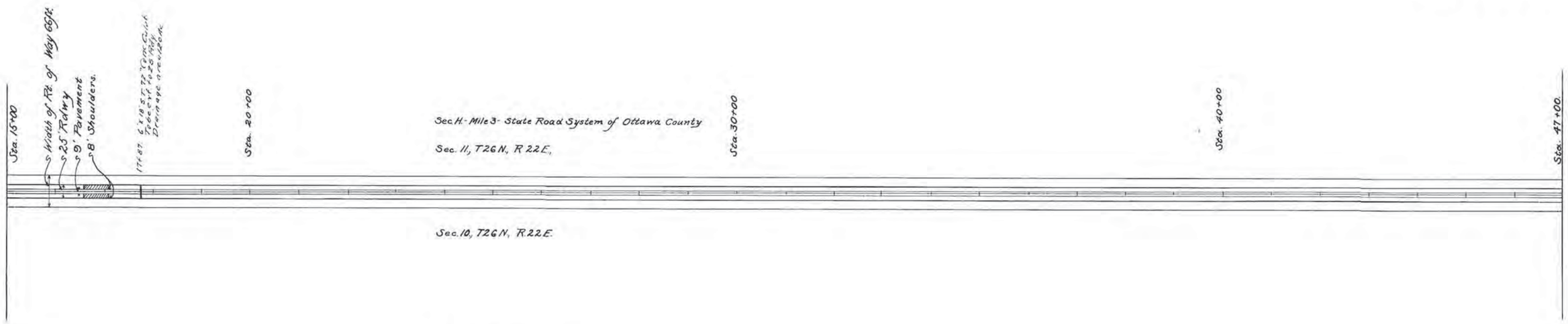
B.M. 8+42 - NE Headwall Conc. Culvt.
Elev. 812.90

850 840 830 820 810 800 790 780

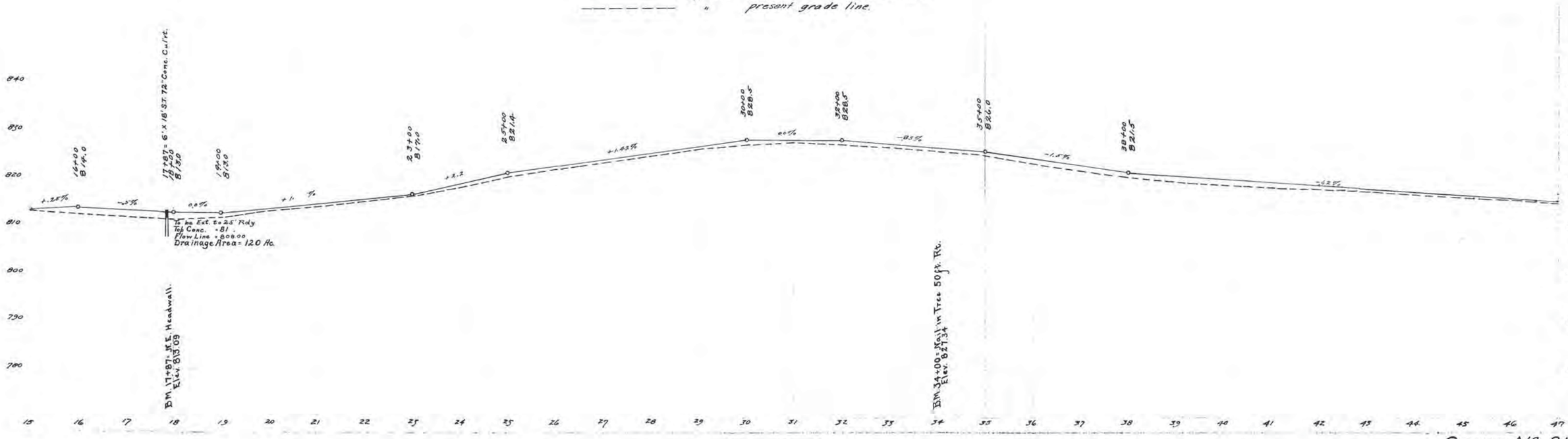
90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 +71. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SHEET Nº 20

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	21	41



SCALE
Ver. 1"=10'
Hor. 1"=100'
——— Represents proposed finished grade line.
– – – – – " present grade line.



SHEET No. 21.

FED ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	22	45

Sta. 47+00

Sec. H, Mile 3.

Sec. 11, T26N, R22E.

Sta. 50+00

Width of Rt. of Way 66 Ft.
24 Ft. Roadway
9 Ft. Pavement
8 Shoulders

Sta. 52+58

Sec. 10, T26N, R22E.

53+16 - 6'x8' S.T. 72" Conc. Culvert
To be Ext. to 25' Rdy.
Drainage area 120 Ac.

Sta. 60+00

Sec. H-Mile 4- State Road System of Ottawa County

Sec. 14, T26N, R22E.

Sec. 15, T26N, R22E.

Sta. 70+00
70+05 - 3'x8' S.T. 36" Conc. Culvert
To be Ext. to 25 Rdy.
Drainage area 40 Ac.

Sta. 79+00

N

— Scale —
1" = 100 ft.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – – " present grade line

Sta.	Elev.
50+00	814.00
52+58	813.66
	813.00
54+00	812.0
58+00	811.4
60+00	813.0
65+00	813.2
68+00	812.0
70+00	811.0

-.62%
-.36%
-.87%
-.15%
+.83%
+.12%
-.53%
-.65%
-.15%

53+16 - 6'x8' S.T. 72" Conc. Culvert
To be Ext. to 25 Rdy.
Top of Conc. = 81
Flow Line = 807.6
Drainage Area = 120 Ac.

B.M. 55+16 N.E. Headwall Conc. Culvert
Elev. 811.56

70+05 - 3'x8' S.T. 36" Conc. Culvert
To be Ext. to 25 Rdy.
Top Conc. = 81
Flow Line = 807.5
Drainage Area = 40 Ac.

B.M. 70+05 N.E. Headwall Conc. Culvert
Elev. 811.48

840 830 820 810 800 790 780

47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79

SHEET No. 22

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	23	46

Sta 79+00

Width of Rt. of Way 66 ft.

25' Roadway.
9' Pavement.
8' Shoulders.

Sta 90+00
Install 2-6'x8'x32' Conc. C&L
Trash Rack to 25' Rdy.
Drainage area 500 Ac.

37°45' 6'x8'x32' Conc. C&L
Trash Rack to 25' Rdy.
Drainage area 620 Ac.

Sec. H-Mile 4-State Road System of Ottawa County

Sec. 14, T.26N, R.22E.

Sec. 15, T.26N, R.22E.

Sta. 100+00

P.C. 103+75.4

D=30° Rt.
Δ=90°26'
T=134.65
R=193.19
L=301.43

Sec. 23, T.26N, R.22E.

Sec. 22, T.26N, R.22E.

P.T. 108+76.4

P.T. 106+76.4
+194.4

Sec. H-Mile 5.
State Road System
of Ottawa County.

Sec 23, T26, R22E

Sec 22, T.26N, R.22E

Sta 4+00

Sec 14, T26N, R22E.

Sec. 15, T.26N, R.22E.

N.

—Scale—
1"=100'

N.

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line

840
830
820
810
800
790
780

80+00 B09.5
86+00 B01.0
90+00 B02.0
92+00 B02.0
94+00 B02.0
96+00 B05.0
98+00 B07.4
104+00 B11.0
106+76.4 B12.5
1+94.4 B12.5

-1.8%
-1.41%
-1.25%
0.0%
+1.15%
+1.2%
+.6%
+3.43%
+.46%

30-6'x8'x32' Conc. C&L

92+65 6'x8'x32' Conc. C&L

To be Ext. to 25' Rdy.
Top of Conc. 800.0
Flow Line 796.0
Drainage Area 500 Ac.

To be ext. to 25' Rdy.
Top of Conc 801.0
Flow Line 796.0
Drainage area 620 Ac.

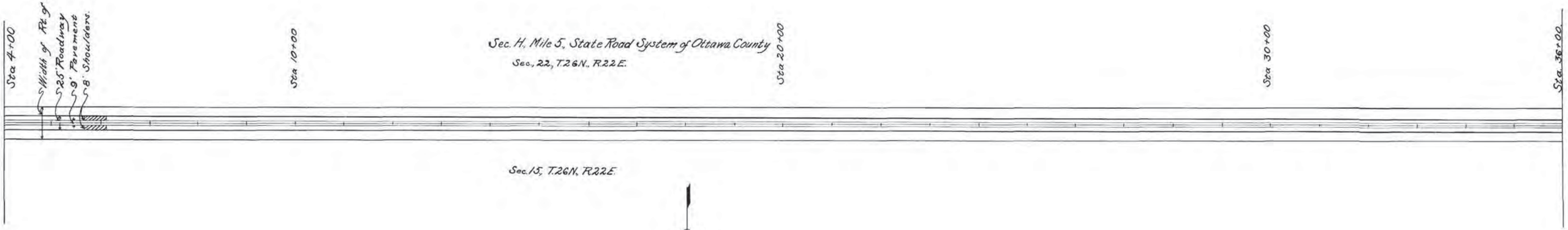
B.M. 90+04 Jct. E. Headwall
Elev. 801.45

B.M. on S.E. Headwall of 6' Conc. Culvt.
Elev. 813.46

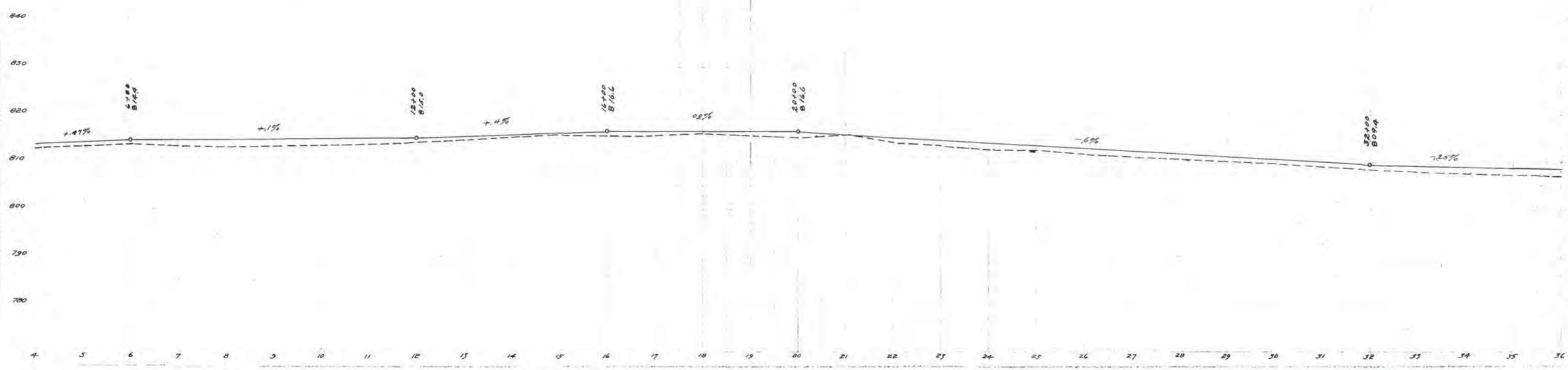
79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 0 1 2 3 4

SHEET No. 23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	8	1918	24	46

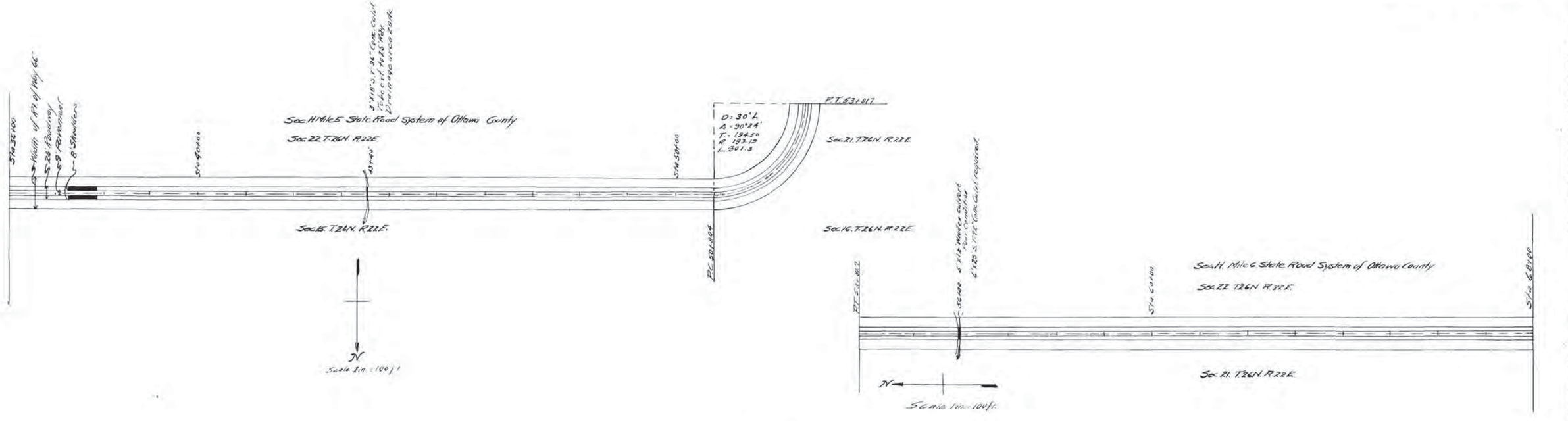


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line

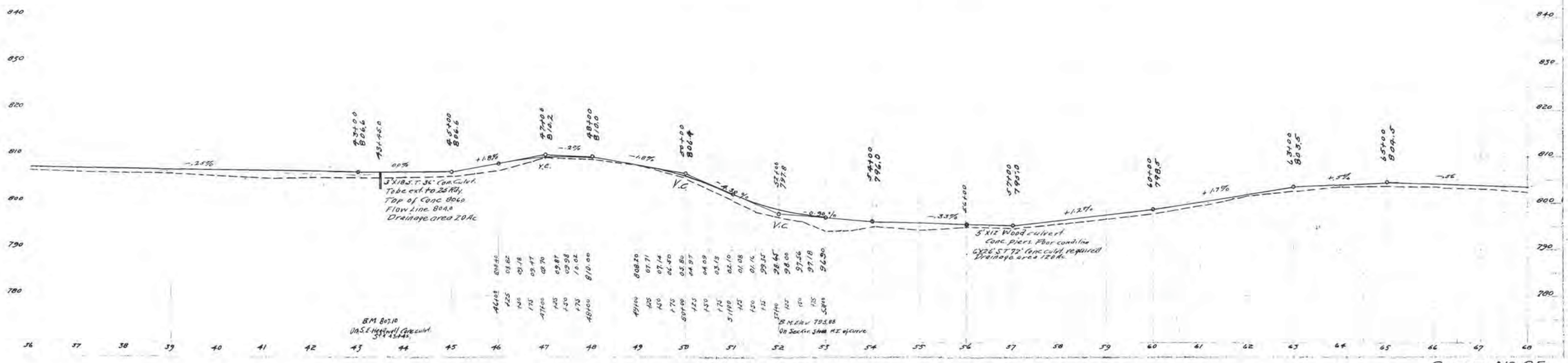


SHEET N.º 24

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	B	1948	25	46

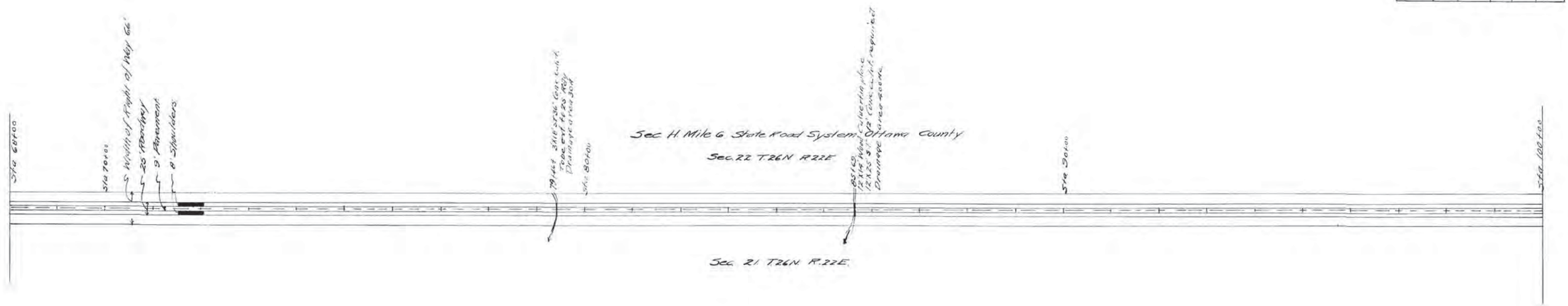


SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – – " present grade line



SHEET No. 25

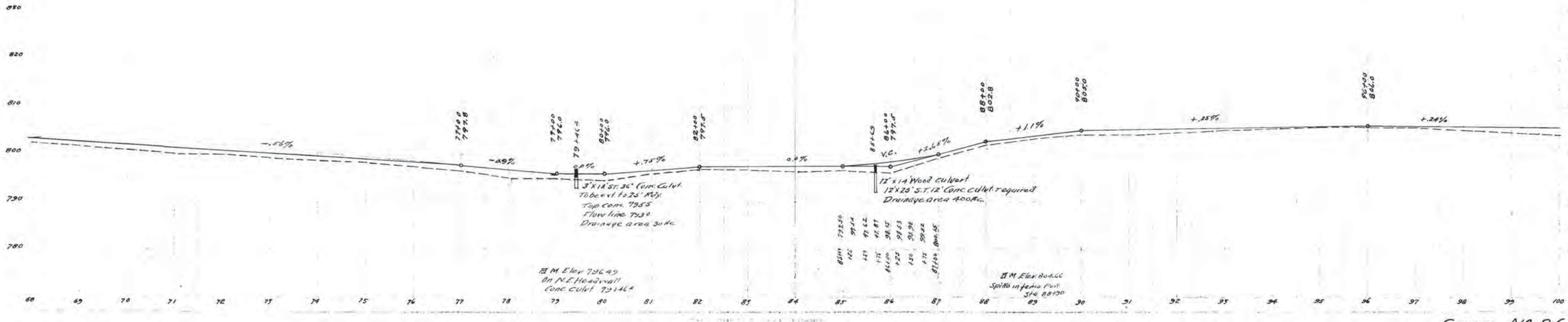
FED ROAD DIST NO	STATE	FED. AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	B	1918	26	46



N

Scale 1in = 100ft.

SCALE.
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line
– – – – – – " present grade line



SHEET No. 26

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	27	46

Sec H Mile 6

Sec. 22 T. 26 N. R. 22 E.

Sec. 21 T. 26 N. R. 22 E.

Sta 100+00

Sta 100+66 Sec H Mile 6
Sta 0+00 Sec H Mile 7

Sec H Mile 7 State Road System Ottawa County.

Sec 27 T. 26 N. R. 22 E.

Sec 28 T. 26 N. R. 22 E.

Sta 0+40 Sec H Mile 7
Sta 100+00 Sec H Mile 6

Width of right of Way 66'
25' Pavement
9' Pavement
8' Shoulders

7+44' 2-6'x18' ST 72° Conc. Culvt
To be ext. to 25' Fdy.
Drainage Area

Sta 10+00

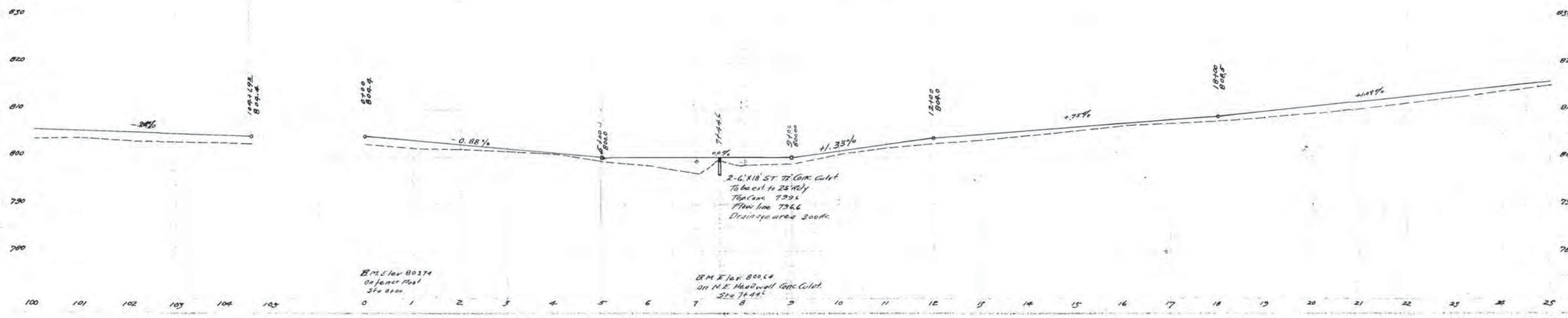
Sta 20+00

Sta 25+00

N

Scale 1" = 100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
———— Represents proposed finished grade line.
– – – – – – " present grade line.



SHEET No. 27

FED ROAD DIST NO	STATE	FED AID PROJ NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	28	46

Sec H. Mile 7 State Road System Ottawa County

Sec 27 T 26N. R 22E

Sec 28 T 26N. R 22E

Sta 25+00 — ℄ Width of Pvmt of Hwy 66'

25' Roadway

9' Pavement

8' Shoulders

Sta 30+00

Sta 35+00

St. Louis & San Francisco Ry

Sta 37+46.4 ℄ of R.R.

Sta 40+00

PC Sta 52+32.9

D: 30°R
Δ: 90°0'
T: 1933.96
R: 1193.19
L: 300.8

PT Sta 53+32.9

52+50
3°25' 37.3"
Dgn. Curv. Hwy
Drainage Area
30 Acres

Sec 33 T 26N. R 22E

Sec H. Mile 8

Sta 57+00

Sec 28 T 26N. R 22E

Sta 53+00

SCALE
Ver 1" = 10'
Hor 1" = 100'
——— Represents proposed finished grade line
– – – – present grade line

830 820 810 800 790 780 770

2+00 B.M. 8+00 3+00 8+00 3+40 8+00 3+50 8+00 4+80 8+00 Top of Rail Elev 1193.19 3+80 8+00 4+00 8+00 4+00 8+00 7+00 7+00 7+50 7+00 8+25 7+00 8+50 7+00 8+74 7+00 9+25 7+00

-1.79% +0.5% -1.78% -0.0% -2.93 V.C. 100' -1.17% -1.67% -0.3% +0.6% -0.9%

3°25' S.T. 36' Conc Curb Hwy. Drainage area 30 A.

B.M. Elev 818.73 On Iron Pin Reference Point 25+00

B.M. Elev 793.08 On Head Wall of Culvert Lt. 140.5 ft at Sta. 54+00

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57

SHEET No 28

FED ROAD DIST. NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	S	1918	28	46

Sec. 61+87.8

To Tail Horse Creek Br.

P.C. 58+73.0
D = 5°4'
Δ = 30°13.4'
T = 104.7
R = 383.94
L = 202.8

P.T. 60+75.8

To St Louis

St Louis and San Francisco Ry → To Alton

Sec. H. Mile 8 State Road System Ottawa County

Sec. 33 T26N. R22E.

Sec. 28 T26N. R22E.

Sta. 57+00

Sta. 60+00

Sta. 70+00

P.C. 72+62.5
D = 13°2'
Δ = 30°13.4'
T = 104.7
R = 383.94
L = 202.8

Width of Right of Way 66'
25' Roadway
8' Pavement
8' Shoulders

N

Scale 1"=100'

SCALE
Ver. 1" = 10'
Hor. 1" = 100'
——— Represents proposed finished grade line
– – – – present grade line

- 0.3%
- 0.5%
- 0.625%
+1.666%
- 0.25%
- 0.63%
+0.25%
+2.53%

62+00 780.0
68+00 780.0
72+00 782.5
75+01 783.0
81+00 780.3
84+00 779.0
88+00 780.0

+2.53%
88
89
Sta. 89+13.8
Elev. 779.65
Top of Rail
Horiz. & Vert. 20' Trusses

810
800
790
780
770
760

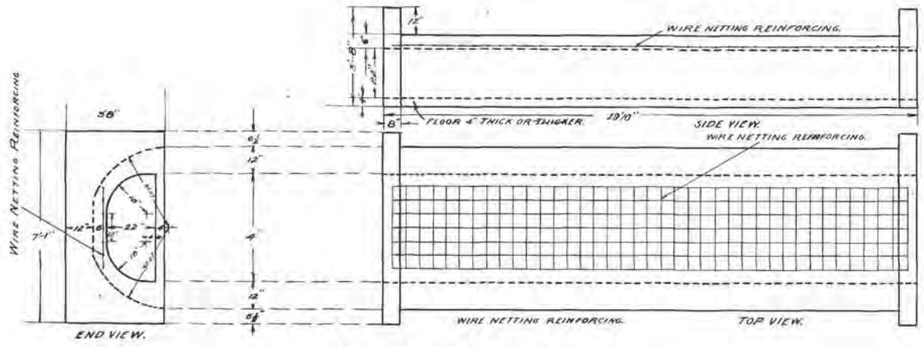
BM Elev. 783.08
On Bell Tel. Pole 24+50

57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89

SHEET No. 29

STANDARD Nº S-T-48.

STANDARD PLAN FOR 48" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM

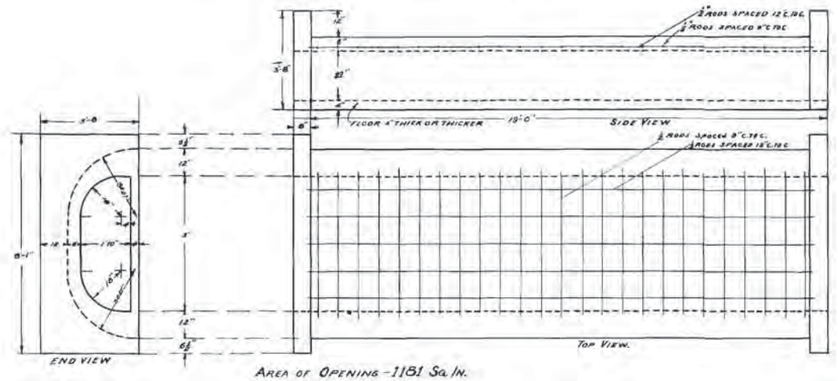


AREA OF OPENING - 917 Sq. IN.
MATERIAL
CONCRETE 1:2:4 MIXTURE.
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH --- 196 CU. YDS.
WIRE NETTING IS SPECIFIED AS REINFORCING.
CONCRETE IN ONE HEAD WALL . . . . . .484 " "

STANDARD Nº S-T-60.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
6	OKLA.	8	1918	30	46

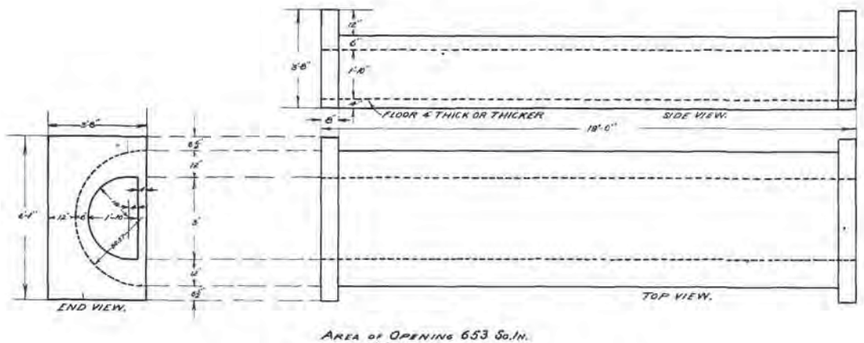
STANDARD PLAN FOR 60" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



AREA OF OPENING - 1181 Sq. IN.
MATERIAL
CONCRETE 1:2:4. MIXTURE
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH .217 CU YDS.
STEEL REINFORCING PER FOOT OF ARCH . . . . 10. POUNDS.
CONCRETE IN ONE HEAD WALL . . . . . .532 CU YDS.

STANDARD Nº S-T-36.

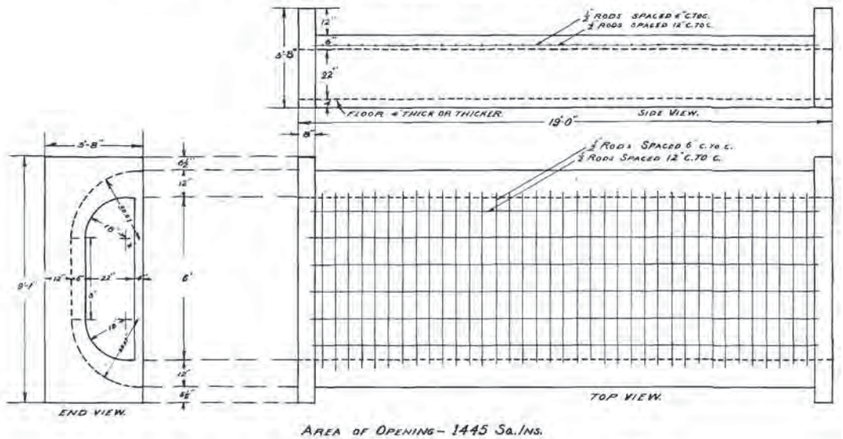
STANDARD PLAN FOR 36" CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



AREA OF OPENING 653 Sq. In.
MATERIAL
CONCRETE 1:2:4 MIXTURE
CONCRETE IN BARREL OF ARCH PER FOOT OF LENGTH .178 Cu. Yds.
NO REINFORCING IS SPECIFIED
CONCRETE IN ONE HEAD WALL . . . . . .452 " "

STANDARD Nº S-T-72.

STANDARD PLAN FOR 72" FLAT TOP REINFORCED CONCRETE ARCH CULVERT
BUILT WITH TOWNER ADJUSTABLE CULVERT FORM



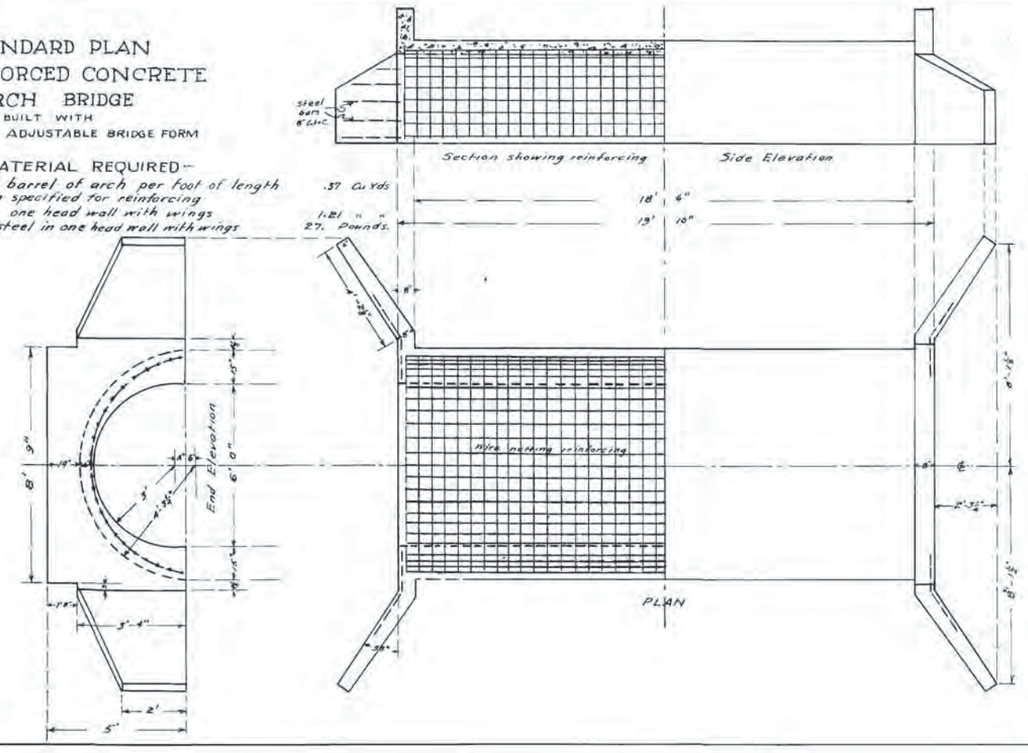
AREA OF OPENING - 1445 Sq. INS.
MATERIAL
CONCRETE 1:2:4 MIXTURE
CONCRETE IN BARREL OF ARCH PER. FOOT OF LENGTH .233 CU YDS.
STEEL REINFORCING PER FOOT OF ARCH . . . . . 13.6 POUNDS
CONCRETE IN ONE HEAD WALL . . . . . .58 CU. YDS.

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	OKLA	8	1918	31	40

STANDARD PLAN
6' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

--MATERIAL REQUIRED--

Concrete in barrel of arch per foot of length	.37 Cu Yds
Wire netting specified for reinforcing	1.21 " "
Concrete in one head wall with wings	27. Pounds.
Reinforcing steel in one head wall with wings	

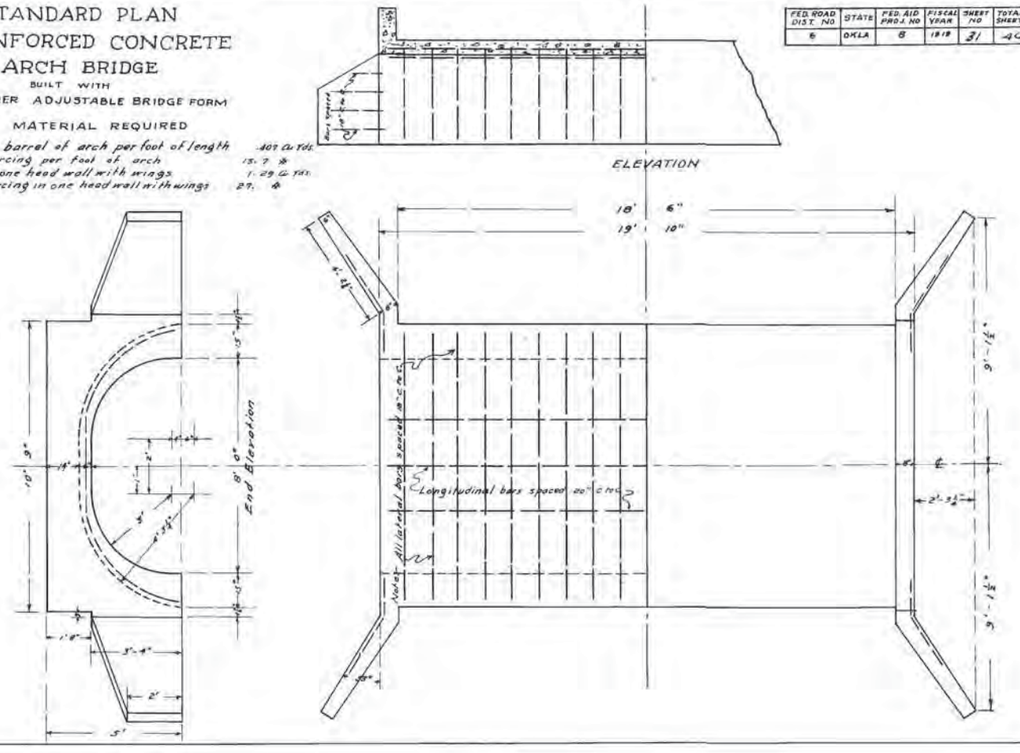


S-T SERIES 6'

STANDARD PLAN
8' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.401 Cu Yds.
Steel reinforcing per foot of arch	13.7 #
Concrete in one head wall with wings	1.29 Cu Yds.
Steel reinforcing in one head wall with wings	29. #

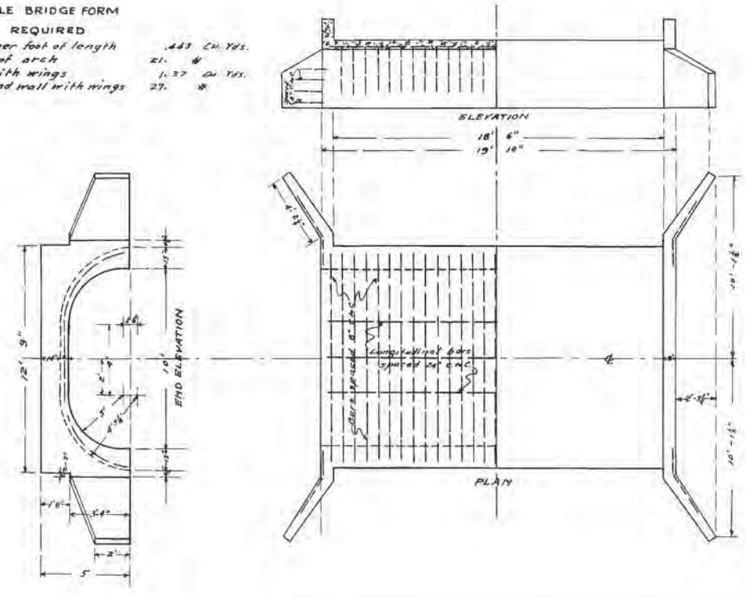


S-T SERIES 8'

STANDARD PLAN
10' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.443 Cu. Yds.
Steel reinforcing per foot of arch	21. #
Concrete in one head wall with wings	1.37 Cu Yds.
Steel reinforcing in one head wall with wings	27. #

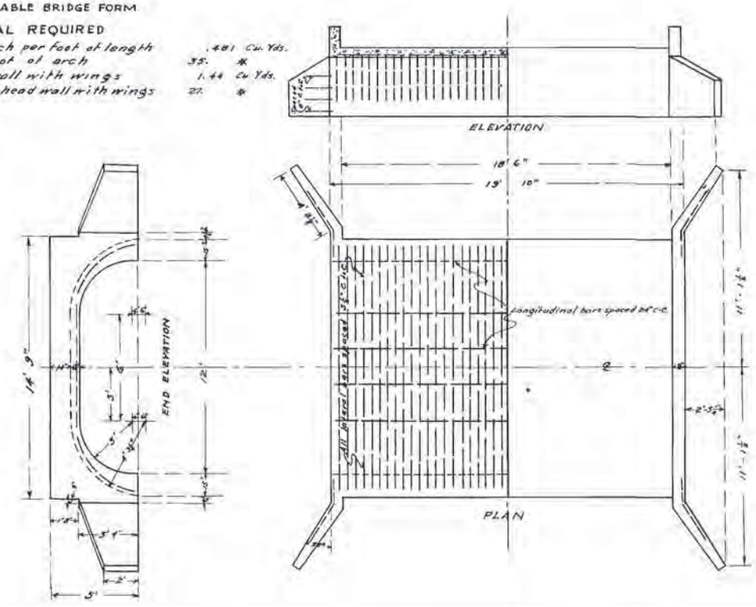


S-T SERIES 10'

STANDARD PLAN
12' REINFORCED CONCRETE ARCH BRIDGE
BUILT WITH
TOWNER ADJUSTABLE BRIDGE FORM

MATERIAL REQUIRED

Concrete in barrel of arch per foot of length	.481 Cu. Yds.
Steel reinforcing per foot of arch	35. #
Concrete in one head wall with wings	1.44 Cu Yds.
Steel reinforcing in one head wall with wings	27. #



S-T SERIES 12'

QEB.

SHEET Nº 31

B 1972

Contour Map at Salt Creek Bridge
Highway No. 8 North Watonga
Blaine County
Scale 1"=100'
Contour Intervals 2'

N.W. 1/4
SEC. 30 T18N R10W

N.E. 1/4
SEC. 25 T18N R11W

Cultivated

Clay

Not Cultivated

Sand

Sandy

Pasture

Alfalfa

Sec. Line

E. Road

S A L T C R E E K

102 100 98 96 94 92 90

B.M. N.E. Cor. Bridge Curb.
Elev. = 100.00 (Assumed Elev.)

Br. Floor Elev. = 99.6

Length Br. 156.8'

F.L. = 88.1

0+00 30'S Center of Bridge on Sec. Line

0+00	1	2	3	3+28	3+54	4+50	5+00	5+50	6	7	8	9	10+00	11	12	13	14	15+00
98.1	98.8	99.6	99.4	98.7	97.0	95.7	94.6	93.9	94.1	94.4	94.3	93.8	94.2	94.6	94.6	96.2	98.9	

110
100
90

APPENDIX 4 – GEOTECHNICAL ENGINEERING REPORT

Geotechnical Engineering Report

Route 66 Ribbon Road Rehabilitation
Ottawa County, Oklahoma
October 23, 2019
Terracon Project No. 04185018

Prepared for:
Guy Engineering Services, Inc.
Tulsa, Oklahoma

Prepared by:
Terracon Consultants, Inc.
Tulsa, Oklahoma

October 23, 2019

Guy Engineering Services, Inc.
6910 E. 14th Street
Tulsa, Oklahoma 74112

Attn: Mr. John Blickensderfer - President
P: (918) 437-0282
E: John-B@guyengr.com

Re: Geotechnical Engineering Report
Route 66 Ribbon Road Rehabilitation
Route 66 Ribbon Road
Ottawa County, Oklahoma
Terracon Project No. 04185018

Dear Mr. Blickensderfer:

We have performed Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Task Order Proposal No. P04185018 dated January 16, 2018. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.
Cert. of Auth. #CA-4531 exp. 6/30/21

Alec N. Strassburg, P.E. (KS)
Project Engineer

REGISTERED PROFESSIONAL ENGINEER
MICHAEL H. HOMAN
15777
OKLAHOMA

Michael H. Homan, P.E.
Senior Principal
Oklahoma No. 15777
10/23/2019

REPORT TOPICS

INTRODUCTION 1
SITE CONDITIONS 1
PROJECT DESCRIPTION 2
GEOTECHNICAL CHARACTERIZATION 2
GEOTECHNICAL OVERVIEW 5
EARTHWORK 6
PAVEMENTS 9
GENERAL COMMENTS 11

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report

Route 66 Ribbon Road Rehabilitation

Route 66 Ribbon Road

Ottawa County, Oklahoma

Terracon Project No. 04185018

October 23, 2019

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed roadway improvements planned along two sections of the historic Route 66 Ribbon Road in Ottawa County, Oklahoma. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface conditions
- Earthwork
- Pavement subgrade preparation
- Pavement section thickness

The geotechnical engineering Scope of Services for this project included the advancement of 18 pavement cores/borings, designated P-1 to P-18, to a depth of approximately 5 feet below existing site grades.

Maps showing the site and core/boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration.

Item	Description
Project Information	The proposed roadway improvements are planned along two sections of the historic Route 66 Ribbon Road alignment located near Afton and Miami in Ottawa County, Oklahoma. One section of the project is located along S. 520 Road extending north about 2 miles from the intersection with Highway 60, then turning east onto E. 200 Road for about 1 mile to the intersection with Highway 69. The other section of the project is located along E. 140 Road extending east about 1 mile from the intersection with Highway 69, then turning north onto S540 Road for about 1 mile, and then turning east onto E 130 Road for about 1.5 mile to the intersection with East Street. (See **Site Location**)

Item	Description
Existing Improvements	The project alignment is currently asphalt overlay over concrete with gravel sections on both sides of the paved section. The paved section is only about 9 feet wide. Based on historical records, the 9-foot wide paved section, which is called the Route 66 "Ribbon Road", was constructed in the early 1920s. Undeveloped land, agricultural land, and single-family residential properties are located along the roadway alignment.
Existing Topography (based on USGS topographic maps)	The ground surface elevations along the section of the project alignment where cores/borings P-1 to P-9 are located range from about 810 to 850 feet. The ground surface elevations along the section of the project alignment where cores/borings P-10 to P-18 are located range from about 790 to 810 feet.

PROJECT DESCRIPTION

Our final understanding of the project conditions is as follows:

Item	Description
Project Description	Based on information provided by Guy Engineering, the purpose of the project is to establish a historic structure record and rehabilitation plan of the roadway. The final configuration of the planned rehabilitation is not known at this time. We anticipate that the roadway will be widened to modern-day standards while maintaining the historical 9-foot wide pavement section. The widened sections could consist of asphalt pavements or a gravel section.
Traffic Data (provided by Guy Engineering)	Traffic data are as follows: ■ Traffic volume: 620 vehicles per day in 2015; 685 vehicles in 2020 and 1,017 vehicles in 2040 (based on a 2 percent growth rate) ■ Percent semi-trucks: 15 percent ■ Traffic growth rate: 2 percent ■ Traffic life: 20 years

GEOTECHNICAL CHARACTERIZATION

Site Geology

Based on information published in the Oklahoma Department of Transportation (ODOT) manuals, "Engineering Classification of Geologic Materials: Division 8", the portion of the project alignment located near Afton, Oklahoma is mapped as underlain by the Boone Unit and the Chester-Meramec Unit. The Boone Unit would be encountered near the locations of cores/borings P-10 to P-12 and consists mainly of limy chert with some limestone and shale. The limy chert weathers to white rock rubble with red clay soils or colluvium, and depth to true bedrock is often hard to

determine. The Chester-Meramec Unit would be encountered near the locations of cores/borings P-13 to P-18 and consists of limestone, chert, shale, sandstone, and siltstone with the lithology of the unit varying locally.

The portion of the project alignment located closer to Miami (near the locations of cores/borings P-1 to P-9) is mapped as underlain by the Hartshorne-Atoka Unit. The Hartshorne-Atoka unit consists mainly of shale with some sandstone and siltstone. The shale is black and fissile, and the sandstone is soft to moderately hard, and generally brownish in color. In Ottawa County, this unit is almost entirely shale.

Typical Profile

The subsurface conditions encountered in the cores/borings are shown on the core/boring logs found in the **Exploration Results** section and are briefly described in the following table. The stratification lines shown on the core/boring logs represent the approximate boundary between material types; in-situ, the transition between materials may be gradual and indistinct. Classification of bedrock materials was made from disturbed samples.

Stratum	Approximate Depth to Bottom of Stratum	Material Description	Consistency/Density
Surface 1	5 to 8 inches (core/borings P-1, P-4, P-6, P-8, P-9, P-11, P-14, P-16, and P-18)	Asphalt over concrete pavement or asphalt pavement	N/A
Surface 2	2.5 to 6 inches (core/borings P-2, P-3, P-5, P-7, P-10, P-12, P-13, P-15, and P-17)	Aggregate base	N/A
1	1.5 feet in core/boring P-8; Undetermined [1] in core/boring P-13	Existing fill consisting of poorly graded sand with clay and fat clay with sand	N/A
2	2.5 feet in core/boring P-7; Undetermined [2] in cores/borings P-1 to P-6, and P-8 to P-18 only	Native silty clay, lean clay, fat clay, and lean to fat clay soils with varying amounts of sand	Very soft to stiff

Stratum	Approximate Depth to Bottom of Stratum	Material Description	Consistency/Density
3	Undetermined [3] in core/boring P-7 only	Native clayey sand with gravel	Loose

1. Core/boring P-13 terminated in stratum 1 at a depth of 5 feet.
2. Cores/borings P-1 to P-6 and P-8 to P-18 terminated in stratum 2 at a depth of 5 feet.
3. Core/boring P-7 terminated in stratum 3 at a depth of 5 feet.

Laboratory tests were conducted on selected soil samples. The test results are presented on the core/boring logs and on test report forms in **Exploration Results**.

Groundwater

The boreholes were observed while drilling and immediately after completion for the presence and level of groundwater. Groundwater was not observed in the cores/borings while drilling or immediately after completion of drilling.

The groundwater level observations made during our exploration provide an indication of the groundwater conditions at the time the cores/borings were drilled. Long-term monitoring with observation wells, sealed from the influence of surface water, would be required to accurately define the potential range of groundwater conditions. Fluctuations in the groundwater level should be expected due to seasonal variations in the amount of rainfall, runoff, and other factors not apparent at the time the cores/borings were drilled. The possibility of groundwater level fluctuations and the presence of perched water should be considered when designing and developing the construction plans for the project.

Existing Pavement Thickness

The thicknesses of the pavement cores performed at the core locations are summarized in the following table. Logs of the pavement cores are included in **Exploration Results** with photographs of the pavement cores.

Core/Boring ID	Asphalt Layer Thickness (inch)	Concrete Layer Thickness (inch)	Gravel Surface Layer Thickness (inch)
P-1	1 ¼	5 ½	--
P-2	--	--	3 ½
P-3	--	--	2 ½
P-4	1 ½	5	--
P-5	--	--	2 ½
P-6	1	4	--
P-7	--	--	3 ½

Core/Boring ID	Asphalt Layer Thickness (inch)	Concrete Layer Thickness (inch)	Gravel Surface Layer Thickness (inch)
P-8	1	5 ¾	--
P-9 [1]	6	--	--
P-10	--	--	6
P-11	1 ½	5	--
P-12	--	--	6
P-13	--	--	2 ½
P-14	¾	5 ¼	--
P-15	--	--	6
P-16	1 ¾	5 ¼	--
P-17	--	--	2 ½
P-18	3	5	--

1. The asphalt pavement encountered at core/boring P-9 was not cored because the core/boring was not located within the "ribbon road" pavement section.

GEOTECHNICAL OVERVIEW

We understand that the project improvements will include widening of the existing roadway while maintaining the historical 9-foot wide "ribbon road" section of pavement. We anticipate that the widened sections will consist of full-depth asphalt pavement or a gravel-surfaced roadway. The existing grades will be modified to meet the planned final grades.

Very soft to soft silty clay and lean clay soils were encountered at cores/borings P-1, P-4, P-6, P-16, and P-18 to depths of 2.5 to 3.5 feet below existing grade. Near surface, low strength silty clay and lean clay soils are moisture sensitive and could become unstable if wetted or if they are disturbed during construction. Therefore, we recommend that the low strength soils be removed full-depth and replaced with engineered fill to develop support for the new pavements. Low strength, moisture sensitive soils could be encountered along the roadway alignment at locations away from the core/boring locations.

Based on the results of our field exploration, subgrade soils consist mainly of moderate to high plasticity clay soils (A-4, A-6, and A-7-6 AASHTO classification). Selected samples of the soils tested in our laboratory had plasticity index values ranging from 5 to 50. Subgrade stabilization procedures as outlined in Oklahoma Department of Transportation's (ODOT) OHD L-50, Soil Stabilization Mix Design Procedure are recommended for soil classifications A-6 and A-7-6 to provide a stable pavement subgrade. Based on these AASHTO soil classifications, the OHD L-50 guidelines recommend hydrated lime be used to stabilize the subgrade.

Existing fill was encountered at cores/borings P-8 and P-13 to depths of about 1.5 to 5 feet and greater below the existing top of pavement elevation. Existing fill could also be encountered along the roadway alignment at locations away from the core/boring locations. Because of the potential for variation in the composition and quality of existing fill and unsuitable materials to be buried in existing fills, there is an inherent risk of unpredictable post-construction settlement of pavements constructed over existing fill. That risk cannot be eliminated unless the existing fill is completely removed and replaced with tested and approved, new engineered fill. However, the risk can be reduced by thorough observation and testing of the existing fill by the Geotechnical Engineer during construction.

We recommend that full-depth asphalt pavement sections incorporate a layer of aggregate base beneath the asphalt pavement to improve long-term pavement support. In addition, subgrade stabilization and proper moisture conditioning and compaction of the subgrade materials will be required during construction to develop the pavement subgrade. The **Pavements** section addresses the design of project pavements.

Recommendations regarding earthwork and site preparation, pavement subgrade preparation, and pavement thicknesses are provided in the following sections. The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Site Preparation

Areas within the limits of construction should be stripped and cleared of existing pavement, surface vegetation, topsoil, trees, and any other deleterious material. Grubbing should include complete removal of tree stumps and major root systems. In addition, any existing site features encountered along the project alignment (such as existing pavements, sidewalks, or other structures), and any loose, soft, or otherwise unsuitable materials should be removed from the proposed construction areas. Any organic soils removed during site preparation should not be used as fill beneath pavements.

Near surface, very soft to soft silty clay and lean clay soils were encountered in five of the cores/borings. These soils are moisture sensitive and could become unstable if wetted or if they are disturbed during construction. Therefore, we recommend that the low strength soils encountered along the project alignment be removed full-depth from the project site.

Roadway sections that do not include curb and gutter should utilize properly constructed drainage ditches parallel to the roadway. Drainage ditches should be sufficiently deep and sloped to remove water in an expedient manner. Standing water in ditches can lead to pavement subgrade failure.

After stripping of organic soils, grubbing, demolition/removal of any existing features, removal of any unsuitable materials, completing necessary grading cuts and overexcavations, but prior to placing any new engineered fill, the subgrade should be proofrolled to aid in locating soft, unstable areas. Proofrolling should be performed with a loaded tandem axle dump truck weighing at least 25 tons. Areas too small to proofroll should be evaluated by the Geotechnical Engineer. Unstable soils identified by proofrolling or subgrade evaluation should be undercut full-depth and replaced with suitable engineered fill, if they cannot be adequately stabilized in-place.

As discussed in **Geotechnical Overview**, we recommend the any exposed subgrade consisting of soils with an AASHTO soil classification of A-6 or A-7-6 be stabilized in accordance with ODOT Specification OHD L-50 and current ODOT Standard Specifications for treated subgrades. Otherwise, the exposed subgrade should be scarified to a minimum depth of 8 inches, moisture conditioned, and compacted prior to placing any fill as recommended in the **Fill Compaction Requirements** section.

Fill Material Types

Soils used as engineered fill should meet the following material property requirements:

Soil Type [1]	USCS Classification	Acceptable Location for Placement
Select Fill Material	Lean clays (CL) or clayey sands (SC) (A-6 to A-2-6 soil types under AASHTO Soil Classification System, AASHTO M145), with a Plasticity Index (PI) of 8 to 22	All locations and elevations
On-site Clay Soils	On-site soils which do not meet the Select Fill criteria above	These soils are not recommended as select fill, unless chemically treated, as recommended herein, or blended.
On-site Silty Clay Soils	CL-ML	Not suitable as fill due to susceptibility to become unstable
ODOT Type A Aggregate Base [2]	GW-GC, GW-GM	All locations and elevations

1. Engineered fill should consist of approved materials that are free of organic matter and debris, and contain a maximum rock size of 3 inches. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. Conforming to section 703.01 of the Oklahoma Department of Transportation (ODOT) Standard Specifications for Highway Construction.

Fill Compaction Requirements

The scarified and compacted subgrade and engineering fill should be moisture conditioned and compacted using recommendations in the following table.

Item	Description
Subgrade Scarification Depth	8 inches
Maximum Fill Lift Thickness [1]	8 inches or less in loose lifts
Compaction Requirements [2]	At least 95% of the material's maximum standard Proctor dry density (AASHTO T-99)
Moisture Content	Select Fill: A level within -2 to +2 percent of the material's optimum moisture content, determined in accordance with AASHTO T-99 (standard Proctor). ODOT Type A Aggregate Base: Sufficient to achieve maximum density without pumping when proofrolled.

1. Thinner lifts are recommended in confined areas or when hand-operated compaction equipment is used.
2. We recommend that engineered fill and scarified, compacted subgrade be tested for moisture content and compaction during placement. If the results of the in-place density tests indicate the specified moisture and compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

Earthwork Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed and replaced with approved and tested engineered fill, or the materials should be scarified, moisture conditioned, and recompacted prior to pavement construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

The Geotechnical Engineer should be retained during the construction phase of the project to provide observation and testing during subgrade preparation and earthwork.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. We recommend pavement subgrades be prepared as discussed in the **Earthwork** section and in the following sections of this report.

To improve subgrade support, we recommend constructing a layer of aggregate base beneath the new asphalt pavements. Exposed subgrades which have AASHTO soil classifications of A-6 or A-7-6 should be stabilized in accordance with ODOT Specification OHD L-50 and current ODOT Standard Specifications for treated subgrades. Based on these AASHTO soil classifications, OHD L-50 guidelines recommend that hydrated lime be used to stabilize the subgrade.

Pavement Design Parameters

Our analysis is based on the 1993 AASHTO Guide for Design of Pavement Structures. Other pavement sections could be considered. The recommended pavement sections are based on a present-day Average Daily Traffic (ADT) volume of 685 vehicles with 15 percent truck traffic, and a 2 percent annual growth rate. These values were provided by Guy Engineering. For analysis purposes, the truck traffic was assumed to consist of full concrete trucks with a gross weight of 68,000 pounds or equivalent traffic loading.

Gravel-Surfaced Roadway Recommendations

Our gravel-surfaced roadway analysis is based on a 10-year traffic life and a subgrade resilient modulus (Mr) value of 3,500 psi for the scarified and recompacted subgrade soils. A structural layer coefficient of 0.14 was used for aggregate base materials. Periodic maintenance should be expected to realize the anticipated traffic life. Additional AASHTO pavement section design parameters used in our analysis include:

- Total ESALs = 0.64×10^6
- Directional Distribution Factor = 60%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.5
- Reliability = 85%
- Standard Deviation = 0.45

- Drainage Coefficient = 1.0 for Aggregate Base
- Design Structural Number = 3.89

The following table provides a recommended section for gravel-surfaced roadways.

Gravel-Surfaced Roadway Recommendations	
Aggregate Base over Compacted, Stabilized Subgrade	24.0” Aggregate Base [1]
	Geotextile Separation Fabric
	8.0” Compacted, Stabilized Subgrade [2]

1. ODOT Standard Specifications.
2. ODOT Specification OHD L-50.

Full-Depth Asphalt Pavement Recommendations

Our asphalt pavement analysis is based on a 20-year traffic life and a subgrade resilient modulus (Mr) value of 3,500 psi for the scarified and recompacted subgrade soils. Structural layer coefficients of 0.44, 0.40 and 0.14 were used for asphaltic concrete surface course, asphaltic concrete base, and aggregate base materials, respectively. Periodic maintenance should be expected to realize the anticipated traffic life. Additional AASHTO pavement section design parameters used in our analysis include:

- Total ESALs = 1.425×10^6
- Directional Distribution Factor = 60%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.5
- Reliability = 85%
- Standard Deviation = 0.45
- Drainage Coefficient = 1.0 for Aggregate Base
- Design Structural Number = 4.35

The following table provide recommended section for AC pavement.

Asphaltic Concrete Minimum Pavement Recommendations	
Asphaltic Concrete over Aggregate Base over Compacted, Stabilized Subgrade	2.0” Type “S4” Asphaltic Concrete [1]
	4.0” Type “S3” Asphaltic Concrete [1]
	10.0” Aggregate Base [1]
	Geotextile Separation Fabric
	8.0” Compacted, Stabilized Subgrade [2]

Continued from page 10

1. ODOT Standard Specifications.
2. ODOT Specification OHD L-50.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration.

Pavement Maintenance

The pavement sections presented above represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Preventative maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Preventative maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program and provides the highest return on investment for pavements. Prior to implementing any maintenance, additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Core/Boring Depth (feet)	Core/Boring Location
18 (P-1 through P-18)	5	Within existing roadways

Boring Layout and Elevations: The core/boring locations were laid out in the field by a Terracon representative using a handheld GPS unit. Project plans were not provided at this time to determine stationing and offset of the cores/borings. The locations of the cores/borings should be considered accurate only to the degree implied by the means and methods used to define them.

Subsurface Exploration Procedures: At core/boring locations where pavement was encountered, we used a core machine with a diamond-bit core barrel to core the pavement. After coring, we advanced the cores/borings with an ATV-mounted rotary drill rig using continuous flight augers. Samples of the soils encountered in the cores/borings were obtained using the split-barrel sampling procedure. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. These values are used to estimate the in situ relative density of cohesionless soils and consistency of cohesive soils. The samples were tagged for identification, sealed to reduce moisture loss, and transported to our laboratory for examination, testing, and classification. In addition, we observed and recorded groundwater levels during drilling and sampling, and immediately after completion of drilling. For safety purposes, all cores/borings were backfilled with sand and auger cuttings and capped with cold-mix asphalt and/or gravel after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field logs. Our exploration team prepared field logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. Final core/boring logs were prepared from the field logs. The final logs represent the Geotechnical Engineer's interpretation of the subsurface conditions encountered at the core/boring locations based on field and laboratory data and observation of the samples.

Laboratory Testing

Samples collected during the field exploration were transported to our laboratory for observation by the project Geotechnical Engineer and were classified in accordance with the Unified Soil Classification System (USCS) and the American Association of State Highway and Transportation Officials (ASSHTO) classification system described in **Supporting Information**. Bedrock materials were classified according to the General Notes for Sedimentary Rock Classifications and described using commonly accepted geotechnical terminology. After the laboratory testing was completed, the field descriptions of the materials encountered at the core/boring locations were confirmed or modified as necessary.

Selected soil samples obtained from the project site were tested for the following engineering properties:

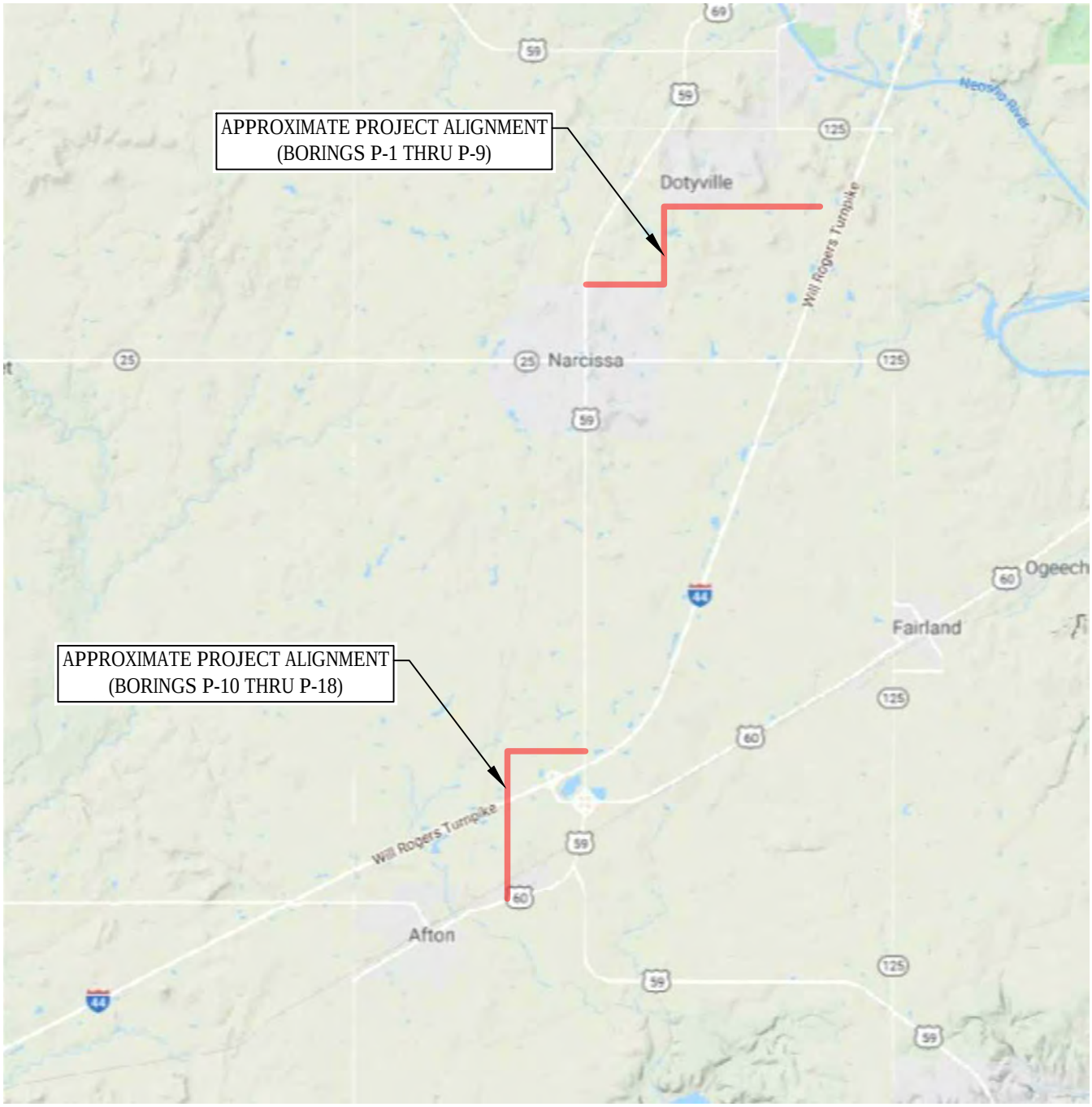
- Water (moisture) content
- Atterberg limits
- Grain-size analysis

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan (7 pages)

Note: All attachments are one page unless noted above.



© 2019 GOOGLE

2 mi 0 1 mi 2 mi

APPROXIMATE SCALE IN MILES

N

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr: ANS	Project No. 04185018
Drawn By: MM	Scale: SEE BAR SCALE
Checked By: ANS	File No. 04185018
Approved By: MHH	Date: OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

SITE LOCATION MAP

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTOWA COUNTY, OKLAHOMA





© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND

BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH
Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA





© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA





© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH
Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN
GEOTECHNICAL EXPLORATION
ROUTE 66 RIBBON ROAD REHABILITATION
SH-66 RIBBON ROAD
OTTAWA COUNTY, OKLAHOMA

EXPLORATION RESULTS

Contents:

Core/Boring Logs (P-1 through P-18)
Grain Size Distribution (5 pages)

Note: All attachments are one page unless noted above.

BORING LOG NO. P-1

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8156° Longitude: -94.9255°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1.25" Asphalt 5.5" Concrete **SILTY CLAY (CL-ML)**, with sand, brown, very soft - A-4 (1)					18	1-0-1 N=1	21	21-16-5	76
3.0									
LEAN CLAY (CL), with silt and sand, brown to light brown with gray and red, stiff					18	1-4-7 N=11	22		
5.0		5							
Boring Terminated at 5 Feet									



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-2

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8156° Longitude: -94.9202°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	3.5" Gravel **LEAN CLAY (CL)**, trace sand, brown to dark brown, medium stiff - A-6 (16)				18	2-2-3 N=5	32	36-16-20	86
	3.0 **FAT CLAY (CH)**, brownish gray, medium stiff				15	2-3-3 N=6	41		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-3

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8155° Longitude: -94.9111°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **LEAN CLAY (CL)**, trace sand, gray and brown, medium stiff								
					18	3-2-3 N=5	25		
	2.5 **FAT CLAY (CH)**, brown and gray, stiff								
	- A-7-6 (36)				18	2-4-5 N=9	22	53-16-37	93
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-4

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8177° Longitude: -94.9091°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1.5" Asphalt 5" Concrete **LEAN CLAY (CL)**, with sand, brownish gray - A-6 (7)					18	1-1-1 N=2	25	28-17-11	81
2.5									
FAT CLAY (CH), brownish gray, medium stiff					18	2-3-4 N=7	24		
5.0		5							
Boring Terminated at 5 Feet									



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-5

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8243° Longitude: -94.9091°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **LEAN CLAY (CL)**, with sand, brownish gray, medium stiff								
	- A-4 (6)				15	3-3-2 N=5	22	26-16-10	78
2.5	**FAT CLAY (CH)**, with sand, brownish gray, stiff								
					12	3-4-5 N=9	22		
5.0	***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-6

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8299° Longitude: -94.9088°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1" Asphalt 4" Concrete **LEAN CLAY (CL)**, with sand, gray and brown, soft - A-4 (4)				18	1-1-1 N=2	22	27-17-10	68
	2.5 **FAT CLAY (CH)**, with sand, brown with gray and reddish brown, stiff				15	2-5-6 N=11	20		
	5.0 ***Boring Terminated at 5 Feet***	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-7

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.9057°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	3.5" Gravel **LEAN CLAY (CL)**, trace sand, dark gray to dark brown, medium stiff								
	2.5				15	3-2-2 N=4	21		
	CLAYEY SAND (SC), with gravel, brownish gray; trace reddish brown, loose								
	- A-6 (4)				18	1-2-2 N=4	26	30-13-17	46
	5.0	5							
	Boring Terminated at 5 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-8

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.8958°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1" Asphalt 5.75" Concrete **FILL - POORLY GRADED SAND**, with clay, brown to reddish brown								
	1.5								
	LEAN CLAY (CL), with sand, brownish gray, stiff - A-4 (4)				15	7-8-4 N=12	18	24-16-8	74
	3.5								
	LEAN TO FAT CLAY (CL/CH), trace sand, brownish gray, medium stiff				15	1-2-3 N=5	34		
	5.0								
	Boring Terminated at 5 Feet	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-9

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.8886°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Asphalt **LEAN CLAY (CL)**, gray, stiff								
	- A-4 (6)				18	7-4-5 N=9	32	27-19-8	91
	3.0 **FAT CLAY (CH)**, brown with gray, stiff				18	2-4-5 N=9	26		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-10

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7023° Longitude: -94.9454°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, brown and gray, stiff								
					15	6-5-4 N=9	26		
	3.5								
	LEAN CLAY (CL), trace sand, brown to light brown with very dark gray, medium stiff - A-7-6 (27)				18	2-2-4 N=6	20	46-15-31	86
	5.0	5							
	Boring Terminated at 5 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-11

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7087° Longitude: -94.9454°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1.5" Asphalt 5" Concrete **LEAN CLAY (CL)**, with sand, brownish gray, stiff - A-6 (14)				X	18	5-3-5 N=8	19	35-16-19	82
3.0									
LEAN CLAY (CL), brown with light gray, stiff				X	18	4-5-6 N=11	21		
5.0		5							
Boring Terminated at 5 Feet									



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-12

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7126° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, gray with brown, stiff								
	2.5				18	4-6-7 N=13	16		
	FAT CLAY (CH), trace sand, gray with brown, medium stiff								
	- A-7-6 (51)				18	1-3-3 N=6	27	64-15-49	96
	5.0								
	Boring Terminated at 5 Feet	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-13

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7183° Longitude: -94.9451°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **FILL - FAT CLAY**, with sand; trace gravel, brownish gray								
	- A-7-6 (25)				15	2-4-5 N=9	19	51-16-35	75
	- trace gravel in sample at 3.5 feet				15	4-6-5 N=11	18		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-14

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7234° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	0.75" Asphalt 5.25" Concrete **LEAN CLAY (CL)**, gray with brown, stiff - A-7-6 (32)								
	2.5				18	2-3-5 N=8	17	47-15-32	95
	FAT CLAY (CH), light gray with brown, medium stiff								
	5.0				18	1-2-2 N=4	23		
	Boring Terminated at 5 Feet	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-15

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7282° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, trace sand, gray with brown, medium stiff - A-4 (7)				15	3-3-2 N=5	22	27-17-10	89
	2.5 **FAT CLAY (CH)**, brownish gray, medium stiff				15	1-2-2 N=4	25		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-16

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7286° Longitude: -94.9423°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1.75" Asphalt 5.25" Concrete **SILTY CLAY (CL-ML)**, gray with brown, soft								
					15	1-1-1 N=2	24		
	3.5								
	FAT CLAY (CH), brownish gray, medium stiff - A-7-6 (51)				18	1-3-3 N=6	28	69-19-50	93
	5.0	5							
	Boring Terminated at 5 Feet								



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-17

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7286° Longitude: -94.9349°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **SILTY CLAY (CL-ML)**, trace sand, gray, stiff - A-4 (4)				15	9-8-5 N=13	18	24-17-7	91
	3.0 **FAT CLAY (CH)**, brownish gray, stiff				1	2-3-5 N=8	22		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-18

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7285° Longitude: -94.9301°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
3" Asphalt 5" Concrete **SILTY CLAY (CL-ML)**, gray with brown, soft - A-4 (5)					18	3-1-1 N=2	24	25-18-7	90
3.0									
FAT CLAY (CH), trace sand, brownish gray, stiff					15	2-3-5 N=8	36		
5.0		5							
Boring Terminated at 5 Feet									



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

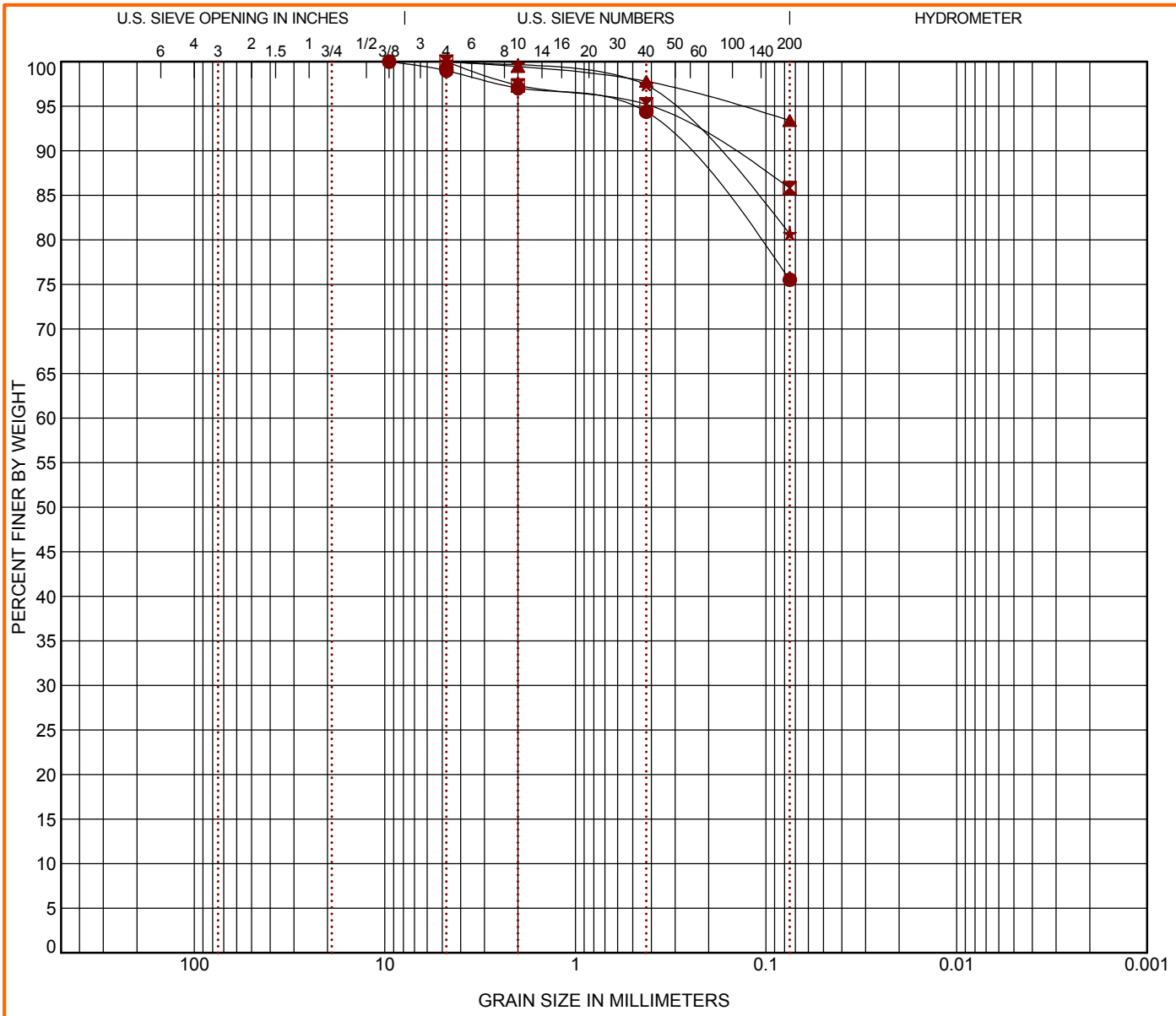
Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-1	1 - 2.5	SILTY CLAY with SAND (CL-ML)	A-4 (1)	21	21	16	5		
⊠	P-2	1 - 2.5	LEAN CLAY (CL)	A-6 (16)	32	36	16	20		
▲	P-3	3.5 - 5	FAT CLAY (CH)	A-7-6 (36)	22	53	16	37		
★	P-4	1 - 2.5	LEAN CLAY with SAND (CL)	A-6 (7)	25	28	17	11		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-1	1 - 2.5	9.5				1.0	23.5		75.5	
⊠	P-2	1 - 2.5	4.75				0.0	14.2		85.8	
▲	P-3	3.5 - 5	4.75				0.0	6.6		93.4	
★	P-4	1 - 2.5	4.75				0.0	19.3		80.7	

PROJECT: Route 66 Ribbon Road Rehabilitation

PROJECT NUMBER: 04185018

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

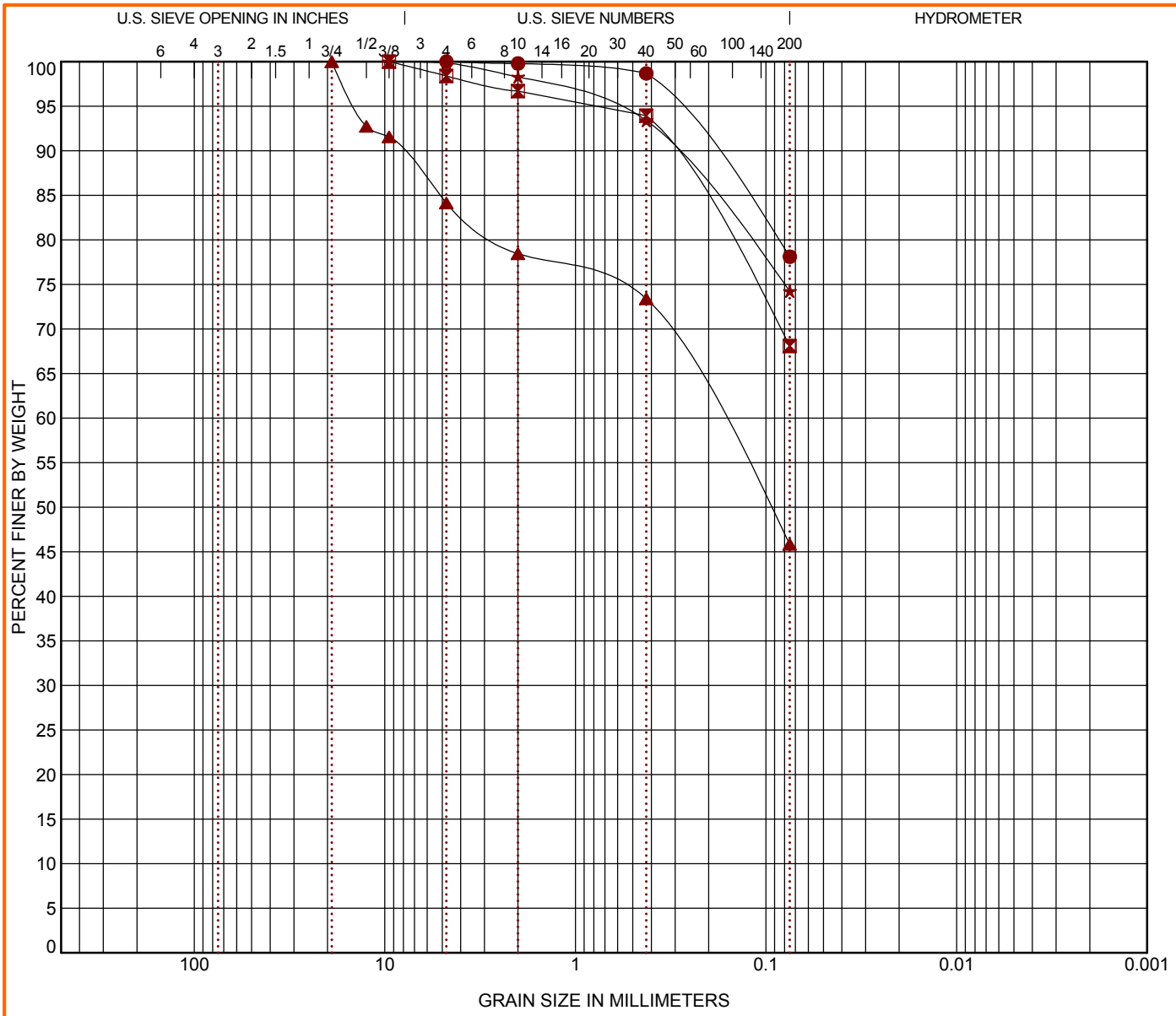
Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-5	1 - 2.5	LEAN CLAY with SAND (CL)	A-4 (6)	22	26	16	10		
⊠	P-6	1 - 2.5	SANDY LEAN CLAY (CL)	A-4 (4)	22	27	17	10		
▲	P-7	3.5 - 5	CLAYEY SAND with GRAVEL (SC)	A-6 (4)	26	30	13	17		
★	P-8	1 - 2.5	LEAN CLAY with SAND (CL)	A-4 (4)	18	24	16	8		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-5	1 - 2.5	4.75				0.0	21.9		78.1	
⊠	P-6	1 - 2.5	9.5				1.6	30.3		68.1	
▲	P-7	3.5 - 5	19	0.183			15.9	38.3		45.8	
★	P-8	1 - 2.5	9.5				0.1	25.6		74.2	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

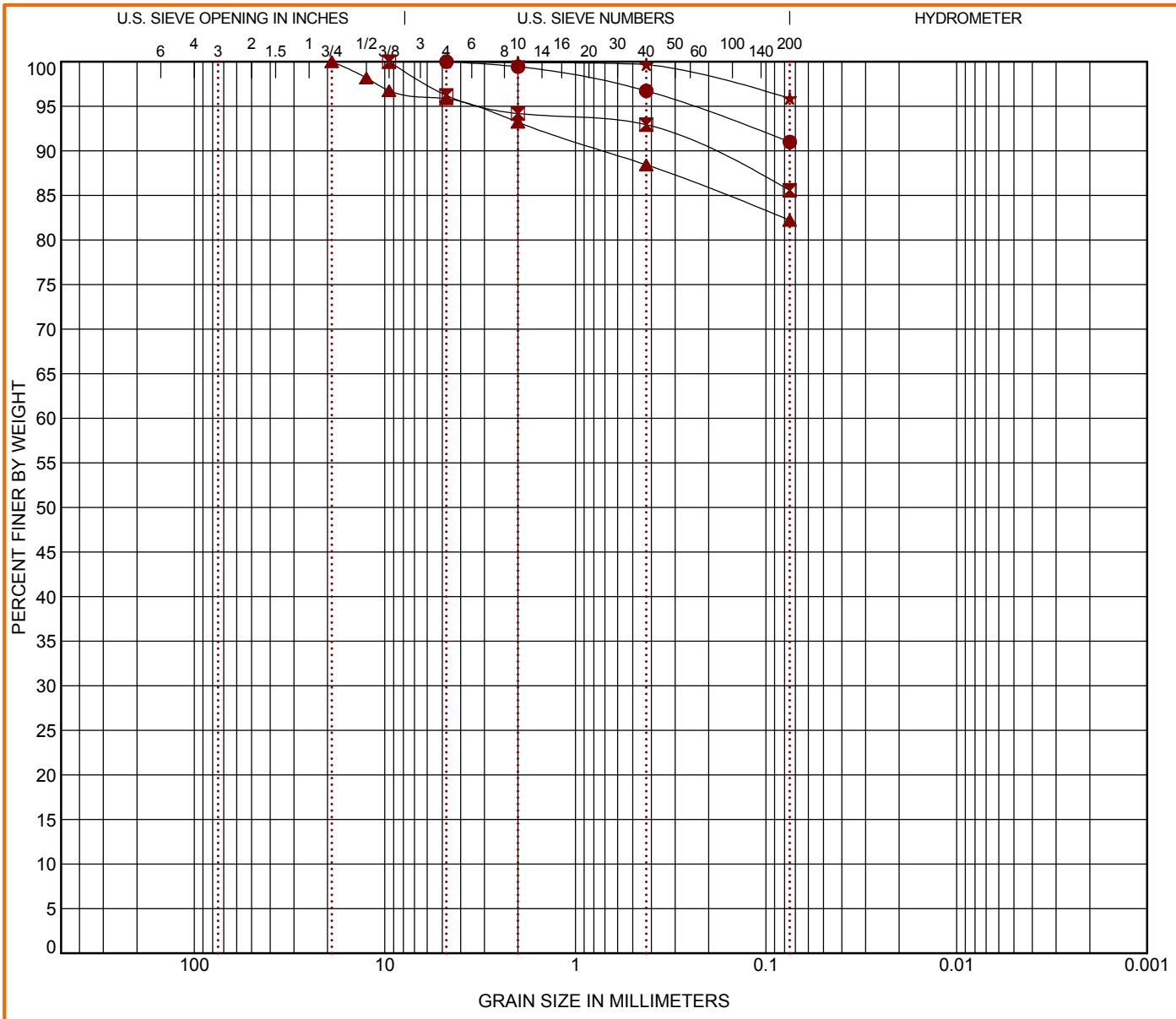
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-9	1 - 2.5	LEAN CLAY (CL)	A-4 (6)	32	27	19	8		
⊠	P-10	3.5 - 5	LEAN CLAY (CL)	A-7-6 (27)	20	46	15	31		
▲	P-11	1 - 2.5	LEAN CLAY with SAND (CL)	A-6 (14)	19	35	16	19		
★	P-12	3.5 - 5	FAT CLAY (CH)	A-7-6 (51)	27	64	15	49		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-9	1 - 2.5	4.75				0.0	9.0		91.0	
⊠	P-10	3.5 - 5	9.5				3.8	10.6		85.6	
▲	P-11	1 - 2.5	19				4.2	13.6		82.2	
★	P-12	3.5 - 5	4.75				0.0	4.1		95.9	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

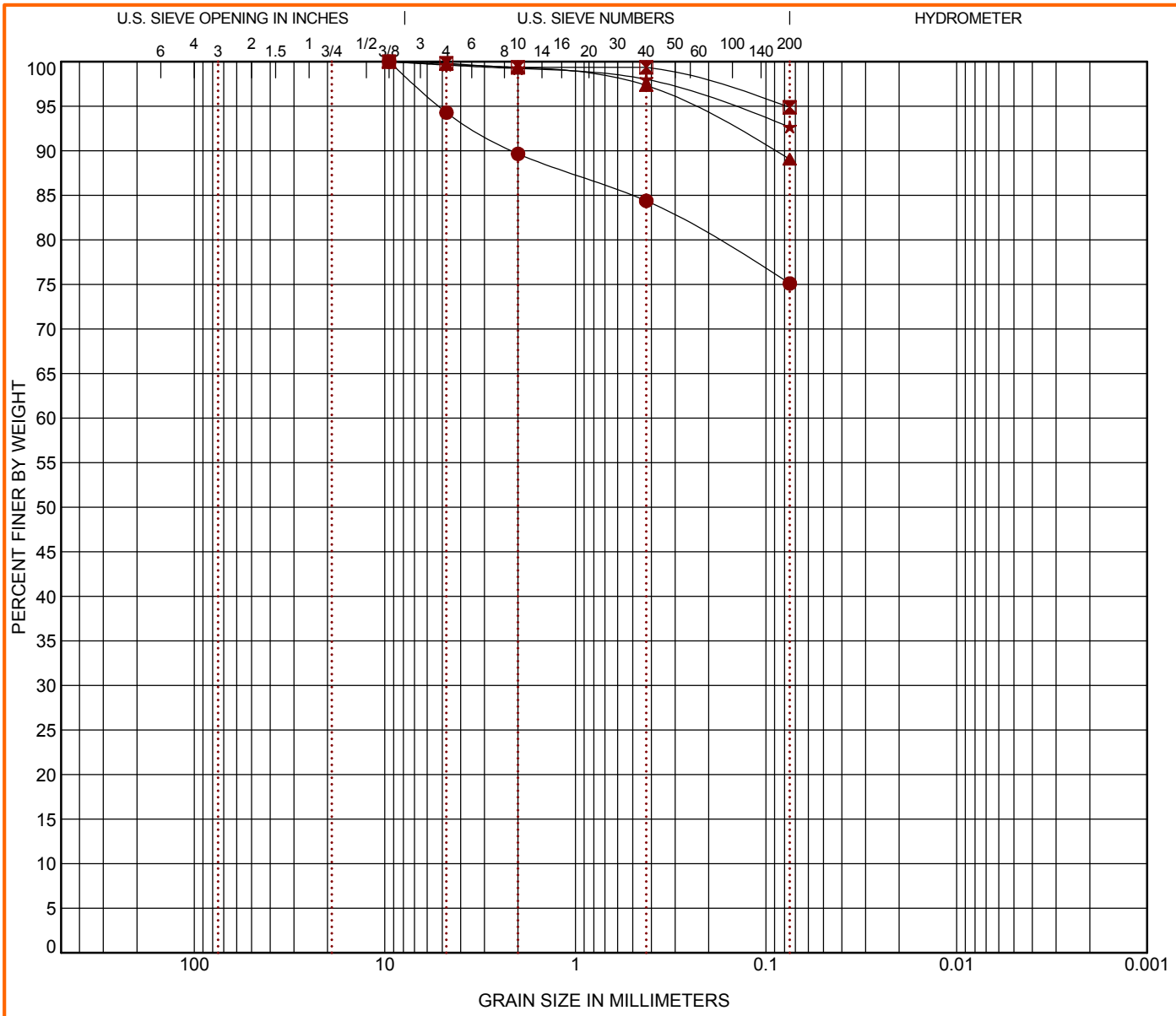
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-13	1 - 2.5	FAT CLAY with SAND (CH)	A-7-6 (25)	19	51	16	35		
⊠	P-14	1 - 2.5	LEAN CLAY (CL)	A-7-6 (32)	17	47	15	32		
▲	P-15	1 - 2.5	LEAN CLAY (CL)	A-4 (7)	22	27	17	10		
★	P-16	3.5 - 5	FAT CLAY (CH)	A-7-6 (51)	28	69	19	50		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-13	1 - 2.5	9.5				5.7	19.2		75.1	
⊠	P-14	1 - 2.5	9.5				0.2	4.9		94.9	
▲	P-15	1 - 2.5	9.5				0.3	10.6		89.1	
★	P-16	3.5 - 5	9.5				0.4	6.9		92.7	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

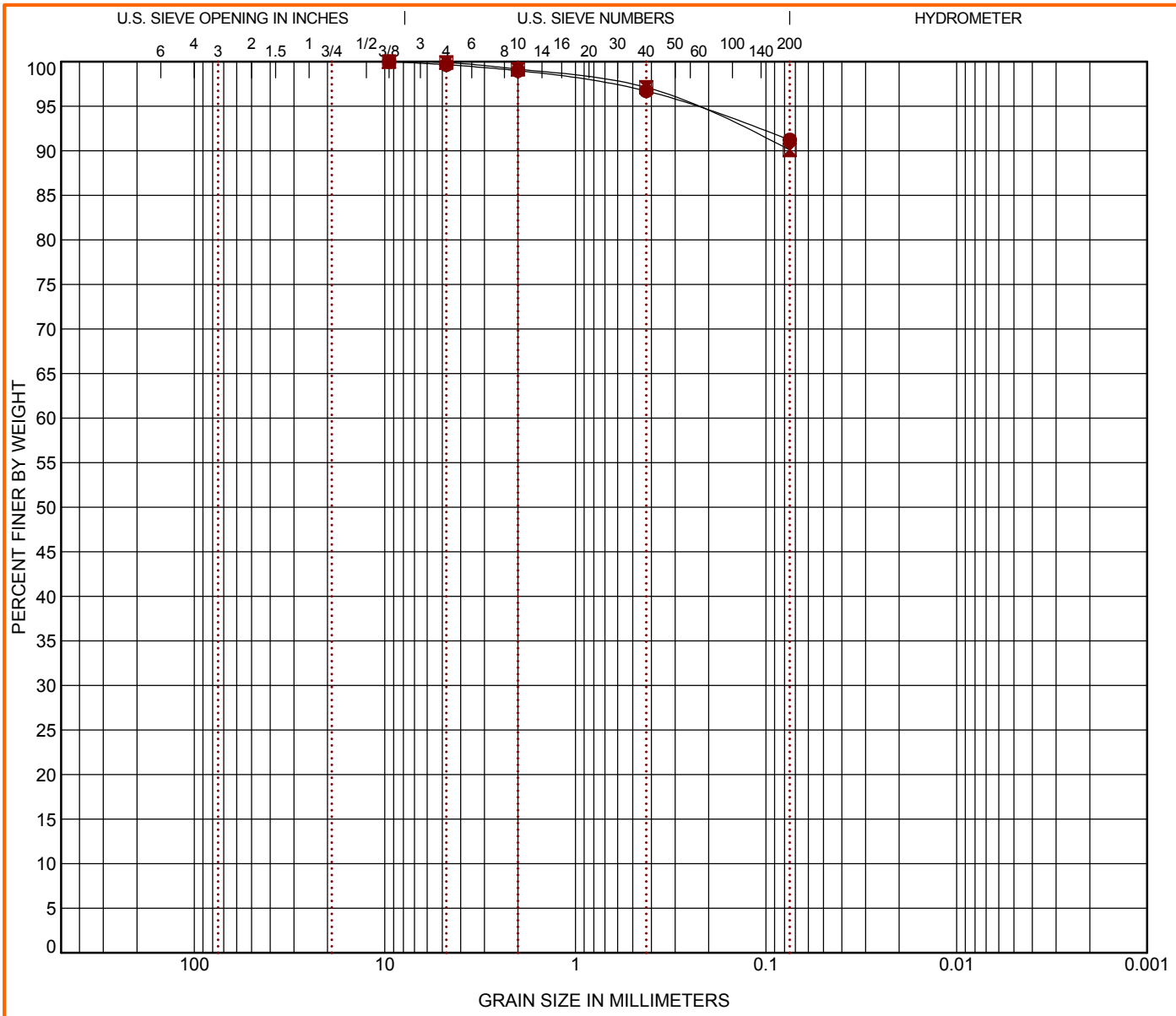
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
P-17	1 - 2.5	SILTY CLAY (CL-ML)	A-4 (4)	18	24	17	7		
P-18	1 - 2.5	SILTY CLAY (CL-ML)	A-4 (5)	24	25	18	7		

Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
P-17	1 - 2.5	9.5				0.3	8.4		91.2	
P-18	1 - 2.5	9.5				0.1	9.8		90.1	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

SUPPORTING INFORMATION

Contents:

General Notes
Unified Soil Classification System
AAHSTO Classification System

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Route 66 Ribbon Road Rehabilitation ■ Ottawa County, Oklahoma

Terracon Project No. 04185018

Terracon GeoReport

SAMPLING	WATER LEVEL	FIELD TESTS
Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (psi)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 3.50	0 - 1
Loose	4 - 9	Soft	3.5 to 7.0	2 - 4
Medium Dense	10 - 29	Medium Stiff	7.0 to 14.0	4 - 8
Dense	30 - 50	Stiff	14.0 to 28.0	8 - 15
Very Dense	> 50	Very Stiff	28.0 to 55.5	15 - 30
		Hard	> 55.5	> 30

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES	
Descriptive Term(s) of other constituents	Percent of Dry Weight	**Descriptive Term(s) of other constituents**	**Percent of Dry Weight**
Trace	<15	Trace	<5
With	15-29	With	5-12
Modifier	>30	Modifier	>12

GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Major Component of Sample	**Particle Size**	**Term**	**Plasticity Index**
Boulders	Over 12 in. (300 mm)	Non-plastic	0
Cobbles	12 in. to 3 in. (300mm to 75mm)	Low	1 - 10
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)	Medium	11 - 30
Sand	#4 to #200 sieve (4.75mm to 0.075mm	High	> 30
Silt or Clay	Passing #200 sieve (0.075mm)		

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

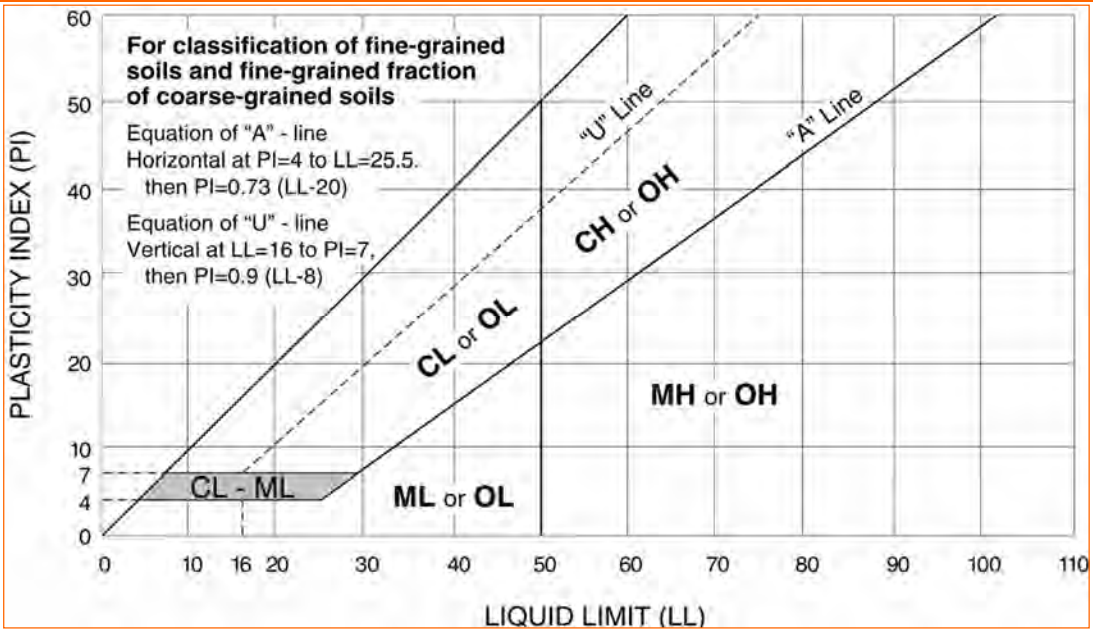
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



AASHTO SOIL CLASSIFICATION SYSTEM

GENERAL CLASSIFICATION	GRANULAR MATERIALS (35% OR LESS PASSING 0.075 SIEVE)							SILT-CLAY MATERIALS (MORE THAN 35% PASSING 0.075 SIEVE)			
GROUP CLASSIFICATION	A–1		A–3	A–2				A–4	A–5	A–6	A–7–5 A–7–6
	A–1–a	A–1–b		A-2-4	A-2-5	A-2-6	A-2-7				
SIEVE ANALYSIS, PERCENT PASSING: 2.00 mm (No. 10) 0.425 mm (No. 40) 0.075 mm (No. 200)	≤ 50 ≤ 30 ≤ 15	– ≤ 50 ≤ 25	– ≥ 51 ≤ 10	– – ≤35	– – ≤ 35	– – ≤35	– – ≤ 35	– – ≥36	– – ≥ 36	– – ≥36	– – ≥ 36
CHARACTERISTICS OF FRACTION PASSING 0.425 SIEVE (No. 40): LIQUID LIMIT PLASTICITY INDEX *	– 6 max		– NP	≤ 40 ≤ 10	≥ 41 ≤ 10	≤ 40 ≥ 11	≥ 41 ≥ 11	≤ 40 ≤ 10	≥ 41 ≤ 10	≤ 40 ≥ 11	≥ 41 ≥ 11
USUAL TYPES OF CONSTITUENT MATERIALS	STONE FRAGM'TS, GRAVEL, SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS	
GENERAL RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR			

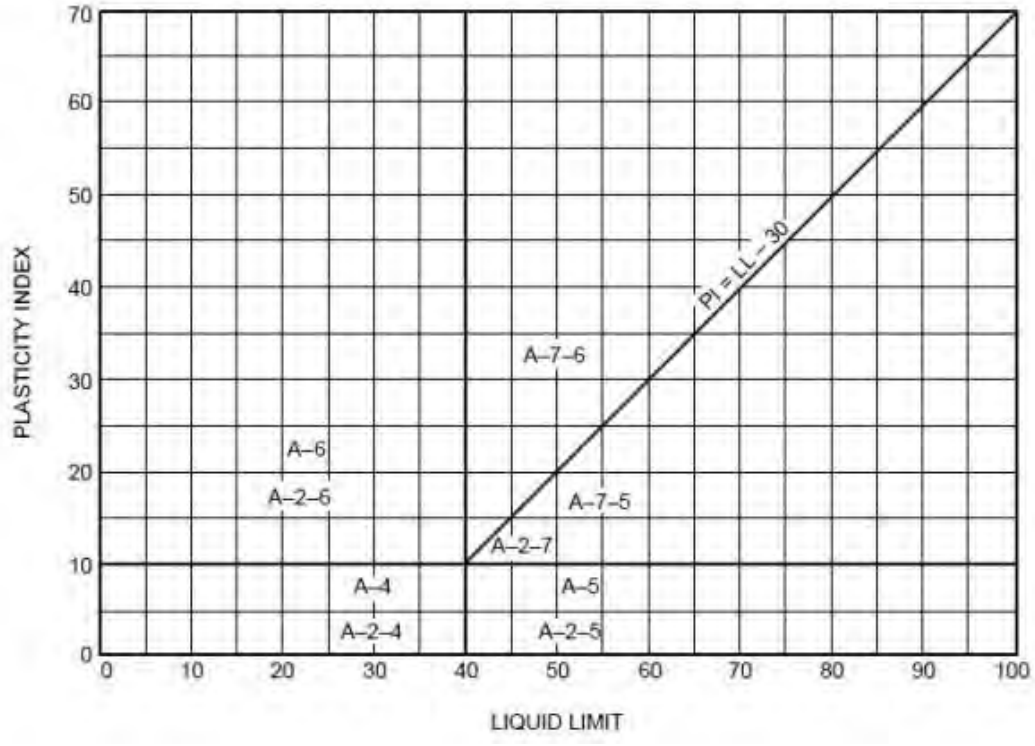
*Plasticity index of A-7-5 subgroup is equal to or less than LL-30. Plasticity index of A-7-6 subgroup is greater than LL-30.
NP = Non-plastic (use "0"). Symbol "–" means that the particular sieve analysis is not considered for that classification.

If the soil classification is A4-A7, then calculate the group index (GI) as shown below and report with classification. The higher the GI, the less suitable the soil. Example: A-6 with GI = 15 is less suitable than A-6 with GI = 10.

$$GI = (F - 35)[0.2 + 0.005(LL - 40)] + 0.01(F - 15)(PI - 10)$$

where: F = Percent passing No. 200 sieve, expressed as a whole number. This percentage is based only on the material passing the No. 200 sieve.
LL = Liquid limit
PI = Plasticity index

If the computed value of GI < 0, then use GI = 0.



Terracon

APPENDIX 5 – TOPOGRAPHICAL SURVEY

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00

STA. 511+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

SH 59

E 140 Rd

Section Line

Section Line

WUG Marker

TUG Marker (AT&T)

Tel. Handhole

Guy Wire

Gas Vent Pipe

Gas Vent Pipe

2-Wire OHE

Pres. R/W

Asphalt

Gravel

Dirt

18" RCP

PP

W

AEP/PSO JOE SANDERS	(918) 530 1776
AFTON PUBLIC WORKS BILL HARRISON	(918) 257-5506
AT&T BRAD WILLIAMS	(918) 540-1579
BOLT FIBER SHANE BURGESS	(918) 256-9334
CABLE ONE KERI BLEDSOE RANDY KENNEDY	(806) 690-3283 (806) 690-3283
CENTERYLINK MARK LANE	(918) 240-7376
CITY OF GROVE PUBLIC WORKS JACK BOWER	(918) 786-6107
CITY OF MIAMI PUBLIC WORKS TYLER CLINE	(918) 541-2350
CRAIG COUNTY RWD #3 BILL JONES	(918) 961-0168
EMPIRE ELECTRIC COMPANY CAROL RAMSOUR	(417) 625-6149
KANSAS GAS SERVICES KEATON CHRISTNER	(316) 831-5622
MARATHON PETROLEUM COMPANY CHRIS MARTIN	(419) 672-6365
NORTHEAST OKLAHOMA ELECTRIC COOPERATIVE BRYAN QUICK	(918) 256-9449
OTTAWA COUNTY RWD #2, 4, 6, 7 DUANE BRYANT	(918) 676-3662
VYVE BROADBAND MARK GEISLER	(405) 695-5029

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

855 850 845 840 835 830 825 820 815

830.16 830.52 830.82 831.10 831.03 831.10 831.10 831.10 831.00 830.85 830.45 830.00 829.54 829.06 828.55 828.06 827.63 827.21 826.65 826.26 825.99 825.70 825.16

497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00 510+00 511+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg
Tuesday, February 18, 2020 5:39:46 PM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

STA. 511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00 | 521+00 | 522+00 | 523+00 | 524+00 | STA. 526+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Ella Lou Reynolds
Affidavit of Surviving Joint Tenant
Book: 679, Page: 769

Edward E. Reynolds and Ella Lou Reynolds
JTWD
Book: 483, Page: 202

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005
Warranty Deed
Book: 813, Page: 752

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005
Warranty Deed
Book: 908, Page: 192

Property Line | Pres. R/W | Section Line | Asphalt | Gravel | E 140 RD | 33' | 66' | 2-Wire OHE | PP | TUG Marker (AT&T) | W | DW | HE | HCP | RCP | CMP | RCB | Grass

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

835 | 830 | 825 | 820 | 815 | 810 | 805 | 800 | 795

825.16 | 824.50 | 823.51 | 822.82 | 821.55 | 820.34 | 819.08 | 817.87 | 816.78 | 815.67 | 814.67 | 813.39 | 812.42 | 811.42 | 810.50 | 809.74 | 808.96 | 808.61 | 809.20 | 809.00 | 809.02 | 808.90 | 808.62 | 808.80 | 809.10 | 809.42 | 809.81 | 810.24 | 810.70 | 811.08 | 811.52

511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00 | 521+00 | 522+00 | 523+00 | 524+00 | 525+00 | 526+00

EXISTING GRADE

X7 - STA. 519+52
EXIST. 42" CMP
FL LT. = 803.03
FL RT. = 804.05

X8 - STA. 522+11
EXIST. 6'X2' RCB
FL LT. = 803.56
FL RT. = 801.93

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg
Tuesday, February 18, 2020 10:04:55 AM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

526+00 | 527+00 | 528+00 | 529+00 | 530+00 | 531+00 | 532+00 | 533+00 | 534+00 | 535+00 | 536+00 | 537+00 | 538+00 | 539+00

STA. 526+00

STA. 541+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

1/4 Section Line

Pres. R/W

Gravel

Asphalt

E 140 RD

33'

Section Line

FOC

2-Wire OHE

W

PP

TUG Marker (AT&T)

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

840 835 830 825 820 815 810 805 800

811.52 | 811.90 | 812.38 | 812.82 | 813.20 | 813.60 | 814.00 | 814.29 | 814.57 | 814.88 | 815.11 | 815.50 | 815.85 | 816.24 | 816.67 | 816.91 | 817.38 | 817.91 | 818.37 | 818.79 | 819.22 | 819.71 | 820.23 | 820.80 | 821.61 | 822.60 | 823.61 | 824.76 | 825.95 | 827.04 | 827.87

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 03

Tuesday, February 18, 2020 10:05:27 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

STA. 541+00 | 542+00 | 543+00 | 544+00 | 545+00 | 546+00 | 547+00 | 548+00 | 549+00 | 550+00 | 551+00 | 552+00 | STA. 552+40

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

Pres. R/W | Section Line | E 140 Rd | Asphalt | Gravel | 33' | FOC | W | 2-Wire OHE | PP | WM | WV | Top Nut Elev.=826.68 | TUG Marker (AT&T) | Guy Wire | TPED | Gravel | 10' RDR | 16' RDR

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

850 | 845 | 840 | 835 | 830 | 825 | 820 | 815 | 810

EXISTING GRADE

X9 - STA. 551+22
EXIST. 3'X2' ARCHED RCP
FL LT. = 824.45
FL RT. = 824.46

827.87 | 828.54 | 828.81 | 829.00 | 828.90 | 828.98 | 828.85 | 828.70 | 828.41 | 828.31 | 828.16 | 828.00 | 828.00 | 827.98 | 828.00 | 827.99 | 827.95 | 828.06 | 828.15 | 828.13 | 828.11 | 827.98 | 827.94 | 828.02

541+00 | 542+00 | 543+00 | 544+00 | 545+00 | 546+00 | 547+00 | 548+00 | 549+00 | 550+00 | 551+00 | 552+00 552+40

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00

554+00

STA. 552+40

STA. 564+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

TUG Marker
TPED
TUG
Pres. R/W
Section Line
Gravel
Asphalt
S 540 Rd
Metal Pole
Tel. Handhole
PP
TUG Marker (AT&T)
W
Pres. R/W

553+00

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

2-Wire O/H

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005
Warranty Deed
Book: 813, Page: 752

Property Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

855 850 845 840 835 830 825 820 815

EXISTING GRADE

828.02 828.10 828.26 828.52 828.96 829.57 830.00 830.50 830.81 831.23 831.93 832.42 832.81 833.52 834.50 835.12 835.62 836.21 836.80 837.42 838.13 838.80 839.06 838.91 838.80

552+40 553+00 554+00 555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 05

Tuesday, February 18, 2020 10:07:13 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

564+00 | 565+00 | 566+00 | 567+00 | 568+00 | 569+00 | 570+00 | 571+00 | 572+00 | 573+00 | 574+00 | 575+00 | 576+00 | 577+00

STA. 564+00

STA. 579+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Pres.R/W | TUG | Section Line | S 540 RD | Gravel | 33' | 1/4 Section Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

865 | 860 | 855 | 850 | 845 | 840 | 835 | 830 | 825

X10 - STA. 566+30
EXIST. 36" ARCHED RCP
FL LT. = 834.56
FL RT. = 834.16

EXISTING GRADE

838.80 | 838.59 | 838.40 | 838.20 | 837.92 | 838.00 | 838.20 | 838.44 | 838.77 | 839.20 | 839.71 | 840.13 | 840.70 | 841.17 | 841.50 | 841.82 | 842.00 | 841.81 | 841.47 | 840.80 | 839.53 | 837.83 | 836.41 | 835.16 | 834.12 | 833.33 | 832.72 | 832.20 | 831.78 | 831.50 | 831.30

564+00 | 565+00 | 566+00 | 567+00 | 568+00 | 569+00 | 570+00 | 571+00 | 572+00 | 573+00 | 574+00 | 575+00 | 576+00 | 577+00 | 578+00 | 579+00

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg
Tuesday, February 18, 2020 10:08:04 AM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00

STA. 579+00

STA. 594+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Pres. R/W

TUG

Gravel

33'

S 540 RD

Section Line

Backway Alley

Rubber Water Tank

WV
Top Nut Elev.=819.36

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

850 845 840 835 830 825 820 815 810

EXISTING GRADE

X11 - STA. 584+78
EXIST. 12'X4' ARCHED RCB
FL LT. = 817.22
FL RT. = 816.52

831.30 831.12 830.86 830.51 830.07 829.05 827.99 826.50 824.80 823.47 822.59 822.10 822.13 822.59 823.29 824.37 825.83 827.42 829.14 831.04 832.66 834.16 835.43 836.39 837.10 837.91 838.39 839.00 839.74 840.50 841.18

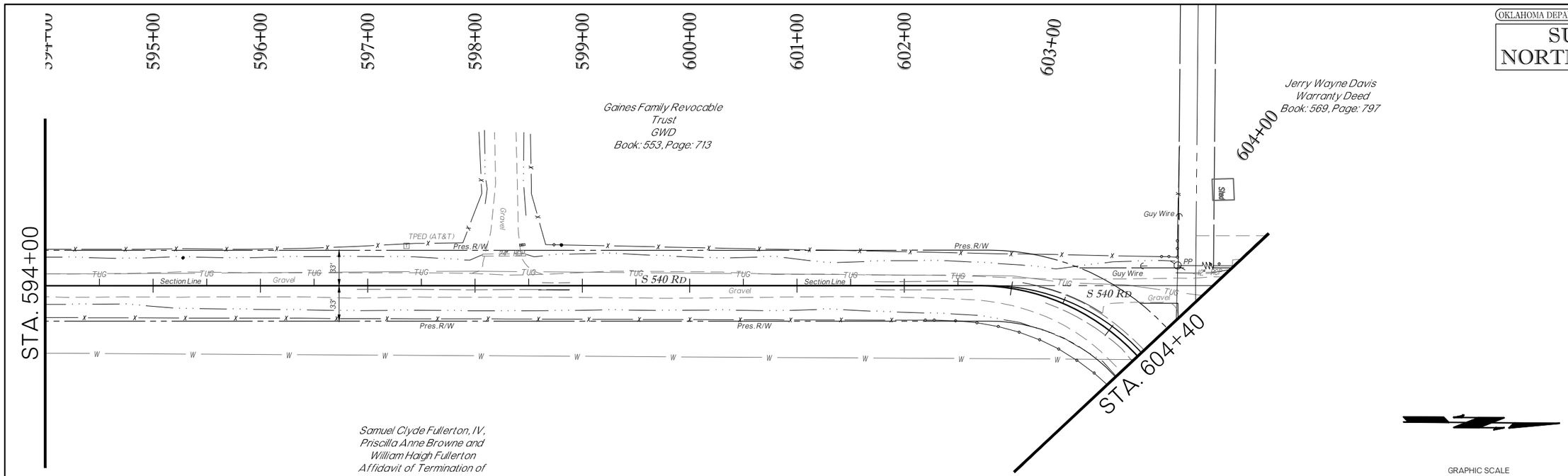
579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 07

Tuesday, February 18, 2020 10:09:41 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

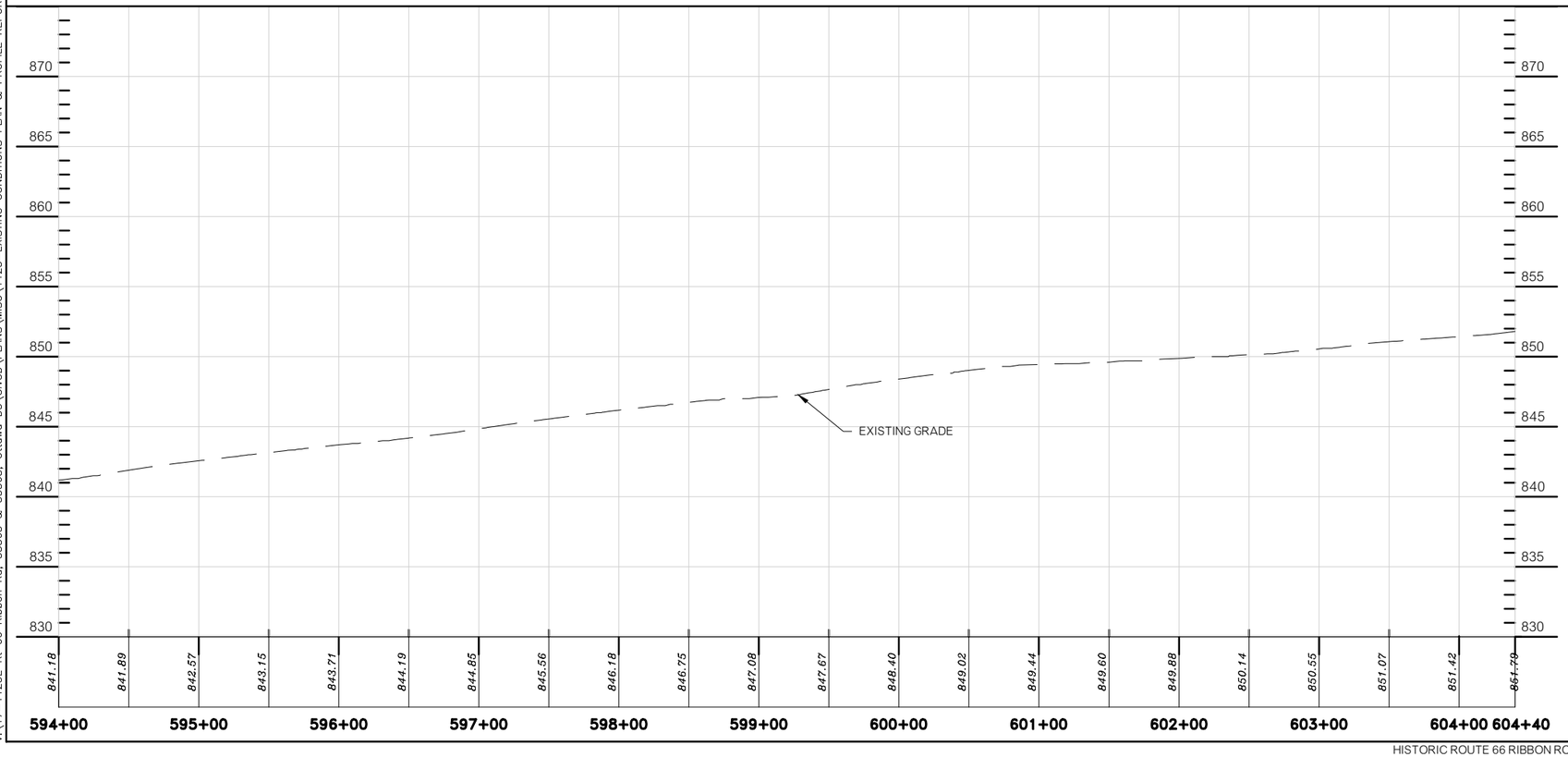
OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION



NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, February 18, 2020 10:13:00 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00

Jerry Wayne Davis
Warranty Deed
Book: 569, Page: 797

Board of County Commissioners of Ottawa County, Oklahoma
Warranty Deed
Book: 106, Page: 40

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

605+00 — S 540 Rd — STA. 604+40

E 130 Rd — STA. 615+00

Utility Easement · Section Line · Gravel · Asphalt · Dirt · Pres.R/W · 33' · TUG · W · PP · 2-Wire OHE

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

875 870 865 860 855 850 845 840 835

EXISTING GRADE

X12 - STA. 612+89
EXIST. 36" ARCHED RCP
FL LT. = 842.22
FL RT. = 841.94

604+40	605+00	606+00	607+00	608+00	609+00	610+00	611+00	612+00	613+00	614+00	615+00
851.79	851.90	852.32	852.93	853.33	853.30	853.16	852.74	852.18	851.57	851.00	850.21	849.70	848.97	848.39	847.73	847.04	846.43	846.10	846.07	846.50	847.01	847.51

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg
Tuesday, February 18, 2020 10:20:25 AM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

STA. 615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | STA. 630+00

Proposed Line

Property Line

Board of County Commissioners of Ottawa County, Oklahoma Warranty Deed Book: 106, Page: 40

James E. Beautte and Rhonda S. Beautte JTWD Book: 746, Page: 597

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

E 130 RD

Section Line

Pres. R/W

Gravel

Asphalt

Dirt

Guy Wire

PP

PP w/ Dip

2-Wire OHE

WM

EUG

TUG

W

33'

18" CMP (Smashed)

10" Metal Pipe

12" CMP

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

X13 - STA. 626+25
EXIST. 36"x12" ARCHED RCP
FL LT. = 838.61
FL RT. = 838.03

870 865 860 855 850 845 840 835 830

847.51 | 848.01 | 848.41 | 848.90 | 849.35 | 849.67 | 850.17 | 850.61 | 851.00 | 851.43 | 851.51 | 851.60 | 851.60 | 851.45 | 851.00 | 850.59 | 849.96 | 849.19 | 848.30 | 847.22 | 846.03 | 845.13 | 844.50 | 844.20 | 844.34 | 844.70 | 845.15 | 845.51 | 845.70 | 845.62 | 845.26

615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | 626+00 | 627+00 | 628+00 | 629+00 | 630+00

Tuesday, February 18, 2020 10:21:10 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

631+00 | 632+00 | 633+00 | 634+00 | 635+00 | 636+00 | 637+00 | 638+00 | 639+00

STA. 630+00

STA. 645+00

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Charles W. Rogers and Patsy J. Rogers JTWD Book: 601, Page: 776

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Pres. R/W | Section Line | E 130 Rd | Asphalt | Gravel | TUG | W | WM | PP | Guy Wire | 2-Wire OHE | 3-Wire OHE | 2" Metal Pipe | 15" CMP | 15" RCP | TPED | 18" CMP | 33' | Property Line

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

855 | 850 | 845 | 840 | 835 | 830 | 825 | 820 | 815

845.26 | 844.76 | 843.98 | 842.88 | 841.82 | 840.92 | 839.11 | 837.60 | 836.06 | 834.59 | 833.23 | 832.00 | 830.90 | 829.92 | 828.91 | 828.05 | 827.22 | 826.30 | 825.47 | 824.64 | 823.95 | 823.31 | 822.80 | 822.38 | 822.00 | 821.70 | 821.51 | 821.21 | 821.00 | 820.89 | 820.61

630+00 | 631+00 | 632+00 | 633+00 | 634+00 | 635+00 | 636+00 | 637+00 | 638+00 | 639+00 | 640+00 | 641+00 | 642+00 | 643+00 | 644+00 | 645+00

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

STA. 645+00 | 646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00 | STA. 660+00

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Mark E. Grigsby and Sharon Grigsby JTWD Book: 607, Page: 527

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

E 130 Rd

S 550 Rd

Property Line

Section Line

Pres. R/W

2-Wire OHE

Guy Wire

PP

WV

Top Nut Elev.=816.64

Blow Off Valve

WM

TPED

TUG

Gravel

Asphalt

36" RCP (Spilled)

33'

TUG Marker (SW Bell)

FO Marker (Rec Tec)

FO Marker (SW Bell)

FOC

OHT

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

X14 - STA. 648+65
EXIST. 36"x18" ARCHED RCP
FL LT. = 817.23
FL RT. = 817.71

820.61 | 820.50 | 820.40 | 820.30 | 820.24 | 820.10 | 820.08 | 820.10 | 820.20 | 820.20 | 820.20 | 820.20 | 820.20 | 820.38 | 820.60 | 820.97 | 821.47 | 822.02 | 822.60 | 823.15 | 823.69 | 824.10 | 824.20 | 824.80 | 824.60 | 824.06 | 823.52 | 822.83 | 822.13 | 821.50 | 821.00

645+00 | 646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00 | 659+00 | 660+00

845 | 840 | 835 | 830 | 825 | 820 | 815 | 810 | 805

Tuesday, February 18, 2020 11:14:48 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION

660+00 661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00

STA. 660+00

STA. 675+00

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

ROCMND Area Youth Services, Inc. WD Book: 474, Page: 923

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

Property Line

Property Line

Gravel

Pres. R/W

E 130 RD

Section Line

Asphalt

TPED

TUG

W

1-Wire OHT

2-Wire OHE

FOC

PP

PPL

33'

25" x 16" Arched RCP

FO Marker (SW Bell)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

X15 - STA. 667+17
EXIST. 36"x20" ARCHED RCP
FL LT. = 812.71
FL RT. = 812.76

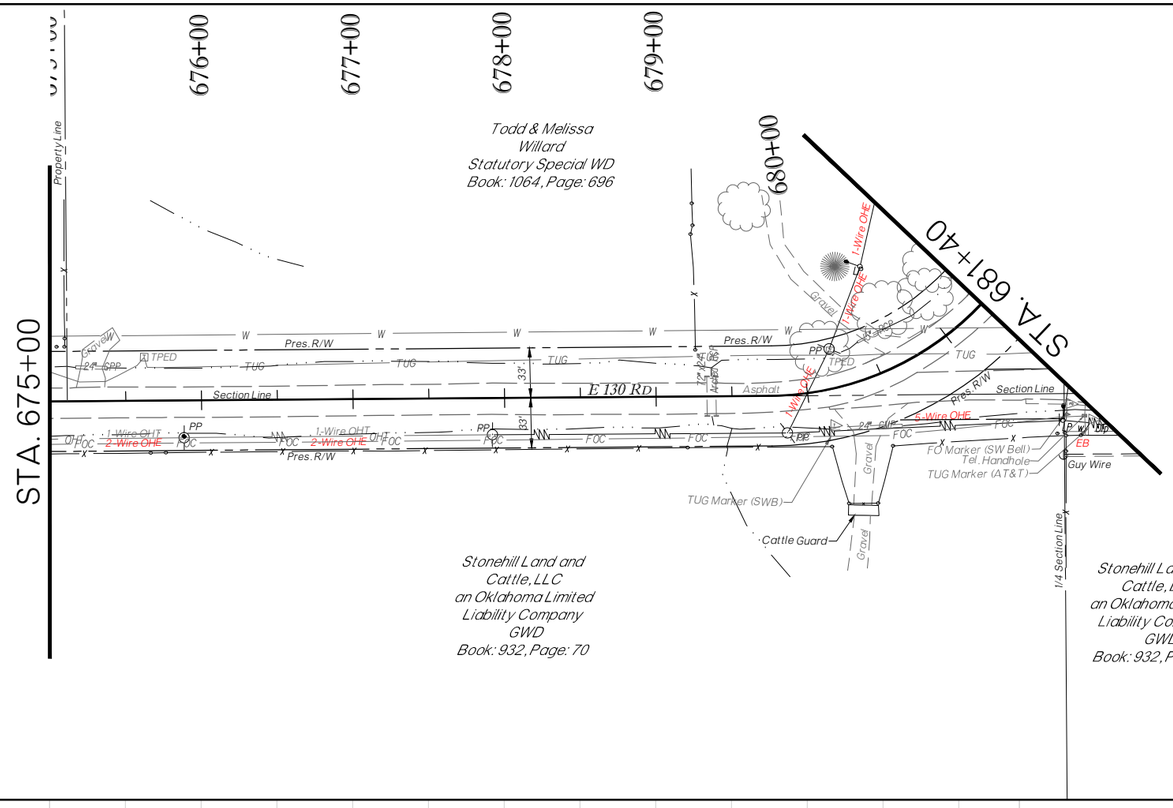
840 835 830 825 820 815 810 805 800

821.00 820.52 819.99 819.55 819.07 818.69 818.31 818.00 817.74 817.31 817.10 816.92 816.72 816.54 816.32 816.10 815.92 815.78 815.50 815.18 814.85 814.57 814.26 813.87 813.46 813.16 812.81 812.43 811.96 811.59 811.12

660+00 661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00

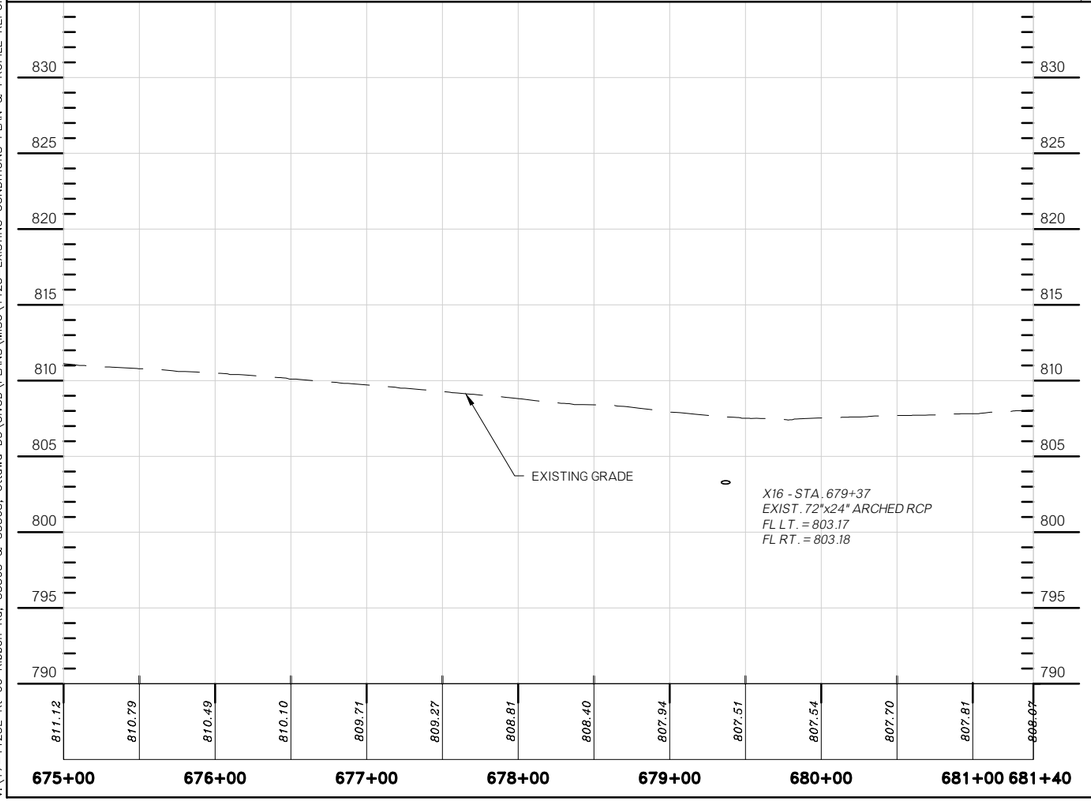
OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION



NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

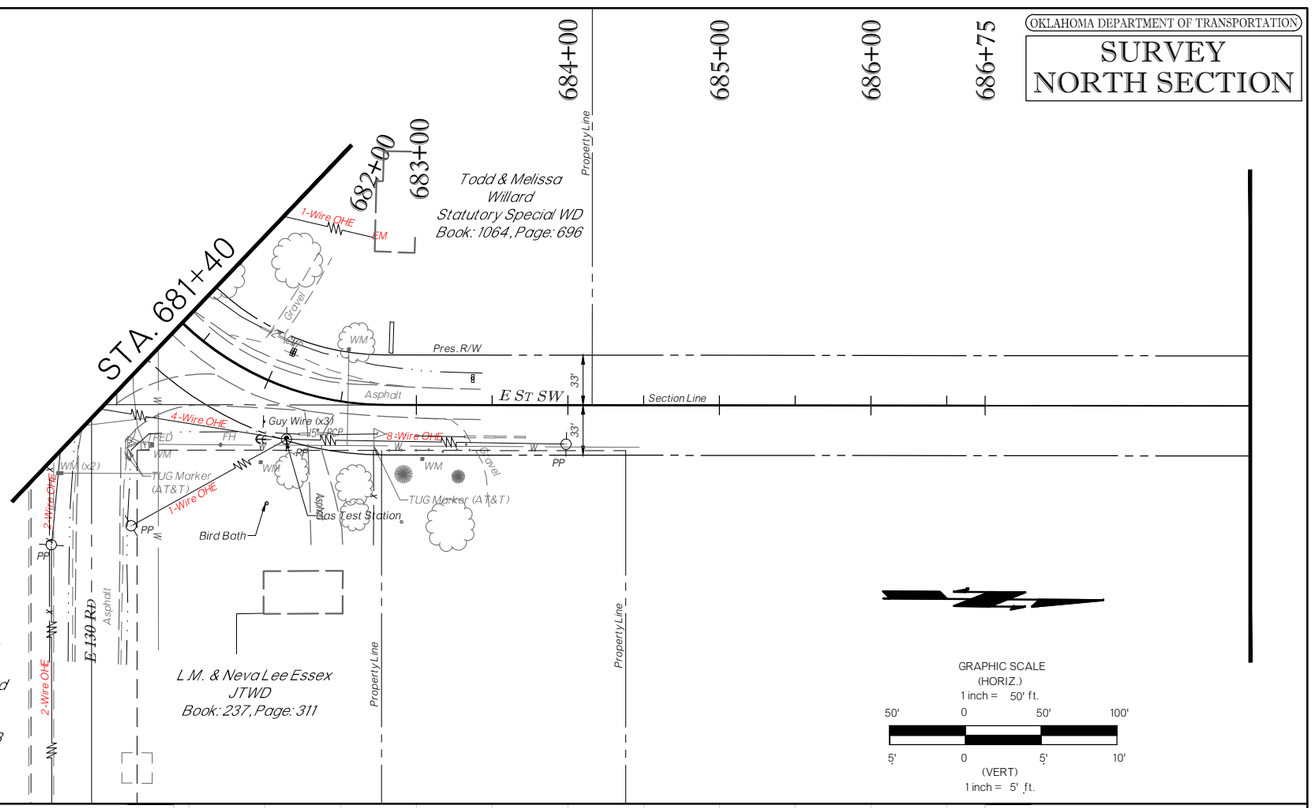
GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



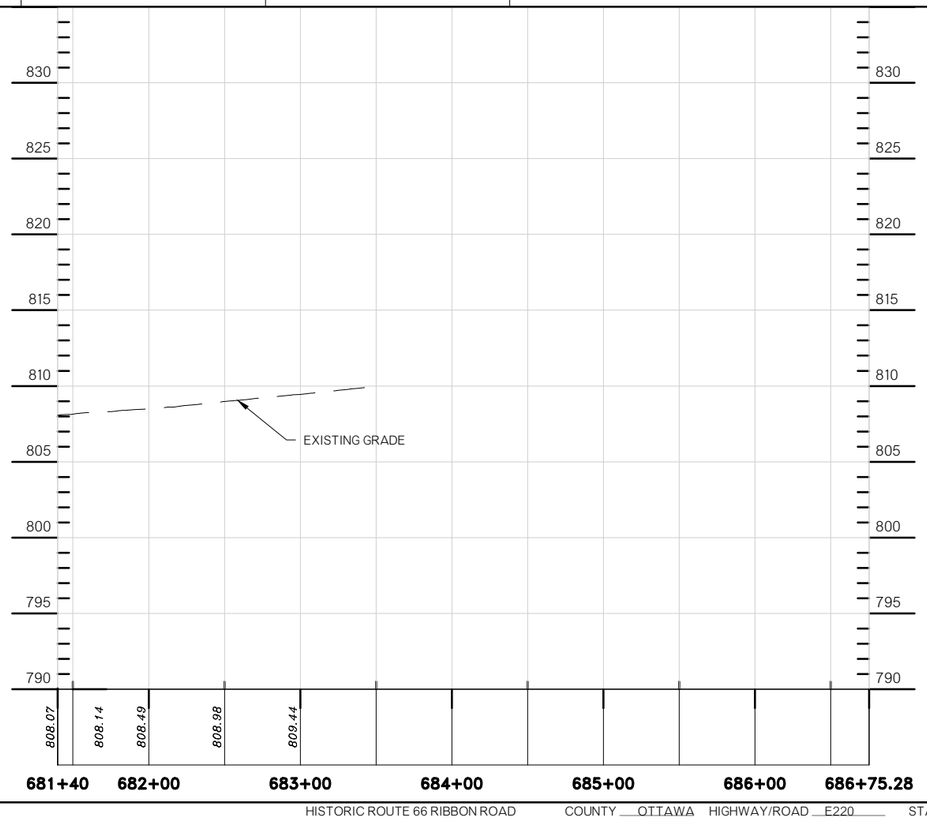
Tuesday, February 18, 2020 11:18:25 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY NORTH SECTION



NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.



HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 15

Tuesday, February 18, 2020 5:40:21 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - NORTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

10+00 11+00 12+00 13+00 14+00 15+00 16+00

Gary Gene & Linda Diane Carroll
JTWD
Book: 1088, Page: 135

Property Line

Pres.R/W

Section Line

OHT

1-Wire OHT
4-Wire OHE

PP

Asphalt

Gravel

Cable Barrier

HWY 60

E 220 RD

33'

Rickie L. Farmer
QCD
Book: 844, Page: 50

6" Steel Bollard

TUG Marker (AT&T)

STA. 17+50

17+00

S 520 RD

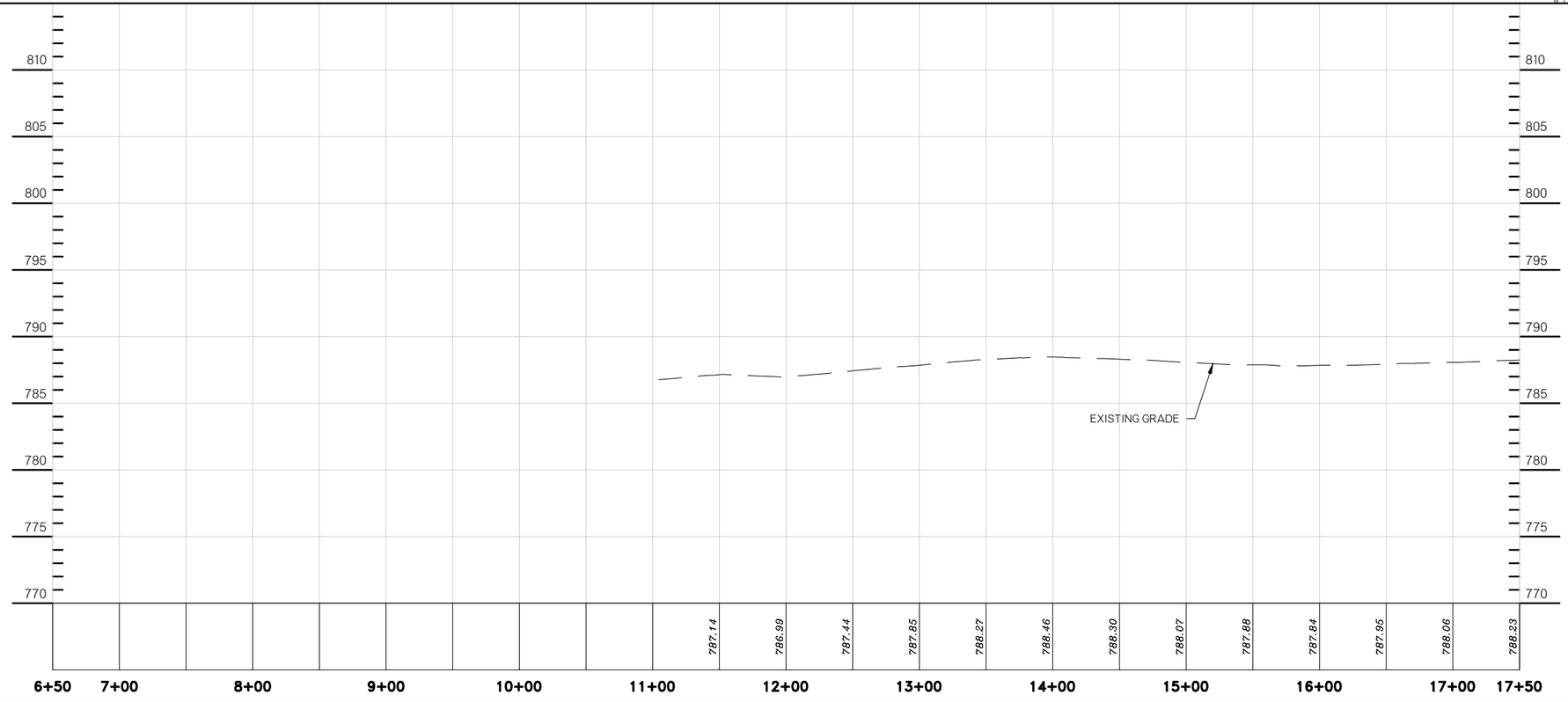
James Ronald Fuser
GWD
Book: 455, Page: 50

James and Pamela Fuser Revocable Trust
GWD
Book: 977, Page: 85

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

AEP/PSO JOE SANDERS	(918) 530 1776
AFTON PUBLIC WORKS BILL HARRISON	(918) 257-5506
AT&T BRAD WILLIAMS	(918) 540-1579
BOLT FIBER SHANE BURGESS	(918) 256-9334
CABLE ONE KERI BLEDSOE RANDY KENNEDY	(806) 690-3283 (806) 690-3283
CENTERYLINK MARK LANE	(918) 240-7376
CITY OF GROVE PUBLIC WORKS JACK BOWER	(918) 786-6107
CITY OF MIAMI PUBLIC WORKS TYLER CLINE	(918) 541-2350
CRAIG COUNTY RWD #3 BILL JONES	(918) 961-0168
EMPIRE ELECTRIC COMPANY CAROL RAMSOUR	(417) 625-6149
KANSAS GAS SERVICES KEATON CHRISTNER	(316) 831-5622
MARATHON PETROLEUM COMPANY CHRIS MARTIN	(419) 672-6365
NORTHEAST OKLAHOMA ELECTRIC COOPERATIVE BRYAN QUICK	(918) 256-9449
OTTAWA COUNTY RWD #2, 4, 6, 7 DUANE BRYANT	(918) 676-3662
VYVE BROADBAND MARK GEISLER	(405) 695-5029

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.



HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

Tuesday, February 18, 2020 5:37:23 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 17+50

STA. 30+00

18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00

Property Line

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

Michael & Tracy Wheatley JTWD Book: 965, Page: 481

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

S 520 Rd

E. 220 Rd

HWY 60

Section Line

Pres. R/W

Sta. R/W

Gravel

Asphalt

Cable Barrier

6" Steel Bollard

Guy Wire

WV Top Nut Elev.=787.33

WV Top Nut Elev.=789.94

FO Handhole

FO Marker (NRS)

Newspaper Box

Abandoned PP

Bore Hole

TPED (x4)

4-Wire OHE

2-Wire OHE

1-Wire OHT

33'

GRAPHIC SCALE (HORIZ.) 1 inch = 50' ft.

50' 0 50' 100'

5' 0 5' 10'

(VERT) 1 inch = 5' ft.

NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE.

X1
STA. 20+27.00
32" X 12" RCP ARCHED
FL LT.=BURIED
FL RT.=BURIED

EXISTING GRADE

815 810 805 800 795 790 785 780 775

788.23 788.49 789.19 789.44 789.39 789.65 789.94 790.41 790.76 791.15 791.52 791.87 792.21 792.59 793.02 793.57 794.17 794.80 795.37 796.05 796.70 797.23 797.73 798.28 798.96 799.78

17+50 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00

Tuesday, February 18, 2020 7:58:14 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 30+00

STA. 45+00

30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00

Pres. RR R/W

Property Line

1/4 Section Line

Section Line

S 520 RD

Pres. R/W

Richard L. & Ellen D. Partain JTWD Book: 896, Page: 370

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

Rici Partain & Ellen Partain JTWD Book: 654, Page: 618

TUG Marker (NRS)
Gas Line Marker
Guy Wire
FO Handhole
Tel. Handhole
Guy Pole
Water Tank
Spigot
Gravel
Asphalt
TPED
TUG
2-Wire OHE
4-Wire OHE
1-Wire OHE
PP

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

EXISTING GRADE

825 820 815 810 805 800 795 790 785

799.78 801.02 802.48 803.50 804.39 804.20 804.36 804.60 805.09 805.85 806.61 807.42 808.38 809.21 810.00 810.91 811.76 812.58 813.31 814.16 814.72 814.91 814.80 814.80 814.70 814.10 813.64 813.01 812.59 812.07 811.50

30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 03

Tuesday, February 18, 2020 7:58:52 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 45+00 | 46+00 | 47+00 | 48+00 | 49+00 | 50+00 | 51+00 | 52+00 | 53+00 | 54+00 | 55+00 | 56+00 | 57+00 | 58+00 | STA. 60+00

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

TUG Marker (NRS)

4-Wire OHE

Pres. R/W

PP

Section Line

Gravel

Asphalt

S 520 RD

33rd

Tel. Handhole

TUG Marker

2-Wire OHT

PP w/ Dip

Guy Wire (x2)

TPED

2-Wire OHT

Pres. R/W

PP

Justin Johnson WD Book: 1074, Page: 487

Richard L. & Ellen D. Partain WD Book: 645, Page: 036

Property Line

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

825 820 815 810 805 800 795 790 785

EXISTING GRADE

811.50 | 810.94 | 810.30 | 809.74 | 809.21 | 808.70 | 808.30 | 807.71 | 807.15 | 806.59 | 806.12 | 805.53 | 804.99 | 804.51 | 804.00 | 803.58 | 803.20 | 802.80 | 802.49 | 802.00 | 801.62 | 801.19 | 800.74 | 800.39 | 800.05 | 799.58 | 799.17 | 798.60 | 798.08 | 797.35 | 796.59

45+00 | 46+00 | 47+00 | 48+00 | 49+00 | 50+00 | 51+00 | 52+00 | 53+00 | 54+00 | 55+00 | 56+00 | 57+00 | 58+00 | 59+00 | 60+00

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg
Tuesday, February 18, 2020 7:59:23 AM

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 04

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | 71+00 | 72+00 | 73+00 | STA. 75+00

Richard L. & Ellen D. Partain
QCD
Book: 790, Page: 553

Marlin Turley & Shounds Bingham
JTWD
Book: 590, Page: 794

Justin Johnson
WD
Book: 1074, Page: 487

The Andre P. Derdeyn Revocable Trust
Warranty Deed
Book: 869, Page: 66

S 520 RD

E 210 RD

Section Line (prorog)

Pres. R/W

Gravel

Asphalt

4-Wire OHE

2-Wire OHT

2-Wire OHE

1-Wire OHT

TUG

FOC

PP

PPT

PED

Guy Wire (x2)

Guy Pole

PP w/ Dip

Guy Wire

2-Wire Guy

Bore Hole

TUG Marker (AT&T)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

820 | 815 | 810 | 805 | 800 | 795 | 790 | 785 | 780

EXISTING GRADE

X2
STA. 65+55
2-36" RCP
FL LT.=790.90
FL RT.=790.70

796.59 | 796.12 | 795.80 | 795.60 | 795.57 | 795.50 | 795.50 | 795.64 | 795.70 | 795.50 | 795.70 | 796.02 | 796.44 | 796.74 | 797.19 | 797.63 | 798.04 | 798.40 | 798.80 | 799.23 | 799.23 | 799.57 | 799.73 | 799.80 | 799.91 | 800.10 | 800.26 | 800.31 | 800.41 | 800.50 | 800.70

60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | 71+00 | 72+00 | 73+00 | 74+00 | 75+00

Tuesday, February 18, 2020 7:59:53 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 75+00

STA. 88+00

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Property Line

Turley Properties, LLC QCD Book: 1081, Page: 325

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 287

Oklahoma Turnpike Authority No Deed Note: Area checks out with the less and except area declared as deeded to OTA, recorded in Book: 997, Page: 88.

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Oklahoma Turnpike Authority Warranty Deed Book: 255, Page: 550

S 520 RD

Section Line

Pres. R/W

Guy Wire

Guy Pole

PP

PP w/ Dip

TUG Marker (Bell)

FO Marker (NRS)

TUG Marker (UCC)

Bridge Deck

Guardrail

Gravel

Asphalt

TPED

4-Wire OHE

2-Wire OHE

1-Wire OHE

1-Wire OHT

FOC

TUG

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

STA. 78+50.00 BEGIN EXCEPTION
STATE JOB NO. JP33565(04)

EXISTING GRADE

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

830 825 820 815 810 805 800 795 790

800.70 800.80 800.90 801.10 801.25 801.48 801.61 801.74 801.72 801.60 801.60 801.70 801.98 802.32 803.10 804.44 806.18 808.50 811.16 814.12 816.75 818.47 819.74

75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00

Tuesday, February 18, 2020 8:00:26 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

STA. 88+00

STA. 101+00

93+00 94+00 95+00 96+00 97+00 98+00 99+00

State of Oklahoma
Dedication Deed
Book: 255, Page: 548

The Terry & Beth
Rotman Trust
Correction WD
Book: 997, Page: 88

The Justin Dewayne
Johnson Revocable
Trust
QCD
Book: 954, Page: 432

Oklahoma Turnpike
Authority
Warranty Deed
Book: 253, Page: 289

John Mitchell Greniger
Warranty Deed
Book: 1036, Page: 46

Robert Allen Switzer
WD
Book: 559, Page: 632

Pres. R/W
Guardrail
Guy Wire
S 520 RD
Gravel
TUG
Section Line
1/4 Section Line
33'
TPED
TUG Marker
Gravel Shoulder

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

STA. 96+50.00 END EXCEPTION
STATE JOB NO. JP33565(04)

EXISTING GRADE

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

X3
STA. 99+12
48" RCP
FL LT.=784.95
FL RT.=786.46

820 815 810 805 800 795 790 785 780

820.29 818.84 817.29 815.13 812.44 809.66 806.99 804.24 801.56 799.07 796.69 794.59 793.26 792.57 792.31 792.30 792.45 792.54 792.38 792.53 792.99 793.41 793.81 794.18 794.41 794.70 794.97

88+00 89+00 90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00 101+00

Tuesday, February 18, 2020 8:01:04 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

101+00 | 102+00 | 103+00 | 104+00 | 105+00 | 106+00 | 107+00 | 108+00 | 109+00 | 110+00 | 111+00 | 112+00 | 113+00 | 114+00

STA. 101+00

STA. 116+00

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Nikole Marie Johnson
QCD
Book: 872, Page: 22

Robert Allen Switzer
WD
Book: 559, Page: 632

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

Property Line

Property Line

Pres. R/W

Pres. R/W

S 520 RD

S 520 RD

Section Line

Section Line

Asphalt

Asphalt

Asphalt

Asphalt

Gravel

Gravel

Gravel

Gravel

Gravel

TUG

TPED

PP w/ Dip

2-Wire OHE

Guy Wire

PP

2-Wire OHE

PP

33'

33'

33'

33'

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

EXISTING GRADE

820 | 815 | 810 | 805 | 800 | 795 | 790 | 785 | 780

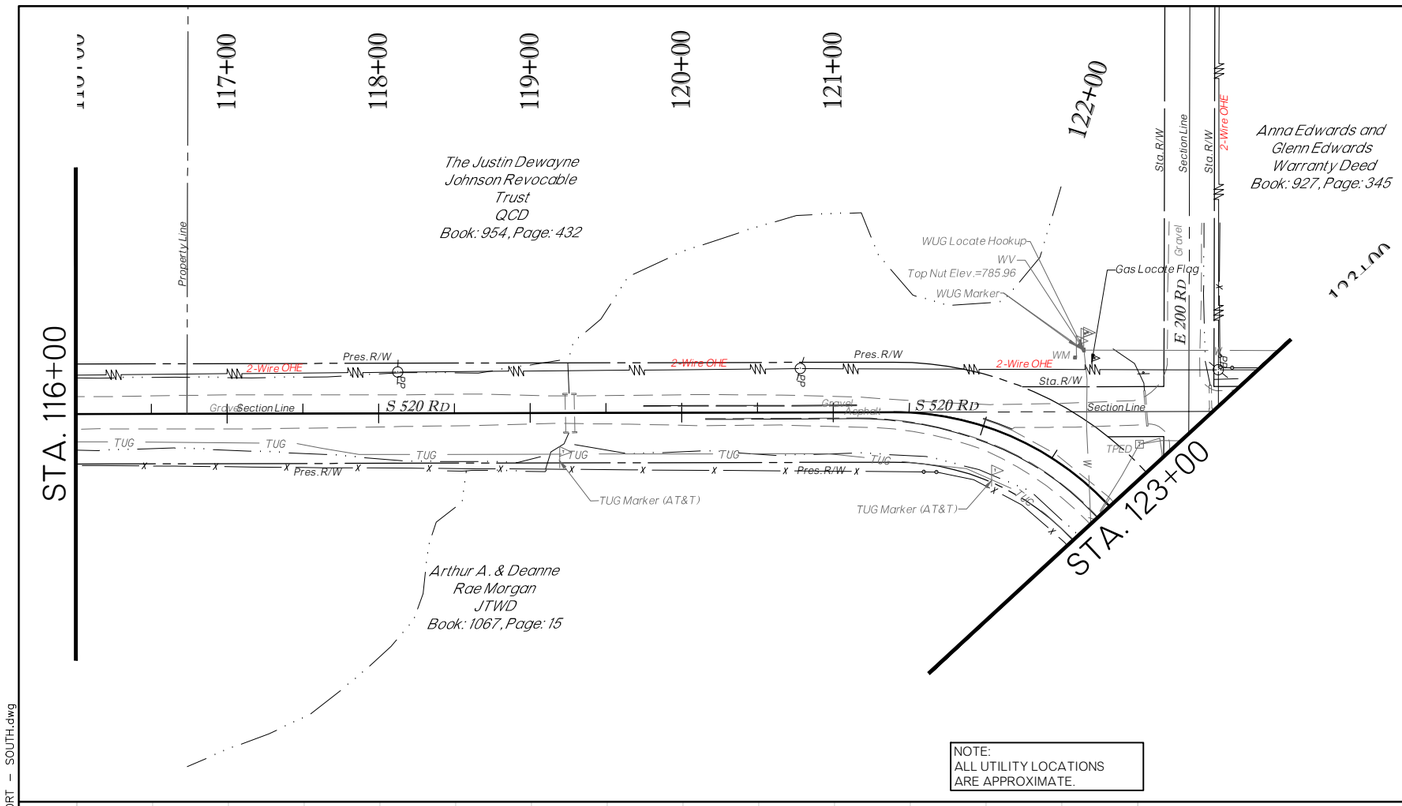
794.97 | 795.18 | 795.45 | 795.63 | 796.00 | 796.33 | 796.60 | 796.92 | 797.20 | 797.50 | 797.80 | 798.12 | 798.45 | 798.76 | 798.99 | 799.30 | 799.55 | 799.80 | 800.00 | 799.98 | 799.80 | 799.53 | 799.24 | 798.67 | 797.81 | 797.01 | 796.10 | 795.29 | 794.51 | 793.90 | 793.34

101+00 | 102+00 | 103+00 | 104+00 | 105+00 | 106+00 | 107+00 | 108+00 | 109+00 | 110+00 | 111+00 | 112+00 | 113+00 | 114+00 | 115+00 | 116+00

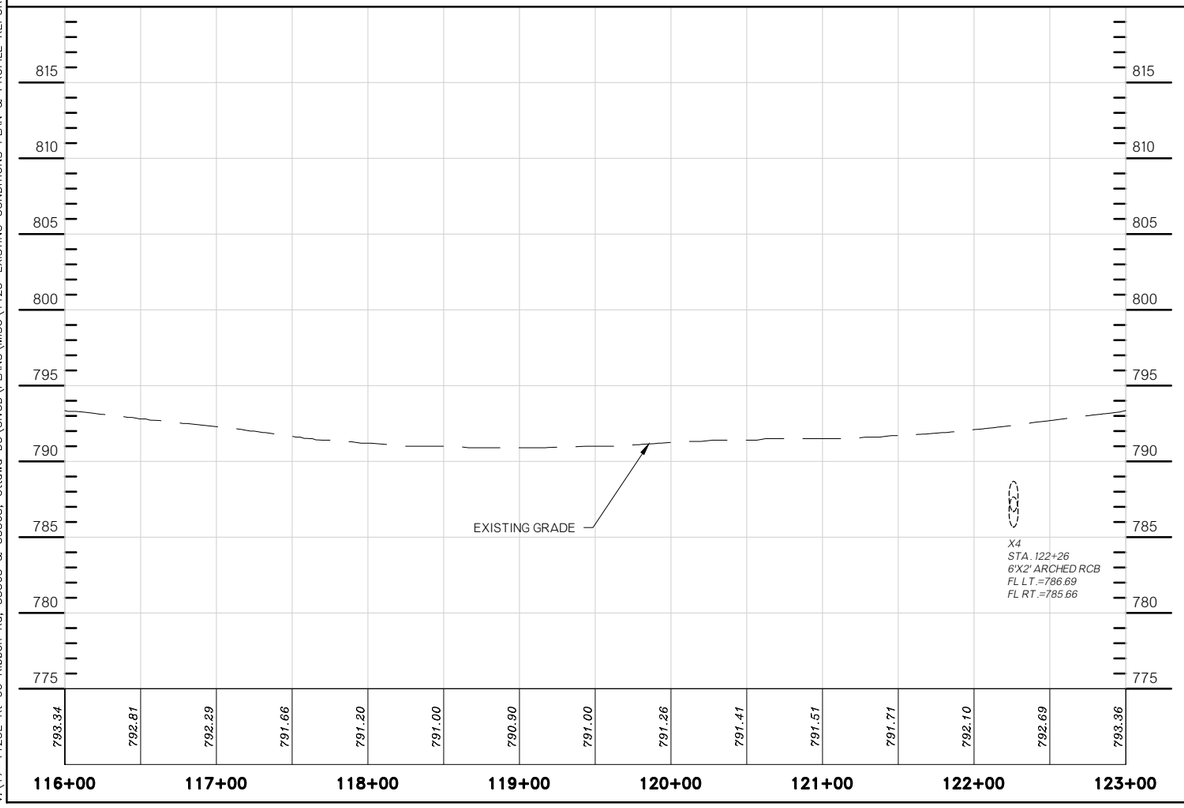
Tuesday, February 18, 2020 8:01:37 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION



GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, February 18, 2020 8:02:26 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

124+00 | 125+00 | 126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00 | 132+00 | 133+00 | 134+00 | 135+00

STA. 123+00

STA. 137+00

S 520 RD

E 200 RD

Sta.R/W | Section Line | Sta.R/W

Gas Locate Flag

Pres.R/W

2-Wire OHE

Gravel

Planters

Guy Wire

PP

WM

TUG

TPED

Abandoned PP

TUG Marker

Silo

PR w/ Dip

EB (x2)

SM

Guy Wire

33'

David L. Dillingham, Jr. & Darryl J. Dillingham JTWD Book: 989, Page: 670

James Brett & Melinda Dillingham JTWD Book: 870, Page: 172

David L. Dillingham, Jr. & Darryl J. Dillingham JTWD Book: 989, Page: 670

Arthur A. & Deanne Rae Morgan JTWD Book: 1067, Page: 15

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

825 | 820 | 815 | 810 | 805 | 800 | 795 | 790 | 785

EXISTING GRADE

X5
STA. 134+80
30" ARCHED RCP
FL LT.=799.47
FL RT.=799.63

793.36 | 794.68 | 796.44 | 798.33 | 800.38 | 802.03 | 803.33 | 804.29 | 804.99 | 805.30 | 805.19 | 804.73 | 804.07 | 803.42 | 802.73 | 802.37 | 802.22 | 802.14 | 802.10 | 802.04 | 802.09 | 802.18 | 802.30 | 802.40 | 802.60 | 802.70 | 802.88 | 803.00 | 803.11

123+00 | 124+00 | 125+00 | 126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00 | 132+00 | 133+00 | 134+00 | 135+00 | 136+00 | 137+00

Tuesday, February 18, 2020 8:02:53 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

137+00 | 138+00 | 139+00 | 140+00 | 141+00 | 142+00 | 143+00 | 144+00 | 145+00 | 146+00 | 147+00 | 148+00 | 1/4 Section Line | 149+00 | 150+00

STA. 137+00

STA. 152+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Spigot
Planter
Gravel
2-Wire OHE
TPED
WM
PP w/ Dip
Guy Wire
Pres. R/W
Gravel
Asphalt
Section Line
E 200 RD
33'
TUG
W
WM
Spigot

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

825 820 815 810 805 800 795 790 785

EXISTING GRADE

803.11 | 803.32 | 803.48 | 803.51 | 803.67 | 803.63 | 803.79 | 803.93 | 804.07 | 804.35 | 804.47 | 804.60 | 804.79 | 804.95 | 805.27 | 805.57 | 805.80 | 806.18 | 806.54 | 806.89 | 807.20 | 807.56 | 807.84 | 808.17 | 808.50 | 808.70 | 809.00 | 809.28 | 809.50 | 809.71 | 810.10

137+00 | 138+00 | 139+00 | 140+00 | 141+00 | 142+00 | 143+00 | 144+00 | 145+00 | 146+00 | 147+00 | 148+00 | 149+00 | 150+00 | 151+00 | 152+00

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY SOUTH SECTION

152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00

STA. 152+00

STA. 167+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Northeast oklahoma Vocational-Technical School District No. 11
WD
Book: 329, Page: 71

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

Pres. R/W
Asphalt
Gravel
TUG
W
E 200 RD
Section Line
331
WM (x2)
Travel
Asphalt
TUFED (x4)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

825 820 815 810 805 800 795 790 785

EXISTING GRADE

810.10 810.43 810.80 811.10 811.40 811.68 811.90 812.06 812.10 812.25 812.22 812.40 812.40 812.40 812.30 812.22 812.06 811.90 811.60 811.30 811.15 811.00 810.81 810.67 810.60 810.61 810.50 810.40 810.40 810.35 810.25

152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg
Tuesday, February 18, 2020 8:03:45 AM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY
SOUTH SECTION

STA. 167+00

168+00 | 169+00 | 170+00 | 171+00 | 172+00 | 173+00 | 174+00 | 175+00 | 176+00 | 177+00

Northeast oklahoma
Vocational-Technical School
District No. 11
WD
Book: 329, Page: 71

Arthur A. & Deanne
Rae Morgan
JTWD
Book: 1067, Page: 15

E 200 RD

Section Line

Hwy 69

Asphalt

Pres. R/W

EB

TUG

W

G

GM

Gas Line Marker (GMSA)

TUG Marker (Atlas)

TUG Marker (Bell)

Vent Pipe

Guy Wire

PP w/ EM

TPED

Telephone Junction Box

2-Wire OHE

PP

WV

Top Nut Elev.=803.51

Top Nut Elev.=803.37

Gutter

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.

174+93.79'

EXISTING GRADE

830 | 825 | 820 | 815 | 810 | 805 | 800 | 795 | 790

810.25 | 810.20 | 810.29 | 810.21 | 810.20 | 810.10 | 809.86 | 809.66 | 809.54 | 809.30 | 809.00 | 808.79 | 808.62 | 808.48 | 808.60 | 808.73 | 809.20 | 809.32 | 809.04

167+00 | 168+00 | 169+00 | 170+00 | 171+00 | 172+00 | 173+00 | 174+00 | 175+00 | 176+00

Tuesday, February 18, 2020 5:37:51 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\MISC\1125-EXISTING CONDITIONS PLAN & PROFILE REPORT - SOUTH.dwg

APPENDIX D: ALTERNATIVES DESIGN REPORT HISTORIC ROUTE 66 REHABILITATION OTTATA COUNTY, DISTRICT 3

Alternatives Design Report

Historic Route 66 Rehabilitation
Ottawa County, District 3

Project # 33565 & 33568

MAY 4, 2021







OKLAHOMA Transportation

GUY ENGINEERING

6910 E 14th St ◆ Tulsa, OK 74112 ◆ (918) 437-0282
1741 W 33rd St, Ste 110 ◆ Edmond, OK 73013 ◆ (405) 608-4217

Engineering safe and lasting infrastructure solutions for our communities

May 4, 2021

Allison Enright
District 8 Project Manager
Local Government Division
Oklahoma Department of Transportation
200 N.E. 21ST St
Oklahoma City, OK 73105

RE: Alternatives Design Report for Historic Route 66 Rehabilitation Ottawa County, District 3

Dear Ms. Enright:

GUY Engineering Services has completed the investigative services, public meeting, and alternatives design report for the above referenced project. This report presents the findings of our analysis and provides recommendations for proposed construction.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
GUY Engineering Services, Inc.
Cert. of Auth. No. 1427, Exp. 6/30/2022

John E. Blickensderfer, PE
Oklahoma #20212

Executive Summary 1
Existing Roadway 2
Right of Way 5
Private and Public Utilities 5
Environmental 6
Geotechnical Studies 7
Alternative #1 8
Alternative #2 9
Alternative #3 10
Alternative #4 11
Summary of Public Comments 12
Comparison of Alternatives 14
Summary and Recommendations 17
Appendix 1 – Alternative #1 Conceptual P&Ps 18
Appendix 2 – Alternative #2 Conceptual P&Ps 19
Appendix 3 – Alternative #3 Conceptual P&Ps 20
Appendix 4 – Alternative #4 Conceptual P&Ps 21
Appendix 5 – Geotechnical Report 22
Appendix 6 – Public Meeting Documentation 23
Appendix 7 – Public Comments 24
Appendix 8 – County Resolution 25

EXECUTIVE SUMMARY

The purpose of this report is to develop a rehabilitation plan for the Historic Route 66 Ribbon Road located in Ottawa County, Oklahoma. Ribbon Road is listed in the National Register of Historic Places and represents one of the oldest original paved roadways still in use in the State of Oklahoma. Ribbon Road was built in 1922 and became part of Route 66 in 1926.

The preliminary intent of the rehabilitation is to mill and replace the existing asphalt of Ribbon Road with like material. Also, 2-11 foot gravel driving lanes w/ 2 foot gravel shoulders are to be added to the corridor in order to decrease traffic loads on the rehabilitated surface. Alternative roadway sections have been developed and can be viewed within this report body. The alternative sections vary the placement of the proposed gravel driving lanes relative to the paved portion of the original roadway. It is also the intent to maintain the horizontal and vertical alignment of the original roadway.

Each alternate roadway section has been processed through a computer-generated surface model of the existing roadway in order to plot their construction limits and further identify the impacts of each alternative. Variables such as the need for additional right-of-way, impacts to utilities, and impacts to environment and cultural resources have been calculated and organized into a decision matrix so that a more informed decision can be made as to the most appropriate rehabilitation plan.

In consideration of right-of-way and the intent of this project, Alternative #5 is recommended for construction. A narrower version of Alternative #1, this alternative provides the most efficient design in terms of right-of-way impacts in combination with additional width for driving lanes and the rehabilitated historic roadway. Alternative #5 also incorporates asphalt widening with a rock and oil (chip/seal) wearing surface to give the appearance of gravel shoulders.

Table 1: Project Summary

PROJECT NO.	BUDGET	DESIGN YEAR	RIGHT-OF-WAY ACQUISITION YEAR	UTILITY RELOCATION YEAR	CONSTRUCTION YEAR
33565	$1,000,000	2021-2022	2023	2024	2025
33568	$1,000,000	2021-2022	2023	2024	2026

EXISTING ROADWAY

The Route 66 "Ribbon Road" consists of two discontinuous segments of historic roadway. The south section begins just west of the intersection of EW-220 road and NS-520 road bearing east, turning north onto NS-520 road to the intersection of EW-200, then east onto EW-200 road and ending at the intersection of US Highway 69. The north section begins at the intersection of US Highway 69 and EW-140 road bearing east to the intersection of EW-140 road and NS-540 road, turning north onto NS-540 road to the intersection of NS-540 road and EW-130 road, then east onto EW-130 road and ending at the intersection of EW-130 road and E Street SW in the town of Miami, Oklahoma.

Construction was completed on the original roadway between 1921 and 1922 by Western Paving Co. This roadway began as Oklahoma Highway #7. In 1926, a committee was organized to define the National Highway system. This committee proposed an alignment for Route 66 that incorporated pre-existing roads, and thus Oklahoma Highway #7 became part of Route 66 that connected Chicago and Los Angeles.

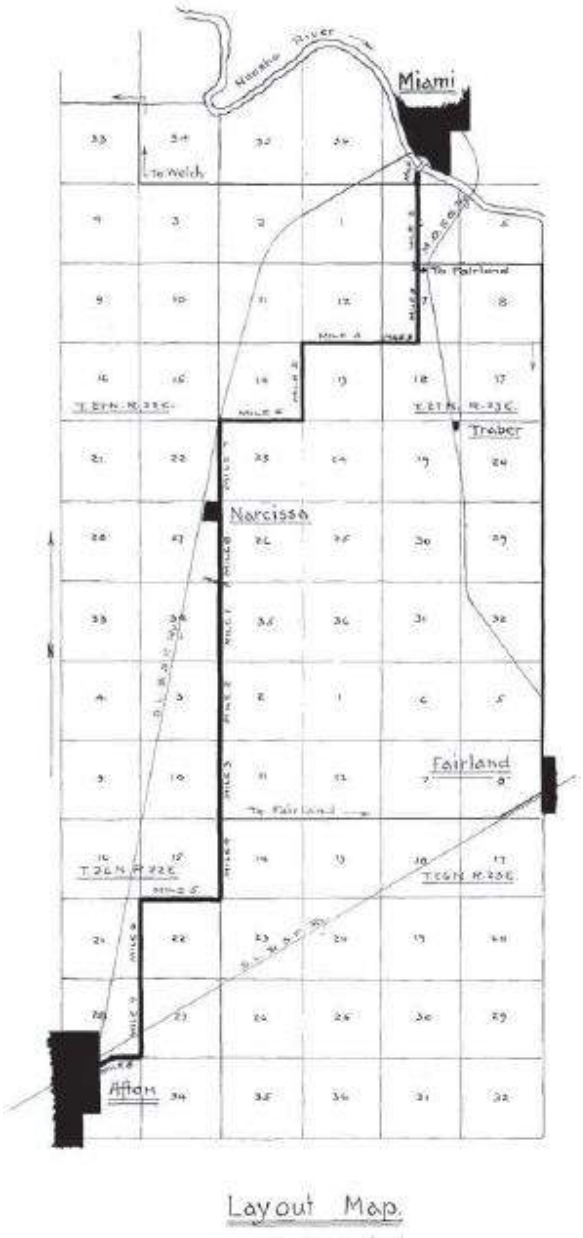


Figure 1 - Historic Route 66 Map

The roadway itself consisted of a 5-inch concrete base with concrete curbs or "edges" that are visible today. Inside the concrete curbs was laid a 2-inch layer of rock asphalt (also known as "Topeka Asphalt" at that time). The width of the roadway was 9 feet, measured from the back of the curbs. At the time, it was presumed that another 9-foot lane would be constructed; however, another highway was soon built that bypassed the subject sections of Ribbon Road, and the section remained 9 feet wide.

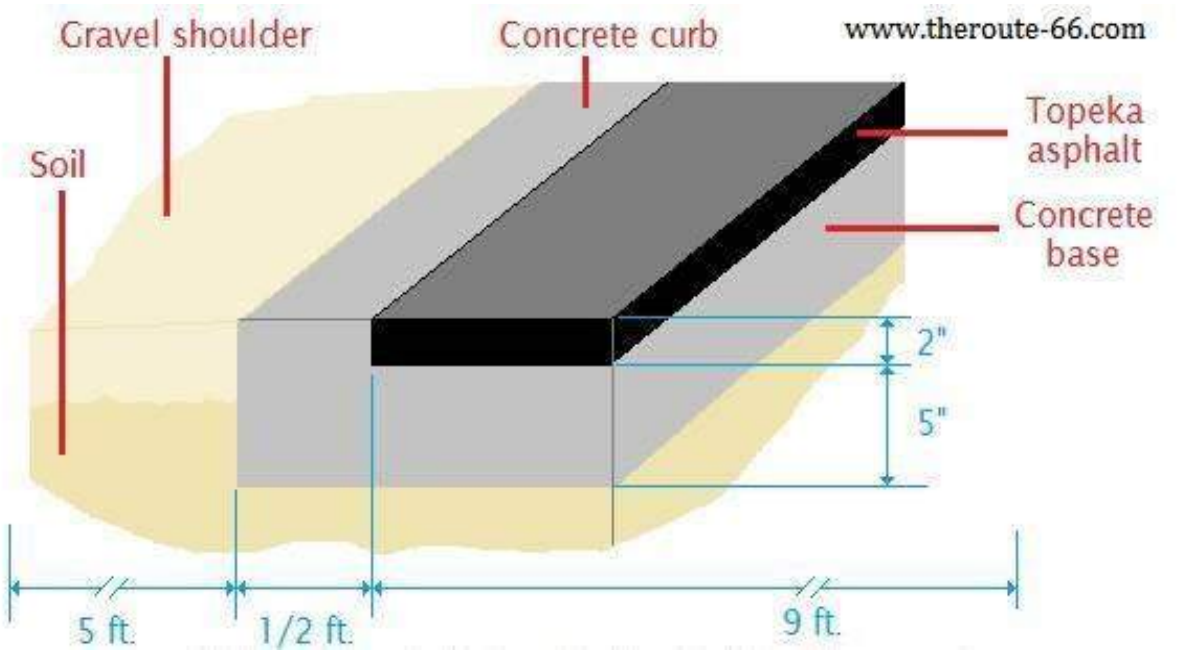


Figure 2: Composition of original Ribbon Road

The current use of the subject roadway serves mainly in a farm to market capacity; however, the roadway does draw some historical patrons. The original footprint has been widened approximately 5 feet with gravel on each side of the roadway and much of the original pavement buried under said gravel. Portions of the original roadway paving show signs of extreme deterioration.

As mentioned earlier, there are two sections of the original roadway remaining. The north section is nearer to Miami, OK and the south section is nearer to Afton, OK.



Figure 3 - North Section Historic Route 66



Figure 4 - South Section Historic Route 66

Right of Way

Existing right-of-way consists of 33 feet of statutory right-of-way (16.5 feet each side of Section Line) along the entire length of the project. All alternatives will require additional right-of way. For the purposes of this report, an additional 16 feet beyond the limits of construction for each alternative was used to set the requirement for additional right-of-way.

Table 2: Right-of-way requirements for each alternative

ALTERNATIVE	APPROXIMATE ADDITIONAL RIGHT-OF-WAY REQUIRED	DISTRIBUTION
Alternative #1	36.5 acres	Relatively evenly distributed about both sides of the Section Line
Alternative #2	43.6 acres	Majority on the proposed roadway side of the Section Line
Alternative #3	44.3 acres	Relatively evenly distributed about both sides of the Section Line
Alternative #4	58.9 acres	Majority on the proposed roadway side of the Section Line

Private and Public Utilities

Overhead electric lines are present throughout the project limits and will be affected by all alternative roadway sections. Approximately 4.2 miles of overhead electric lines parallel the roadway and will require relocation; 3.2 miles of these reside within present right-of-way.

Gas lines are present within the project limits and will be affected equally by all alternatives. Approximately 800 linear feet of gas line parallel the centerline of Ribbon Road, all within present right-of-way.

Telephone lines have been located within the project limits and will be affected equally by all alternatives. Approximately 7.1 miles of underground telephone lines will be affected; approximately 1,300 linear feet of these are outside present right-of-way. Additionally, approximately 1,000 linear feet of overhead telephone lines will require relocation.

Water lines are located within the project limits and will be affected by all alternatives relatively equally. Approximately 2.3 miles of waterline parallel to the roadway will require relocation; 1.4 miles of these lie outside present right-of-way.

ENVIRONMENTAL

According to the Environmental Due Diligence Technical Report provided by Cox McClain Environmental Consultants (CMEC), long-term impacts for this project are unlikely. However, since the North segment of the proposed project roadway is itself listed as NRHP and the treatment of the roadway has yet to be determined, any recommendation of treatment should conform with the Secretary of the Interior Standards for Treatment of Historic Properties as codified in 36 CFR 68.

Five federally listed endangered species and four federally listed threatened species are documented as occurring within the project limits. As such, CMEC recommends that a site visit be conducted to survey for potentially suitable habitat for federally listed threatened or endangered species. Furthermore, to comply with the Migratory Bird Treaty Act of 1918, appropriate actions to avoid the take of migratory birds and their active nests, eggs, or young should be taken.

Impacts relative to the wetlands and waters of the U.S. are considered minimal. It is anticipated that a Nationwide Permit 14 will be used for this project.

The Environmental Due Diligence Technical Report recommends an archeological survey of the project site due to the apparent lack of existing archeological surveys for the area and the proximity of other archaeological sites.

Hazardous materials were not found within the project limits through a desktop review; however, a Phase I Environmental Site Assessment is recommended to document potential environmental hazards associated with the project area.

A cultural resource survey, including both archeology and built environment, would be required if the proposed project received funds by a federal agency and/or was all or in part under the purview of a federal agency. Projects with federal agency involvement are subject to Section 106 of the National Historic Preservation Act (NHPA), as amended.

GEOTECHNICAL STUDIES

As part of the preparatory work completed for the project, geotechnical investigations were made by Terracon Consultants, Inc. to determine existing pavement materials and soil conditions beneath the pavement. Visual inspection and pavement cores indicate the existing pavement is typically 1 to 2 inches of asphalt pavement on top of 5 inches of concrete. Subgrade soils consist mainly of moderate to high plasticity clay soils.

The proposed typical pavement section is recommended to be 24 inches of aggregate base on geotextile separation fabric. It is recommended that subgrade be stabilized and compacted to a depth of 8 inches.

See geotechnical report in Appendix 5.

ALTERNATIVE #1

Alternative #1 consists of constructing an 11 foot wide gravel driving lane with 2 foot gravel shoulders on each side, and immediately adjacent to, the original concrete curbs of Ribbon Road (See Typical Section below). The subgrade beneath the proposed gravel driving lanes shall be prepared according to ODOT specifications. Separator fabric will be installed between the subgrade and gravel in order to prolong the proper drainage properties of the proposed gravel driving lanes. The original Topeka Asphalt between the original concrete curbs will be milled and replaced with asphalt meeting the requirement of Topeka Asphalt. Ditch fore slopes are to be at a 4:1 with a 2 foot wide ditch bottom. The proposed ditch depth shall be a minimum of 2 feet 6 inches measured vertically from the edge of proposed shoulder. The back slope shall be at a 3:1 slope.

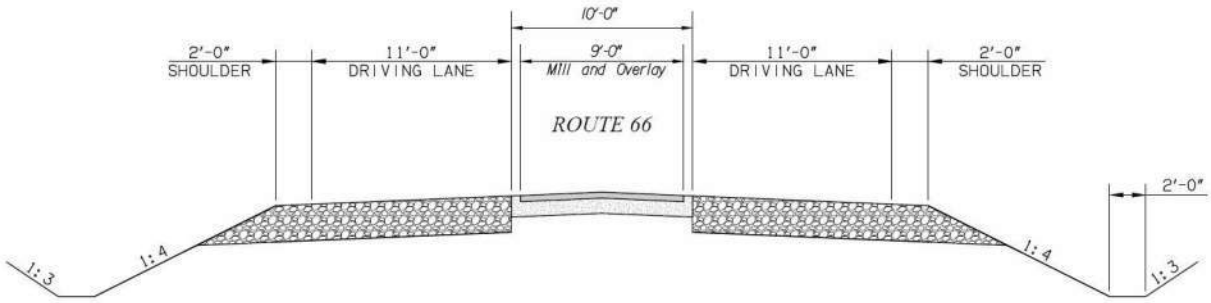


Figure 5: Alternative #1 Typical Section

The proposed driving lanes of Alternative #1 are symmetrical about the center of Ribbon Road and will require the least amount of additional right-of-way (36.4 acres) of the four proposed alternative designs. However, Alternative #1 provides the least amount of buffer space between the proposed gravel driving lanes and the rehabilitated asphalt surface, in turn providing the least amount of deterrent to driving on top of the rehabilitated asphalt surface.

See plan and profile sheets for alternative #1 in Appendix 1.

ALTERNATIVE #2

Alternative #2 consists of constructing 2-11 foot wide gravel driving lanes with 2 foot gravel shoulders, both of which offset 5 feet from the back of the original concrete curb of Ribbon Road. The subgrade beneath the gravel driving lanes shall be prepared according to ODOT specifications. Separator fabric will be installed between the subgrade and gravel in order to prolong the drainage properties of the proposed gravel driving lanes. The original Topeka Asphalt between the original concrete curbs will be milled and replaced with asphalt meeting the requirement of Topeka Asphalt. Ditch fore slopes are to be at a 4:1 with a 2 foot wide ditch bottom. The proposed ditch depth shall be a minimum of 2 feet 6 inches measured from the edge of proposed shoulder. The back slope shall be at a 3:1 slope. Both sides of Ribbon Road will have drainage ditches graded as described above.

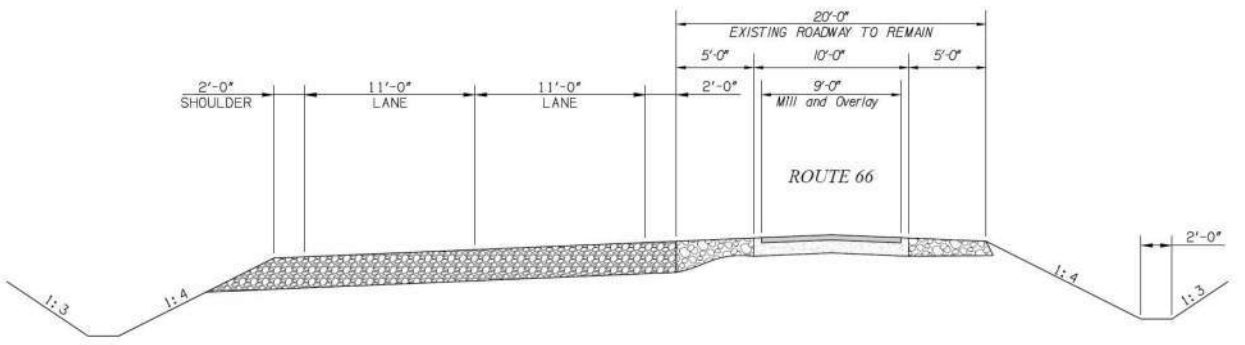


Figure 6: Alternative #2 Typical Section

Both of the proposed driving lanes of Alternative #2 are offset 5 feet to one side of the original Ribbon Road pavement. Alternative #2 will require approximately 44 acres of additional right-of-way. Furthermore, the required additional right-of-way will be much larger on one side of the road than the other. Some of the smaller home-sites on that side of the road would be extremely impacted. Alternative #2 will still provide access for travelers to drive on the newly replaced Topeka Asphalt; however, the offset nature could keep the more local travelers in the gravel lanes, increasing the life of the renovated historic roadway.

See plan and profile sheets for alternative #2 in Appendix 2.

ALTERNATIVE #3

Alternative #3 consists of constructing an 11 foot wide gravel driving lane with 2 foot gravel shoulders on each side of Ribbon Road, offset 5 feet from the back of the existing curb. The subgrade beneath the proposed gravel driving lanes shall be prepared according to ODOT specifications. Separator fabric will be installed between the subgrade and gravel in order to prolong the proper drainage properties of the proposed gravel driving lanes. The original Topeka Asphalt between the original concrete curbs will be milled and replaced with asphalt meeting the requirement of Topeka Asphalt. Ditch fore slopes are to be at a 4:1 with a 2 foot wide ditch bottom. The proposed ditch depth shall be a minimum of 2 feet 6 inches measured from the edge of proposed shoulder. The back slope shall be at a 3:1 slope.

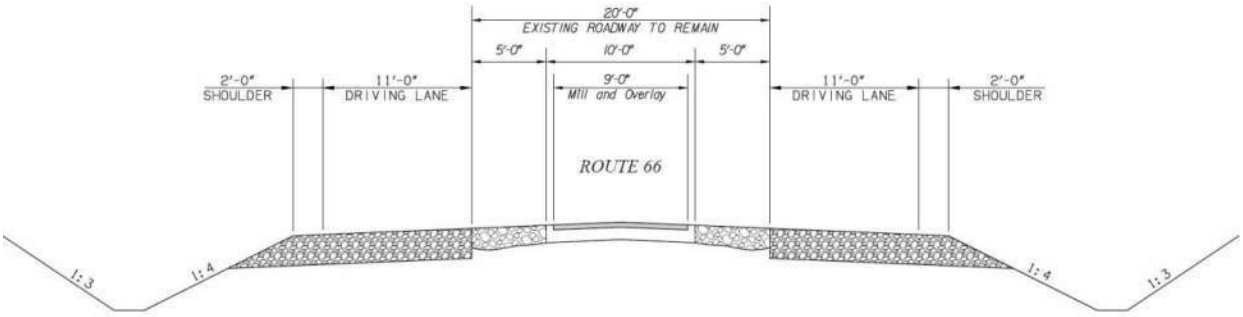


Figure 7: Alternative #3 Typical Section

The proposed driving lanes of Alternative #3 are symmetrical about the center of Ribbon Road and will require approximately 45 acres of additional right-of-way. Alternative #3 could entice travelers to drive on top of the newly laid historic Topeka Asphalt. However, Alternative #3 will have a 5 foot buffer between the proposed driving lanes and historic Route 66 renovated pavement, while Alternative #1 has no buffer.

See plan and profile sheets for alternative #3 in Appendix 3.

ALTERNATIVE #4

Alternative #4 consists of constructing 2-11 foot wide gravel driving lanes with 2 foot gravel shoulders alongside Ribbon Road, separated by a drainage channel. The subgrade beneath the gravel driving lanes shall be prepared according to ODOT specifications. Separator fabric will be installed between the subgrade and gravel in order to prolong the drainage properties of the proposed gravel driving lanes. The original Topeka Asphalt between the original concrete curbs of Ribbon Road will be milled and replaced with asphalt meeting the requirement of Topeka Asphalt. Ditch fore slopes are to be at a 4:1 with a 2 foot wide ditch bottom. The proposed ditch depth shall be a minimum of 2 feet 6 inches measured from the edge of proposed shoulder. The back slope shall be at a 3:1 slope.

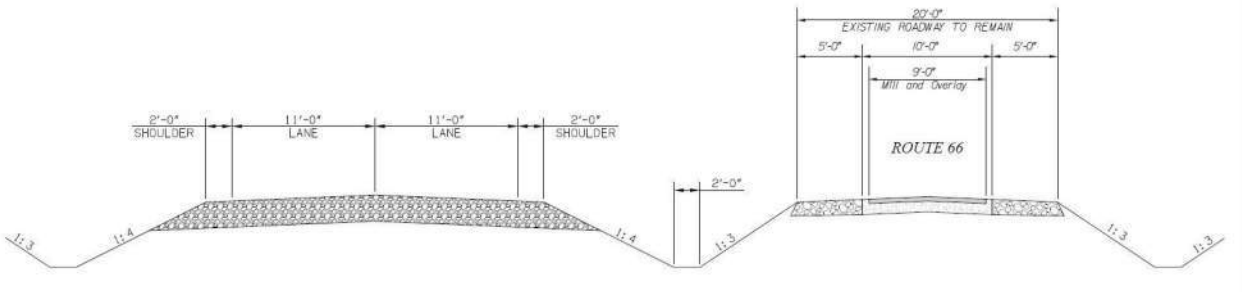


Figure 8: Alternative #4 Typical Section

The proposed gravel driving lanes of Alternative #4 are separated from the original Ribbon Road pavement, discouraging travelers from driving on the newly renovated pavement. Alternative #4 will require approximately 59 acres of additional right-of-way. Furthermore, the required additional right-of-way will be much larger on one side of the road than the other.

See plan and profile sheets for alternative #4 in Appendix 4.

Summary of Public Comments

A public meeting was held on March 10, 2020 to gather comments from the public concerning changes to the Ribbon Road. All the documentation used during the public meeting and the sign-in sheet for the public meeting is in Appendix 6.

Following the public meeting held on March 10, 2020 Guy Engineering Services received 23 public comment forms through mail, email, and fax. The public discussion and submitted comments highlighted many issues to include farm equipment access, land acquisition, Ribbon Road repairs and maintenance, and many more topics. A summary table below attempts to provide a synopsis of the public comments. All comments received are located in Appendix 7.

Table 3: Summary of Public Comments

NAME	STATE	ATTENDED PUBLIC MEETING	ADJACENT PROPERTY OWNER	OPTION PREFERRED	SHOULDER MATERIAL	NOTES
SHPO	OK	No	No	1		Upon initial meeting and review of draft alternatives, tentatively prefers Option #1.
Andrew Commer	OK	No	No	-		Corps of Engineers requested Section 404 permit when plans are complete.
Senator Bergstrom	OK	No	No	-		Requested a copy of the report when complete.
Richard Partain	OK	No	Yes	-		Does not want. Adjacent Farm. Concerned with increased traffic and trespassing.
Greg Leonard	OK	Yes	Yes	-		Adjacent Farm. Concerned with Eminent Domain, use of money, future road use to landowner, and economic advantage to county.
Mark Grigsby	OK	Yes	Yes	3	Asphalt	Option 3 for balance of RoW vs. Tourists. Preference for asphalt paving.
Melvin Cook	OK	Yes	No	-		Wants to restore, but without RoW takes or widening.
Trishia Masterson	OK	Yes	No	-	Asphalt	Indicates NEO Tech planning parking lots that could be impacted. Prefers asphalt driving lanes due to gravel lanes producing more traffic on historic section and safer for motorcycles.
Jim Ross	OK	Yes	No	4 or 1	Gravel	Indicates that option no. 1 with chip-seal paving would also be good. Concerns about grader blades.
Richard Dinkela	MO	Yes	No	1	Asphalt with Chip and Seal	Concerned with longevity and grader blades damaging concrete curbs. Proposes chip and seal over asphalt.

NAME	STATE	ATTENDED PUBLIC MEETING	ADJACENT PROPERTY OWNER	OPTION PREFERRED	SHOULDER MATERIAL	NOTES
Doug Smith	MO	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section. Longevity concerns.
Shellee Graham	OK	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Kathy Black	KS	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Tom Whitmore	VA	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Carol Piatkowski	AR	No	No	-		Does not specify preferred option, but to preserve the road and not to reburbish or restore.
Phillip L Hesse	WI	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Maureen Dennis	AR	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Rob Kroupa	FL	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Jim D. Huddleston	AR	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Kristy Chance	OK	Yes	No	1	Asphalt with Chip and Seal	With asphalt or concrete shoulders covered in chip and seal. Reduce speed to 25 mph. Requests signs to be placed to stay off historic road section.
Richard Besser	AZ	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
Dave Todd	MI	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section.
David Wickline	OH	No	No	1	Asphalt with Chip and Seal	References Richard Dinkela foots typical section. Concerned with grader blades.

The results of public input overwhelmingly indicate that Option #1 is preferred by the public. There is also a mix of public comments as to whether the shoulders should be gravel, asphalt, or chip and seal. There were a few comments to leave the road "as is" and do nothing, or just minimal maintenance work. Some asked the project to take place with no additional right of way. The majority of the comments were highly supportive of protecting and/or extending the life of the Historic Route 66 Ribbon Road.

COMPARISON OF ALTERNATIVES

Improvements to Ribbon Road will include the milling and replacement of the Topeka Asphalt between the original concrete curbs of the historic roadway. Also, 2-11 foot gravel driving lanes w/ 2 foot gravel shoulders will be added to the roadway corridor in an attempt to deter travelers from driving on top of the rehabilitated asphalt roadway surface, thus further preserving the monument. Alternatives presented here vary the placement of the proposed gravel driving surfaces relative to the original roadway. Each alternative roadway section has been processed through the existing topographic survey along the original Section Line in order to plot the construction limits of each alternative. Variables relative to cost, right-of-way, utilities, environmental impacts, and cultural impacts have been quantified in an effort to determine the most appropriate option.

Table 2: Comparison of Alternatives

CATEGORY	DO NOTHING	OPTION #1 WIDEN	OPTION #2 WIDEN ONE SIDE	OPTION #3 WIDEN EACH SIDE	OPTION #4 PARALLEL ROAD
Speed	45 mph	45 mph	45 mph	45 mph	45 mph
New ROW	-	36.4 ac	43.6 ac	44.3 ac	58.8 ac
Relative Cost	$ 0 m	$ 3.8 m	$ 3.8 m	$ 3.9 m	$ 4.0 m
Wetlands	-	0.2 acres	0.21 acres	0.22 acres	0.28 acres
Streams	-	415 LF	450 LF	455 LF	525 LF
T&E	none	same	same	same	same
Cultural	none	low	low	low	low
Longevity	minimal	>30 yrs	>50 yrs	>30 yrs	>80 yrs

In terms of environmental and cultural impacts, each alternative will have an equal effect. Environmental hazards are not present within the project corridor and the affect upon wetlands and wildlife is expected to be relatively minimally equal.

Utility relocations will be required, and the cost will be relatively equal among the proposed alternatives. Most existing utilities are within existing right-of-way, while those utilities outside present right-of-way are close enough to the corridor that each proposed alternative will affect those utilities as well.

Right-of-way acquisition appears to be the most prominent discrepancy between each alternative design. Alternatives #1 and #3 propose the placement of gravel driving lanes on each side of the original roadway corridor. These alternatives more evenly distribute the acquisition of right-of-way on both sides of the roadway, with alternative #1 requiring approximately 36.4 acres and alternative #2 requiring approximately 43.6 acres. In contrast, Alternatives #2 and #4 propose the placement of both gravel driving lanes onto one side of the original roadway, requiring more right-of-way on one side of the original roadway than the other. The large acquisition of right-of-way required on one side of the roadway may prove to be a detriment to affected landowners.

The probable cost of each alternative is relatively equal in terms of construction materials, utility relocation, and environmental impacts. As discussed above, the need for additional right-of-way will be the prime factor in the final cost of each alternative.

The overall purpose of this project is to rehabilitate and preserve a piece of American history; therefore, measure to discourage travelers from driving on the rehabilitated asphalt surface should be taken into consideration. Alternatives #1, #2, and #3 provide access for the traveler to drive on the historic portion of the roadway. Alternative #4 proposes a ditch between the proposed gravel lanes and the rehabilitated asphalt section of roadway, providing greater deterrence. However, Alternative #4 has the largest right-of-way needs and has the highest probability of further impacts due to the complexity of stormwater drainage.

After thorough review of the historic nature of the roadway, the damage caused through maintaining the gravel section, and the public comments, Ottawa County considered a variation to Alternative #1 that we will title Alternative #5.

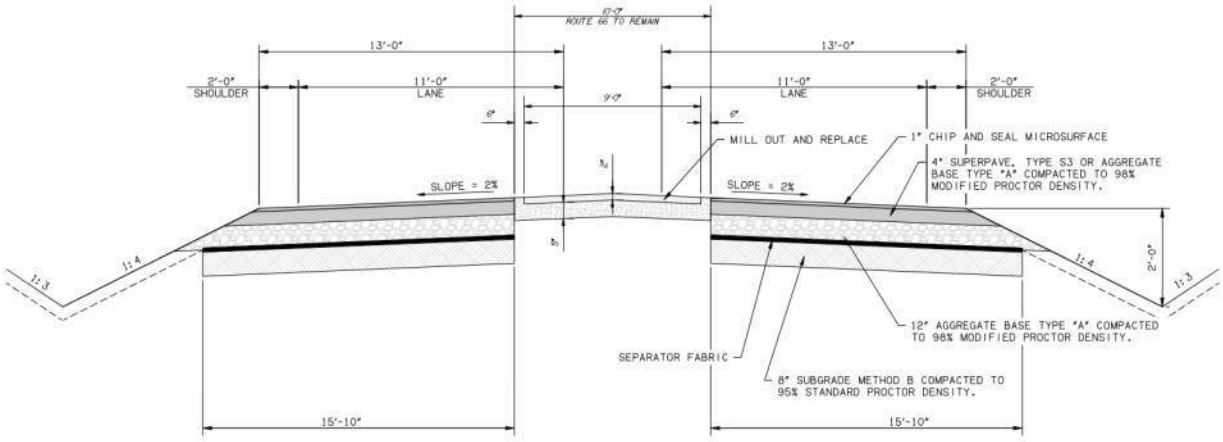


Figure 9 - Alternative #5 - Typical Section

Alternative #5 will include removal of the gravel shoulder and placement of asphalt lanes and shoulder with a chip/seal topping. The chip/seal will use small brown pea gravel and give the appearance of a gravel road even though it will be a hard driving surface. The benefit of this new hard driving surface is that road graders will no longer be required to drag gravel over the road. Many years of gravel road maintenance has caused some abrasion and damage to the historic 9-foot section.



Figure 10 - Historic Rt 66 Roadway

Alternative #5 also will reduce the overall width of the roadway, substantially reducing the right of way acquisition required for the project. Some right of way acquisition will be required mostly around cross drain locations. Because a hard surface shoulder and lanes will be added, the new lanes will be narrowed down to approximately 8 foot. This will allow one wheel path on the historic roadway and one wheel path on the new lanes. This will also more closely resemble the historic road by narrowing down the overall roadway width.

SUMMARY AND RECOMMENDATIONS

This project provides the opportunity to rehabilitate a historic section of Route 66 roadway in Ottawa County, Oklahoma. Alternative roadway sections have been proposed and analyzed in an effort to determine the most appropriate rehabilitation action. Public and stakeholder input was obtained through various meetings.

Below is a summary of the recommendation for the various aspects of the project scope. Discussion on these may be found in the appropriate section in this Alternatives Design Report.

- It is recommended that Alternative #5, which is a narrower version of Alternative #1, be used for the rehabilitation of Ribbon Road. Alternative #5 will provide the closest appearance to the original road while minimally impacting landowners. This alternative will also reduce future potential damage to the historic 9-foot section of roadway by eliminating the gravel portions of the roadway template. Additionally, Alternative #5 provides the least impacts to streams, utilities, and the environment.

APPENDIX 1 – ALTERNATIVE #1 CONCEPTUAL P&PS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00

STA. 511+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

OPTION 1
PROPOSED R/W

OPTION 1
TOC/TOS

CL SURVEY/ SL
RIBBON ROAD

WUG Marker
WUG Marker
WUG Marker
Tel. Handhole
WUG Marker
Guy Wire
2-Wire OHE
PP
Pres. R/W
Gravel
12' CMP
Section Line
℄ Rt 66 Rd
SH 59
Section Line
2-Wire OHE
Guy Wire
PP
Pres. R/W
2-Wire OHE
PP
Pres. R/W
2-Wire OHE
PP
Pres. R/W
2-Wire OHE
PP
Pres. R/W
W W W W W W W W W W W W W

OPTION 1
TOC/TOS

OPTION 1
PROPOSED R/W

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

STA. 500+13.00 BEGIN PROJECT

VPI 502+05.00
ELEV = 831.10
L = 50.00
K = 94.21

VPI 504+35.00
ELEV = 831.09
L = 100.00
K = 104.60

VPI 509+35.00
ELEV = 826.30
L = 50.00
K = 131.25

VPI 511+60.00
ELEV = 825.00
L = 250.00
K = 133.31

VPC 501+80.00
ELEV. = 830.97

VPT 502+30.00
ELEV. = 831.10

VPC 503+85.00
ELEV. = 831.10

VPT 504+85.00
ELEV. = 830.61

VPC 509+10.00
ELEV. = 826.54

VPT 509+60.00
ELEV. = 826.16

VPC 510+35.00
ELEV. = 825.72

0.53% -0.00% -0.96% -0.58%

FINISHED GRADE

OPTION 1
SP. DT. LT.&RT.

Ex. Grade @ ℄ Survey

496+00	497+00	498+00	499+00	500+00	501+00	502+00	503+00	504+00	505+00	506+00	507+00	508+00	509+00	510+00	511+00
				830.16	830.52 / 830.28	830.82 / 830.55	831.10 / 830.81	831.03 / 831.05	831.10 / 831.10	831.10 / 831.10	831.10 / 831.10	831.00 / 831.08	830.85 / 830.89	830.45 / 830.47	830.00 / 829.99	829.54 / 829.51	829.06 / 829.03	828.55 / 828.55	828.06 / 828.07	827.63 / 827.59	827.21 / 827.11	826.65 / 826.64	826.26 / 826.22	825.99 / 825.92	825.70 / 825.63	825.16 / 825.19

Tuesday, March 03, 2020 1:47:15 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00 | 521+00 | 522+00 | 523+00 | 524+00 | STA. 526+00

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
Pres. R/W
CL SURVEY/ SL RIBBON ROAD
E 110 Rd
E 140 Rd
2-Wire OHE
PP
TUG Marker (AT&T)
Property Line
Centerline
Ditch
Gravel
W
1.38%
1.63%

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Ella Lou Reynolds Affidavit of Surviving Joint Tenant Book: 679, Page: 769

Edward E. Reynolds and Ella Lou Reynolds JTWD Book: 483, Page: 202

NWI WETLAND
NHD FLOWLINE

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 908, Page: 192

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 511+60.00 ELEV = 825.00 L = 250.00 K = 133.31
VPT 512+85.00 ELEV. = 821.93
VPI 514+80.00 ELEV = 817.15 L = 50.00 K = 166.47
VPC 514+55.00 ELEV. = 817.76
VPT 515+05.00 ELEV. = 816.61
VPI 518+40.00 ELEV = 809.40 L = 300.00 K = 151.05
VPC 516+90.00 ELEV. = 812.63
VPT 519+90.00 ELEV. = 809.15
VPI 522+60.00 ELEV = 808.70 L = 200.00 K = 199.23
VPC 521+60.00 ELEV. = 808.87
VPT 523+60.00 ELEV. = 809.54

-2.45% -2.15% -0.17%

FINISHED GRADE
OPTION 1 SP. DT. RT.
OPTION 1 SP. DT. LT.
Ex. Grade @ ℄ Survey

X7 - STA. 519+52
EXIST. 42" CMP
FL LT. = 803.03
FL RT. = 804.05

X8 - STA. 522+11
EXIST. 6'X2' RCB
FL LT. = 803.56
FL RT. = 801.93

835 830 825 820 815 810 805 800 795

511+00	512+00	513+00	514+00	515+00	516+00	517+00	518+00	519+00	520+00	521+00	522+00	523+00	524+00	525+00	526+00
825.16 825.19	*824.50* 824.56	*823.51* 823.75	*822.82* 822.75	*821.55* 821.57	*820.34* 820.34	*819.08* 819.11	*817.87* 817.89	*816.78* 816.72	*815.67* 815.64	*814.67* 814.57	*813.39* 813.49	*812.42* 812.42	*811.42* 811.46	*810.50* 810.66	*809.74* 810.03	*808.96* 809.57	*808.61* 809.27	*809.20* 809.13	*809.00* 809.05	*809.02* 808.97	*808.90* 808.88	*808.62* 808.84	*808.80* 808.92	*809.10* 809.13	*809.42* 809.46	*809.81* 809.87	*810.24* 810.29	*810.70* 810.71	*811.08* 811.13	*811.52* 811.55

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 02

Monday, March 02, 2020 5:16:17 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00

STA. 526+00

STA. 541+00

1/4 Section Line

1/4 Section Line

Pt. 24-3926

Gaines Family Revocable Trust GWD Book: 553, Page: 713

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

Pres. R/W

Pres. R/W

Pres. R/W

Pres. R/W

Pres. R/W

Asphalt

Asphalt

Asphalt

Asphalt

E 110 Rd

E 110 Rd

Section Line

Section Line

33'

33'

FIB

2-Wire OHE

W

PP

OPTION 1 TOC/TOS

OPTION 1 PROPOSED R/W

TUG Marker (AT&T)

OPTION 1 TOC/TOS

OPTION 1 PROPOSED R/W

Kenneth L. Myers and Vickey G. Myers JTWD Book: 585, Page: 231

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 529+05.00
ELEV = 814.10
L = 50.00
K = 159.54

VPC 528+80.00
ELEV. = 813.89

VPT 529+30.00
ELEV. = 814.23

VPI 531+15.00
ELEV = 815.20
L = 50.00
K = 164.88

VPC 530+90.00
ELEV. = 815.07

VPT 531+40.00
ELEV. = 815.41

VPI 537+80.00
ELEV = 820.70
L = 300.00
K = 191.37

VPC 536+30.00
ELEV. = 819.46

VPT 539+30.00
ELEV. = 824.29

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPC 539+85.00
ELEV. = 825.61

0.84%

0.52%

0.83%

2.39%

FINISHED GRADE

Ex. Grade @ ℄ Survey

840 835 830 825 820 815 810 805 800

811.52 811.55 | 811.90 811.97 | 812.38 812.38 | 812.82 812.80 | 813.20 813.22 | 813.60 813.64 | 814.00 814.05 | 814.29 814.34 | 814.57 814.60 | 814.88 814.86 | 815.11 815.12 | 815.50 815.49 | 815.85 815.90 | 816.24 816.32 | 816.67 816.73 | 816.91 817.14 | 817.38 817.56 | 817.91 817.97 | 818.37 818.38 | 818.79 818.80 | 819.22 819.21 | 819.71 819.64 | 820.23 820.17 | 820.80 820.83 | 821.61 821.62 | 822.60 822.54 | 823.61 823.60 | 824.76 824.77 | 825.95 825.96 | 827.04 827.00 | 827.87 827.84

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

Monday, March 02, 2020 5:16:32 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1
PLANS
MARCH 2020

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

STA. 541+00

STA. 552+40

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
Pres. R/W
E 140 RD
Asphalt
FIB
2-Wire OHE
PP
WM
WV
Top Nut Elev.=826.68
TUG Marker (AT&T)
Guy Wire
Gravel
TPED
TUG Marker (AT&T)

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPT 543+35.00
ELEV. = 829.16

VPI 546+80.00
ELEV = 827.90
L = 100.00
K = 226.68

VPC 546+30.00
ELEV. = 828.08

VPT 547+30.00
ELEV. = 827.94

-0.37%
0.08%
FINISHED GRADE
Ex. Grade @ ℄ Survey
OPTION 1
SP. DT. RT.

X9 - STA. 551+22
EXIST. 3'X2' ARCHED RCP
FL LT. = 824.45
FL RT. = 824.46

850 845 840 835 830 825 820 815 810

541+00	542+00	543+00	544+00	545+00	546+00	547+00	548+00	549+00	550+00	551+00	552+00 552+40
827.87 827.84	828.54 828.49	828.81 828.94	829.00 829.19	828.90 829.24	828.98 829.11	828.85 828.92	828.70 828.74	828.41 828.56	828.31 828.38	828.16 828.19	828.00 828.02	828.00 827.94	827.98 827.95	828.00 827.99	827.99 828.03	827.95 828.07	828.06 828.10	828.15 828.14	828.13 828.18	828.11 828.22	827.98 828.26	827.94 828.29	828.03 828.32

Monday, March 02, 2020 5:16:48 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 04

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

555+00 | 556+00 | 557+00 | 558+00 | 559+00 | 560+00 | 561+00 | 562+00

STA. 552+40

STA. 564+00

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

TUG Marker

TPED

TUG

Pres. R/W

CL SURVEY/ SL RIBBON ROAD

S 540 Rd

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Tel. Handhole

PP

TUG Marker (AT&T)

2-Wire OHE

Property Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005
Warranty Deed
Book: 813, Page: 752

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

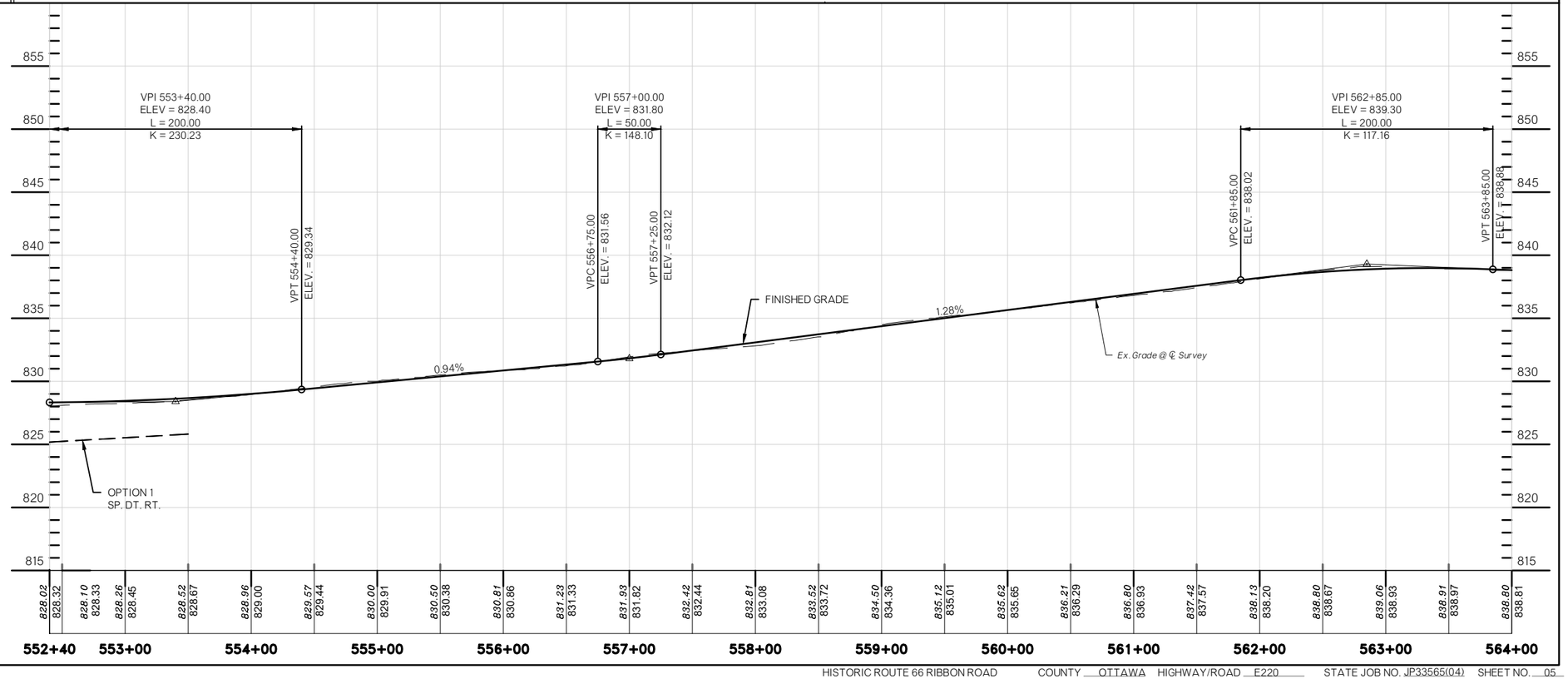
LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00

STA. 564+00

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS

1/4 Section Line

Pres. R/W
TUG
W
S 540 RD
Section Line
Ditch
Fence

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

STA. 579+00

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 566+85.00
ELEV = 837.60
L = 250.00
K = 178.60

VPI 572+80.00
ELEV = 843.40
L = 350.00
K = 87.44

VPI 576+40.00
ELEV = 832.50
L = 300.00
K = 117.26

VPC 565+60.00 ELEV. = 838.13
VPT 568+10.00 ELEV. = 838.82
VPC 571+05.00 ELEV. = 841.69
VPT 574+55.00 ELEV. = 838.10
VPC 574+90.00 ELEV. = 837.04
VPT 577+90.00 ELEV. = 831.80

FINISHED GRADE

-0.42%
0.97%
-3.03%

Ex. Grade @ ℄ Survey

OPTION 1 DT. RT.
OPTION 1 DT. RT.

X10 - STA. 566+30
EXIST. 36" ARCHED RCP
FL LT. = 834.56
FL RT. = 834.16

865 860 855 850 845 840 835 830 825

564+00	565+00	566+00	567+00	568+00	569+00	570+00	571+00	572+00	573+00	574+00	575+00	576+00	577+00	578+00	579+00
838.80	838.59	838.40	838.20	837.92	838.00	838.20	838.44	838.77	839.20	839.71	840.13	840.70	841.17	841.50	841.82
838.81	838.60	838.39	838.17	838.01	837.98	838.08	838.33	838.72	839.21	839.70	840.18	840.67	841.16	841.65	842.02

842.00	841.81	841.47	840.80	839.53	837.83	836.41	835.16	834.12	833.33	832.72	832.20	831.78	831.50	831.30	
842.10	841.91	841.42	840.65	839.59	838.25	836.74	835.38	834.23	833.29	832.56	832.05	831.75	831.51	831.28	

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 06

Monday, March 02, 2020 5:17:11 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1
PLANS
MARCH 2020

579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00

STA. 579+00

STA. 594+00

OPTION 1
PROPOSED R/W

OPTION 1
TOC/TOS

CL SURVEY/ SL
RIBBON ROAD

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

OPTION 1
PROPOSED R/W

OPTION 1
TOC/TOS

Pres. R/W

S 340 RD

TUG

Section Line

OPTION 1
TOC/TOS

OPTION 1
PROPOSED R/W

Rubber Water Tank

WV
Top Nut Elev.=819.36

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 581+30.00
ELEV = 830.20
L = 180.00
K = 65.14

VPI 584+95.00
ELEV = 818.40
L = 550.00
K = 80.94

VPI 589+75.00
ELEV = 835.50
L = 200.00
K = 89.95

VPC 580+40.00
ELEV. = 830.62

VPT & VPC 582+20.00
ELEV. = 827.29

VPT 587+70.00
ELEV. = 828.20

VPC 588+75.00
ELEV. = 831.94

VPT 590+75.00
ELEV. = 836.84

0.47%

3.56%

1.34%

Ex. Grade @ ℄ Survey

FINISHED GRADE

OPTION 1
SP. DT. LT.

OPTION 1
SP. DT. RT.

X11 - STA. 584+78
EXIST. 12'X4' ARCHED RCB
FL LT. = 817.22
FL RT. = 816.52

850 845 840 835 830 825 820 815 810

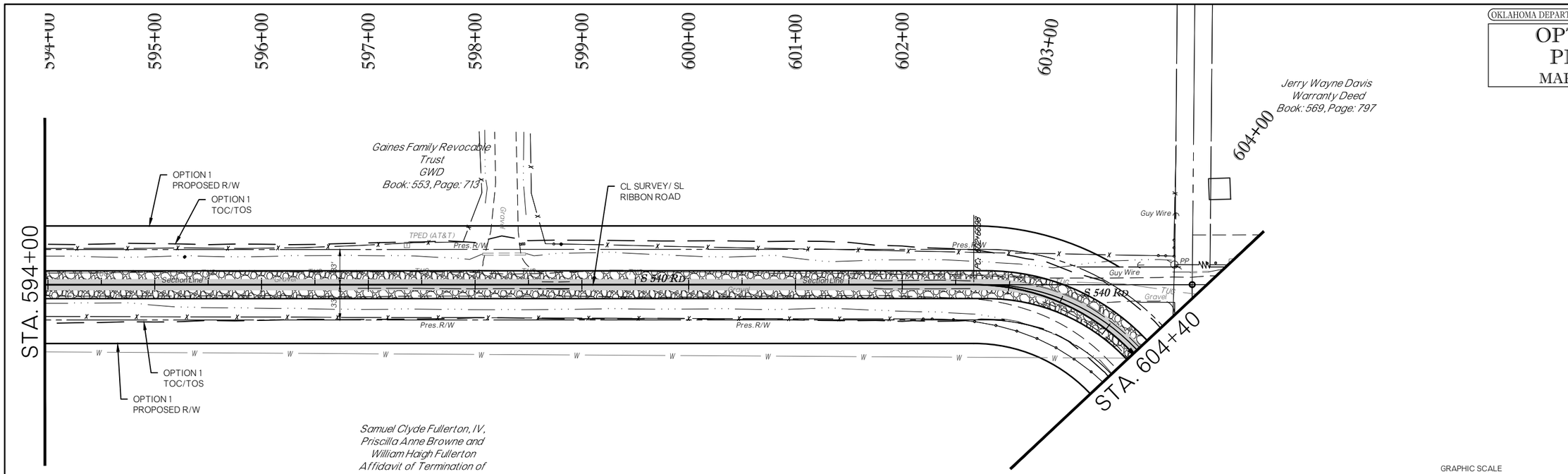
579+00	580+00	581+00	582+00	583+00	584+00	585+00	586+00	587+00	588+00	589+00	590+00	591+00	592+00	593+00	594+00
831.30	*831.12*	*830.86*	*830.51*	*830.07*	*829.05*	*827.99*	*826.50*	*824.80*	*823.47*	*822.59*	*822.10*	*822.13*	*822.59*	*823.29*	*824.37*
831.28	831.04	830.81	830.57	830.06	829.18	827.91	826.38	825.10	824.13	823.47	823.12	823.08	823.35	823.93	824.81

825.83	*827.42*	*829.14*	*831.04*	*832.66*	*834.16*	*835.43*	*836.39*	*837.10*	*837.91*	*838.39*	*839.00*	*839.74*	*840.50*	*841.18*	
826.01	827.51	829.27	831.05	832.79	834.30	835.52	836.47	837.17	837.84	838.51	839.18	839.85	840.52	841.19	

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS

MARCH 2020

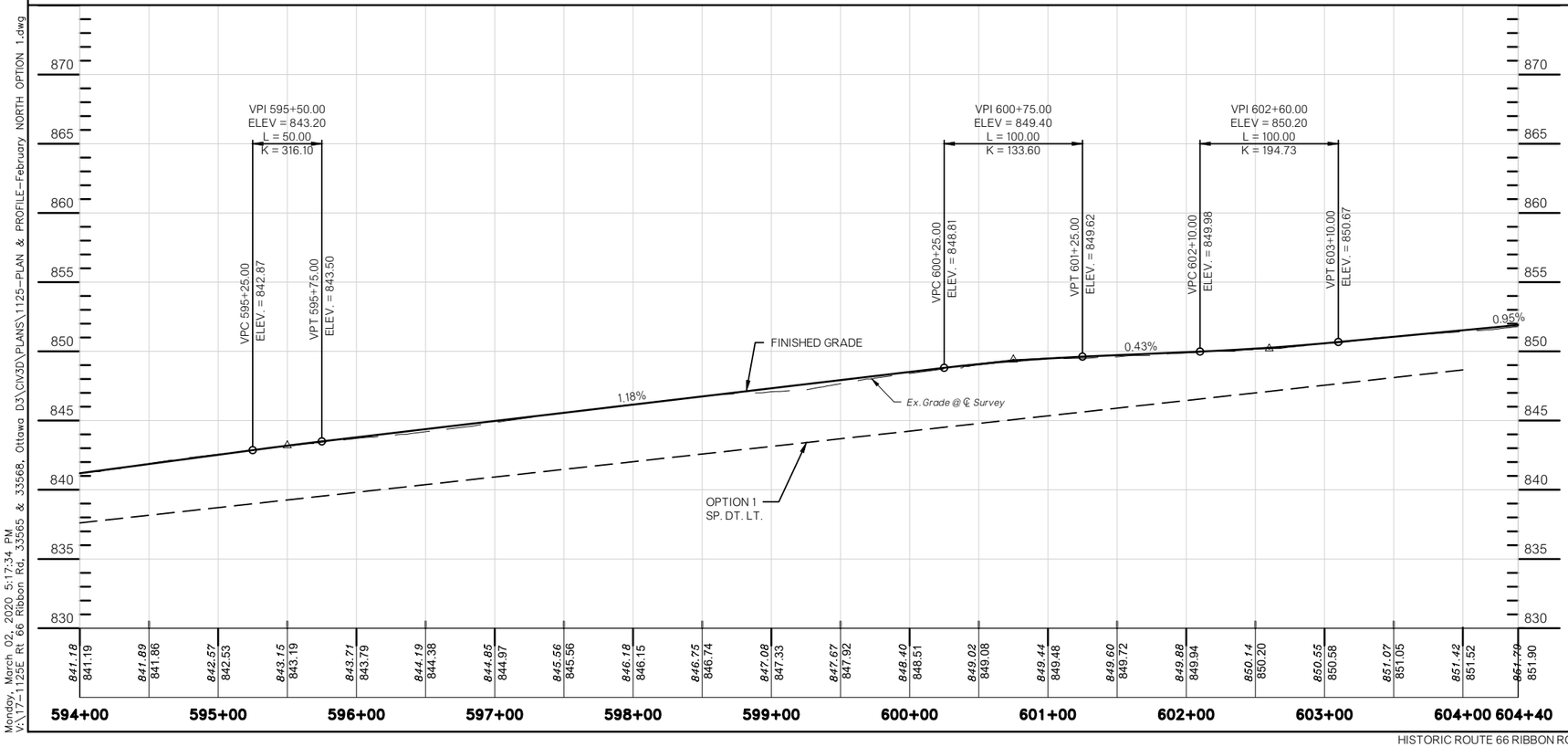


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

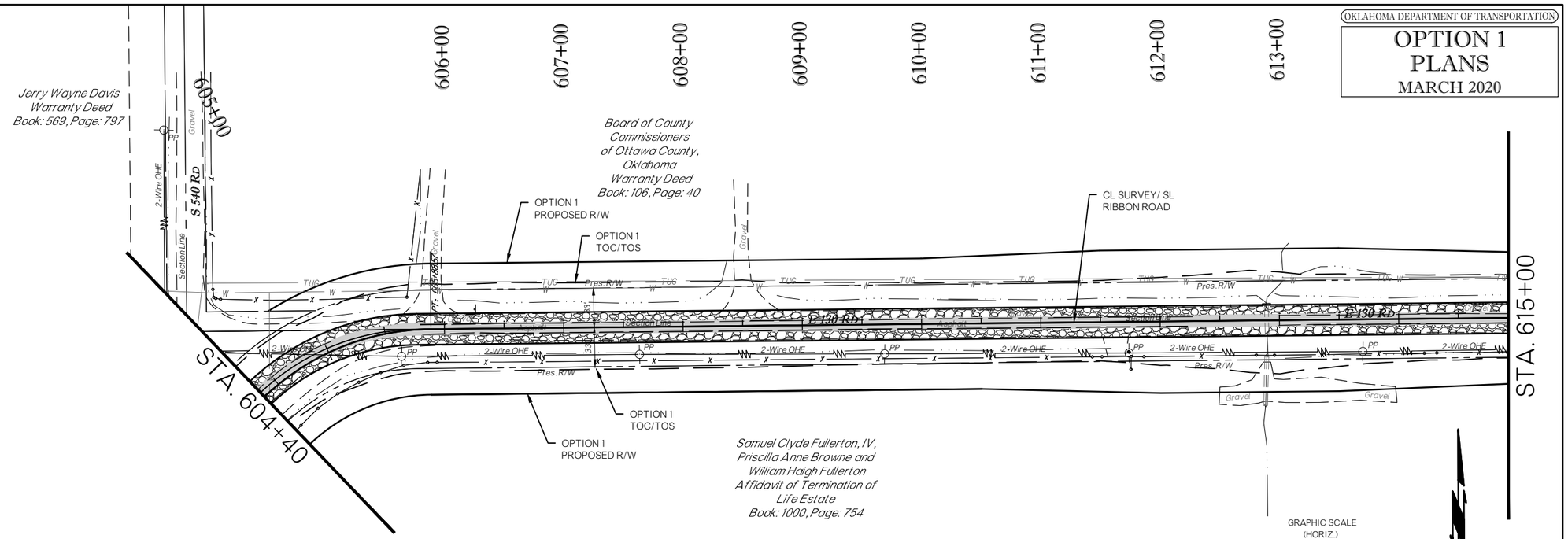
NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

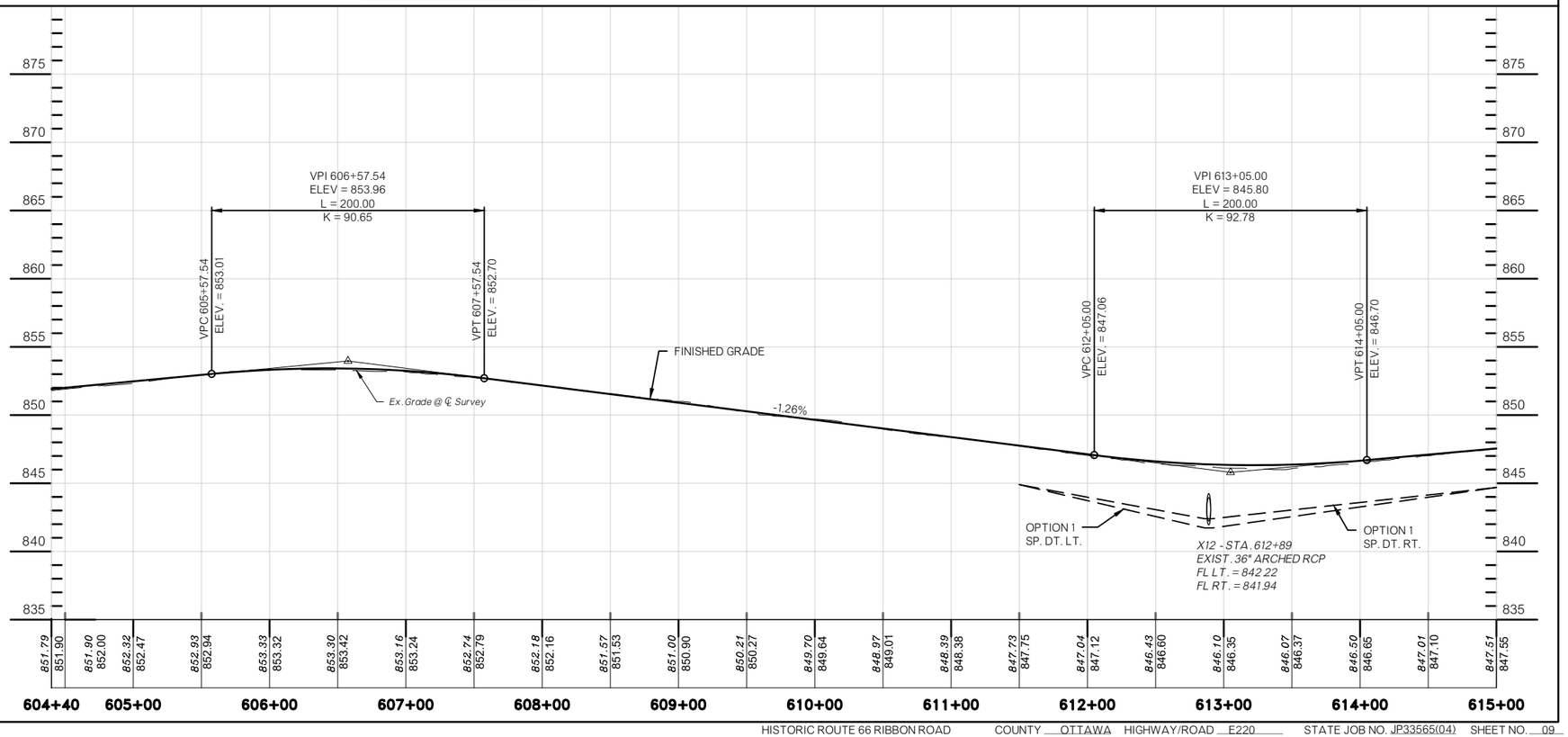


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | 626+00 | 627+00 | 628+00 | STA. 630+00

Board of County Commissioners of Ottawa County, Oklahoma Warranty Deed Book: 106, Page: 40

James E. Beautte and Rhonda S. Beautte JTWD Book: 746, Page: 597

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement dated March 2, 2007 QCD Book: 837, Page: 210

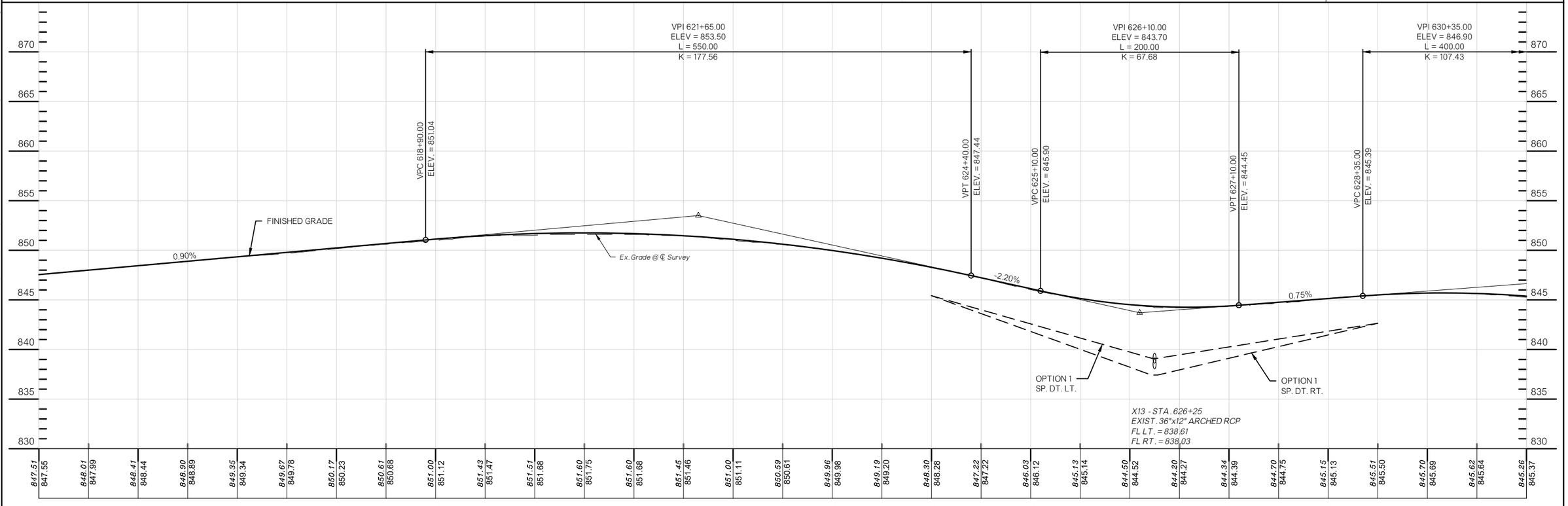
Property Line | Section Line | E 130 Rd | OPTION 1 PROPOSED R/W | OPTION 1 TOC/TOS | CL SURVEY/ SL RIBBON ROAD | Pres. R/W | 2-Wire OHE | PP | PP w/ Dip | Guy Wire | Gravel | Asphalt | TUG | WM | Cattle Guard | TPED

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Monday, March 02, 2020 5:17:57 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 630+00 631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00 STA. 645+00

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Charles W. Rogers and Patsy J. Rogers JTWD Book: 601, Page: 776

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

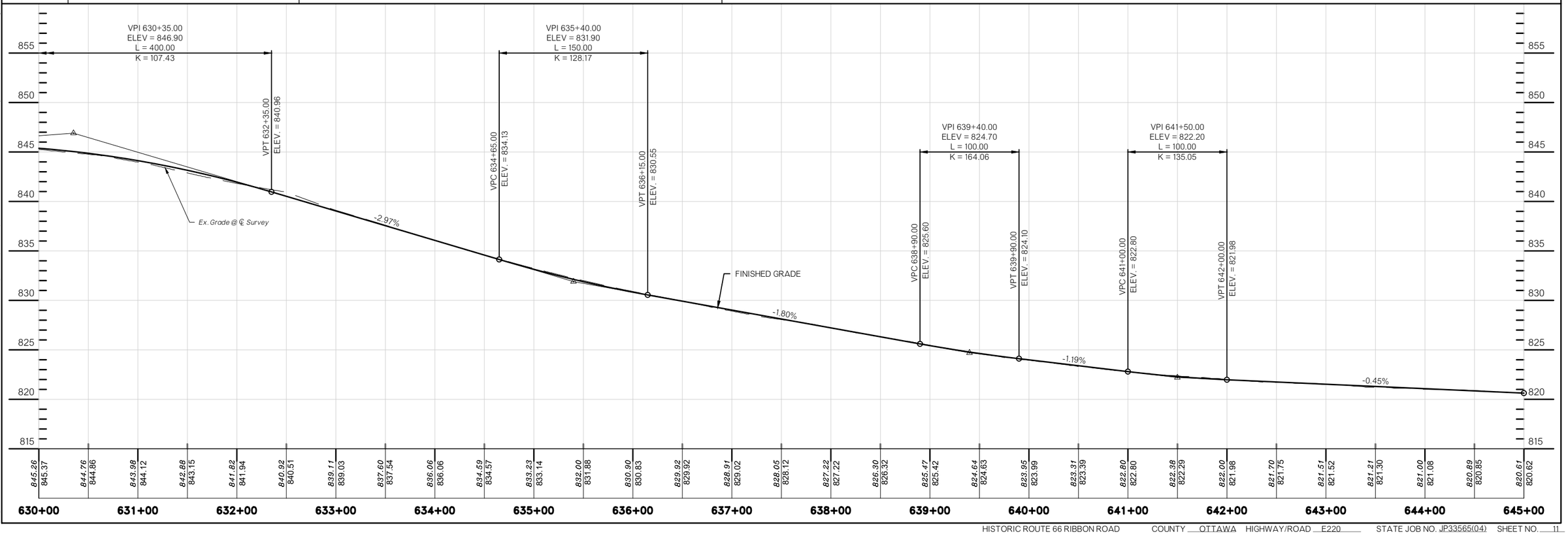
Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 Rd
1/4 Section Line
Property Line
2-Wire OHE
3-Wire OHE
Pres. R/W
Gravel
Asphalt
Guy Wire
PP
PED
WM

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 645+00 | 646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00 | STA. 660+00

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Mark E. Grigsby and Sharon Grigsby JTWD Book: 607, Page: 527

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 Rd
S 550 Rd
Property Line
Section Line
2-Wire OHE
Pres. R/W
Gravel
Asphalt
TUG
TUG Marker (SW Bell)
Guy Wire
PP
WM
TPED
FO Marker (Rec Tec)
FO Marker (SW Bell)
1-Wire OHT
2-Wire OHT
PP W/ Dup

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 645+50.00 ELEV = 820.40 L = 100.00 K = 238.81
VPC 645+00.00 ELEV. = 820.62
VPT 646+00.00 ELEV. = 820.38
VPI 651+90.00 ELEV = 820.20 L = 200.00 K = 169.46
VPC 650+90.00 ELEV. = 820.23
VPT 652+90.00 ELEV. = 821.35
VPI 656+60.00 ELEV = 825.60 L = 300.00 K = 116.39
VPC 655+10.00 ELEV. = 823.88
VPT 658+10.00 ELEV. = 823.46
VPI 660+10.00 ELEV = 820.60 L = 200.00 K = 292.44
VPC 659+10.00 ELEV. = 822.03

FINISHED GRADE
-0.03%
1.15%
-1.43%
Ex. Grade @ ℄ Survey
OPTION 1 SP. DT. LT.
OPTION 1 SP. DT. RT.

X14 - STA. 648+65
EXIST. 36"x18" ARCHED RCP
FL LT. = 817.23
FL RT. = 817.71

820.61 820.62 | 820.50 820.45 | 820.40 820.38 | 820.30 820.37 | 820.24 820.35 | 820.10 820.34 | 820.08 820.32 | 820.10 820.31 | 820.20 820.29 | 820.20 820.28 | 820.20 820.26 | 820.20 820.24 | 820.20 820.23 | 820.38 820.32 | 820.60 820.55 | 820.97 820.94 | 821.47 821.46 | 822.02 822.04 | 822.60 822.61 | 823.15 823.19 | 823.69 823.76 | 824.10 824.27 | 824.20 824.56 | 824.80 824.64 | 824.60 824.51 | 824.06 824.16 | 823.52 823.60 | 822.83 822.89 | 822.13 822.17 | 821.50 821.48 | 821.00 820.88

645+00 646+00 647+00 648+00 649+00 650+00 651+00 652+00 653+00 654+00 655+00 656+00 657+00 658+00 659+00 660+00

Monday, March 02, 2020 5:18:24 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 12

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00

STA. 660+00

STA. 675+00

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

ROCMND Area Youth Services, Inc. WD Book: 474, Page: 923

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

Property Line

Property Line

Gravel

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

E 130 RD

Section Line

Asphalt

Pres. R/W

TPED

TUG

1-Wire OHT

2-Wire OHE

FIB

PP

FO Marker (SW Bell)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 660+10.00
ELEV = 820.60
L = 200.00
K = 292.44

VPI 664+80.00
ELEV = 817.10
L = 150.00
K = 391.67

VPI 669+50.00
ELEV = 815.40
L = 200.00
K = 505.76

VPT 661+10.00 ELEV. = 819.86

VPC 664+05.00 ELEV. = 817.66

VPT 665+55.00 ELEV. = 816.83

VPC 668+50.00 ELEV. = 815.76

VPT 670+50.00 ELEV. = 814.64

FINISHED GRADE

-0.74%

-0.36%

-0.76%

Ex. Grade @ ℄ Survey

OPTION 1 SP. DT. RT.

OPTION 1 SP. DT. LT.

X15 - STA. 667+17
EXIST. 36"x20" ARCHED RCP
FL LT. = 812.71
FL RT. = 812.76

840 835 830 825 820 815 810 805 800

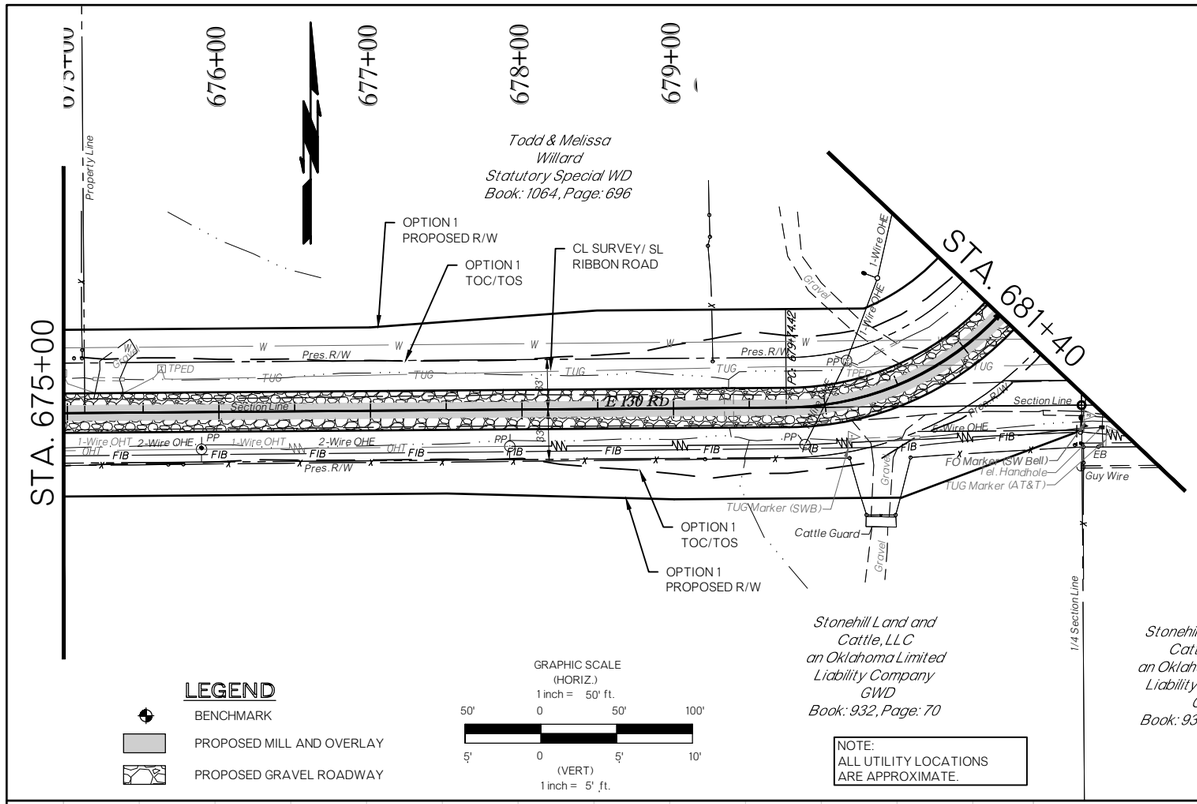
660+00	661+00	662+00	663+00	664+00	665+00	666+00	667+00	668+00	669+00	670+00	671+00	672+00	673+00	674+00	675+00
821.00	820.52	819.99	819.55	819.07	818.69	818.31	818.00	817.74	817.31	817.10	816.92	816.72	816.54	816.32	816.10
820.88	820.36	819.93	819.56	819.19	818.81	818.44	818.07	817.70	817.35	817.07	816.85	816.67	816.49	816.30	816.12

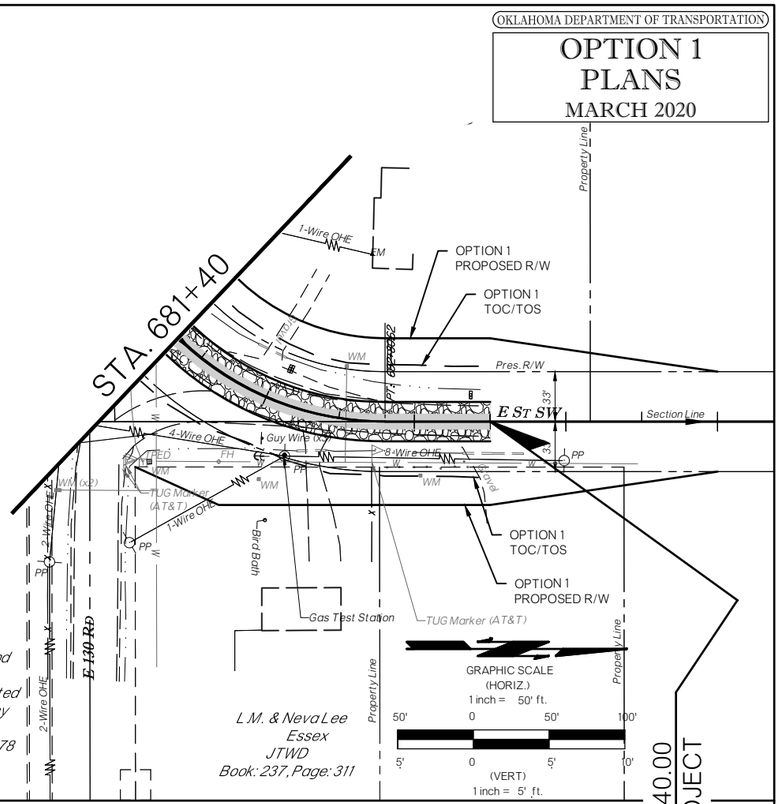
815.92	815.78	815.50	815.18	814.85	814.57	814.26	813.87	813.46	813.16	812.81	812.43	811.96	811.59	811.12
815.94	815.76	815.56	815.30	815.00	814.64	814.26	813.89	813.51	813.13	812.75	812.37	811.99	811.61	811.24

Monday, March 02, 2020 5:18:37 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020



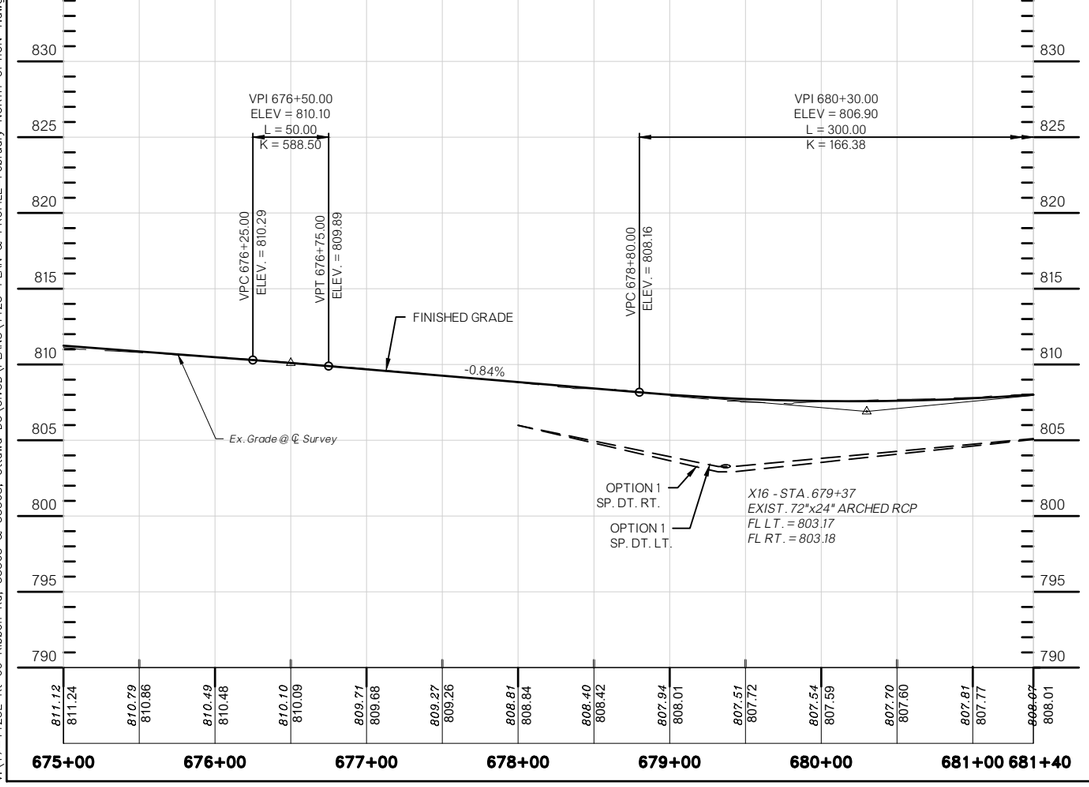


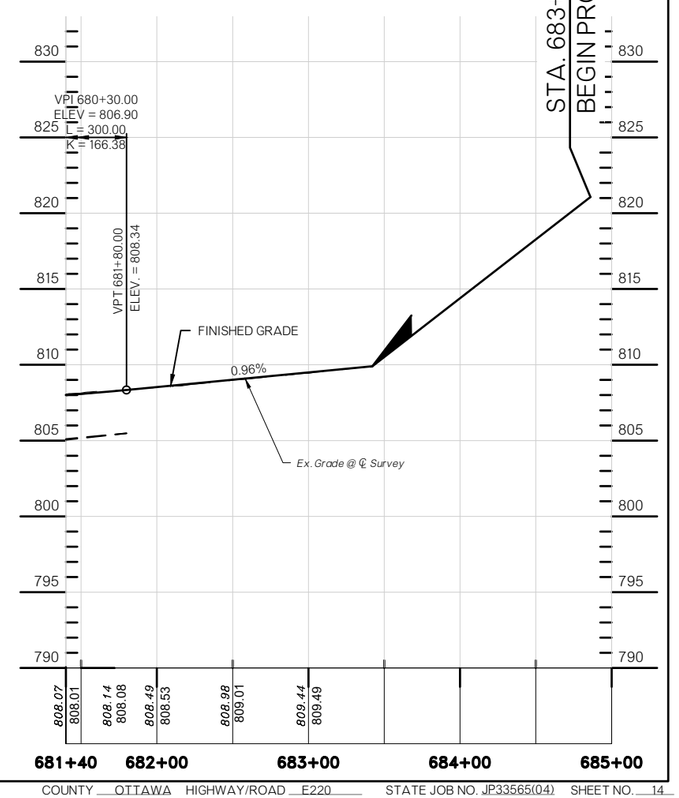
LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.





Monday, March 02, 2020 5:19:02 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

10+00 11+00 12+00 13+00 14+00 15+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

OHT

Asphalt HWY 60

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

Rickie L. Farmer QCD Book: 844, Page: 50

Gravel

BP: 10+00.00

PC: 14+38.39

STA. 17+50

Gravel

33'

E 220 Rd

Asphalt

Prev. R/W

OPTION 1 TOC/TOS

CL SURVEY RIBBON ROAD

OPTION 1 PROPOSED R/W

James Ronald Fuser GWD Book: 455, Page: 50

S 520 RD

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

STA. 12+00.00 BEGIN PROJECT
STATE JOB NO. JP33565(04)

VPI 13+90.00
ELEV = 788.64
L = 100.00
K = 72.62

VPI 15+70.00
ELEV = 787.72
L = 100.00
K = 125.40

VPC 13+40.00 ELEV. = 788.21
VPT 14+40.00 ELEV. = 788.38
VPC 15+20.00 ELEV. = 787.98
VPT 16+20.00 ELEV. = 787.86
VPC 17+40.00 ELEV. = 788.21

0.87% -0.51% 0.29%

X1
STA. 17+27.00
32" X 12" RCP ARCHED
FL LT.=BURIED
FL RT.=BURIED

810 805 800 795 790 785 780 775 770

5+50 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

787.14 786.99 786.99 787.44 787.43 787.85 787.86 788.27 788.29 788.46 788.48 788.30 788.33 788.07 788.08 787.88 787.86 787.84 787.82 787.95 787.95 788.06 788.09 788.23

Wednesday, March 04, 2020 3:29:00 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

20+00 21+00 22+00 23+00 24+00 25+00

STA. 17+50

STA. 27+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

CL SURVEY/ SL RIBBON ROAD

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

S 520 RD

E 220 RD

HWY 60

OHT

Gravel

Asphalt

TUG

24" CMP

Concrete Pad

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

Michael & Tracy Wheatley JTWD Book: 965, Page: 481

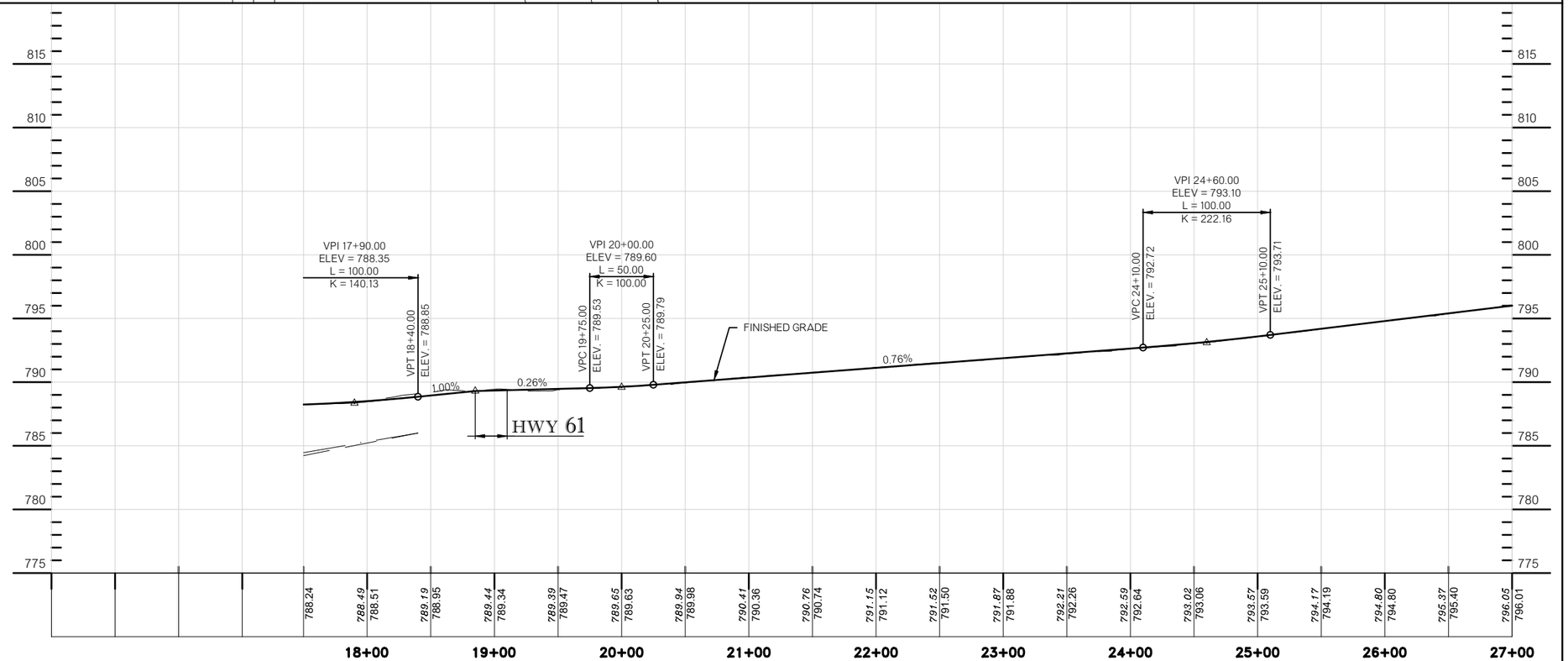
The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'



Wednesday, March 04, 2020 3:29:11 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00

STA. 27+00

STA. 42+00

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

Richard L. & Ellen D. Partain JTWD Book: 896, Page: 370

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY / SL RIBBON ROAD

S 520 RD

Gravel

OPTION 1 TOC/TOS

OPTION 1 PROPOSED R/W

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

Rici Partain & Ellen Partain JTWD Book: 654, Page: 618

200'

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

825 820 815 810 805 800 795 790 785

VPI 30+05.00
ELEV = 799.70
L = 150.00
K = 88.07

VPI 31+80.00
ELEV = 804.80
L = 200.00
K = 64.91

VPI 33+60.00
ELEV = 804.50
L = 160.00
K = 86.94

VPI 40+65.00
ELEV = 816.30
L = 400.00
K = 144.64

VPC 29+30.00 ELEV. = 798.79

VPT & VPC 30+80.00 ELEV. = 801.89

VPT & VPC 32+80.00 ELEV. = 804.63

VPT 34+40.00 ELEV. = 805.84

VPC 38+65.00 ELEV. = 812.95

FINISHED GRADE

1.21%

1.67%

Ex. Grade @ ℄ of Survey

796.05	796.70	797.23	797.73	798.28	798.96	799.78	801.02	802.48	803.50	804.39	804.20	804.36	804.60	805.09	805.85	806.61	807.42	808.38	809.21	810.00	810.91	811.76	812.58	813.31	814.16	814.72	814.91	814.80	814.70
796.01	796.61	797.22	797.82	798.43	799.06	799.92	801.06	802.44	803.55	804.27	804.61	804.62	804.80	805.26	806.01	806.84	807.68	808.52	809.35	810.19	811.03	811.86	812.70	813.50	814.13	814.58	814.87	814.91	814.68

27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 03

Wednesday, March 04, 2020 3:29:21 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 42+00 | 43+00 | 44+00 | 45+00 | 46+00 | 47+00 | 48+00 | 49+00 | 50+00 | 51+00 | 52+00 | 53+00 | 54+00 | 55+00 | STA. 57+00

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY / SL RIBBON ROAD
OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

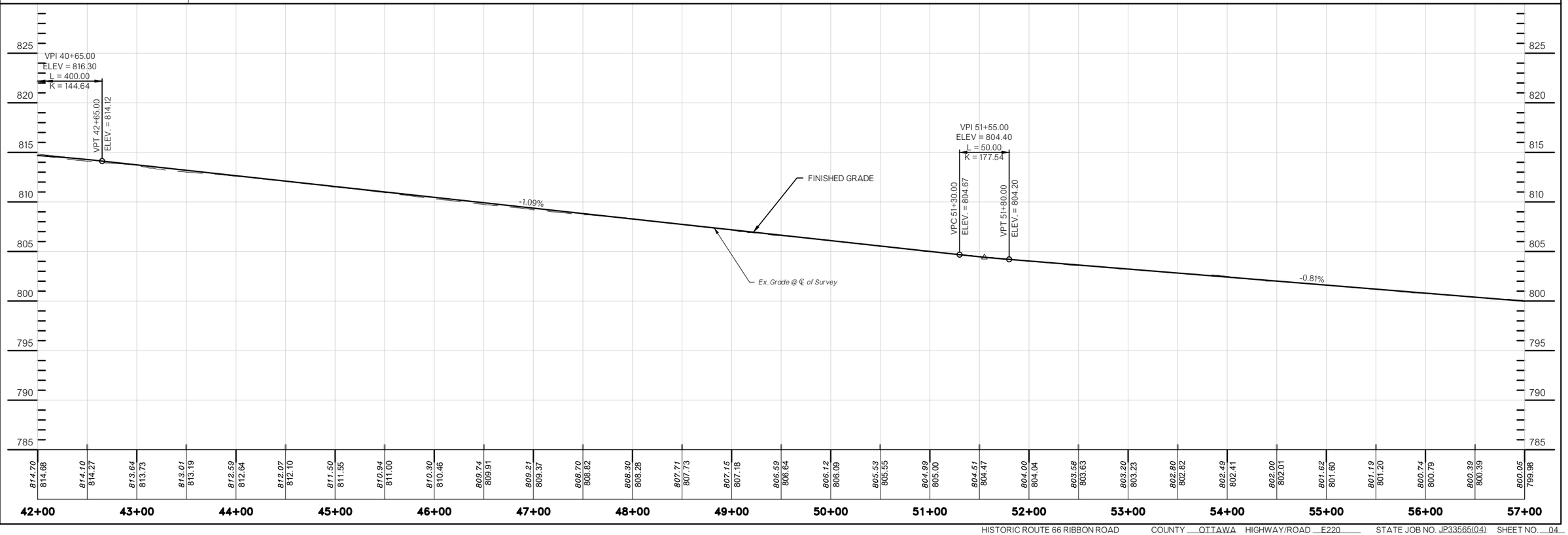
S 520 RD

Richard L. & Ellen D. Partain WD Book: 645, Page: 036

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Wednesday, March 04, 2020 3:29:32 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 57+00 | 58+00 | 59+00 | 60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | STA. 72+00

Richard L. & Ellen D. Partain
QCD
Book: 790, Page: 553

Marlin Turley & Shounds Bingham
JTWD
Book: 590, Page: 794

Justin Johnson
WD
Book: 1074, Page: 487

The Andre P. Derdeyn Revocable Trust
Warranty Deed
Book: 869, Page: 66

E 210 RD

S 520 RD

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

NWI WETLAND
NHD FLOWLINE

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

820 / 815 / 810 / 805 / 800 / 795 / 790 / 785 / 780

VPC 57+90.00 ELEV. = 799.26

VPI 58+40.00 ELEV = 798.85 L = 100.00 K = 183.76

VPT 58+90.00 ELEV. = 798.17

-1.35%

VPC 59+90.00 ELEV. = 796.82

VPI 60+80.00 ELEV = 795.60 L = 180.00 K = 132.92

VPT 61+70.00 ELEV. = 795.60

-0.00%

VPC 64+45.00 ELEV. = 795.60

VPI 64+95.00 ELEV = 795.60 L = 100.00 K = 126.22

VPT 65+45.00 ELEV. = 796.00

FINISHED GRADE

0.79%

VPC 69+60.00 ELEV. = 799.28

VPI 70+00.00 ELEV = 799.60 L = 80.00 K = 145.31

VPT 70+40.00 ELEV. = 799.70

Ex. Grade @ ℄ of Survey

SPECIAL DITCH LT.

SPECIAL DITCH RT.

X2
STA. 62+55
2-36" RCP
FL LT.=790.90
FL RT.=790.70

57+00	58+00	59+00	60+00	61+00	62+00	63+00	64+00	65+00	66+00	67+00	68+00	69+00	70+00	71+00	72+00
800.05	799.58	799.17	798.60	798.08	797.25	796.59	796.12	795.80	795.60	795.57	795.50	795.50	795.64	795.70	796.02	796.44	796.74	797.19	797.63	798.04	798.40	798.80	799.23	799.23	799.57	799.73	799.80	799.91
799.98	799.58	799.17	798.67	798.04	797.36	796.69	796.14	795.78	795.61	795.60	795.60	795.60	795.60	795.60	795.60	796.43	796.83	797.22	797.62	798.02	798.41	798.81	799.20	799.54	799.72	799.84	799.96	800.08

Wednesday, March 04, 2020 3:29:41 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Turley Properties, LLC QCD Book: 1081, Page: 325

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 287

Oklahoma Turnpike Authority Warranty Deed Book: 255, Page: 550

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Note: To erect a single pole electric line along the easterly line of the SE/4, SE/4 of Sec. 21, T.26N., R.22E.

Public Service Company of Oklahoma Right of Way Easement Book: 282, Page: 885

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

STA. 72+00

STA. 87+00

S 520 Rd

Bridge Deck

PT. - 86+00.03

LEGEND

BENCHMARK

PROPOSED MILL AND OVERLAY

PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 78+50.00 BEGIN EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

0.24%

Ex. Grade @ ℄ of Survey

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

800.08	800.20	800.32	800.45	800.57	800.69	800.81	800.93	801.05	801.17	801.29	801.41	801.53	801.65	801.77	801.90	802.02	802.30	802.90	803.83	805.09	806.66	808.56	810.78	813.33	816.04	818.63	820.68	822.12	822.95	823.18

72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

88+00 | 93+ | 94+00 | 95+00 | 96+00 | 97+00 | 98+00 | 99+00

STA. 82+00

STA. 101+00

Oklahoma Turnpike Authority No Deed Note: Area checks out with the less and except area declared as deeded to OTA, recorded in Book: 997, Page: 88.

State of Oklahoma Dedication Deed Book: 255, Page: 548

The Terry & Beth Rotman Trust Correction WD Book: 997, Page: 88

The Justin Dewayne Johnson Revocable Trust QCD Book: 954, Page: 432

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 289

John Mitchell Greniger Warranty Deed Book: 1036, Page: 46

Robert Allen Switzer WD Book: 559, Page: 632

Mobile Home FF Elev=796.22

Grave

Grave

Grave

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Nikole Marie Johnson
QCD
Book: 872, Page: 22

STA. 101+00

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

STA. 116+00

S 520 RD

Robert Allen Switzer
WD
Book: 559, Page: 632

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

820 815 810 805 800 795 790 785 780

VPI 102+45.00
ELEV = 795.65
L = 50.00
K = 455.14
VPC 102+20.00 ELEV. = 795.53
VPT 102+70.00 ELEV. = 795.80

FINISHED GRADE
0.61%
Ex. Grade @ ℄ of Survey

VPC 109+20.00 ELEV. = 799.75
VPI 111+10.00
ELEV = 800.90
L = 380.00
K = 169.91
VPT 113+00.00 ELEV. = 797.80
-1.63%

VPI 115+15.00
ELEV = 794.30
L = 50.00
K = 95.83
VPC 114+90.00 ELEV. = 794.71
VPT 115+40.00 ELEV. = 794.02

794.97 794.93 795.18 795.18 795.45 795.43 795.63 795.68 796.00 795.98 796.33 796.29 796.60 796.59 796.92 796.89 797.20 797.20 797.50 797.50 797.80 797.80 798.12 798.11 798.45 798.41 798.76 798.72 798.99 799.02 799.30 799.32 799.55 799.63 799.80 799.90 800.00 800.04 799.98 800.04 799.80 799.89 799.53 799.59 799.24 799.14 798.67 798.55 797.81 797.80 797.01 796.99 796.10 796.17 795.29 795.36 794.51 794.55 793.90 793.91 793.34 793.36

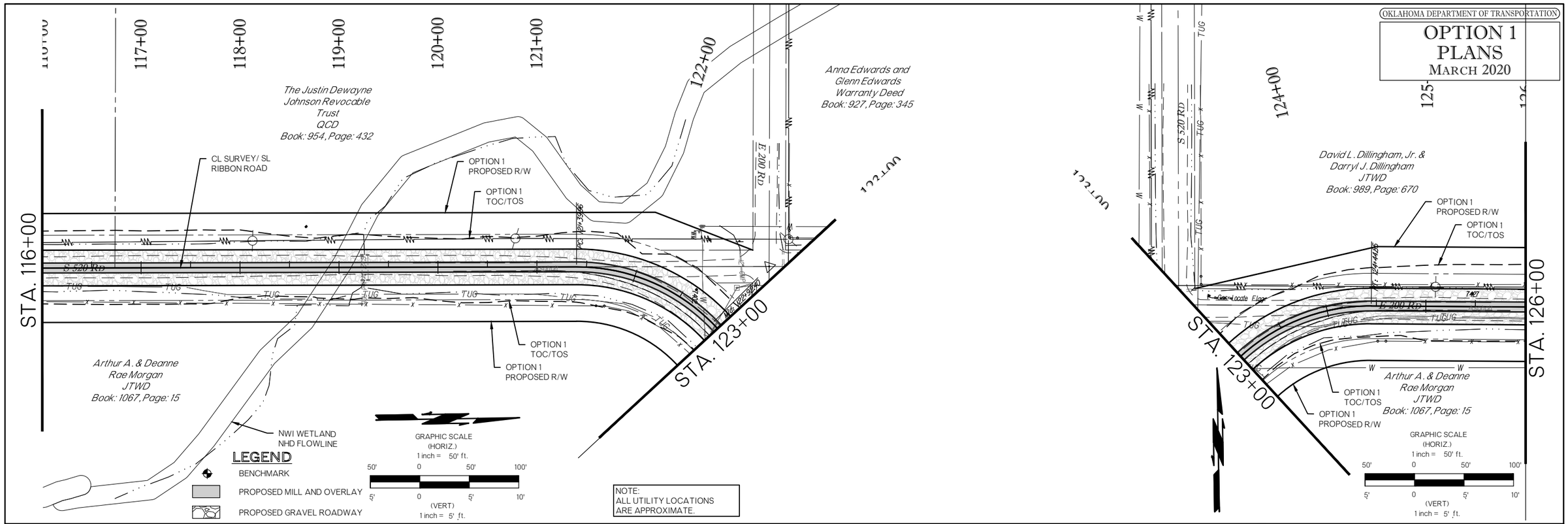
101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00

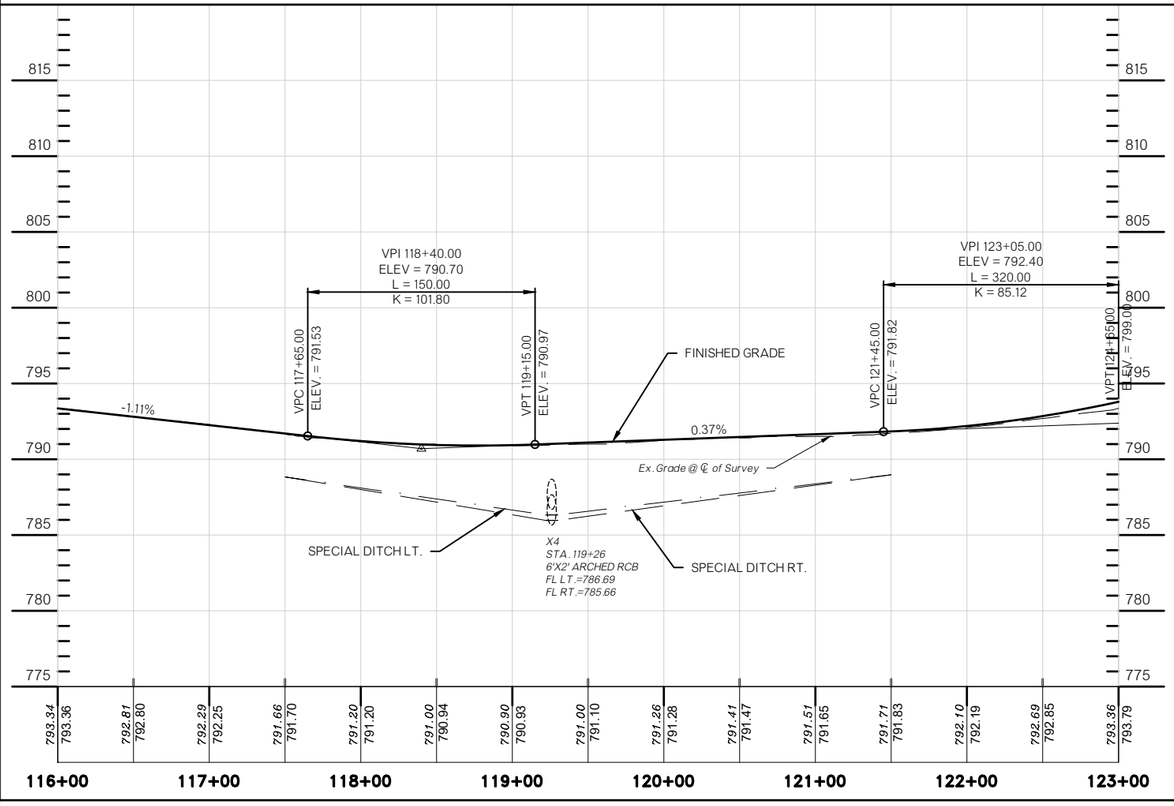
HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 08

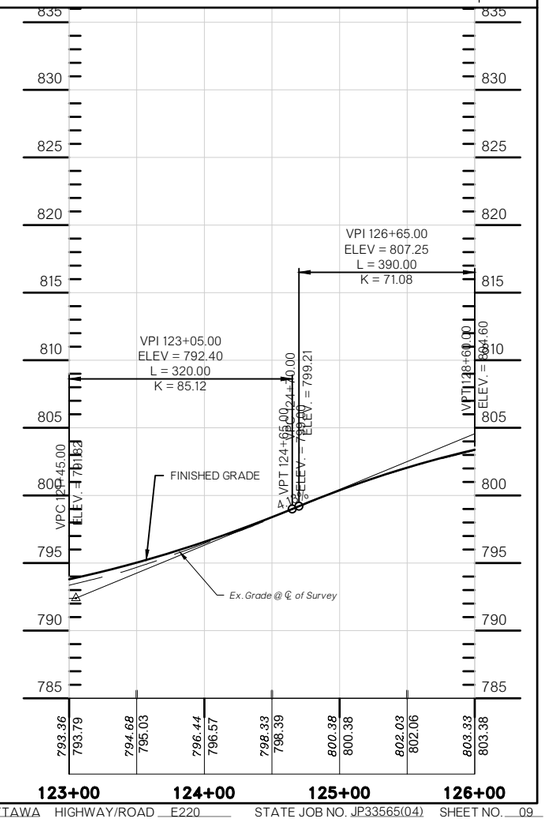
Wednesday, March 04, 2020 3:30:10 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020







OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

STA. 126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00 | 132+00 | 133+00 | 134+00 | 135+00 | 136+00 | 137+00 | 138+00 | 139+00 | STA. 141+00

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
Single Story Wood Framed House FF Elev.=809.61
Single Story Wood Framed House FF Elev.=809.28
James Brett & Melinda Dillingham JTWD Book: 870, Page: 172
CL SURVEY/ SL RIBBON ROAD
David L. Dillingham, Jr. & Darryl J. Dillingham JTWD Book: 989, Page: 670
Gregory M. Leonard & Mary A. Leonard Revocable Trust WD Book: 1033, Page: 117
Arthur A. & Deanne Rae Morgan JTWD Book: 1067, Page: 15
Concrete
Gravel
4" Redwood
WV
TUG
W
7429
7430
12" CMP
12" RCP
30" RCP
12' 200 12-D
Ditch(Silted)
Ditch(Grassed)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 126+65.00
ELEV = 807.25
L = 390.00
K = 71.08

VPI 130+80.00
ELEV = 801.60
L = 300.00
K = 184.91

VPC 124+70.00 ELEV. = 809.21
VPT 128+60.00 ELEV. = 804.60
VPC 129+30.00 ELEV. = 803.64
VPT 132+30.00 ELEV. = 801.99
-1.36%
0.26%
FINISHED GRADE
Ex. Grade @ ℄ of Survey
SPECIAL DITCH LT.
SPECIAL DITCH RT.
X5
STA. 134+80
30" ARCHED RCP
FL LT.=799.47
FL RT.=799.63

825 820 815 810 805 800 795 790 785

126+00	127+00	128+00	129+00	130+00	131+00	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00
803.33	804.29	804.99	805.30	805.19	804.73	804.07	803.42	802.73	802.37	802.22	802.14	802.10	802.04	802.09	802.18
803.38	804.35	804.97	805.24	805.16	804.72	804.05	803.38	802.82	802.40	802.11	801.96	801.94	802.04	802.17	802.30

802.30	802.40	802.60	802.70	802.88	803.00	803.11	803.32	803.48	803.51	803.67	803.63	803.79	803.93	804.07	
802.43	802.56	802.70	802.83	802.96	803.09	803.22	803.35	803.48	803.61	803.74	803.87	804.00	804.13	804.26	

Wednesday, March 04, 2020 3:30:40 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1 PLANS
MARCH 2020

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00

STA. 141+00

STA. 156+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

℄ 200 Rd

TUG

W

OPTION 1 TOC/TOS

OPTION 1 PROPOSED R/W

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

OPTION 1 TOC/TOS

OPTION 1 PROPOSED R/W

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

830 825 820 815 810 805 800 795 790

VPI 143+45.00
ELEV = 804.90
L = 50.00
K = 140.79

VPC 143+20.00
ELEV = 804.83

VPT 143+70.00
ELEV. = 805.05

FINISHED GRADE

0.62%

Ex. Grade @ ℄ of Survey

VPI 155+30.00
ELEV = 812.20
L = 100.00
K = 189.01

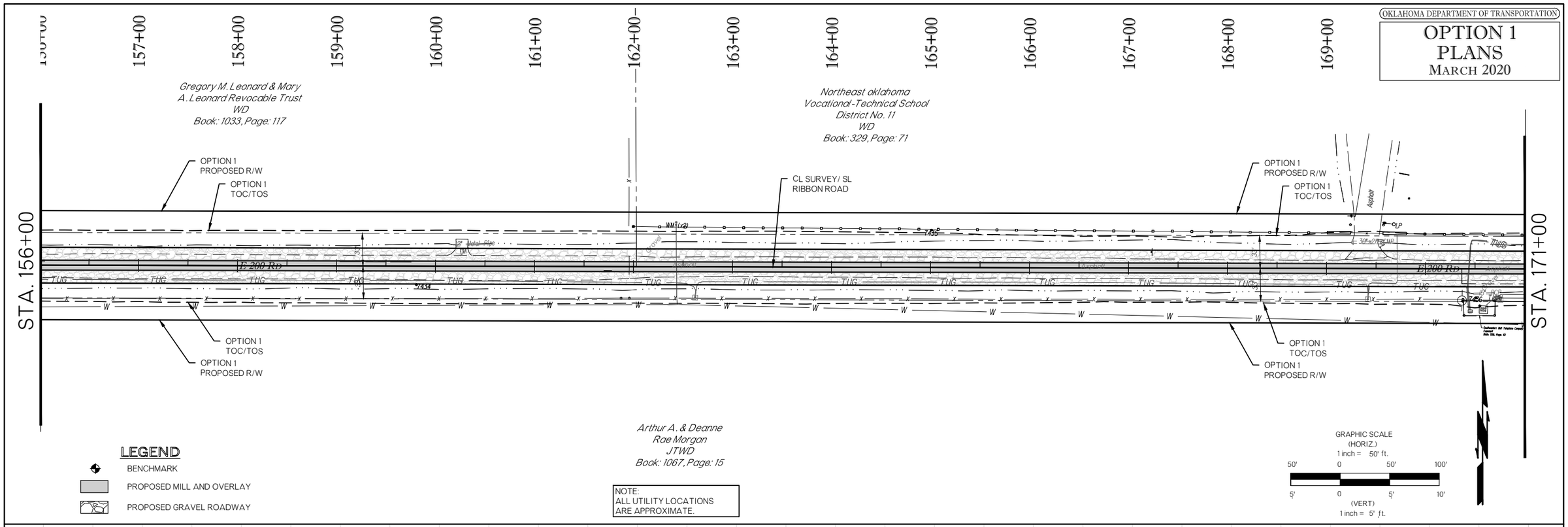
VPC 154+80.00
ELEV. = 811.89

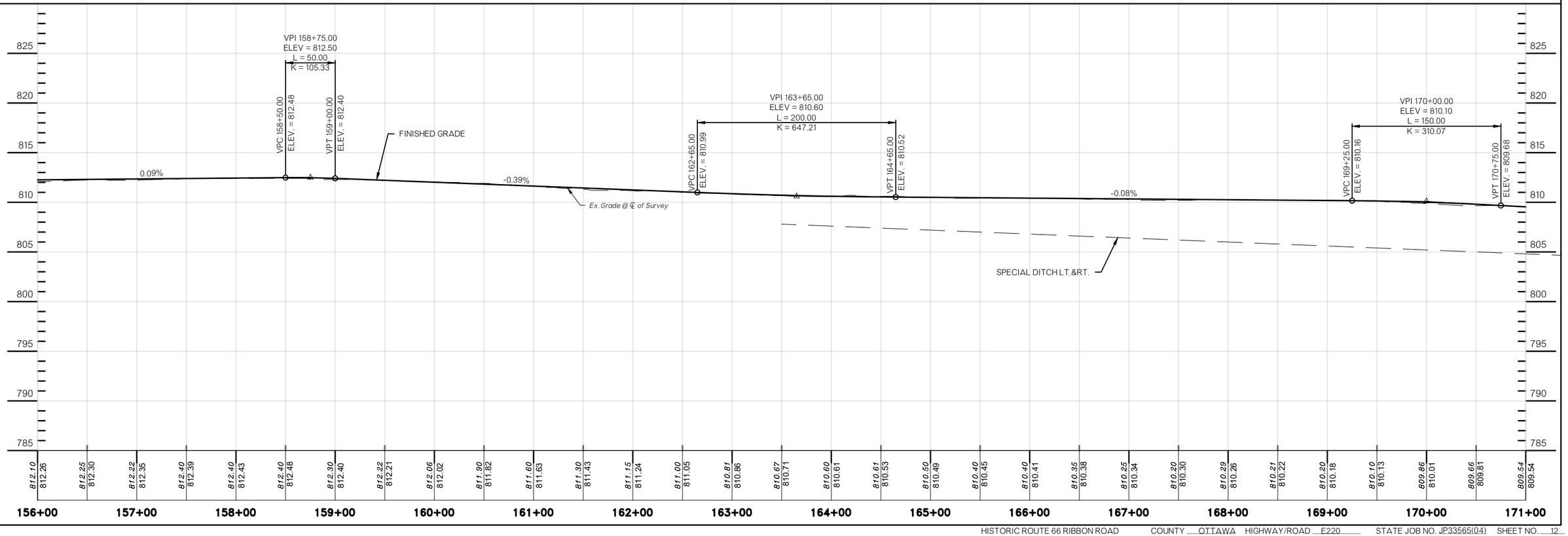
VPT 155+80.00
ELEV. = 812.24

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

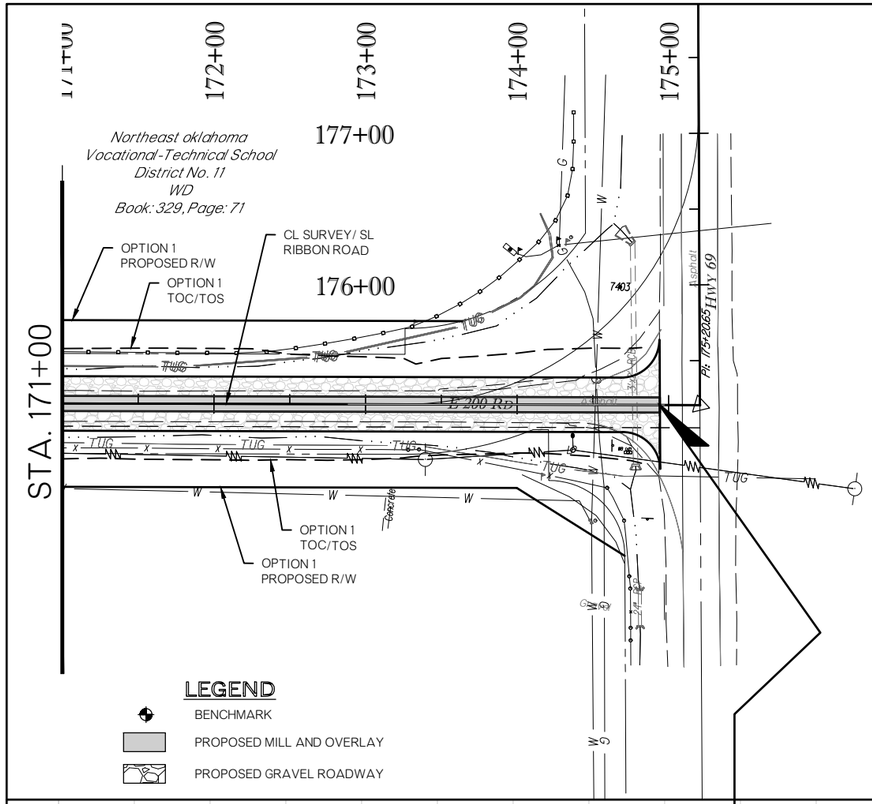
OPTION 1 PLANS
MARCH 2020





OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 1
PLANS
MARCH 2020

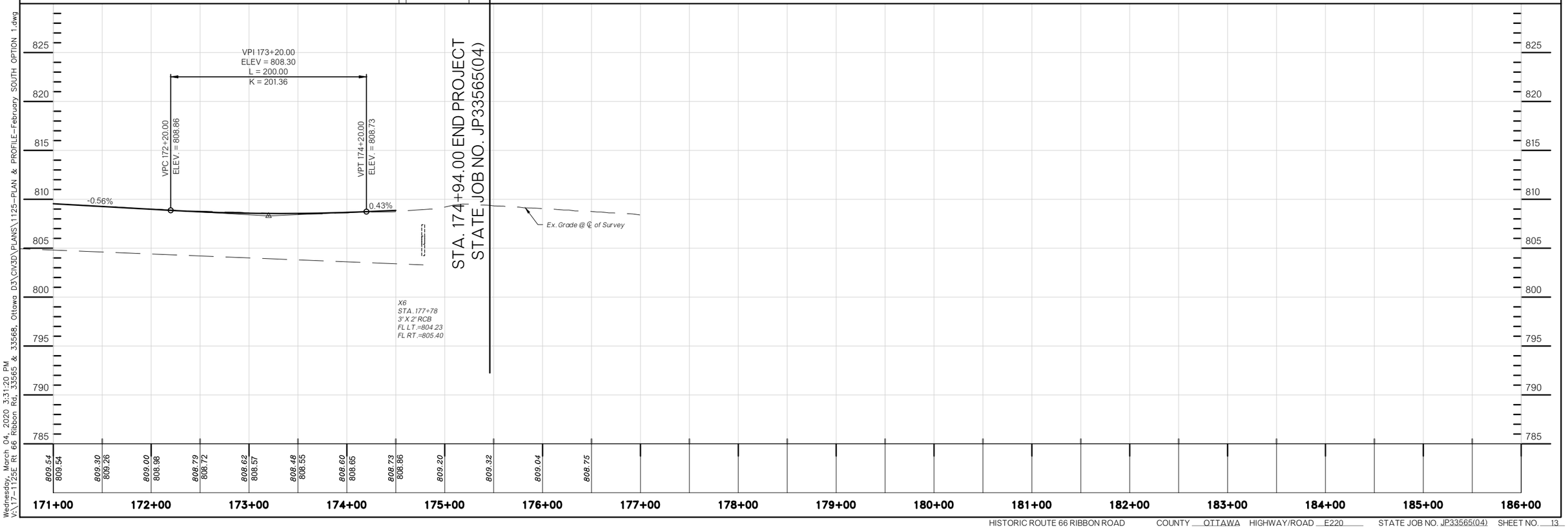


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Wednesday, March 04, 2020 3:31:20 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 1.dwg

APPENDIX 2 – ALTERNATIVE #2 CONCEPTUAL P&PS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00

WUG Marker
WUG Marker
OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
Gaines Family Revocable Trust GWD Book: 553, Page: 713
PP
2-Wire OHE
WUG Marker
Tel. Handhole
WUG Marker
Guy Wire
BP STA 500+00.00
Pres. R/W
Gravel
12" CMP
Section Line
E 140 Rd
SH 59
DESIGN SPEED - 60 m/h
STA 500+00
OPTION 2 TOC/TOS
OPTION 2 PROPOSED R/W
Gaines Family Revocable Trust GWD Book: 553, Page: 713
STA. 511+00

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

STA. 500+13.00 BEGIN PROJECT

VPI 502+05.00 ELEV = 831.10 L = 50.00 K = 94.21
VPC 501+80.00 ELEV. = 830.97
VPT 502+30.00 ELEV. = 831.10
VPI 504+35.00 ELEV = 831.09 L = 100.00 K = 104.60
VPC 503+85.00 ELEV. = 831.10
VPT 504+85.00 ELEV. = 830.61
VPI 509+35.00 ELEV = 826.30 L = 50.00 K = 131.25
VPC 509+10.00 ELEV. = 826.54
VPT 509+60.00 ELEV. = 826.16
VPI 511+60.00 ELEV = 825.00 L = 250.00 K = 133.31
VPC 510+35.00 ELEV. = 825.72

Ex. Grade @ ℄ Survey
0.53%
-0.00%
FINISHED GRADE
-0.96%
-0.58%
OPTION 2 SP. DT. LT.&RT.

855 850 845 840 835 830 825 820 815

830.16 830.52 830.28 830.82 830.55 831.10 830.81 831.03 831.05 831.10 831.10 831.10 831.10 831.10 831.10 831.00 831.08 830.85 830.89 830.45 830.47 830.00 829.99 829.54 829.51 829.06 829.03 828.55 828.55 828.06 828.07 827.63 827.59 827.21 827.11 826.65 826.64 826.26 826.22 825.99 825.92 825.70 825.63 825.16 825.19

496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00 510+00 511+00

Tuesday, March 03, 2020 2:25:36 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS

MARCH 2020

511+00 512+00 513+00 514+00 515+00 516+00 517+00 518+00 519+00 520+00 521+00 522+00 523+00 524+00

STA. 511+00

STA. 526+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

Property Line

Pres. R/W

E 140 Rd

Section Line

Asphalt

1st Gravel

2nd Gravel

33'

2-Wire OHE

PP

W

TUG Marker (AT&T)

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Ella Lou Reynolds Affidavit of Surviving Joint Tenant Book: 679, Page: 769

Edward E. Reynolds and Ella Lou Reynolds JTWD Book: 483, Page: 202

NWI WETLAND
NHD FLOWLINE

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 908, Page: 192

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 511+60.00
ELEV = 825.00
L = 250.00
K = 133.31

VPT 512+85.00
ELEV. = 821.93

VPI 514+80.00
ELEV = 817.15
L = 50.00
K = 166.47

VPC 514+55.00
ELEV. = 817.76

VPT 515+05.00
ELEV. = 816.61

VPI 518+40.00
ELEV = 809.40
L = 300.00
K = 151.05

VPC 516+90.00
ELEV. = 812.63

VPT 519+90.00
ELEV. = 809.15

VPI 522+60.00
ELEV = 808.70
L = 200.00
K = 199.23

VPC 521+60.00
ELEV. = 808.87

VPT 523+60.00
ELEV. = 809.54

-2.45%

-2.15%

-0.17%

FINISHED GRADE

OPTION 2 SP. DT. RT.

OPTION 2 SP. DT. LT.

Ex. Grade @ ℄ Survey

X7 - STA. 519+52
EXIST. 42" CMP
FL LT. = 803.03
FL RT. = 804.05

X8 - STA. 522+11
EXIST. 6'X2' RCB
FL LT. = 803.56
FL RT. = 801.93

835 830 825 820 815 810 805 800 795

511+00	512+00	513+00	514+00	515+00	516+00	517+00	518+00	519+00	520+00	521+00	522+00	523+00	524+00	525+00	526+00
825.16 825.16	*824.50* 824.50	*823.51* 823.51	*822.82* 822.82	*821.55* 821.55	*820.34* 820.34	*819.08* 819.08	*817.87* 817.87	*816.78* 816.78	*815.67* 815.67	*814.67* 814.67	*813.39* 813.39	*812.42* 812.42	*811.42* 811.42	*810.50* 810.50	*809.74* 809.74	*808.96* 808.96	*808.61* 808.61	*809.20* 809.20	*809.00* 809.00	*809.02* 809.02	*808.90* 808.90	*808.62* 808.62	*808.80* 808.80	*809.10* 809.10	*809.42* 809.42	*809.81* 809.81	*810.24* 810.24	*810.70* 810.70	*811.08* 811.08	*811.52* 811.52

Tuesday, March 03, 2020 2:25:55 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 02

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00

STA. 526+00

STA. 541+00

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

1/4 Section Line

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

OPTION 1 PROPOSED R/W

OPTION 1 TOC/TOS

Pres. R/W

Gravel

Asphalt

E 140 RD

Section Line

33'

2-Wire OHE

FIB

PP

W

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

TUG Marker (AT&T)

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 529+05.00
ELEV = 814.10
L = 50.00
K = 159.54

VPC 528+80.00
ELEV. = 813.89

VPT 529+30.00
ELEV. = 814.23

VPI 531+15.00
ELEV = 815.20
L = 50.00
K = 164.88

VPC 530+90.00
ELEV. = 815.07

VPT 531+40.00
ELEV. = 815.41

VPI 537+80.00
ELEV = 820.70
L = 300.00
K = 191.37

VPC 536+30.00
ELEV. = 819.46

VPT 539+30.00
ELEV. = 824.29

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPC 539+85.00
ELEV. = 825.61

0.84%

0.52%

0.83%

2.39%

FINISHED GRADE

EXISTING GRADE

840 835 830 825 820 815 810 805 800

811.52 811.55 | 811.90 811.97 | 812.38 812.38 | 812.82 812.80 | 813.20 813.22 | 813.60 813.64 | 814.00 814.05 | 814.29 814.34 | 814.57 814.60 | 814.88 814.86 | 815.11 815.12 | 815.50 815.49 | 815.85 815.90 | 816.24 816.32 | 816.67 816.73 | 816.91 817.14 | 817.38 817.56 | 817.91 817.97 | 818.37 818.38 | 818.79 818.80 | 819.22 819.21 | 819.71 819.64 | 820.23 820.17 | 820.80 820.83 | 821.61 821.62 | 822.60 822.54 | 823.61 823.60 | 824.76 824.77 | 825.95 825.96 | 827.04 827.00 | 827.87 827.84

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

STA. 541+00

STA. 552+40

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

Pres. R/W

Section Line

E 140 RD

Asphalt

Gravel

33'

FIB

W

2-Wire OHE

Pres. R/W

PP

WM

WV

Top Nut Elev.=826.68

TUG Marker (AT&T)

Guy Wire

TPED

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPT 543+35.00
ELEV. = 829.16

VPC 546+30.00
ELEV. = 828.08

VPI 546+80.00
ELEV = 827.90
L = 100.00
K = 226.68

VPT 547+30.00
ELEV. = 827.94

-0.37%

0.08%

FINISHED GRADE

Ex. Grade @ ℄ Survey

OPTION 2
SP. DT. RT.

X9 - STA. 551+22
EXIST. 3'X2' ARCHED RCP
FL LT. = 824.45
FL RT. = 824.46

850 845 840 835 830 825 820 815 810

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS

MARCH 2020

555+00 | 556+00 | 557+00 | 558+00 | 559+00 | 560+00 | 561+00 | 562+00

STA. 552+40

STA. 564+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

TUG Marker

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Pres. R/W

TUG

Section Line

Gravel

Asphalt

S 540 RD

TPED

Fire

W

PP

Tel. Handhole

TUG Marker (AT&T)

2-Wire O/HE

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Property Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

LEGEND

BENCHMARK

PROPOSED MILL AND OVERLAY

PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 553+40.00
ELEV = 828.40
L = 200.00
K = 230.23

VPI 557+00.00
ELEV = 831.80
L = 50.00
K = 148.10

VPI 562+85.00
ELEV = 839.30
L = 200.00
K = 117.16

VPC 552+40.00 ELEV = 828.21

VPT 554+40.00 ELEV. = 829.34

VPC 556+75.00 ELEV. = 831.56

VPT 557+25.00 ELEV. = 832.12

VPC 561+85.00 ELEV = 838.02

VPT 563+85.00 ELEV = 838.88

FINISHED GRADE

0.94%

1.28%

Ex. Grade @ ℄ Survey

OPTION 2 SP. DT. RT.

828.02	828.10	828.26	828.52	828.96	829.57	830.00	830.50	830.81	831.23	831.93	832.42	832.81	833.52	834.50	835.12	835.62	836.21	836.80	837.42	838.13	838.80	839.06	838.91	838.80
828.32	828.33	828.45	828.67	829.00	829.44	829.91	830.38	830.86	831.33	831.82	832.44	833.08	833.72	834.36	835.01	835.65	836.29	836.93	837.57	838.20	838.67	838.93	838.97	838.81

552+40 | 553+00 | 554+00 | 555+00 | 556+00 | 557+00 | 558+00 | 559+00 | 560+00 | 561+00 | 562+00 | 563+00 | 564+00

855 850 845 840 835 830 825 820 815

Tuesday, March 03, 2020 2:26:53 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 05

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS

MARCH 2020

564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00

STA. 564+00

STA. 579+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

1/4 Section Line

Pres. R/W

TUG

Section Line

S 540 RD

Gravel

33'

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

1/4 Section Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 566+85.00
ELEV = 837.60
L = 250.00
K = 178.60

VPI 572+80.00
ELEV = 843.40
L = 350.00
K = 87.44

VPI 576+40.00
ELEV = 832.50
L = 300.00
K = 117.26

VPC 565+60.00 ELEV. = 838.13

VPT 568+10.00 ELEV. = 838.82

VPC 571+05.00 ELEV. = 841.69

VPT 574+55.00 ELEV. = 838.10

VPC 574+90.00 ELEV. = 837.04

VPT 577+90.00 ELEV. = 831.80

Ex. Grade @ ℄ Survey

FINISHED GRADE

-0.42%

0.97%

-3.03%

OPTION 2 DT. RT.

OPTION 2 DT. RT.

X10 - STA. 566+30
EXIST. 36" ARCHED RCP
FL LT. = 834.56
FL RT. = 834.16

865 860 855 850 845 840 835 830 825

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00

STA. 579+00

STA. 594+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Pres. R/W

TOE

Gravel

33'

S 540 RD

Section Line

TOG

Rubber Water Tank

WV

Top Nut Elev.=819.36

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 581+30.00
ELEV = 830.20
L = 180.00
K = 65.14

VPI 584+95.00
ELEV = 818.40
L = 550.00
K = 80.94

VPI 589+75.00
ELEV = 835.50
L = 200.00
K = 89.95

VPC 580+40.00 ELEV. = 830.62

VPT & VPC 582+20.00 ELEV. = 827.29

VPT 587+70.00 ELEV. = 828.20

VPC 588+75.00 ELEV. = 831.94

VPT 590+75.00 ELEV. = 836.84

0.47%

3.56%

1.34%

FINISHED GRADE

Ex. Grade @ ℄ Survey

OPTION 2 SP. DT. LT.

OPTION 2 SP. DT. RT.

X11 - STA. 584+78
EXIST. 12'X4' ARCHED RCB
FL LT. = 817.22
FL RT. = 816.52

850 845 840 835 830 825 820 815 810

579+00	580+00	581+00	582+00	583+00	584+00	585+00	586+00	587+00	588+00	589+00	590+00	591+00	592+00	593+00	594+00
831.30	831.12	830.86	830.51	830.07	829.05	827.99	826.50	824.80	823.47	822.59	822.10	822.13	822.59	823.29	824.37
831.28	831.04	830.81	830.57	830.06	829.18	827.91	826.38	825.10	824.13	823.47	823.12	823.08	823.35	823.93	824.81

825.83	827.42	829.14	831.04	832.66	834.16	835.43	836.39	837.10	837.91	838.39	839.00	839.74	840.50	841.18
826.01	827.51	829.27	831.05	832.79	834.30	835.52	836.47	837.17	837.84	838.51	839.18	839.85	840.52	841.19

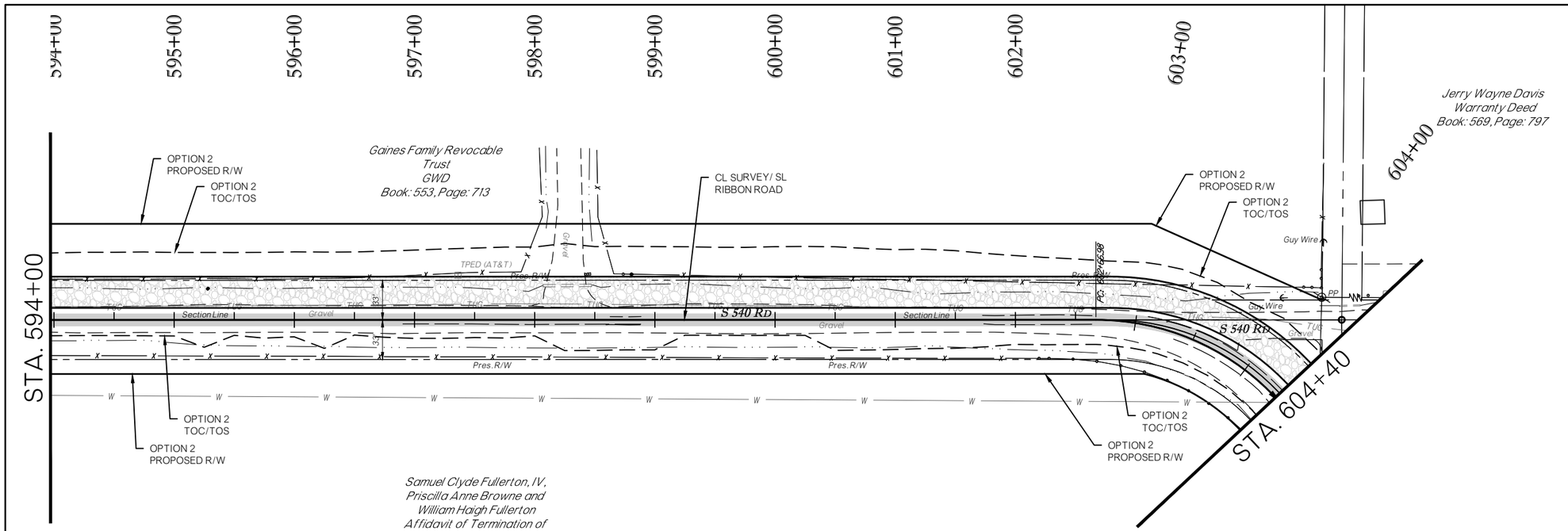
Tuesday, March 03, 2020 2:27:34 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 07

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS

MARCH 2020

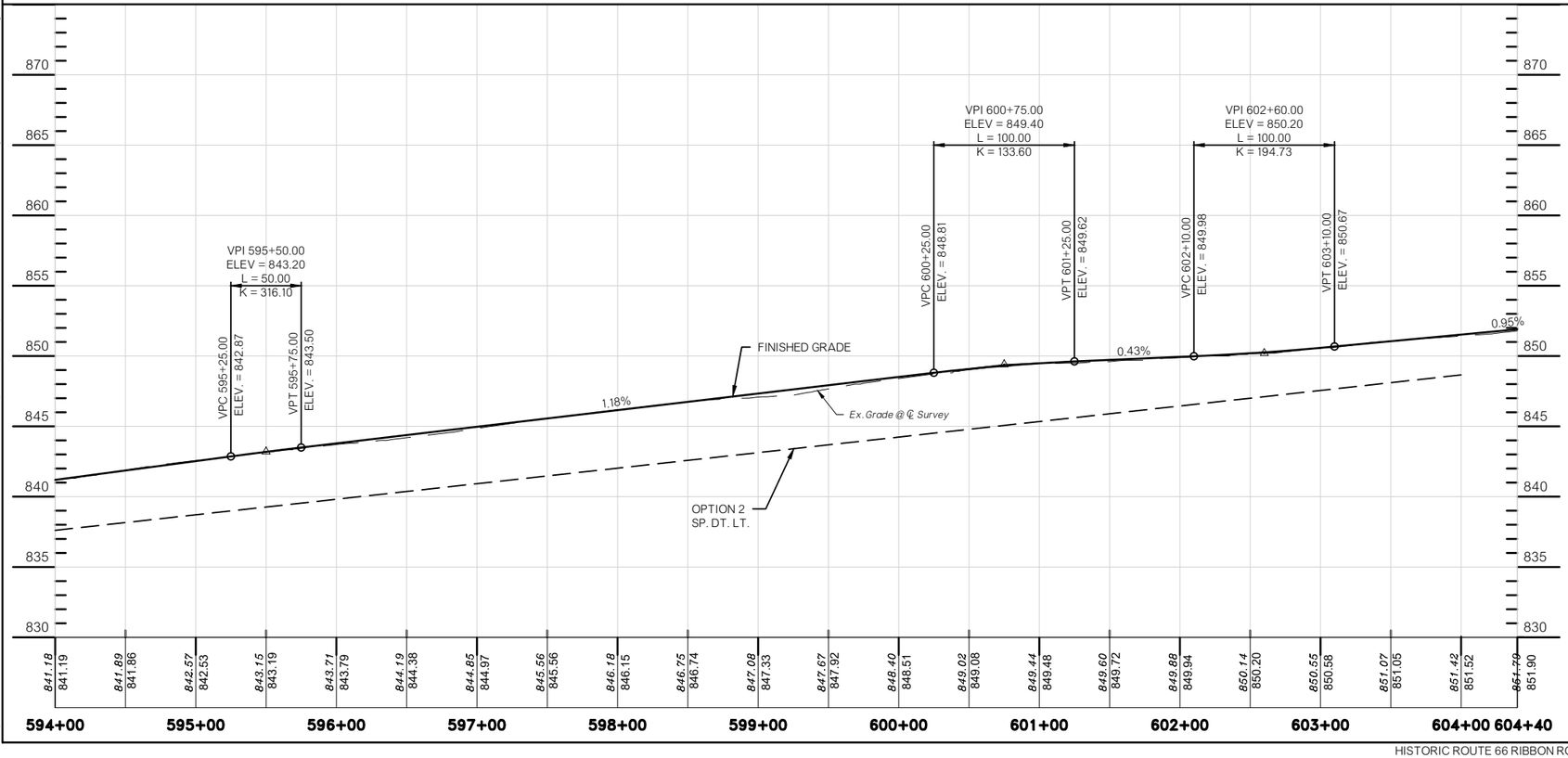


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

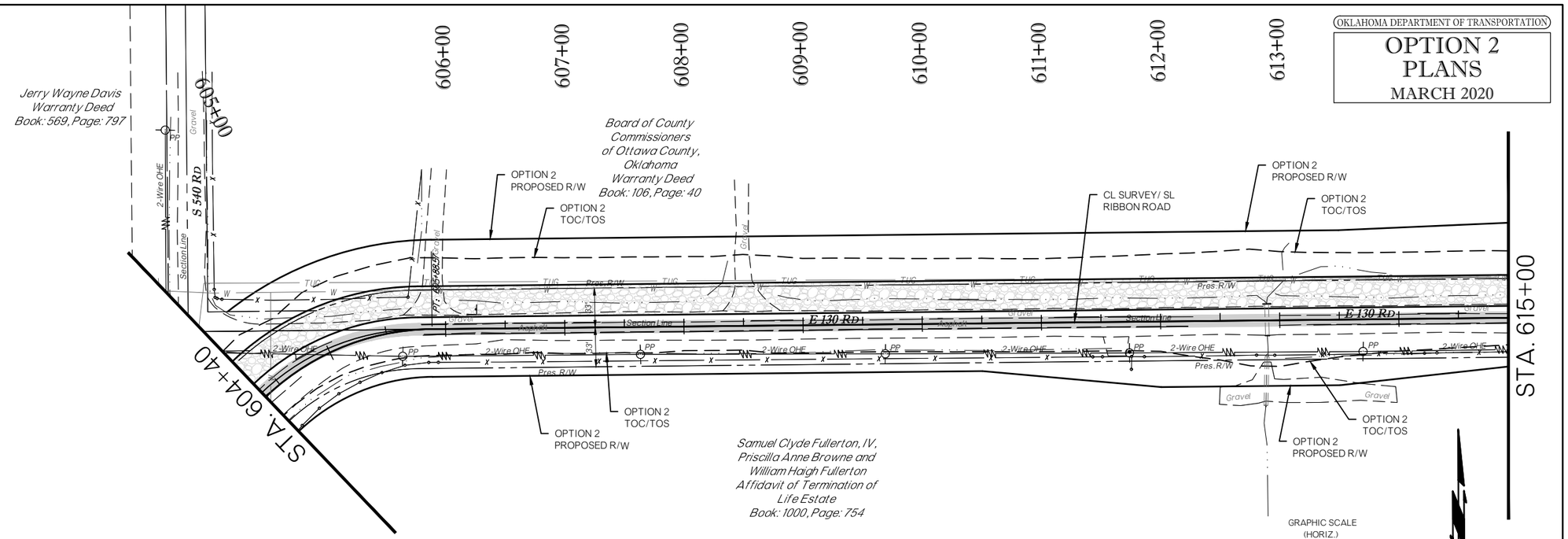
GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 2:27:49 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020



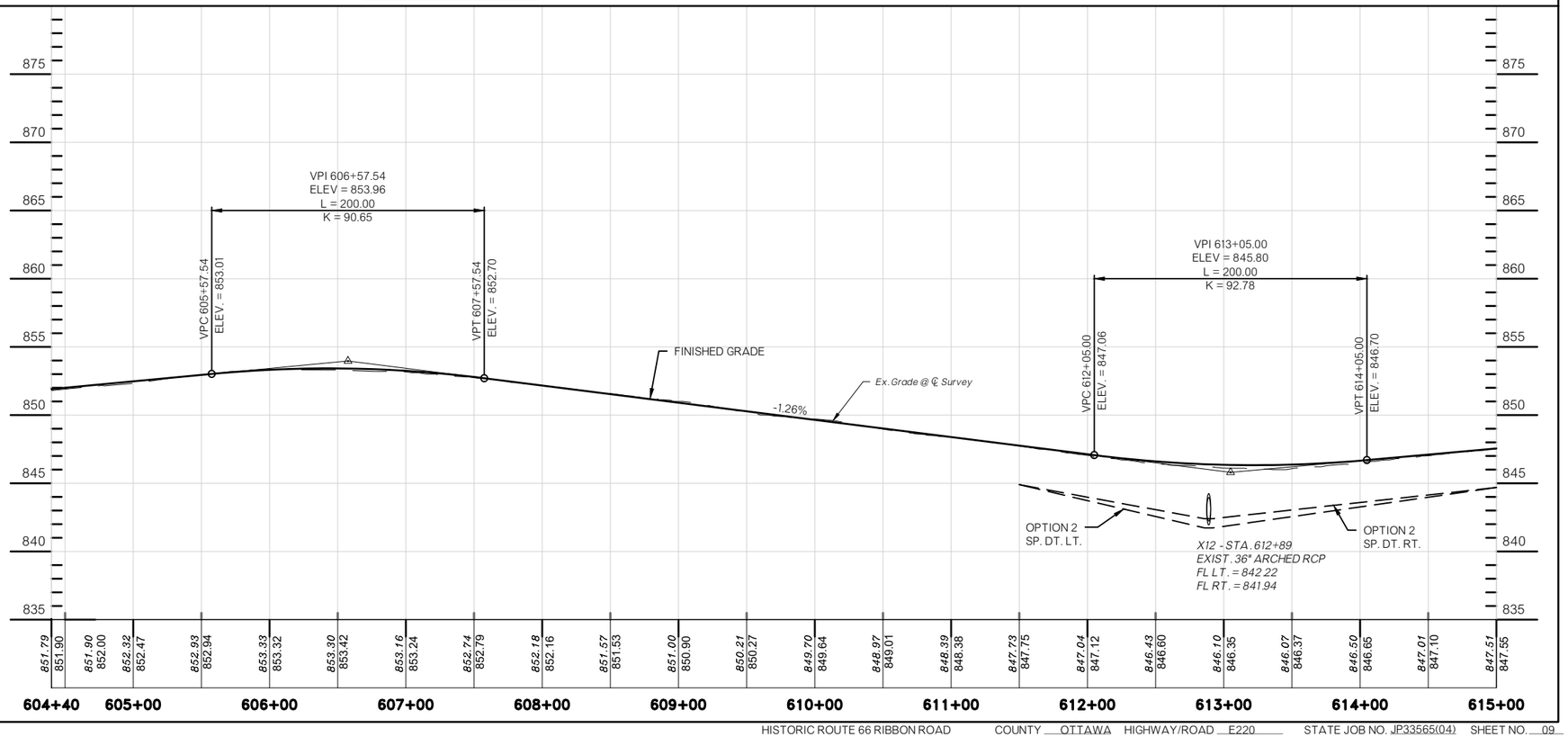
LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'



Tuesday, March 03, 2020 2:28:06 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | 626+00 | 627+00 | 628+00 | STA. 630+00

Board of County Commissioners of Ottawa County, Oklahoma Warranty Deed Book: 106, Page: 40

James E. Beautte and Rhonda S. Beautte JTWD Book: 746, Page: 597

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Property Line

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

E 130 Rd

Section Line

Pres. R/W

Gravel

Guy Wire

PP

PP w/ Dip

2-Wire OHE

1-Wire OHE

Cattle Guard

TPED

TUG

Guy

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

OPTION 2 SP. DT. LT.

OPTION 2 SP. DT. RT.

X13 - STA. 626+25
EXIST. 36"x12" ARCHED RCP
FL LT. = 838.61
FL RT. = 838.03

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 621+65.00
ELEV = 853.50
L = 550.00
K = 177.56

VPI 626+10.00
ELEV = 843.70
L = 200.00
K = 67.68

VPI 630+35.00
ELEV = 846.90
L = 400.00
K = 107.43

VPC 618+90.00
ELEV. = 851.04

VPT 624+40.00
ELEV. = 847.44

VPC 625+10.00
ELEV. = 845.90

VPT 627+10.00
ELEV. = 844.45

VPC 628+35.00
ELEV. = 845.39

FINISHED GRADE

Ex. Grade @ ℄ Survey

0.90%

-2.20%

0.75%

870 865 860 855 850 845 840 835 830

615+00	616+00	617+00	618+00	619+00	620+00	621+00	622+00	623+00	624+00	625+00	626+00	627+00	628+00	629+00	630+00
847.51	848.01	848.41	848.90	849.35	849.67	850.17	850.61	851.00	851.43	851.51	851.60	851.60	851.45	851.00	850.59
847.55	847.99	848.44	848.89	849.34	849.78	850.23	850.68	851.12	851.47	851.68	851.75	851.68	851.46	851.11	850.61

849.96	849.19	848.30	847.22	846.03	845.13	844.50	844.20	844.34	844.70	845.15	845.51	845.70	845.62	845.26	
849.98	849.20	848.28	847.22	846.12	845.14	844.52	844.27	844.39	844.75	845.13	845.50	845.69	845.64	845.37	

Tuesday, March 03, 2020 2:28:18 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 630+00 | 631+00 | 632+00 | 633+00 | 634+00 | 635+00 | 636+00 | 637+00 | 638+00 | 639+00 | 640+00 | 641+00 | 642+00 | 643+00 | STA. 645+00

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Charles W. Rogers and Patsy J. Rogers JTWD Book: 601, Page: 776

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

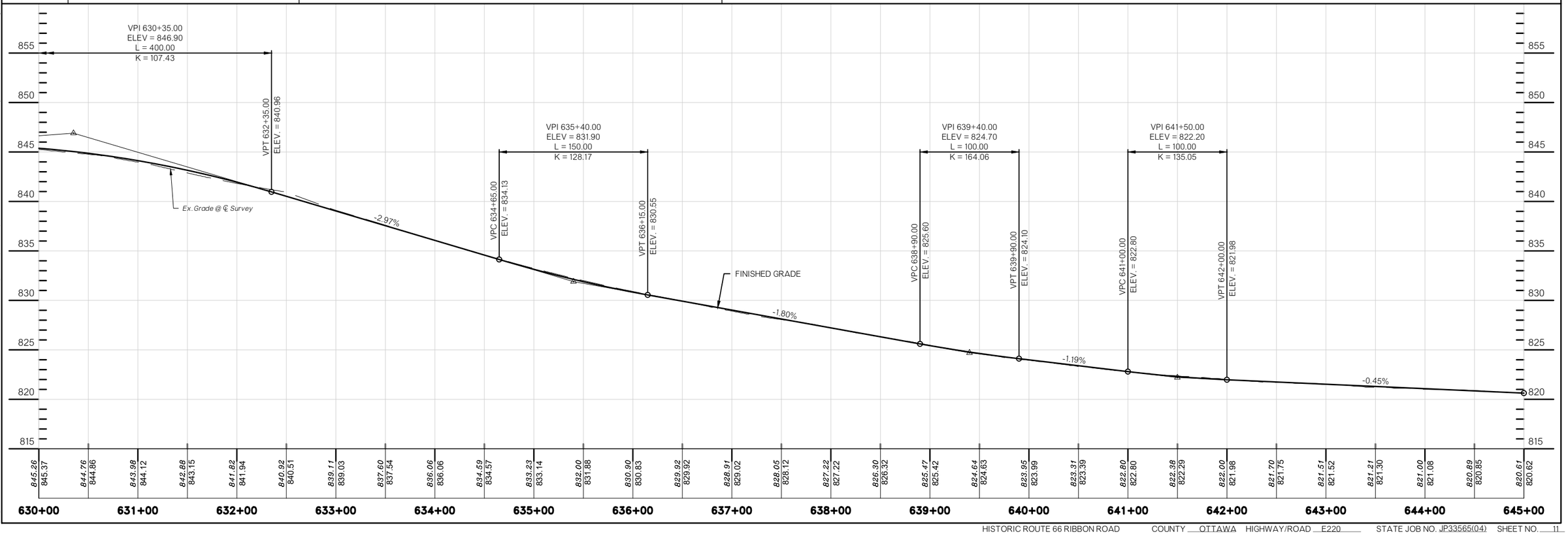
Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 RD
Section Line
1/4 Section Line
Property Line
Pres. R/W
2-Wire OHE
3-Wire OHE
Guy Wire
Gravel
Roadway
Concrete
TUG
PP
WM

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 2:28:34 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 645+00 | 646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00 | STA. 660+00

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Mark E. Grigsby and Sharon Grigsby JTWD Book: 607, Page: 527

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

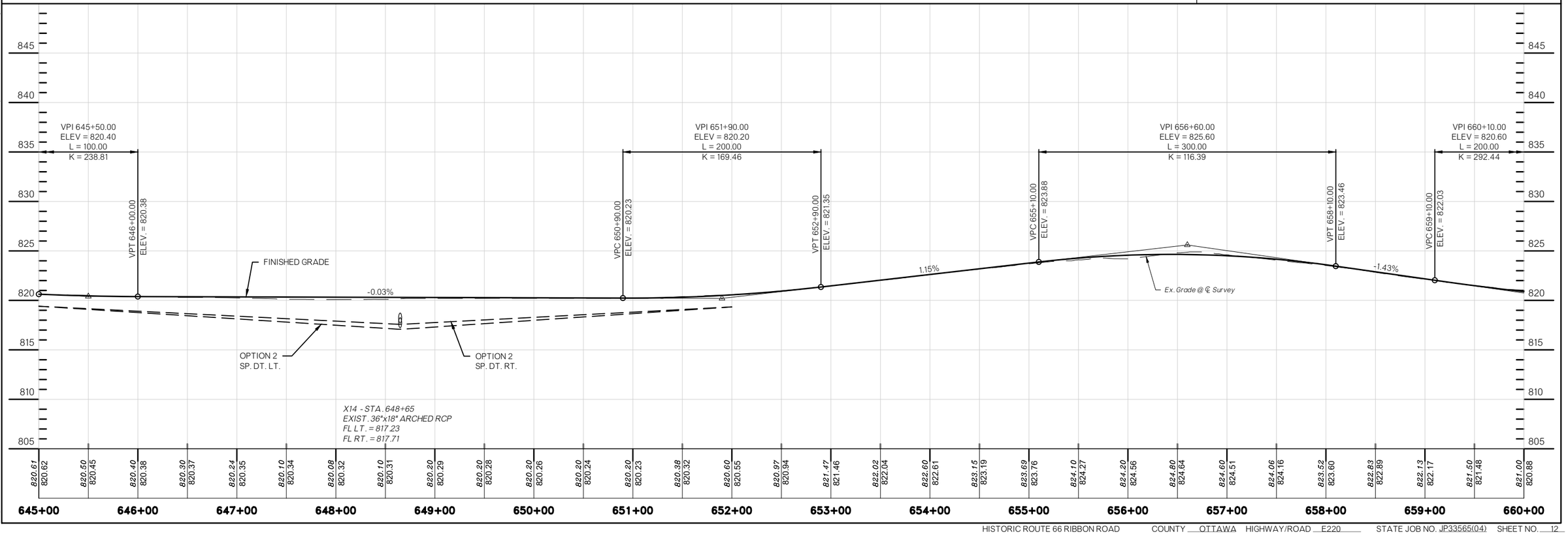
Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 RD
S 550 RD
Property Line
Section Line
Pres. R/W
2-Wire OHE
TUG
TUG Marker (SW Bell)
FO Marker (Rec Tec)
FO Marker (SW Bell)
Guy Wire
Gravel
Asphalt
Steel (Unfirm)

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 2:28:49 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 12

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS

MARCH 2020

661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00

STA. 660+00

STA. 675+00

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

ROCMND Area Youth Services, Inc. WD Book: 474, Page: 923

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

Property Line

Property Line

Gravel

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

FO Marker (SW Bell)

E 130 RD

Section Line

Asphalt

Applied

Pres. R/W

TUG

TPED

W

PP

FIB

OHT

1-Wire OHT

2-Wire OHE

33'

35'

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 660+10.00
ELEV = 820.60
L = 200.00
K = 292.44

VPT 661+10.00
ELEV. = 819.86

FINISHED GRADE

-0.74%

Ex. Grade @ ℄ Survey

VPI 664+80.00
ELEV = 817.10
L = 150.00
K = 391.67

VPC 664+05.00
ELEV. = 817.66

VPT 665+55.00
ELEV. = 816.83

-0.36%

VPI 669+50.00
ELEV = 815.40
L = 200.00
K = 505.76

VPC 668+50.00
ELEV. = 815.76

VPT 670+50.00
ELEV. = 814.64

-0.76%

OPTION 2 SP. DT. RT.

OPTION 2 SP. DT. LT.

X15 - STA. 667+17
EXIST. 36"x20" ARCHED RCP
FL LT. = 812.71
FL RT. = 812.76

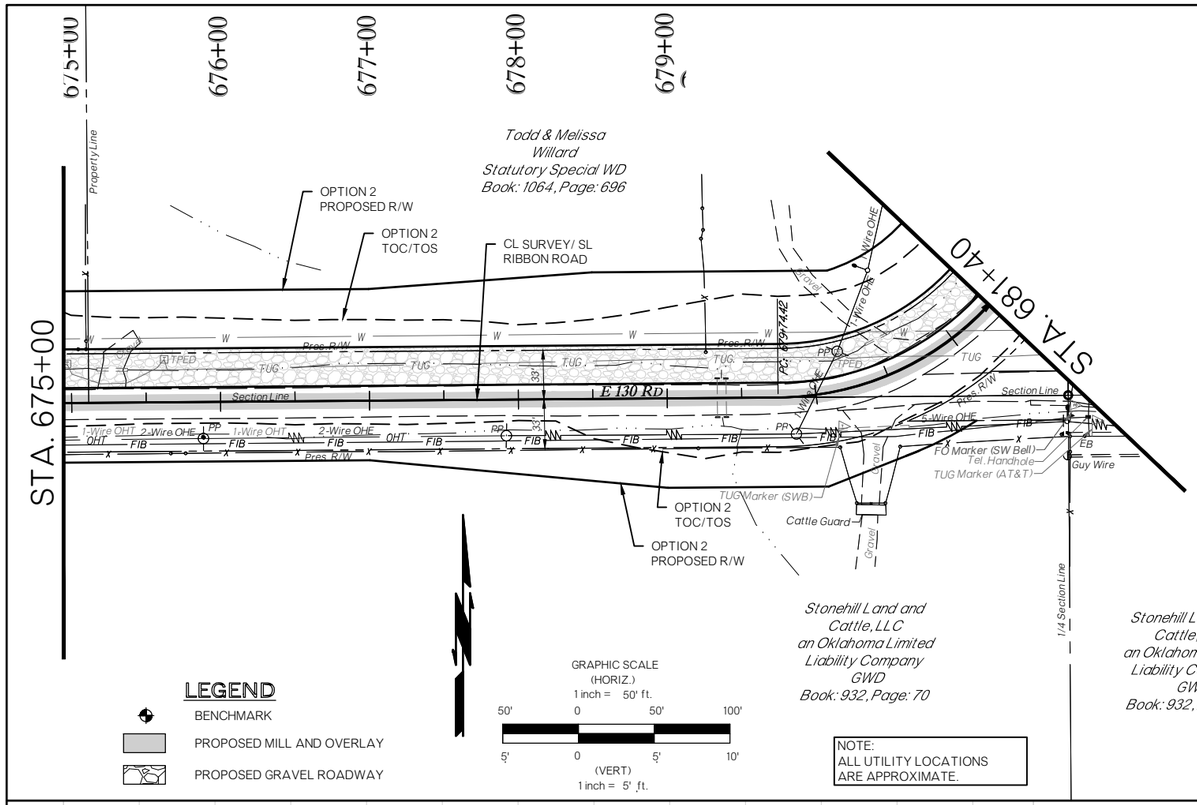
840 835 830 825 820 815 810 805 800

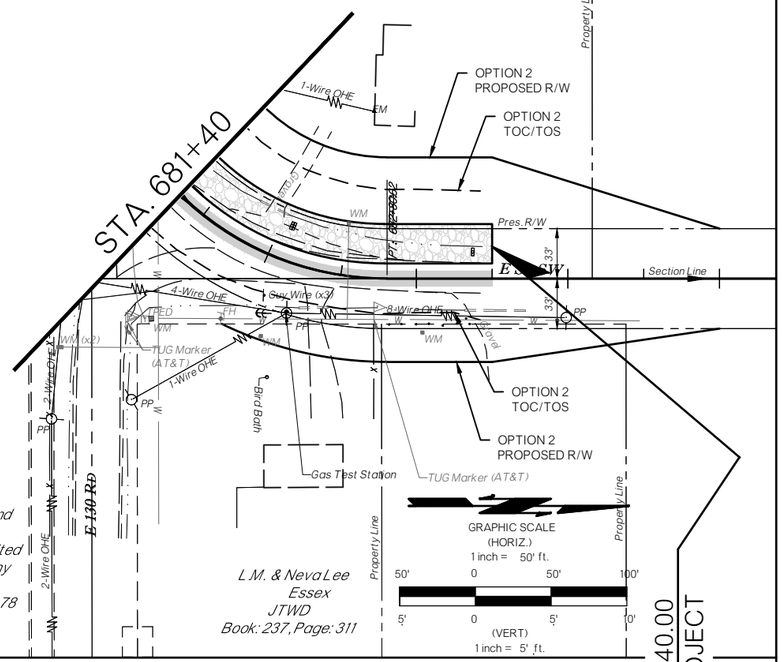
| | | |

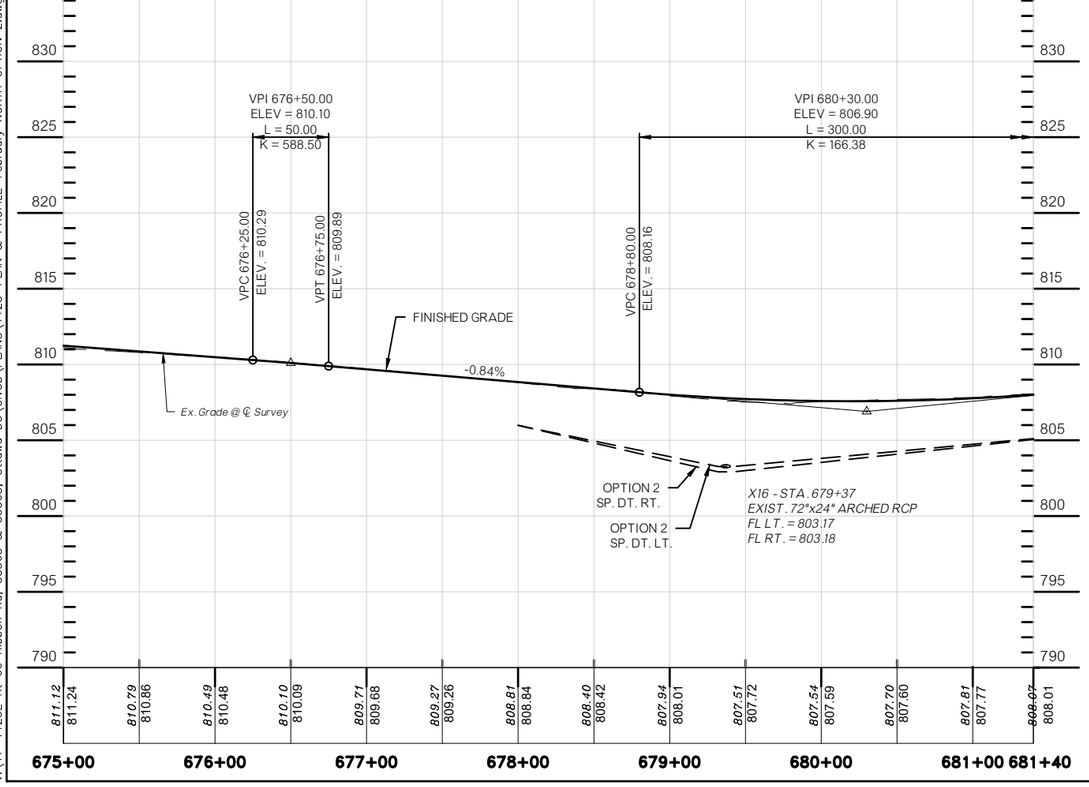
OKLAHOMA DEPARTMENT OF TRANSPORTATION

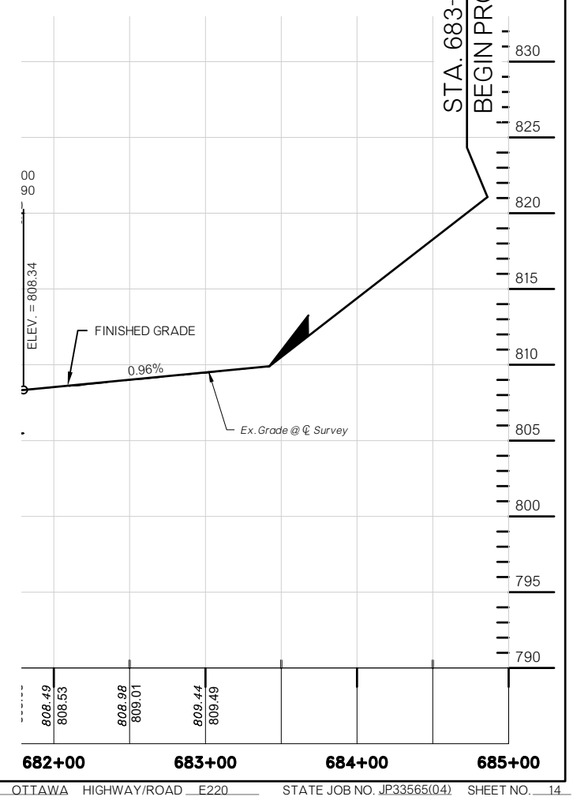
OPTION 2 PLANS

MARCH 2020









Tuesday, March 03, 2020 2:29:28 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

10+00 11+00 12+00 13+00 14+00 15+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

Rickie L. Farmer QCD Book: 844, Page: 50

STA. 17+50

BP: 10+00.00

PC: 15+38.69

℄ Survey

Cable Barrier

Sign - No Parking

Sign - Stop

Gravel

Asphalt

Hwy 60

1-Wire OHT 4-Wire OHE

OHT

PP

6" Wood Post

5-Strand B/W

Pres. R/W

TUG Marker (AT&T)

OPTION 2 TOC/TOS

CL SURVEY RIBBON ROAD

OPTION 2 PROPOSED R/W

James Ronald Fuser GWD Book: 455, Page: 50

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

BM #1

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

STA. 12+00.00 BEGIN PROJECT
STATE JOB NO. JP33565(04)

VPI 13+90.00
ELEV = 788.64
L = 100.00
K = 72.62

VPI 15+70.00
ELEV = 787.72
L = 100.00
K = 125.40

VPC 13+40.00 ELEV. = 788.21
VPT 14+40.00 ELEV = 788.38
VPC 15+20.00 ELEV. = 787.98
VPT 16+20.00 ELEV. = 787.86
VPC 17+40.00 ELEV = 788.21

0.87% -0.51% 0.29%

X1
STA. 17+27.00
32" X 12" RCP ARCHED
FL LT.=BURIED
FL RT.=BURIED

810 805 800 795 790 785 780 775 770

787.14 786.99 786.99 787.44 787.43 787.85 787.86 788.27 788.29 788.46 788.48 788.30 788.33 788.07 788.08 787.88 787.86 787.84 787.82 787.95 787.95 788.06 788.09 788.23

5+50 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

Wednesday, March 04, 2020 5:04:55 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 17+50

STA. 27+00

20+00 21+00 22+00 23+00 24+00 25+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

Michael & Tracy Wheatley JTWD Book: 965, Page: 481

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

S 5220 Rd

Local Trucks Only

Dilapidated 4-Strand B/W

4-Strand B/W

RR Crossing

Concrete Pad

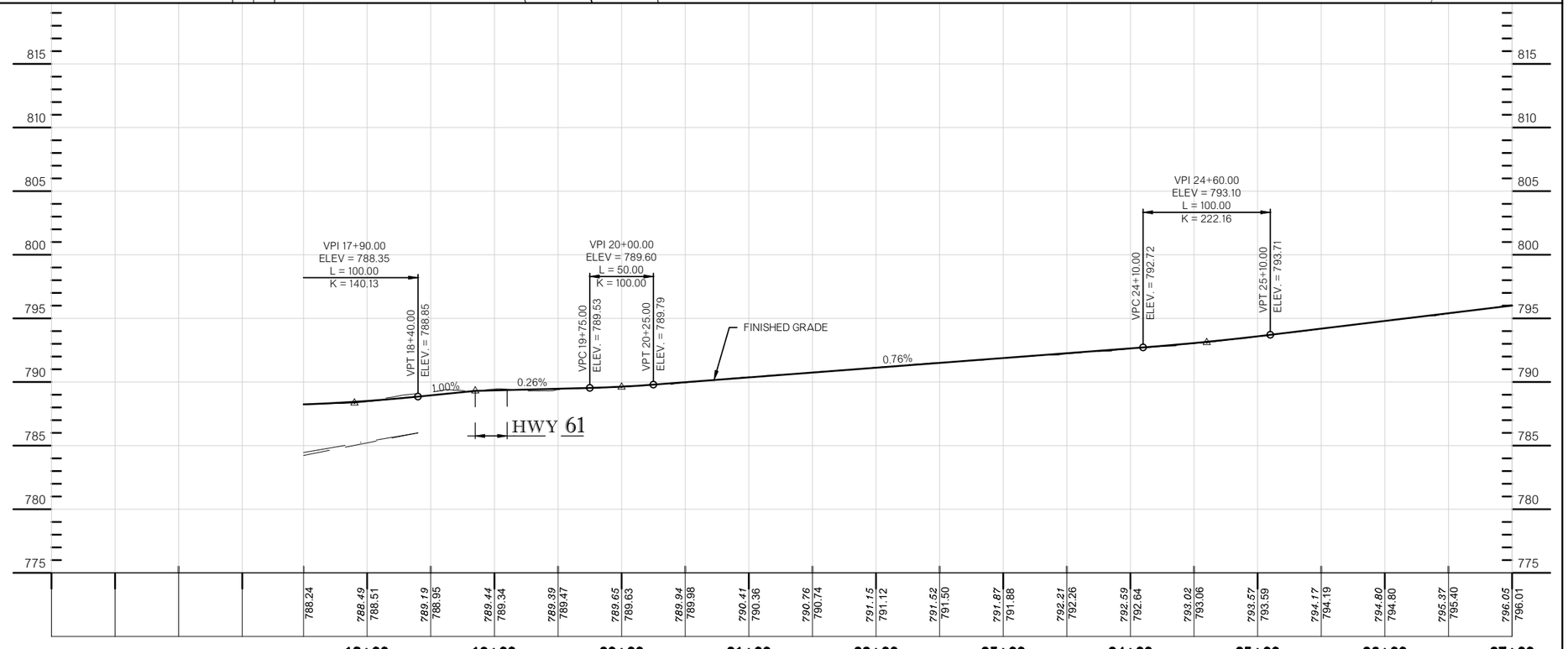
LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'



Wednesday, March 04, 2020 5:05:21 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 27+00 | 28+00 | 29+00 | 30+00 | 31+00 | 32+00 | 33+00 | 34+00 | 35+00 | 36+00 | 37+00 | 38+00 | 39+00 | 40+00 | STA. 42+00

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

Richard L. & Ellen D. Partain JTWD Book: 896, Page: 370

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY / SL RIBBON ROAD

S 520 RD

TUG Marker (NRS)

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

Rici Partain & Ellen Partain JTWD Book: 654, Page: 618

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPC 29+30.00 ELEV. = 798.79
VPI 30+05.00 ELEV = 799.70 L = 150.00 K = 88.07
VPT & VPC 30+80.00 ELEV. = 801.89
VPI 31+80.00 ELEV = 804.80 L = 200.00 K = 64.91
VPT & VPC 32+80.00 ELEV. = 804.63
VPI 33+60.00 ELEV = 804.50 L = 160.00 K = 86.94
VPT 34+40.00 ELEV. = 805.84
VPC 38+65.00 ELEV. = 812.95
VPI 40+65.00 ELEV = 816.30 L = 400.00 K = 144.64
VPT 41+65.00 ELEV. = 814.68

FINISHED GRADE

1.21%

1.67%

Ex. Grade @ ℄ of Survey

27+00	28+00	29+00	30+00	31+00	32+00	33+00	34+00	35+00	36+00	37+00	38+00	39+00	40+00	41+00	42+00
796.05	796.70	797.23	797.73	798.28	798.96	799.78	801.02	802.48	803.50	804.39	804.20	804.36	804.60	805.09	805.85
796.01	796.61	797.22	797.82	798.43	799.06	799.92	801.06	802.44	803.55	804.27	804.61	804.62	804.80	805.26	806.01

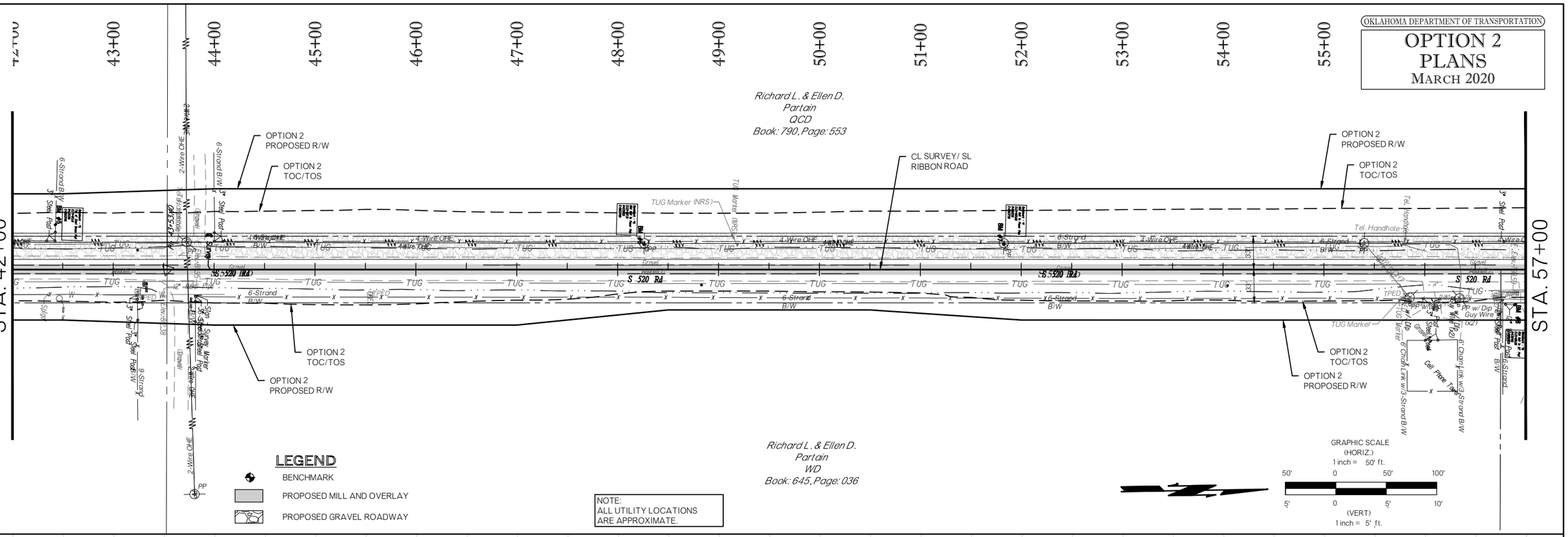
806.61	807.42	808.38	809.21	810.00	810.91	811.76	812.58	813.31	814.16	814.72	814.91	814.80	814.70
806.84	807.68	808.52	809.35	810.19	811.03	811.86	812.70	813.50	814.13	814.58	814.67	814.98	814.68

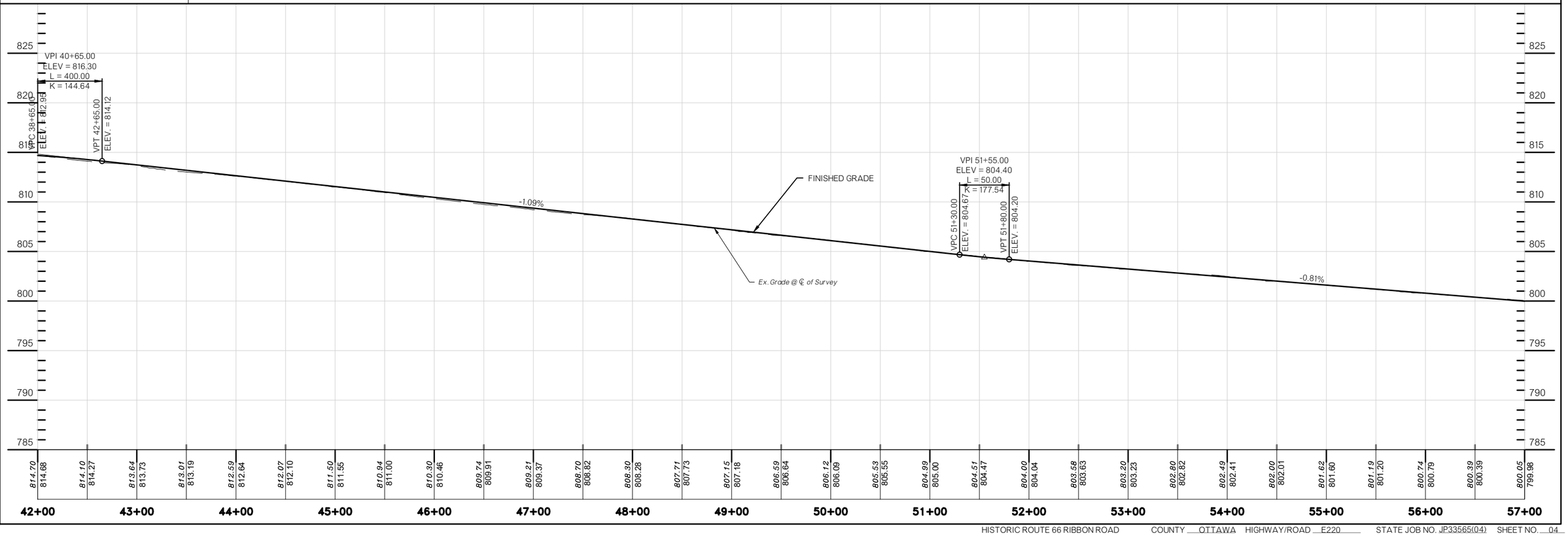
825 820 815 810 805 800 795 790 785

Wednesday, March 04, 2020 5:05:45 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020





Wednesday, March 04, 2020 5:06:03 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 57+00 | 58+00 | 59+00 | 60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | STA. 72+00

S 520 Rd

Richard L. & Ellen D. Portain QCD Book: 790, Page: 553

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Justin Johnson WD Book: 1074, Page: 487

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

NWI WETLAND NHD FLOWLINE

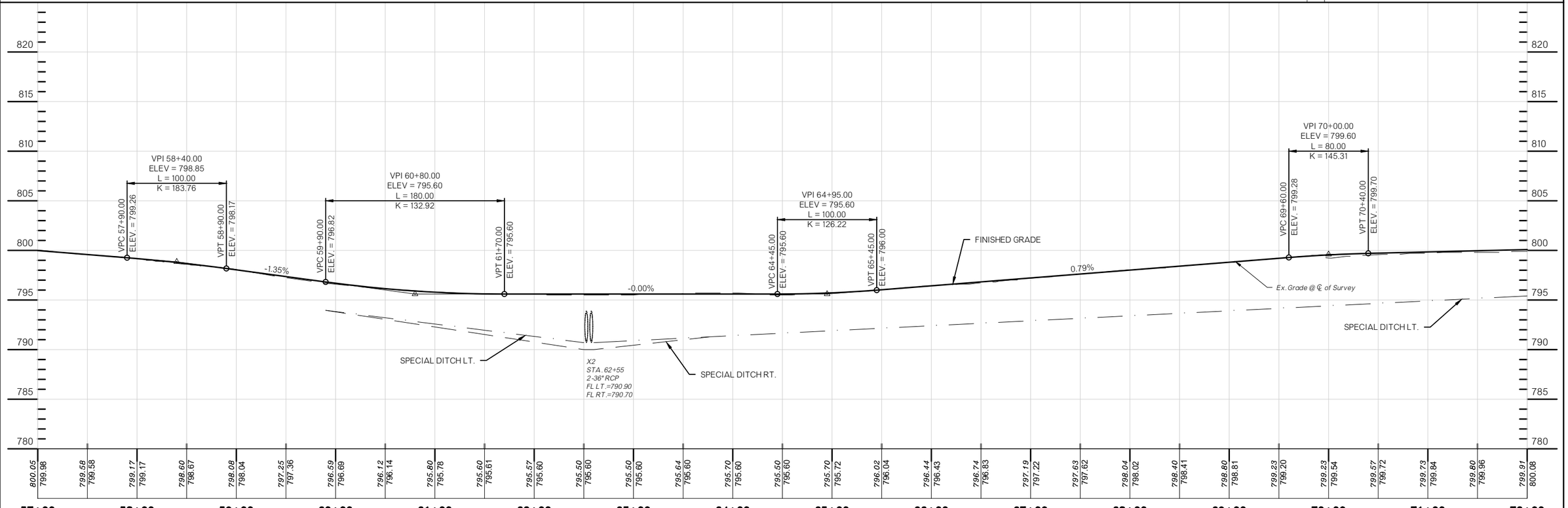
NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.) 1 inch = 50' ft. (50' 0 50' 100')

(VERT) 1 inch = 5' ft. (5' 0 5' 10')

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY



Wednesday, March 04, 2020 5:06:22 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 72+00

STA. 87+00

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Turley Properties, LLC QCD Book: 1081, Page: 325

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 287

Oklahoma Turnpike Authority Warranty Deed Book: 255, Page: 550

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Note: To erect a single pole electric line along the easterly line of the SE1/4, SE1/4 of Sec. 21, T-6-N, R-2-E.

Public Service Company of Oklahoma Right of Way Easement Book: 263, Page: 895

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 Rd

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 78+50.00 BEGIN EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

Ex. Grade @ ℄ of Survey

0.24%

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

800.08 800.20 800.32 800.45 800.57 800.69 800.81 800.93 801.05 801.17 801.29 801.41 801.53 801.65 801.77 801.90 802.02 802.30 802.90 803.83 805.09 806.66 808.56 810.78 813.33 816.04 818.63 820.68 822.12 822.95 823.18

72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00

830 825 820 815 810 805 800 795 790

Wednesday, March 04, 2020 5:06:46 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

88+00 | 93+ | 94+00 | 95+00 | 96+00 | 97+00 | 98+00 | 99+00 | STA. 101+00 | STA. 78+00

Oklahoma Turnpike Authority
No Deed
Note: Area checks out with the less and except area declared as deeded to OTA, recorded in Book: 997, Page: 88.

State of Oklahoma
Dedication Deed
Book: 255, Page: 548

The Terry & Beth Rotman Trust
Correction WD
Book: 997, Page: 88

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Oklahoma Turnpike Authority
Warranty Deed
Book: 253, Page: 289

John Mitchell Greniger
Warranty Deed
Book: 1036, Page: 46

Robert Allen Switzer
WD
Book: 559, Page: 632

OPTION 1 PROPOSED R/W
OPTION 1 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
OPTION 1 TOC/TOS
OPTION 1 PROPOSED R/W

S 520 Rd

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

STA. 96+50.00 END EXCEPTION
STATE JOB NO. JP33565(04)

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)
EX Grade @ ℄ of Survey

FINISHED GRADE

86+00	87+00	88+00	89+00	90+00	91+00	92+00	93+00	94+00	95+00	96+00	97+00	98+00	99+00	100+00	101+00
822.12	822.95	823.18	822.81	821.84 / 820.29	820.26 / 818.84	818.07 / 817.29	815.39 / 815.13	812.67 / 812.44	809.94 / 809.66	807.21 / 806.99	804.49 / 804.24	801.98 / 801.56	799.75 / 799.07	797.83 / 796.69	796.21 / 794.59	794.88 / 793.26	793.85 / 792.57	793.11 / 792.31	792.68 / 792.30	792.54 / 792.45	792.69 / 792.54	792.94 / 792.38	793.19 / 792.53	793.44 / 792.99	793.69 / 793.41	793.94 / 793.81	794.18 / 794.18	794.43 / 794.41	794.68 / 794.70	794.93 / 794.97

Wednesday, March 04, 2020 5:07:04 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Nikole Marie Johnson
QCD
Book: 872, Page: 22

STA. 101+00

OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
OPTION 2 TOC/TOS
OPTION 2 PROPOSED R/W
OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
OPTION 2 PROPOSED R/W

S 520 Rd
Gravel
Asphalt
TUG
TPED
Ditch
33'
5 Strand B/W
5' Steel Post
Guy Wire
2-Wire Optic
Fence
Gate
Elev. 793
Utility Pole
Power Pole
Light Pole
Pipe
Culvert
Drain Inlet
Mail Box

STA. 116+00

Robert Allen Switzer
WD
Book: 559, Page: 632

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

820 815 810 805 800 795 790 785 780

VPI 102+45.00
ELEV = 795.65
L = 50.00
K = 455.14
VPC 102+20.00 ELEV. = 795.53
VPT 102+70.00 ELEV. = 795.80

FINISHED GRADE
0.61%
Ex. Grade @ ℄ of Survey

VPC 109+20.00 ELEV. = 799.75
VPI 111+10.00
ELEV = 800.90
L = 380.00
K = 169.91
VPT 113+00.00 ELEV. = 797.80
-1.63%

VPI 115+15.00
ELEV = 794.30
L = 50.00
K = 95.83
VPC 114+90.00 ELEV. = 794.71
VPT 115+40.00 ELEV. = 794.02

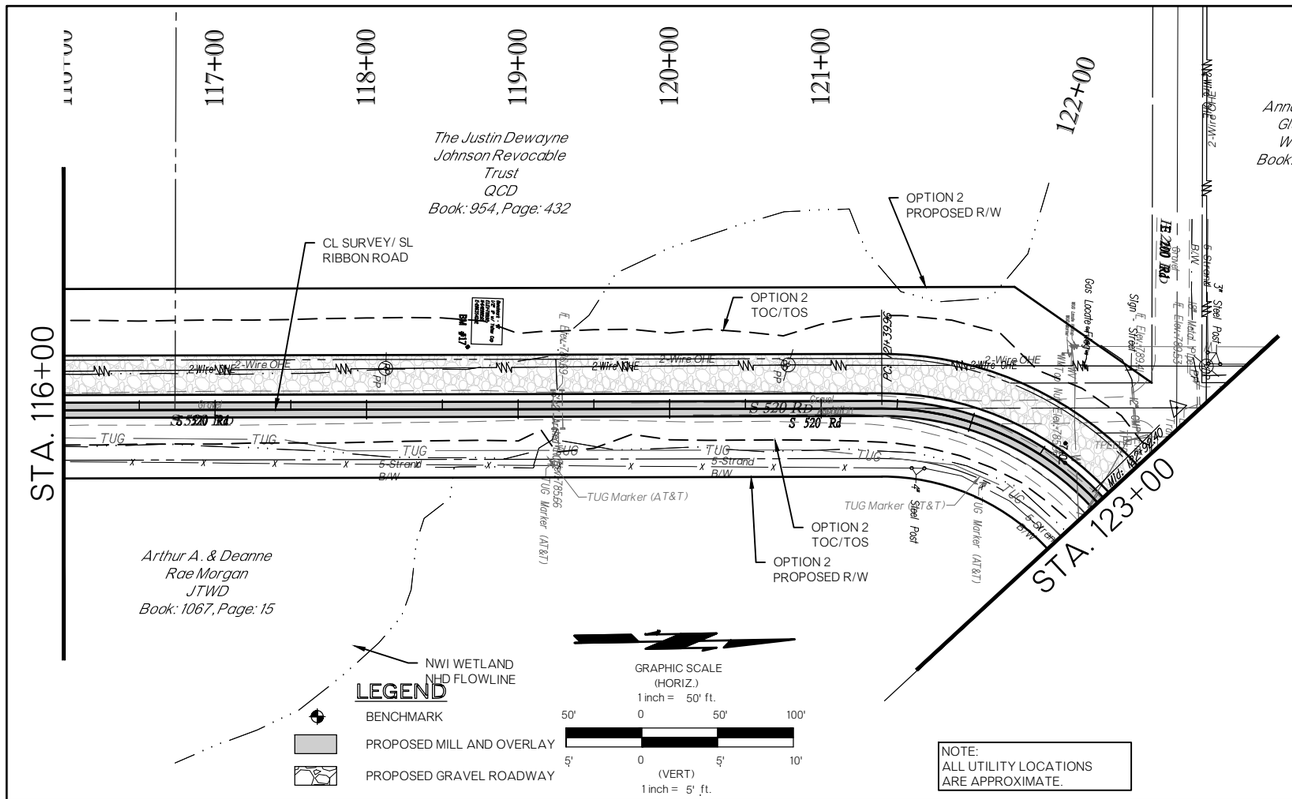
101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	115+00	116+00
794.97	795.18	795.45	795.63	796.00	796.33	796.60	796.92	797.20	797.50	797.80	798.12	798.45	798.76	798.99	799.30
794.93	795.18	795.43	795.68	795.98	796.29	796.59	796.89	797.20	797.50	797.80	798.11	798.41	798.72	799.02	799.32
799.55	799.80	800.00	799.98	799.80	799.53	799.24	798.67	797.81	797.01	796.10	795.29	794.51	793.90	793.34	
799.63	799.90	800.04	800.04	799.89	799.59	799.14	798.55	797.80	796.99	796.17	795.36	794.55	793.91	793.36	

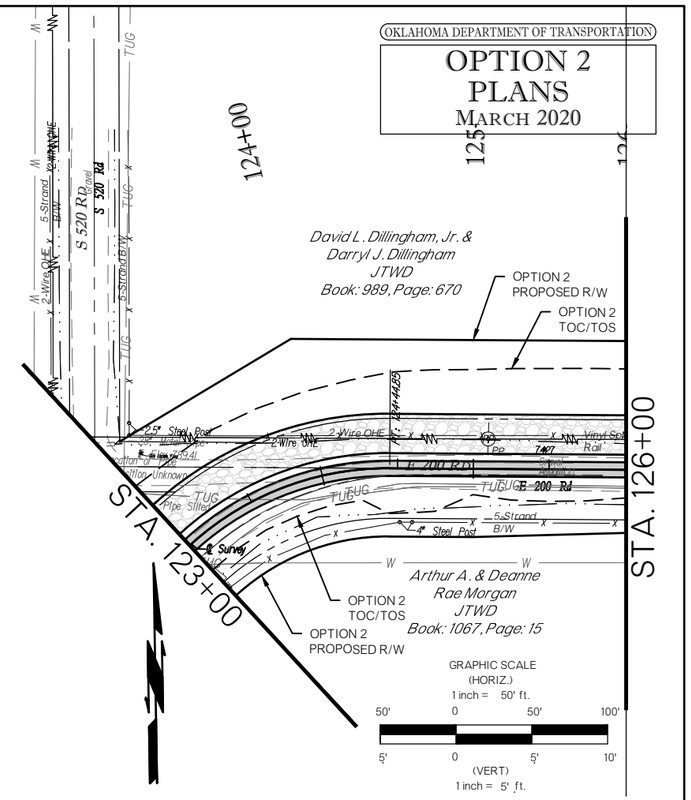
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg
Wednesday, March 04, 2020 5:07:21 PM

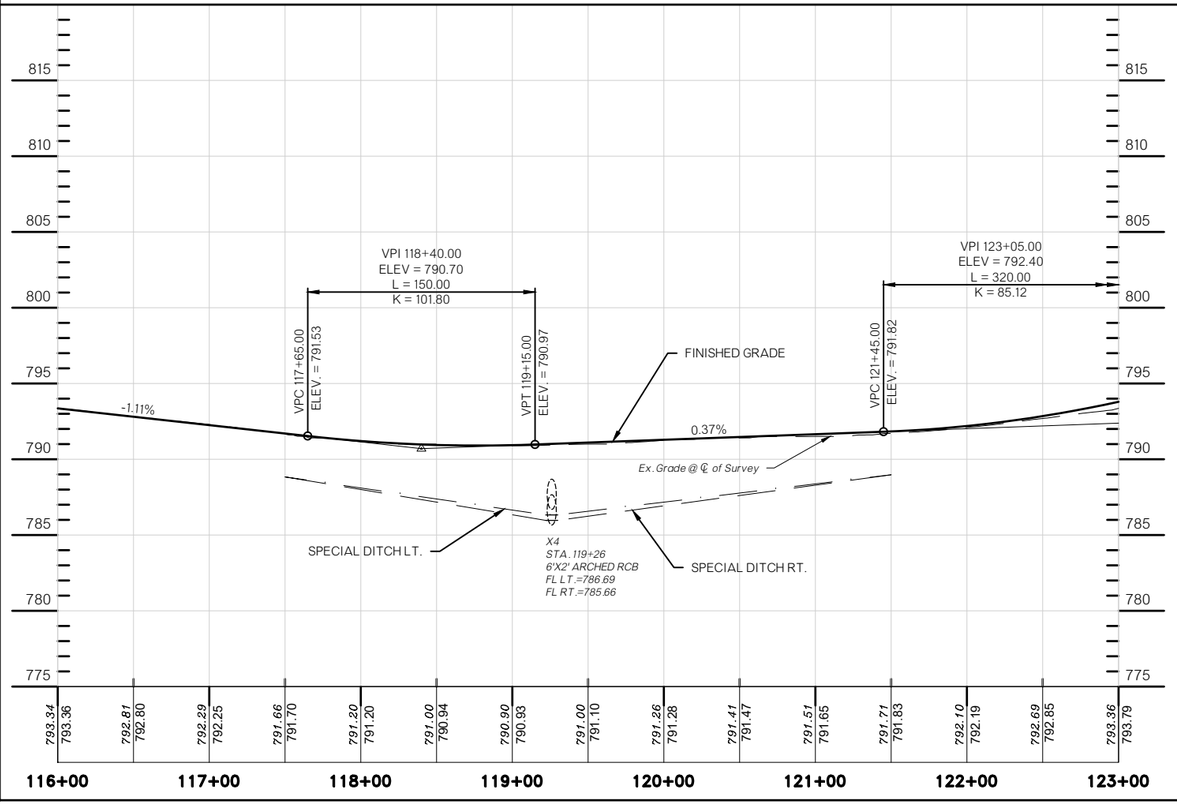
HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 08

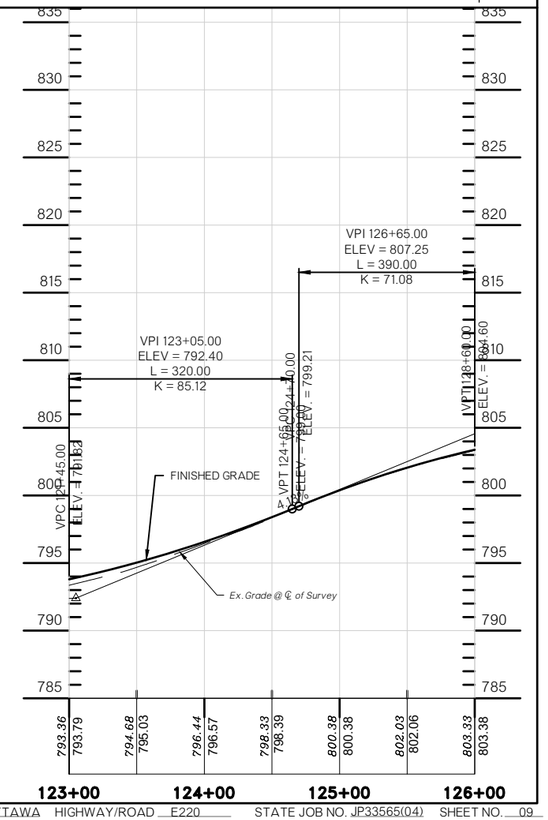
OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020









Wednesday, March 04, 2020 5:07:58 PM
V:\17-1125E Rt 66 Ribbon Rd. 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 126+00

STA. 141+00

126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

Single Story Wood Framed House FF Elev.=809.61

Single Story Wood Framed House FF Elev.=809.28

James Brett & Melinda Dillingham JTWD Book: 870, Page: 172

David L. Dillingham, Jr. & Darryl J. Dillingham JTWD Book: 989, Page: 670

Gregory M. Leonard & Mary A. Leonard Revocable Trust WD Book: 1033, Page: 117

CL SURVEY/ SL RIBBON ROAD

E 200 Rd

Arthur A. & Deanne Rae Morgan JTWD Book: 1067, Page: 15

Cedar Bush

TUG Marker

Sign - Leonard Farms

Splgot

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 126+65.00
ELEV = 807.25
L = 390.00
K = 71.08

VPT 128+60.00
ELEV. = 804.60

-1.36%

VPC 129+30.00
ELEV. = 803.64

VPI 130+80.00
ELEV = 801.60
L = 300.00
K = 184.91

VPT 132+30.00
ELEV. = 801.99

FINISHED GRADE

0.26%

Ex. Grade @ ℄ of Survey

SPECIAL DITCH LT.

X5
STA. 134+80
30" ARCHED RCP
FL LT.=799.47
FL RT.=799.63

SPECIAL DITCH RT.

825 820 815 810 805 800 795 790 785

803.33 803.38 804.29 804.35 804.99 804.97 805.30 805.24 805.19 805.16 804.73 804.72 804.07 804.05 803.42 803.38 802.73 802.82 802.37 802.40 802.22 802.11 802.14 801.96 802.10 801.94 802.04 802.04 802.09 802.17 802.18 802.30 802.30 802.43 802.40 802.56 802.60 802.70 802.70 802.83 802.88 802.96 803.00 803.09 803.11 803.22 803.32 803.35 803.48 803.48 803.51 803.61 803.67 803.74 803.63 803.87 803.79 804.00 803.93 804.13 804.07 804.26

126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 2.dwg
Wednesday, March 04, 2020 5:08:19 PM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 141+00

STA. 156+00

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 2 PROPOSED R/W

OPTION 2 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

E 200 Rd

Gravel Roadway

TUG

5-Strand B/W

6-Strand B/W

W

6" Wood Post

BM #19

12" CMP Elev.=804.08

Dirt (Stilled)

Ph. 1984.83

Steel Pipe

3" Steel Post

5" Steel Post

2" Steel Post

12" Wood Post

Splgat

Grouted Rip Rap

Steel Post Side

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

OPTION 2 TOC/TOS

OPTION 2 PROPOSED R/W

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

VPI 143+45.00
ELEV = 804.90
L = 50.00
K = 140.79

VPC 143+20.00
ELEV = 804.83

VPT 143+70.00
ELEV. = 805.05

FINISHED GRADE

0.62%

Ex. Grade @ ℄ of Survey

VPI 155+30.00
ELEV = 812.20
L = 100.00
K = 189.01

VPC 154+80.00
ELEV. = 811.89

VPT 155+80.00
ELEV. = 812.24

830 825 820 815 810 805 800 795 790

141+00	142+00	143+00	144+00	145+00	146+00	147+00	148+00	149+00	150+00	151+00	152+00	153+00	154+00	155+00	156+00
804.07	804.35	804.47	804.60	804.79	804.95	805.27	805.57	805.80	806.18	806.54	806.89	807.20	807.56	807.84	808.17
804.26	804.39	804.52	804.65	804.78	804.95	805.24	805.55	805.85	806.16	806.47	806.78	807.09	807.39	807.70	808.01
808.50	808.70	809.00	809.28	809.50	809.71	810.10	810.43	810.80	811.10	811.40	811.68	811.90	812.06	812.10	
808.32	808.63	808.94	809.24	809.55	809.86	810.17	810.48	810.78	811.09	811.40	811.71	812.00	812.19	812.26	

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020

STA. 156+00 — STA. 171+00

156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Northeast oklahoma Vocational-Technical School District No. 11
WD
Book: 329, Page: 71

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

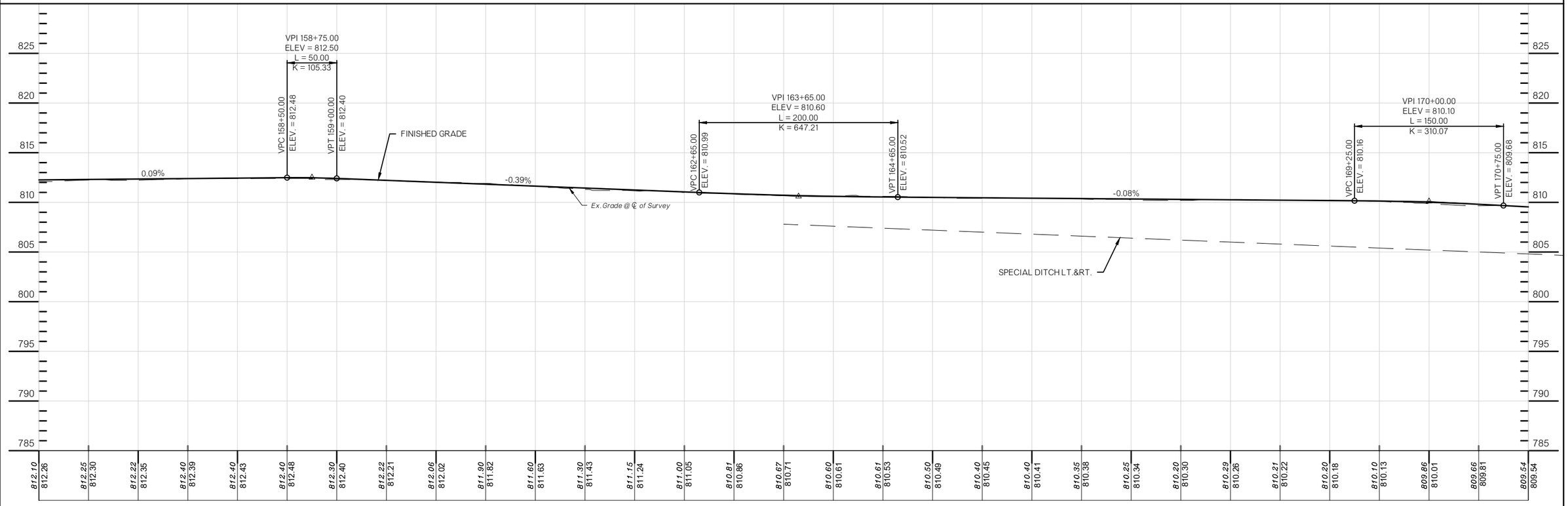
OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
25"-Pipe
2'x2' Brick Column
Sign - Local Trucks Only
Sign - Fasten Seatbelts
Sign - Northeast Technology Center
Steel Post
Telephone Junction Box
E 200 Rd
TUG
6-Strand B/W
Asphalt
Gravel
Ditch
Elev=806.89
Elev=807.33
Elev=807.37
Elev=808.10
Elev=808.92

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

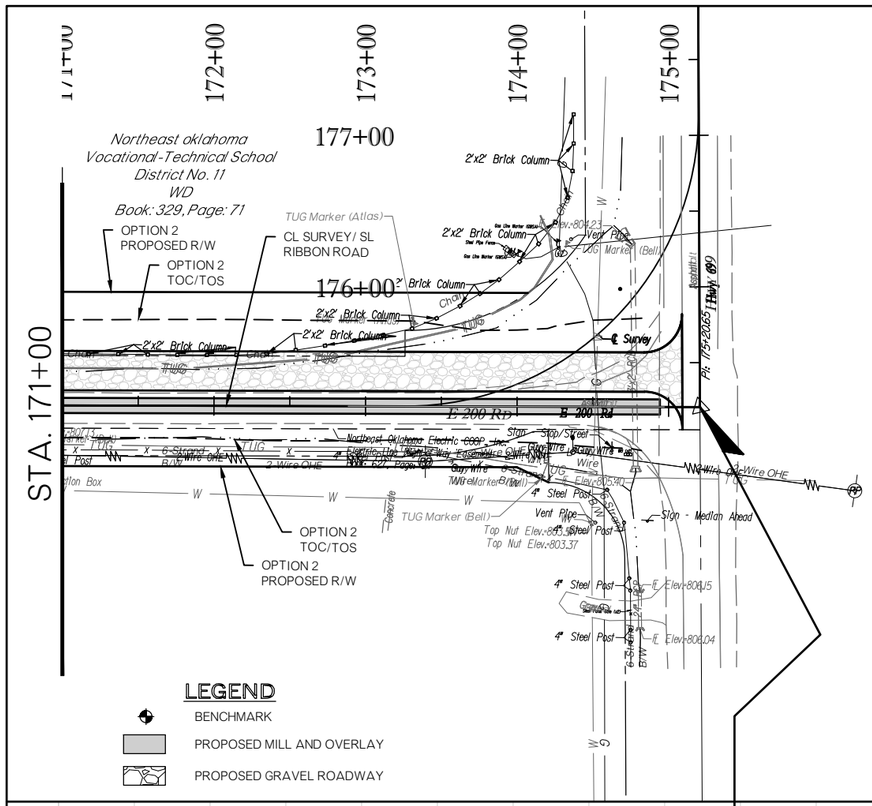
NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 2 PLANS
MARCH 2020


STA. 171+00
172+00
173+00
174+00
175+00
177+00
Northeast oklahoma Vocational-Technical School District No. 11 WD Book: 329, Page: 71
OPTION 2 PROPOSED R/W
OPTION 2 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
176+00
TUG Marker (Atlas)
2'x2' Brick Column
Vent Pipe
TUG Marker (Bell)
Ex. Fire Hydrant
Ex. Gas Meter
Ex. Gas Valve
Ex. Gas Marker
Ex. Gas Line
Ex. Water Valve
Ex. Water Line
Ex. Water Marker
Ex. Fiber Optic Line
Ex. Fiber Optic Marker
Ex. Telephone Line
Ex. Telephone Marker
Ex. Electric Line
Ex. Electric Marker
Ex. Power Pole
Ex. Guy Wire
Ex. Overhead Wire
Ex. Underground Wire
Ex. Electric Box
Ex. Telephone Box
Ex. Fiber Optic Box
Ex. Gas Box
Ex. Water Box
Ex. Sign
Ex. Post
Ex. Pipe
Ex. Culvert
Ex. Concrete
Ex. Asphalt
Ex. Gravel
Ex. Ditch
Ex. Fence
Ex. Building
Ex. Tree
Ex. Shrub
Ex. Bush
Ex. Rock
Ex. Boulder
Ex. Retaining Wall
Ex. Curb
Ex. Curb Inlet
Ex. Manhole
Ex. Flume
Ex. Headwall
Ex. Wingwall
Ex. Endwall
Ex. Apron
Ex. Slope Protection
Ex. Rip Rap
Ex. Guardrail
Ex. Bridge
Ex. Railroad
Ex. Railroad Signal
Ex. Railroad Gate
Ex. Railroad Crossing
Ex. Railroad Switch
Ex. Railroad Signal Box
Ex. Railroad Signal Post
Ex. Railroad Signal Light
Ex. Railroad Signal Bell
Ex. Railroad Signal Arm
Ex. Railroad Signal Mast
Ex. Railroad Signal Cable
Ex. Railroad Signal Conduit
Ex. Railroad Signal Duct
Ex. Railroad Signal Manhole
Ex. Railroad Signal Handhole
Ex. Railroad Signal Pedestal
Ex. Railroad Signal Cabinet
Ex. Railroad Signal Control Box
Ex. Railroad Signal Relay Box
Ex. Railroad Signal Transformer
Ex. Railroad Signal Battery
Ex. Railroad Signal Generator
Ex. Railroad Signal Solar Panel
Ex. Railroad Signal Wind Turbine
Ex. Railroad Signal Weather Station
Ex. Railroad Signal Camera
Ex. Railroad Signal Radar
Ex. Railroad Signal Lidar
Ex. Railroad Signal Sonar
Ex. Railroad Signal Infrared
Ex. Railroad Signal Ultrasonic
Ex. Railroad Signal Microwave
Ex. Railroad Signal Laser
Ex. Railroad Signal Fiber Optic
Ex. Railroad Signal Copper
Ex. Railroad Signal Wireless
Ex. Railroad Signal Satellite
Ex. Railroad Signal Cellular
Ex. Railroad Signal Bluetooth
Ex. Railroad Signal Wi-Fi
Ex. Railroad Signal Zigbee
Ex. Railroad Signal Z-Wave
Ex. Railroad Signal Thread
Ex. Railroad Signal Matter
Ex. Railroad Signal Homekit
Ex. Railroad Signal Alexa
Ex. Railroad Signal Google Home
Ex. Railroad Signal Siri
Ex. Railroad Signal Cortana
Ex. Railroad Signal Bixby
Ex. Railroad Signal Assistant
Ex. Railroad Signal Voice
Ex. Railroad Signal Text
Ex. Railroad Signal Email
Ex. Railroad Signal Push
Ex. Railroad Signal Notification
Ex. Railroad Signal Alert
Ex. Railroad Signal Warning
Ex. Railroad Signal Emergency
Ex. Railroad Signal Critical
Ex. Railroad Signal Urgent
Ex. Railroad Signal Important
Ex. Railroad Signal Normal
Ex. Railroad Signal Low
Ex. Railroad Signal Info
Ex. Railroad Signal Debug
Ex. Railroad Signal Trace
Ex. Railroad Signal Verbose
Ex. Railroad Signal Silent
Ex. Railroad Signal Off
Ex. Railroad Signal On
Ex. Railroad Signal Auto
Ex. Railroad Signal Manual
Ex. Railroad Signal Override
Ex. Railroad Signal Bypass
Ex. Railroad Signal Test
Ex. Railroad Signal Reset
Ex. Railroad Signal Restart
Ex. Railroad Signal Shutdown
Ex. Railroad Signal Startup
Ex. Railroad Signal Boot
Ex. Railroad Signal Firmware
Ex. Railroad Signal Software
Ex. Railroad Signal Hardware
Ex. Railroad Signal Version
Ex. Railroad Signal Update
Ex. Railroad Signal Upgrade
Ex. Railroad Signal Downgrade
Ex. Railroad Signal Patch
Ex. Railroad Signal Hotfix
Ex. Railroad Signal Service Pack
Ex. Railroad Signal Build
Ex. Railroad Signal Release
Ex. Railroad Signal Beta
Ex. Railroad Signal Alpha
Ex. Railroad Signal Preview
Ex. Railroad Signal Demo
Ex. Railroad Signal Trial
Ex. Railroad Signal Evaluation
Ex. Railroad Signal Subscription
Ex. Railroad Signal License
Ex. Railroad Signal Key
Ex. Railroad Signal Activation
Ex. Railroad Signal Registration
Ex. Railroad Signal Authentication
Ex. Railroad Signal Authorization
Ex. Railroad Signal Encryption
Ex. Railroad Signal Decryption
Ex. Railroad Signal Hash
Ex. Railroad Signal Checksum
Ex. Railroad Signal Digital Signature
Ex. Railroad Signal Certificate
Ex. Railroad Signal Public Key
Ex. Railroad Signal Private Key
Ex. Railroad Signal Session Key
Ex. Railroad Signal Symmetric Key
Ex. Railroad Signal Asymmetric Key
Ex. Railroad Signal Hybrid Key
Ex. Railroad Signal Quantum Key
Ex. Railroad Signal Post-Quantum Key
Ex. Railroad Signal Lattice Key
Ex. Railroad Signal Code Key
Ex. Railroad Signal Multivariate Key
Ex. Railroad Signal Hash Key
Ex. Railroad Signal Isogeny Key
Ex. Railroad Signal Supersingular Key
Ex. Railroad Signal Elliptic Curve Key
Ex. Railroad Signal Finite Field Key
Ex. Railroad Signal Prime Field Key
Ex. Railroad Signal Binary Field Key
Ex. Railroad Signal Extension Field Key
Ex. Railroad Signal Tower Field Key
Ex. Railroad Signal Composite Field Key
Ex. Railroad Signal Subfield Key
Ex. Railroad Signal Isomorphism Key
Ex. Railroad Signal Automorphism Key
Ex. Railroad Signal Endomorphism Key
Ex. Railroad Signal Frobenius Key
Ex. Railroad Signal Verschiebung Key
Ex. Railroad Signal Dual Key
Ex. Railroad Signal Twist Key
Ex. Railroad Signal Quadratic Twist Key
Ex. Railroad Signal Cubic Twist Key
Ex. Railroad Signal Quartic Twist Key
Ex. Railroad Signal Sextic Twist Key
Ex. Railroad Signal Octic Twist Key
Ex. Railroad Signal Decic Twist Key
Ex. Railroad Signal Dodecic Twist Key
Ex. Railroad Signal Hexadecic Twist Key
Ex. Railroad Signal Twist Key
Ex. Railroad Signal Twist Key
Ex. Railroad Signal

APPENDIX 3 – ALTERNATIVE #3 CONCEPTUAL P&PS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00

STA. 511+00

WUG Marker
WUG Marker
WUG Marker
PP
2-Wire OHE
Tel. Handhole
WUG Marker
Guy Wire
BPI 300+00.00
2-Wire OHE
PP
Section Line
SH 59
DESIGN SPEED - 60 m/h
STA 300+00.00
Section Line
Pres. R/W
Guy Wire
PP
2-Wire OHE
Pres. R/W
W
2-Wire OHE

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Pres. R/W
Gravel
Grove
E 140 Rd
PP
2-Wire OHE
Pres. R/W
PP
2-Wire OHE
Pres. R/W
PP

OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

STA. 500+13.00
BEGIN PROJECT

VPI 502+05.00
ELEV = 831.10
L = 50.00
K = 94.21
VPC 501+80.00
ELEV. = 830.97
VPT 502+30.00
ELEV. = 831.10

VPI 504+35.00
ELEV = 831.09
L = 100.00
K = 104.60
VPC 503+85.00
ELEV. = 831.10
VPT 504+85.00
ELEV. = 830.61

VPI 509+35.00
ELEV = 826.30
L = 50.00
K = 131.25
VPC 509+10.00
ELEV. = 826.54
VPT 509+60.00
ELEV. = 826.16

VPI 511+60.00
ELEV = 825.00
L = 250.00
K = 133.31
VPC 510+35.00
ELEV. = 825.72

Ex. Grade @ ℄ Survey
0.53%
-0.00%
FINISHED GRADE
-0.96%
-0.58%
OPTION 3 SP. DT. LT.&RT.
OPTION 3 SP. DT. LT.&RT.

855 850 845 840 835 830 825 820 815

496+00	497+00	498+00	499+00	500+00	501+00	502+00	503+00	504+00	505+00	506+00	507+00	508+00	509+00	510+00	511+00
				830.16	830.52 / 830.28	830.82 / 830.55	831.10 / 830.81	831.03 / 831.05	831.10 / 831.10	831.10 / 831.10	831.10 / 831.10	831.00 / 831.08	830.85 / 830.89	830.45 / 830.47	830.00 / 829.99	829.54 / 829.51	829.06 / 829.03	828.55 / 828.55	828.06 / 828.07	827.63 / 827.59	827.21 / 827.11	826.65 / 826.64	826.26 / 826.22	825.99 / 825.92	825.70 / 825.63	825.16 / 825.19

Tuesday, March 03, 2020 4:16:06 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00 | 521+00 | 522+00 | 523+00 | 524+00 | STA. 526+00

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
Property Line
Pres. R/W
E 140 Rd
Section Line
Roadway
Gravel
2-Wire OHE
PP
W
TUG Marker (AT&T)

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Ella Lou Reynolds Affidavit of Surviving Joint Tenant Book: 679, Page: 769

Edward E. Reynolds and Ella Lou Reynolds JTWD Book: 483, Page: 202

NWI WETLAND
NHD FLOWLINE

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 908, Page: 192

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 511+60.00
ELEV = 825.00
L = 250.00
K = 133.31

VPT 512+85.00
ELEV. = 821.93

VPI 514+80.00
ELEV = 817.15
L = 50.00
K = 166.47

VPC 514+55.00
ELEV. = 817.76

VPT 515+05.00
ELEV. = 816.61

VPI 518+40.00
ELEV = 809.40
L = 300.00
K = 151.05

VPC 516+90.00
ELEV. = 812.63

VPT 519+90.00
ELEV. = 809.15

VPI 522+60.00
ELEV = 808.70
L = 200.00
K = 199.23

VPC 521+60.00
ELEV. = 808.87

VPT 523+60.00
ELEV. = 809.54

-2.45%
-2.15%
-0.17%

OPTION 3 SP. DT. RT.
OPTION 3 SP. DT. LT.
FINISHED GRADE
Ex. Grade @ ℄ Survey

X7 - STA. 519+52
EXIST. 42" CMP
FL LT. = 803.03
FL RT. = 804.05

X8 - STA. 522+11
EXIST. 6'X2' RCB
FL LT. = 803.56
FL RT. = 801.93

835 830 825 820 815 810 805 800 795

511+00	512+00	513+00	514+00	515+00	516+00	517+00	518+00	519+00	520+00	521+00	522+00	523+00	524+00	525+00	526+00
825.16	824.50	823.51	822.82	821.55	820.34	819.08	817.87	816.78	815.67	814.67	813.39	812.42	811.42	810.50	809.74	808.96	808.61	809.20	809.00	809.02	808.90	808.62	808.80	809.10	809.42	809.81	810.24	810.70	811.08	811.52

Tuesday, March 03, 2020 4:16:27 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00

STA. 526+00

STA. 541+00

1/4 Section Line

1/4 Section Line

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

TUG Marker (AT&T)

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

Pres. R/W

E 140 RD

Section Line

Gravel

Asphalt

Roadway

2-Wire OHE

PP

RIB

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 529+05.00
ELEV = 814.10
L = 50.00
K = 159.54

VPC 528+80.00
ELEV. = 813.89

VPT 529+30.00
ELEV. = 814.23

VPI 531+15.00
ELEV = 815.20
L = 50.00
K = 164.88

VPC 530+90.00
ELEV. = 815.07

VPT 531+40.00
ELEV. = 815.41

VPI 537+80.00
ELEV = 820.70
L = 300.00
K = 191.37

VPC 536+30.00
ELEV. = 819.46

VPT 539+30.00
ELEV. = 824.29

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPC 539+85.00
ELEV. = 825.61

FINISHED GRADE

Ex. Grade @ ℄ Survey

0.84% 0.52% 0.83% 2.39%

840 835 830 825 820 815 810 805 800

526+00	527+00	528+00	529+00	530+00	531+00	532+00	533+00	534+00	535+00	536+00	537+00	538+00	539+00	540+00	541+00
811.52	811.90	812.38	812.82	813.20	813.60	814.00	814.29	814.57	814.88	815.11	815.50	815.85	816.24	816.67	816.91	817.38	817.91	818.37	818.79	819.22	819.71	820.23	820.80	821.61	822.60	823.61	824.76	825.95	827.04	827.87
811.55	811.97	812.38	812.80	813.22	813.64	814.05	814.34	814.60	814.86	815.12	815.49	815.90	816.32	816.73	817.14	817.56	817.97	818.38	818.80	819.21	819.64	820.17	820.83	821.62	822.54	823.60	824.77	825.96	827.00	827.84

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

STA. 541+00

STA. 552+40

Gaines Family Revocable Trust
GWD
Book: 553, Page: 713

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS

Pres. R/W
Section Line
E 140 Rd
Asphalt
Gravel
Fib
2-Wire OHE
Pres. R/W
PP
WM
WV
Top Nut Elev.=826.68
TUG Marker (AT&T)
Guy Wire
TPED
TUG Marker (AT&T)
TUG Marker (AT&T)
TUG Marker (AT&T)
Culvert
2-Wire OHE

OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Kenneth L. Myers and Vickey G. Myers
JTWD
Book: 585, Page: 231

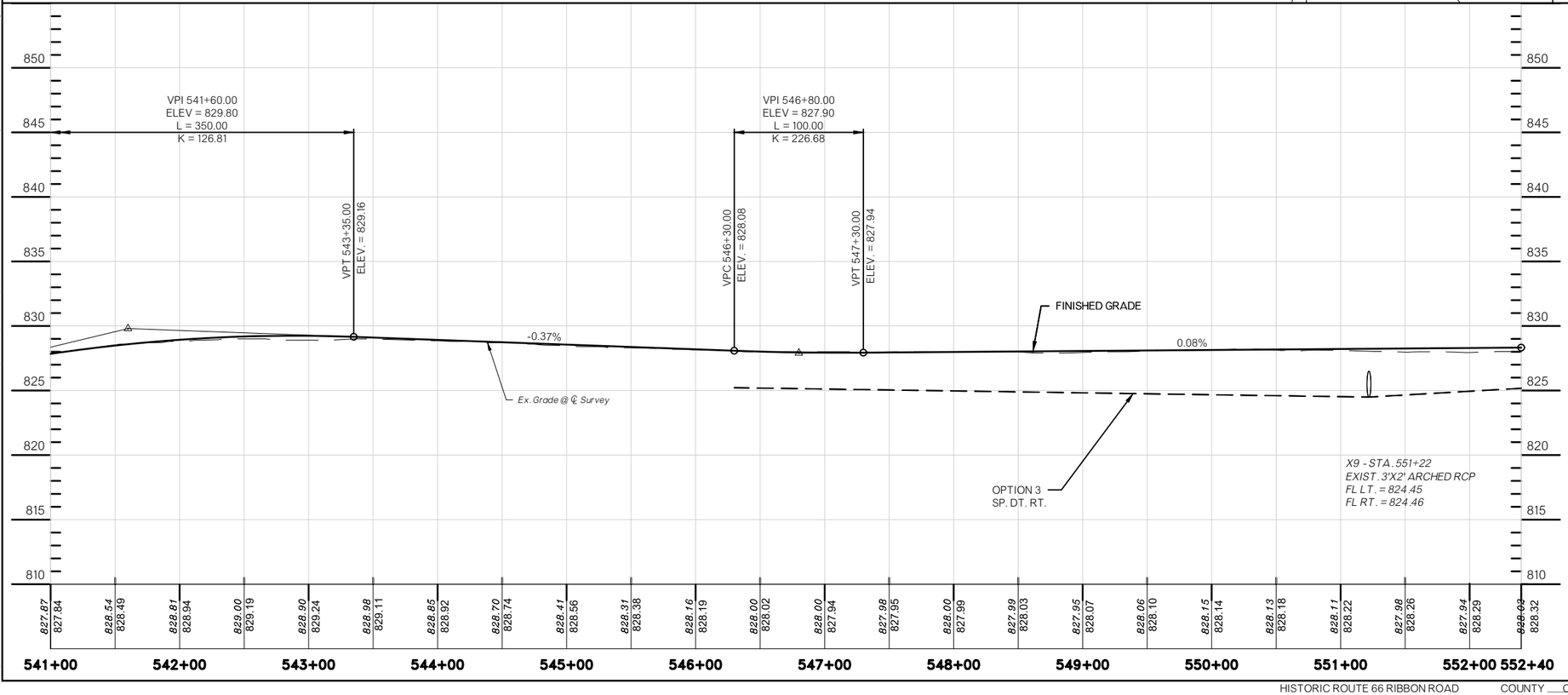
Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton
Affidavit of Termination of Life Estate
Book: 1000, Page: 754

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 4:17:07 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

555+00 | 556+00 | 557+00 | 558+00 | 559+00 | 560+00 | 561+00 | 562+00

STA. 552+40

STA. 564+00

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

TUG Marker

TPED

35+93.18

Pres. R/W

Section Line

Gravel

Roadway

S 540 RD

Fiber

W

Tel. Handhole

PP

TUG Marker (AT&T)

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

2-Wire OHE

Property Line

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

LEGEND

BENCHMARK

PROPOSED MILL AND OVERLAY

PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 553+40.00
ELEV = 828.40
L = 200.00
K = 230.23

VPC 552+40.00
ELEV = 828.32

VPT 554+40.00
ELEV. = 829.34

VPI 557+00.00
ELEV = 831.80
L = 50.00
K = 148.10

VPC 556+75.00
ELEV. = 831.56

VPT 557+25.00
ELEV. = 832.12

VPI 562+85.00
ELEV = 839.30
L = 200.00
K = 117.16

VPC 561+85.00
ELEV = 838.02

VPT 563+85.00
ELEV = 838.88

FINISHED GRADE

0.94%

1.28%

Ex. Grade @ ℄ Survey

OPTION 3 SP. DT. RT.

855 | 850 | 845 | 840 | 835 | 830 | 825 | 820 | 815

552+40	553+00	554+00	555+00	556+00	557+00	558+00	559+00	560+00	561+00	562+00	563+00	564+00
828.02	828.10	828.26	828.52	828.96	829.57	830.00	830.50	830.81	831.23	831.93	832.42	832.81
828.32	828.33	828.45	828.67	829.00	829.44	829.91	830.38	830.86	831.33	831.82	832.44	833.08

833.52	834.50	835.12	835.62	836.21	836.80	837.42	838.13	838.80	839.06	838.91	838.80	
833.72	834.36	835.01	835.65	836.29	836.93	837.57	838.20	838.67	838.93	838.97	838.81	

Tuesday, March 03, 2020 4:17:22 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00

STA. 564+00

STA. 579+00

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

1/4 Section Line

Pres. R/W

TBED

Section Line

S 540 RD

Gravel

TOS

W

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

865 860 855 850 845 840 835 830 825

VPI 566+85.00
ELEV = 837.60
L = 250.00
K = 178.60

VPI 572+80.00
ELEV = 843.40
L = 350.00
K = 87.44

VPI 576+40.00
ELEV = 832.50
L = 300.00
K = 117.26

VPC 565+60.00 ELEV. = 838.13

VPT 568+10.00 ELEV. = 838.82

VPC 571+05.00 ELEV. = 841.69

VPT 574+55.00 ELEV. = 838.10

VPC 574+90.00 ELEV. = 837.04

VPT 577+90.00 ELEV. = 831.80

FINISHED GRADE

Ex. Grade @ ℄ Survey

-0.42%

0.97%

-3.03%

OPTION 3 DT. RT.

OPTION 3 DT. RT.

X10 - STA. 566+30
EXIST. 36" ARCHED RCP
FL LT. = 834.56
FL RT. = 834.16

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00

STA. 579+00

STA. 594+00

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

Pres. R/W

Gravel

S 540 RD

Section Line

Rubber Water Tank

WV

Top Nut Elev.=819.86

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 581+30.00
ELEV = 830.20
L = 180.00
K = 65.14

VPC 580+40.00
ELEV = 830.62

VPT 582+20.00 VPC 582+20.00
ELEV. = 827.29 ELEV. = 827.29

VPI 584+95.00
ELEV = 818.40
L = 550.00
K = 80.94

VPT 587+70.00
ELEV. = 828.20

VPI 589+75.00
ELEV = 835.50
L = 200.00
K = 89.95

VPC 588+75.00
ELEV. = 831.94

VPT 590+75.00
ELEV. = 836.84

0.47%

3.56%

1.34%

FINISHED GRADE

Ex. Grade @ ℄ Survey

OPTION 3 SP. DT. LT.

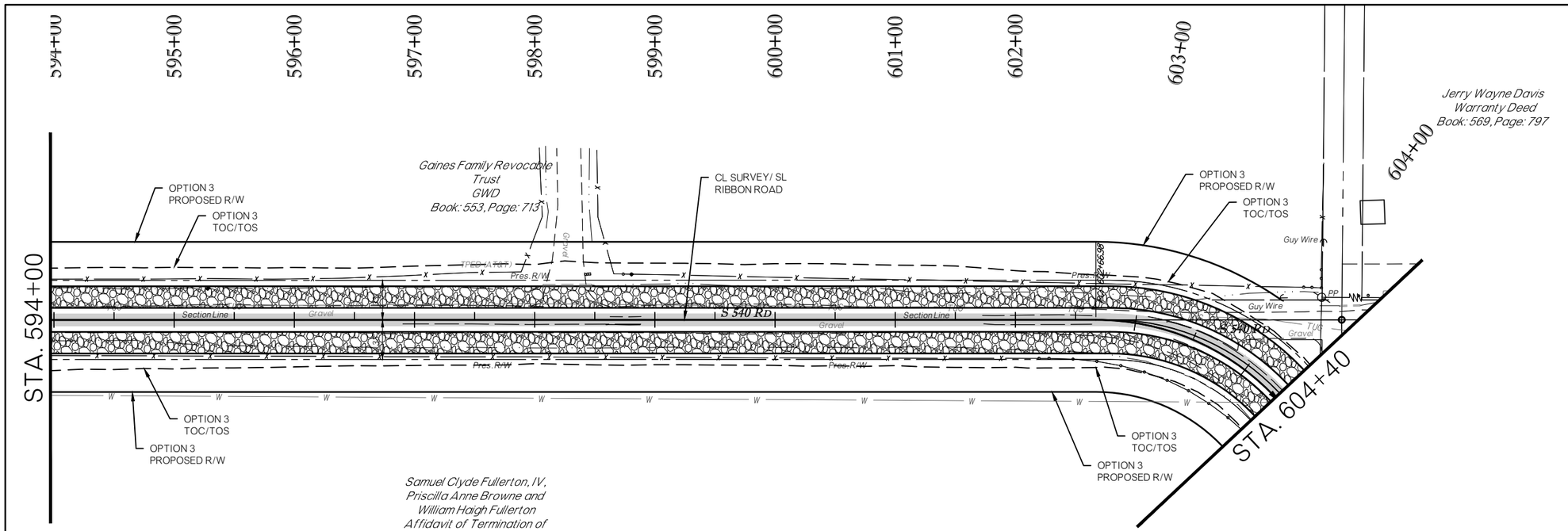
OPTION 3 SP. DT. RT.

X11 - STA. 584+78
EXIST. 12'X4' ARCHED RCB
FL LT. = 817.22
FL RT. = 816.52

579+00	580+00	581+00	582+00	583+00	584+00	585+00	586+00	587+00	588+00	589+00	590+00	591+00	592+00	593+00	594+00
831.30 831.28	*831.12* 831.04	*830.86* 830.81	*830.51* 830.57	*830.07* 830.06	*829.05* 829.18	*827.99* 827.91	*826.50* 826.38	*824.80* 825.10	*823.47* 824.13	*822.59* 823.47	*822.10* 823.12	*822.13* 823.08	*822.59* 823.35	*823.29* 823.93	*824.37* 824.81	*825.83* 826.01	*827.42* 827.51	*829.14* 829.27	*831.04* 831.05	*832.66* 832.79	*834.16* 834.30	*835.43* 835.52	*836.39* 836.47	*837.10* 837.17	*837.91* 837.84	*838.39* 838.51	*839.00* 839.18	*839.74* 839.85	*840.50* 840.52	*841.18* 841.19

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

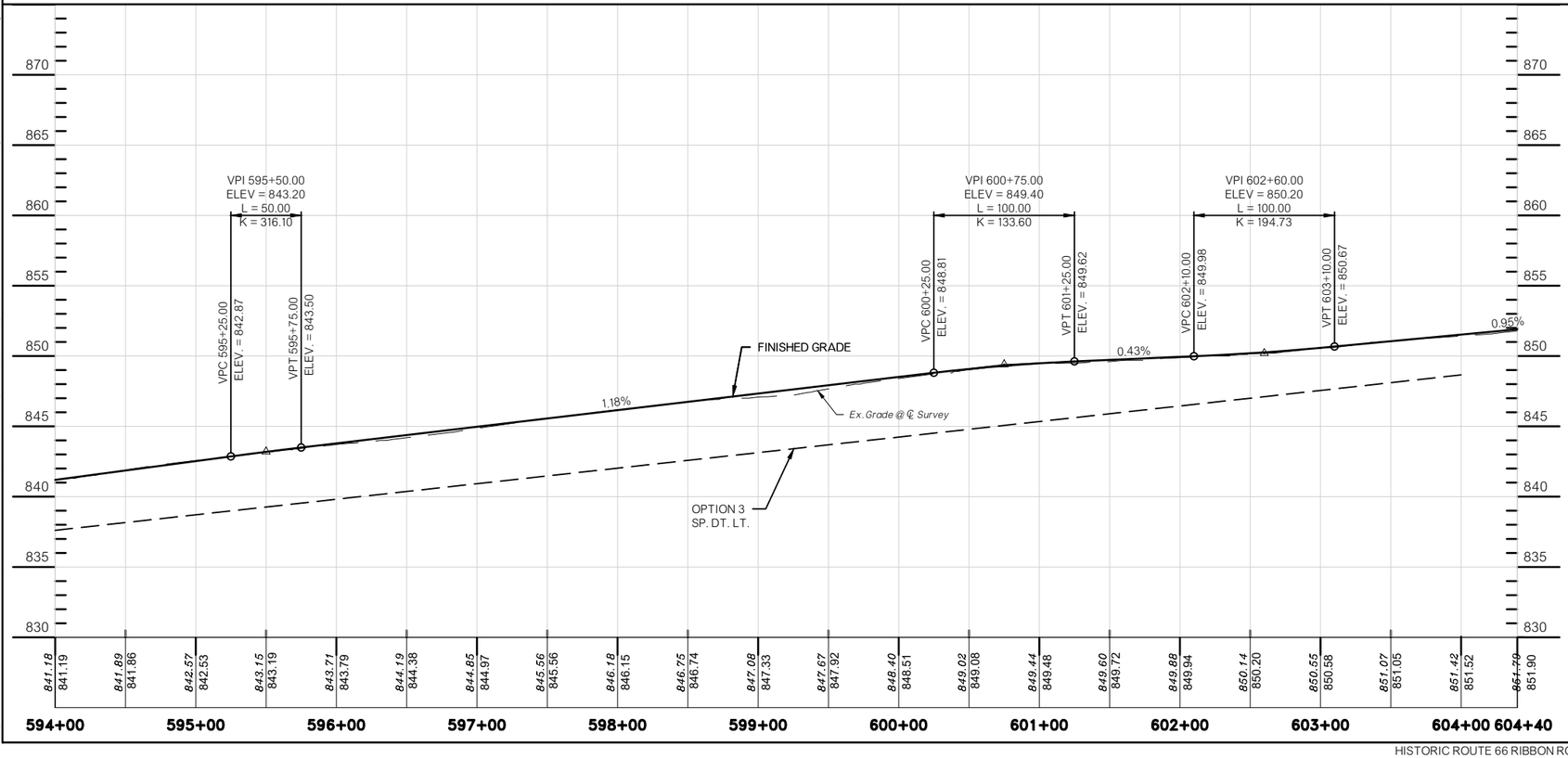


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

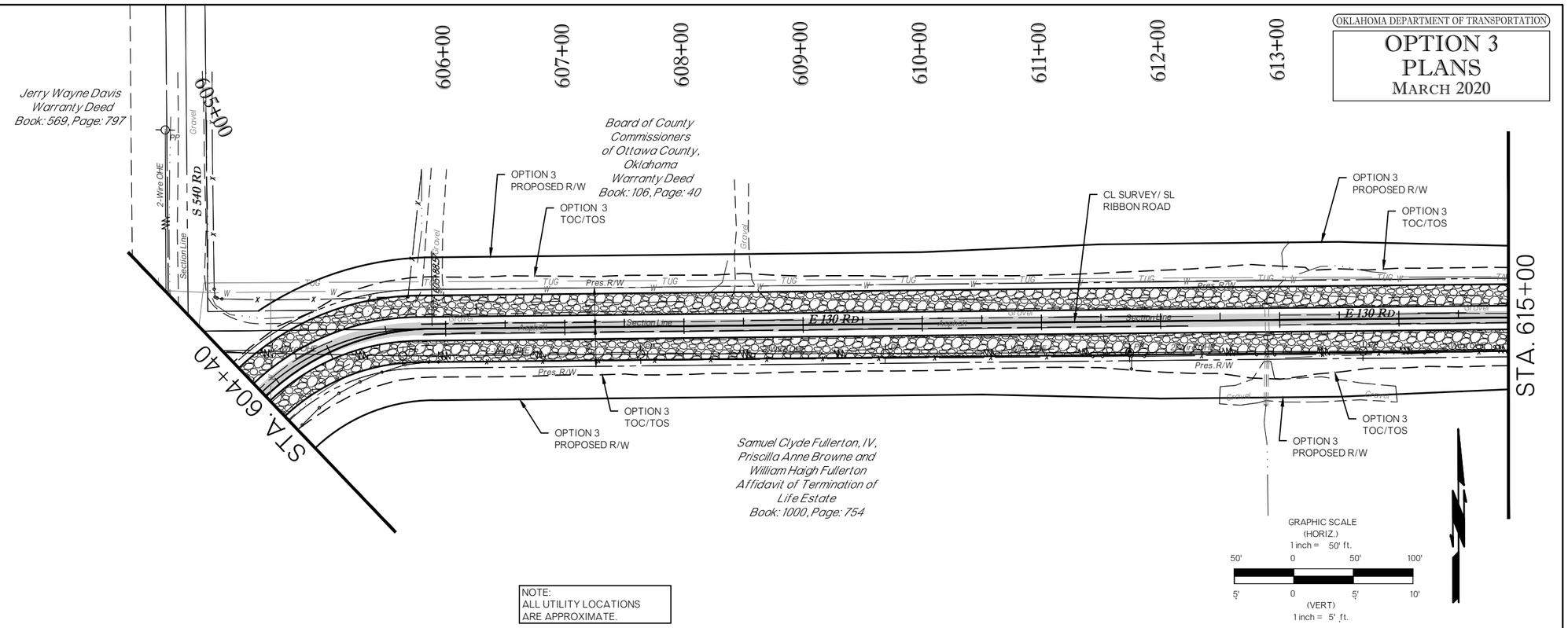
GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 4:18:04 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

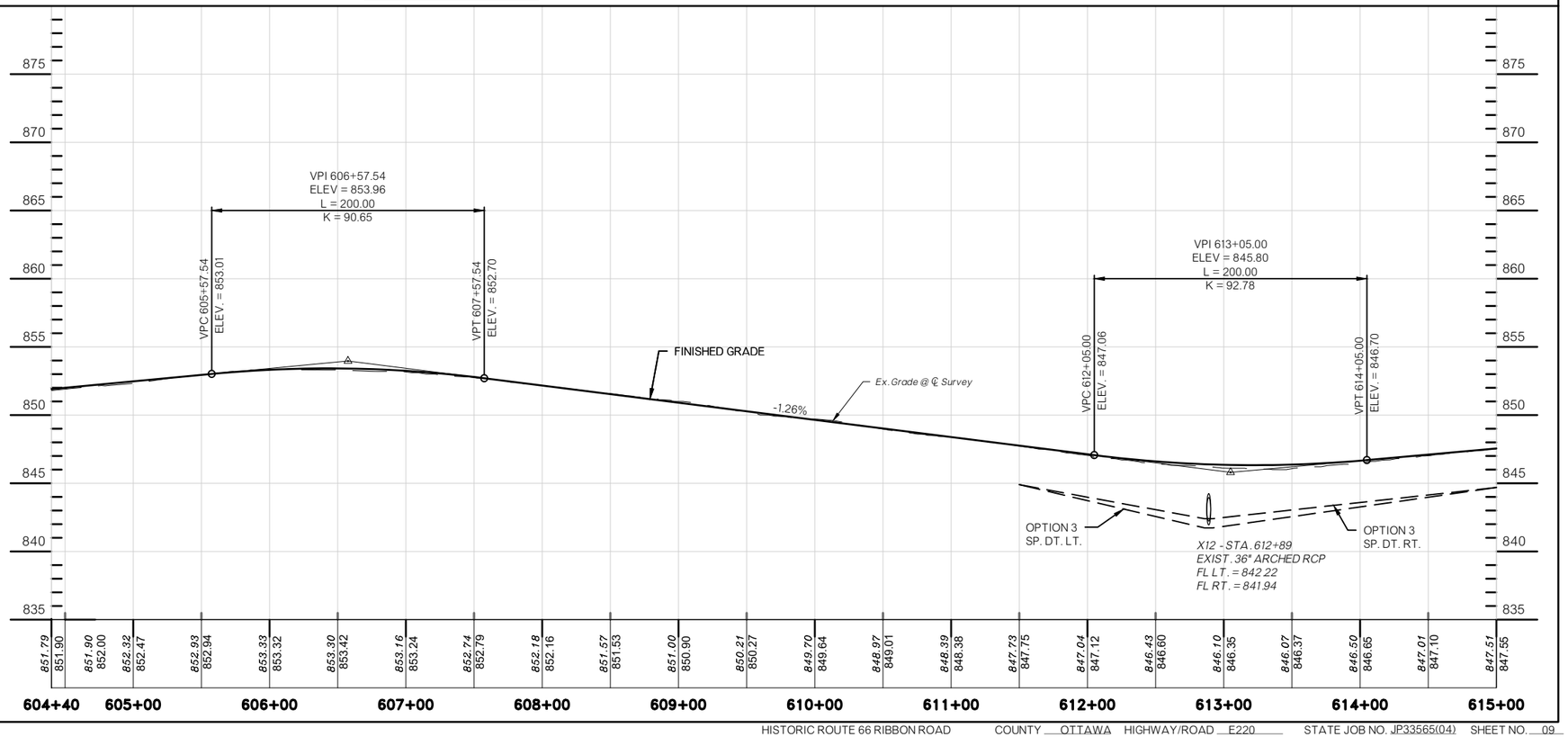
OPTION 3 PLANS
MARCH 2020



LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.



Tuesday, March 03, 2020 4:18:18 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | 626+00 | 627+00 | 628+00 | STA. 630+00

Board of County Commissioners of Ottawa County, Oklahoma Warranty Deed Book: 106, Page: 40

James E. Beautte and Rhonda S. Beautte JTWD Book: 746, Page: 597

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

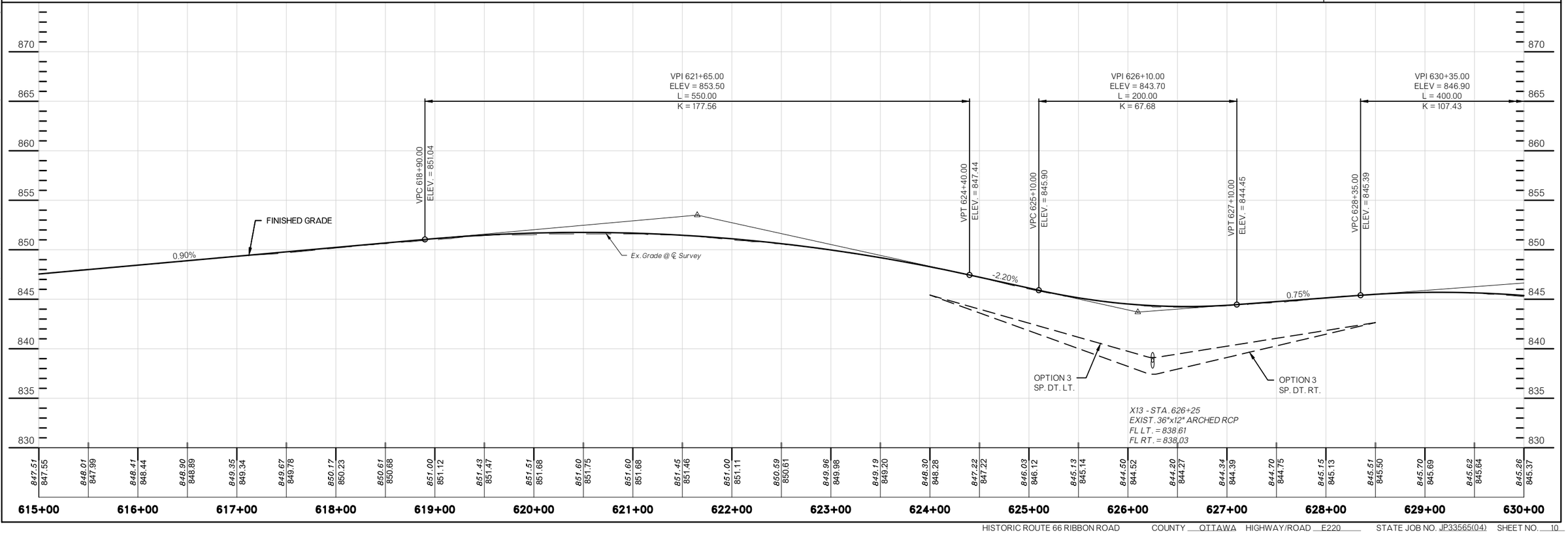
Property Line | OPTION 3 PROPOSED R/W | OPTION 3 TOC/TOS | CL SURVEY/ SL RIBBON ROAD | 2-Wire OHE | Guy Wire | Guy | Cattle Guard | Gravel | Pres. R/W | Section Line | E 130 Rd | WM | OPTION 3 TOC/TOS | OPTION 3 PROPOSED R/W

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 4:18:33 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00

STA. 630+00

STA. 645+00

1/4 Section Line

1/4 Section Line

Property Line

Property Line

Property Line

Section Line

Section Line

E 130 Rd

E 130 Rd

2-Wire OHE

Guy Wire

Gravel

Pres. R/W

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Charles W. Rogers and Patsy J. Rogers JTWD Book: 601, Page: 776

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 630+35.00
ELEV = 846.90
L = 400.00
K = 107.43

VPT 632+35.00
ELEV. = 840.96

Ex. Grade @ ℄ Survey

-2.97%

VPI 635+40.00
ELEV = 831.90
L = 150.00
K = 128.17

VPC 634+65.00
ELEV. = 834.13

VPT 636+15.00
ELEV. = 830.55

FINISHED GRADE

-1.80%

VPI 639+40.00
ELEV = 824.70
L = 100.00
K = 164.06

VPC 638+90.00
ELEV. = 825.60

VPT 639+90.00
ELEV. = 824.10

-1.19%

VPI 641+50.00
ELEV = 822.20
L = 100.00
K = 135.05

VPC 641+00.00
ELEV. = 822.80

VPT 642+00.00
ELEV. = 821.98

-0.45%

855 850 845 840 835 830 825 820 815

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00

STA. 645+00 — STA. 660+00

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Mark E. Grigsby and Sharon Grigsby JTWD Book: 607, Page: 527

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

E 130 RD

S 550 RD

Property Line

2-Wire OHE

Steel (on/on)

Guy Wire

Gravel

Asphalt

Section Line

Pres. R/W

TUG Marker (SW Bell)

FO Marker (Rec Tec)

FO Marker (SW Bell)

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

845 | 840 | 835 | 830 | 825 | 820 | 815 | 810 | 805

VPI 645+50.00
ELEV = 820.40
L = 100.00
K = 238.81

VPT 646+00.00
ELEV. = 820.38

VPI 651+90.00
ELEV = 820.20
L = 200.00
K = 169.46

VPC 650+90.00
ELEV. = 820.23

VPT 652+90.00
ELEV. = 821.35

VPI 656+60.00
ELEV = 825.60
L = 300.00
K = 116.39

VPC 655+10.00
ELEV. = 823.88

VPT 658+10.00
ELEV. = 823.46

VPI 660+10.00
ELEV = 820.60
L = 200.00
K = 292.44

VPC 659+10.00
ELEV. = 822.03

FINISHED GRADE

-0.03%

1.15%

-1.43%

Ex. Grade @ ℄ Survey

OPTION 3 SP. DT. LT.

OPTION 3 SP. DT. RT.

X14 - STA. 648+65
EXIST. 36"x18" ARCHED RCP
FL LT. = 817.23
FL RT. = 817.71

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00

STA. 660+00

STA. 675+00

Stonehill Land & Cattle, L.L.C.
GWD
Book: 932, Page: 66

Property Line

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Property Line

Gravel

ROCMND Area Youth Services, Inc.
WD
Book: 474, Page: 923

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

Pres. R/W

E 130 RD

Section Line

Asphalt

Fence

Power Pole

FO Marker (SW Bell)

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company
GWD
Book: 932, Page: 70

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

840 835 830 825 820 815 810 805 800

VPI 660+10.00
ELEV = 820.60
L = 200.00
K = 292.44

VPT 661+10.00
ELEV. = 819.86

FINISHED GRADE

-0.74%

Ex. Grade @ ℄ Survey

VPI 664+80.00
ELEV = 817.10
L = 150.00
K = 391.67

VPC 664+05.00
ELEV. = 817.66

VPT 665+55.00
ELEV. = 816.83

-0.36%

VPI 669+50.00
ELEV = 815.40
L = 200.00
K = 505.76

VPC 668+50.00
ELEV. = 815.76

VPT 670+50.00
ELEV. = 814.64

-0.76%

OPTION 3 SP. DT. RT.

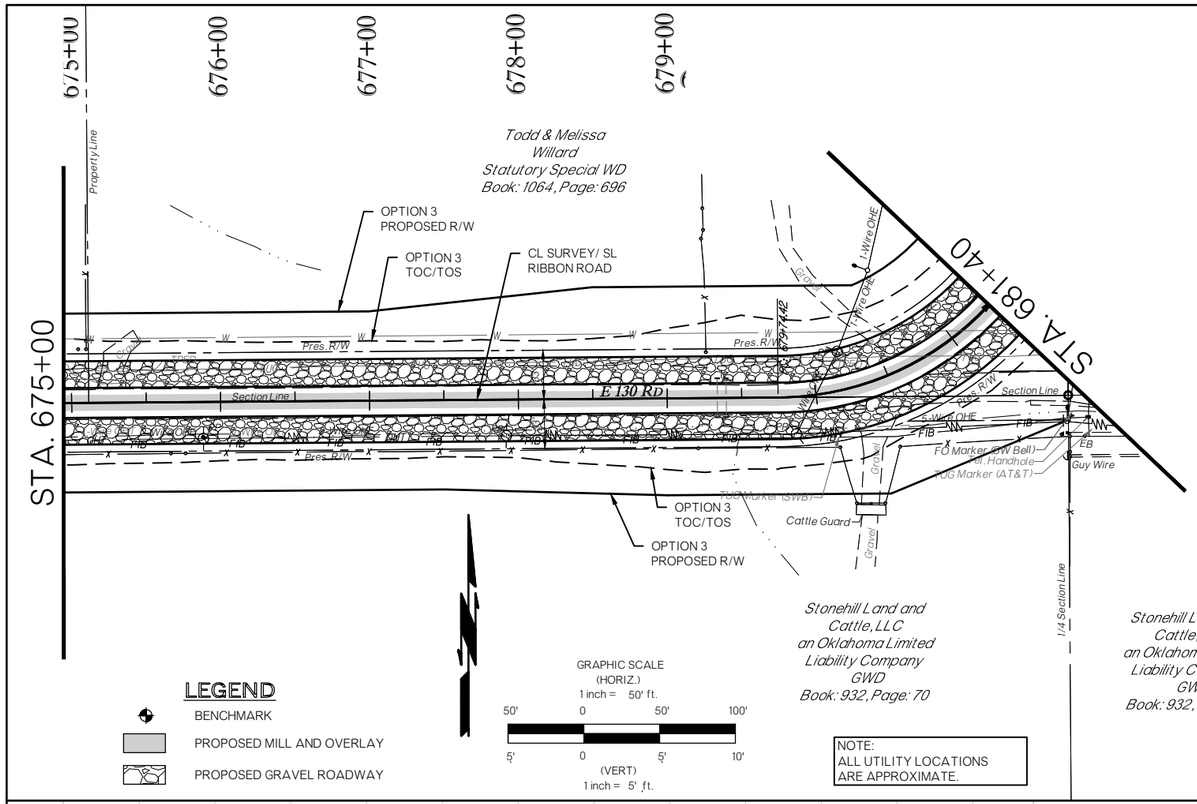
OPTION 3 SP. DT. LT.

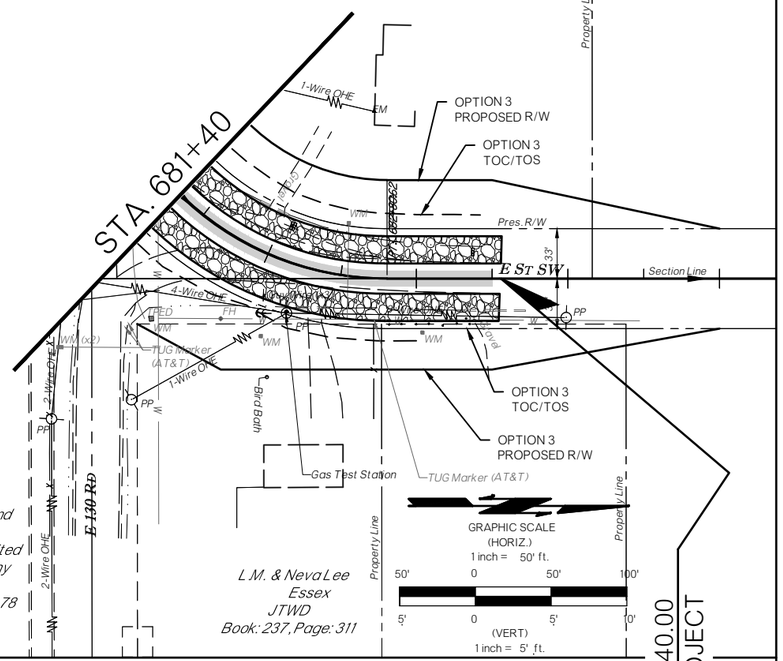
X15 - STA. 667+17
EXIST. 36"x20" ARCHED RCP
FL LT. = 812.71
FL RT. = 812.76

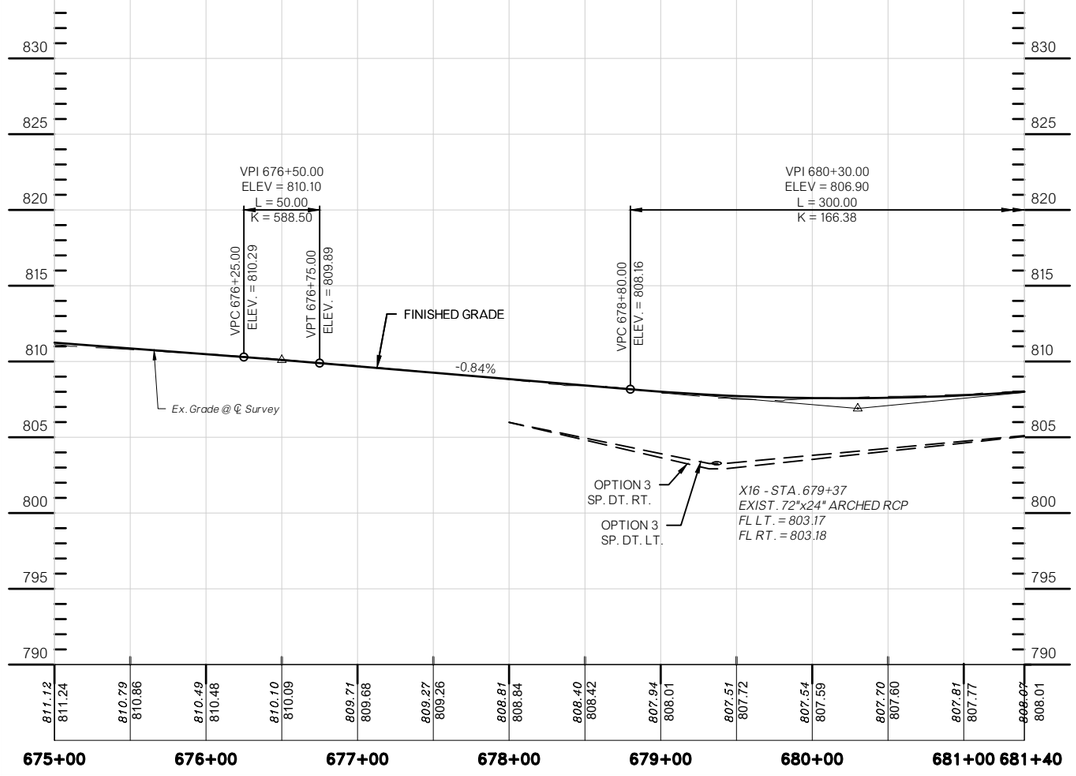
| | | |

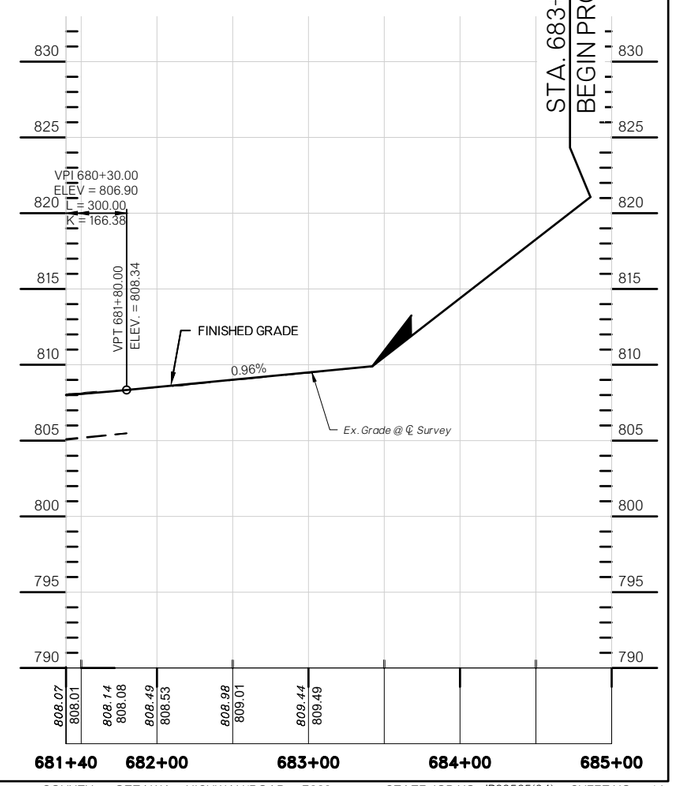
OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020









Tuesday, March 03, 2020 4:19:44 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

10+00 11+00 12+00 13+00 14+00 15+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

1-Wire OHT 4-Wire OHE

OHT

Asphalt Hwy 60

Cable Barrier

Gravel

Rickie L. Farmer QCD Book: 844, Page: 50

STA. 17+50

6" Steel Bollard

Asphalt

E 220 Rd

33'

5-Strand B/W

Pres. R/W

TUG Marker (AT&T)

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

CL SURVEY RIBBON ROAD

James Ronald Fuser GWD Book: 455, Page: 50

S 520 Rd

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

STA. 12+00.00 BEGIN PROJECT
STATE JOB NO. JP33565(04)

VPI 13+90.00
ELEV = 788.64
L = 100.00
K = 72.62

VPC 13+40.00 ELEV. = 788.21

VPT 14+40.00 ELEV = 788.38

VPI 15+70.00
ELEV = 787.72
L = 100.00
K = 125.40

VPC 15+20.00 ELEV. = 787.98

VPT 16+20.00 ELEV. = 787.86

VPC 17+40.00 ELEV = 788.21

0.87% -0.51% 0.29%

X1
STA. 17+27.00
32" X 12" RCP ARCHED
FL LT.=BURIED
FL RT.=BURIED

5+50	6+00	7+00	8+00	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00
							787.14	786.99 / 786.99	787.44 / 787.43	787.85 / 787.86	788.27 / 788.29	788.46 / 788.48
788.30 / 788.33	788.07 / 788.08	787.88 / 787.86	787.84 / 787.82	787.95 / 787.95	788.06 / 788.09	788.23						

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

Thursday, March 05, 2020 8:19:00 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

20+00 21+00 22+00 23+00 24+00 25+00

STA. 17+50

STA. 27+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

Michael & Tracy Wheatley JTWD Book: 965, Page: 481

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Cable Barrier

6' Steel Bollard

E 220 RD

S 520 RD

HWY 60

5-Strand B/W

4-Wire OHE

2-Wire OHE

Disolated 4-Strand B/W

Abandoned PP

Concrete Pad

Gravel

Asphalt

TPED (x4)

FO Marker (MISC)

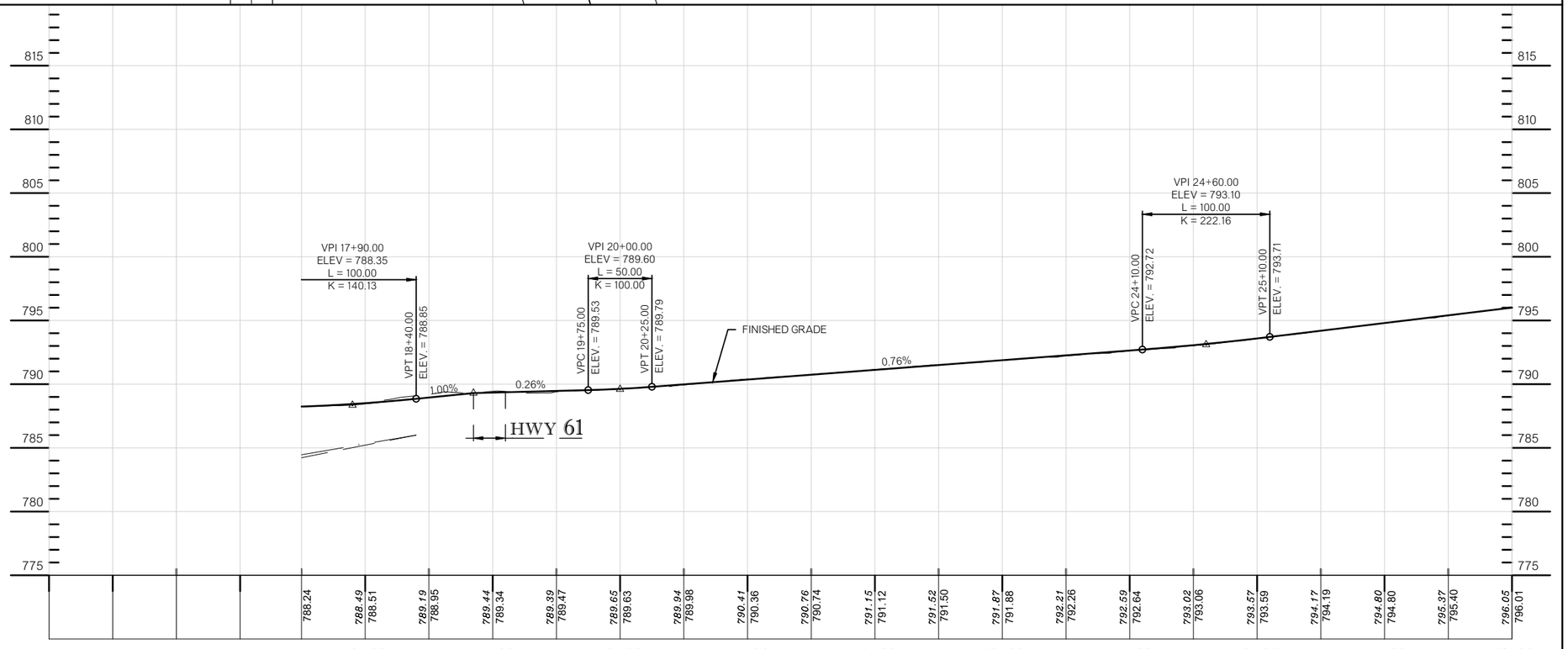
FO Handhole

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY



Thursday, March 05, 2020 8:19:26 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 27+00 | 28+00 | 29+00 | 30+00 | 31+00 | 32+00 | 33+00 | 34+00 | 35+00 | 36+00 | 37+00 | 38+00 | 39+00 | 40+00 | STA. 42+00

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

Richard L. & Ellen D. Partain JTWD Book: 896, Page: 370

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 RD

200'

200'

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

Rici Partain & Ellen Partain JTWD Book: 654, Page: 618

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPC 29+30.00 ELEV. = 798.79
VPI 30+05.00 ELEV = 799.70 L = 150.00 K = 88.07
VPT & VPC 30+80.00 ELEV. = 801.89
VPI 31+80.00 ELEV = 804.80 L = 200.00 K = 64.91
VPT & VPC 32+80.00 ELEV. = 804.63
VPI 33+60.00 ELEV = 804.50 L = 160.00 K = 86.94
VPT 34+40.00 ELEV. = 805.84
VPC 38+65.00 ELEV. = 812.95
VPI 40+65.00 ELEV = 816.30 L = 400.00 K = 144.64
FINISHED GRADE
1.21%
1.67%
Ex. Grade @ ℄ of Survey

27+00	28+00	29+00	30+00	31+00	32+00	33+00	34+00	35+00	36+00	37+00	38+00	39+00	40+00	41+00	42+00
796.05	*796.70*	*797.23*	*797.73*	*798.28*	*798.96*	*799.78*	*801.02*	*802.48*	*803.50*	*804.39*	*804.20*	*804.36*	*804.60*	*805.03*	*805.85*
796.01	796.61	797.22	797.82	798.43	799.06	799.92	801.06	802.44	803.55	804.27	804.61	804.62	804.80	805.26	806.01
806.61	*807.42*	*808.38*	*809.21*	*810.00*	*810.91*	*811.76*	*812.58*	*813.31*	*814.16*	*814.72*	*814.91*	*814.80*	*814.70*		
806.84	807.68	808.52	809.35	810.19	811.03	811.86	812.70	813.50	814.13	814.58	814.67	814.98	814.91	814.68	

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 03

Thursday, March 05, 2020 8:19:51 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 42+00 | 43+00 | 44+00 | 45+00 | 46+00 | 47+00 | 48+00 | 49+00 | 50+00 | 51+00 | 52+00 | 53+00 | 54+00 | 55+00 | STA. 57+00

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

CL SURVEY / SL RIBBON ROAD

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Richard L. & Ellen D. Partain WD Book: 645, Page: 036

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 40+65.00
ELEV = 816.30
L = 400.00
K = 144.64
VPT 42+65.00
ELEV = 814.12
-1.09%
FINISHED GRADE
Ex. Grade @ ℄ of Survey
VPI 51+55.00
ELEV = 804.40
L = 50.00
K = 177.54
VPC 51+30.00
ELEV. = 804.67
VPT 51+80.00
ELEV. = 804.20
-0.81%

825 820 815 810 805 800 795 790 785

42+00	43+00	44+00	45+00	46+00	47+00	48+00	49+00	50+00	51+00	52+00	53+00	54+00	55+00	56+00	57+00
814.70	*814.10*	*813.64*	*813.01*	*812.59*	*812.07*	*811.50*	*810.94*	*810.30*	*809.74*	*809.21*	*808.70*	*808.30*	*807.71*	*807.15*	*806.59*
814.68	814.27	813.73	813.19	812.64	812.10	811.55	811.00	810.46	809.91	809.37	808.82	808.28	807.73	807.18	806.64
806.12	*805.53*	*804.99*	*804.51*	*804.00*	*803.58*	*803.20*	*802.80*	*802.49*	*802.00*	*801.62*	*801.19*	*800.74*	*800.39*	*800.05*	
806.09	805.55	805.00	804.47	804.04	803.63	803.23	802.82	802.41	802.01	801.60	801.20	800.79	800.39	799.98	

Thursday, March 05, 2020 8:20:11 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 57+00 | 58+00 | 59+00 | 60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | STA. 72+00

E 210 RD

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Justin Johnson WD Book: 1074, Page: 487

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 RD

6-Strand B/W

4-Wire OHE

5-Strand B/W

1-Wire Guy

2-Wire OHT

2-Wire OHE

2-Wire Guy

3-Strand B/W

Dilapidated B/W

TUG Marker (AT&T)

Telephone Pedestal

Gravel

Asphalt

NWI WETLAND
NHD FLOWLINE

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

820 | 815 | 810 | 805 | 800 | 795 | 790 | 785 | 780

VPI 58+40.00
ELEV = 798.85
L = 100.00
K = 183.76

VPC 57+90.00
ELEV. = 799.26

VPT 58+90.00
ELEV. = 798.17

-1.35%

VPI 60+80.00
ELEV = 795.60
L = 180.00
K = 132.92

VPC 59+90.00
ELEV. = 796.82

VPT 61+70.00
ELEV. = 795.60

-0.00%

VPI 64+95.00
ELEV = 795.60
L = 100.00
K = 126.22

VPC 64+45.00
ELEV. = 795.60

VPT 65+45.00
ELEV. = 796.00

FINISHED GRADE

0.79%

VPI 70+00.00
ELEV = 799.60
L = 80.00
K = 145.31

VPC 69+60.00
ELEV. = 799.28

VPT 70+40.00
ELEV. = 799.70

Ex. Grade @ ℄ of Survey

SPECIAL DITCH LT.

SPECIAL DITCH RT.

X2
STA. 62+55
2-36" RCP
FL LT.=790.90
FL RT.=790.70

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 72+00

STA. 87+00

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

CL SURVEY/ SL RIBBON ROAD

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Turley Properties, LLC QCD Book: 1081, Page: 325

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 287

Oklahoma Turnpike Authority Warranty Deed Book: 255, Page: 550

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Note: To erect a single pole electric line along the westerly line of the SE/4, SE/4 of Sec. 23, T-26-N, R-22-E.

Public Service Company of Oklahoma Right of Way Easement Book: 262, Page: 885

5-Strand 4-Wire B/W

2-Wire OHE

3-Wire OHE

Guy Wire (x2)

Bore Hole

TUG Marker (typ)

Guardrail

Bridge Deck

S 520 RD

Gravel

FIB

OHT

OHE

PP

LEGEND

BENCHMARK

PROPOSED MILL AND OVERLAY

PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 78+50.00 BEGIN EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

Ex. Grade @ ℄ of Survey

0.24%

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

72+00	73+00	74+00	75+00	76+00	77+00	78+00	79+00	80+00	81+00	82+00	83+00	84+00	85+00	86+00	87+00
800.08	800.20	800.32	800.45	800.57	800.69	800.81	800.93	801.05	801.17	801.29	801.41	801.53	801.65	801.77	801.90	802.02	802.30	802.90	803.83	805.09	806.66	808.56	810.78	813.33	816.04	818.63	820.68	822.12	822.95	823.18

Thursday, March 05, 2020 8:20:59 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

88+00 | 93+ | 94+00 | 95+00 | 96+00 | 97+00 | 98+00 | 99+00

STA. 82+00

STA. 101+00

Oklahoma Turnpike Authority
No Deed
Note: Area checks out with the less and except area declared as deeded to OTA, recorded in Book: 997, Page: 88.

State of Oklahoma
Dedication Deed
Book: 255, Page: 548

The Terry & Beth Rotman Trust
Correction WD
Book: 997, Page: 88

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Oklahoma Turnpike Authority
Warranty Deed
Book: 253, Page: 289

John Mitchell Greniger
Warranty Deed
Book: 1036, Page: 46

Robert Allen Switzer
WD
Book: 559, Page: 632

S 520 RD

Mobile Home
FF Elev=796.82

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

OPTION 3 TOC/TOS

OPTION 3 PROPOSED R/W

33'

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 96+50.00 END EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

Ex. Grade @ ℄ of Survey

86+00	87+00	88+00	89+00	90+00	91+00	92+00	93+00	94+00	95+00	96+00	97+00	98+00	99+00	100+00	101+00
822.12	822.95	823.18	822.81	821.84 / 820.29	820.26 / 818.84	818.07 / 817.29	815.39 / 815.13	812.67 / 812.44	809.94 / 809.66	807.21 / 806.99	804.49 / 804.24	801.98 / 801.56	799.75 / 799.07	797.83 / 796.69	796.21 / 794.59	794.88 / 793.26	793.85 / 792.57	793.11 / 792.31	792.68 / 792.30	792.54 / 792.45	792.69 / 792.54	792.94 / 792.38	793.19 / 792.53	793.44 / 792.99	793.69 / 793.41	793.94 / 793.81	794.18 / 794.18	794.43 / 794.41	794.68 / 794.70	794.93 / 794.97

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

101+00 | 102+00 | 103+00 | 104+00 | 105+00 | 106+00 | 107+00 | 108+00 | 109+00 | 110+00 | 111+00 | 112+00 | 113+00 | 114+00

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Nikole Marie Johnson
QCD
Book: 872, Page: 22

STA. 101+00

STA. 116+00

OPTION 3 PROPOSED R/W

OPTION 3 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 Rd

Gravel Asphalt

TUG

SPED

33'

5-Strand B/W

Gravel

PP w/ Dip

2-Wire OHE

Guy Wire

PP

Robert Allen Switzer
WD
Book: 559, Page: 632

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 102+45.00
ELEV = 795.65
L = 50.00
K = 455.14

VPC 102+20.00
ELEV. = 795.53

VPT 102+70.00
ELEV. = 795.80

FINISHED GRADE

0.61%

Ex. Grade @ ℄ of Survey

VPC 109+20.00
ELEV. = 799.75

VPI 111+10.00
ELEV = 800.90
L = 380.00
K = 169.91

VPT 113+00.00
ELEV. = 797.80

-1.63%

VPI 115+15.00
ELEV = 794.30
L = 50.00
K = 95.83

VPC 114+90.00
ELEV. = 794.71

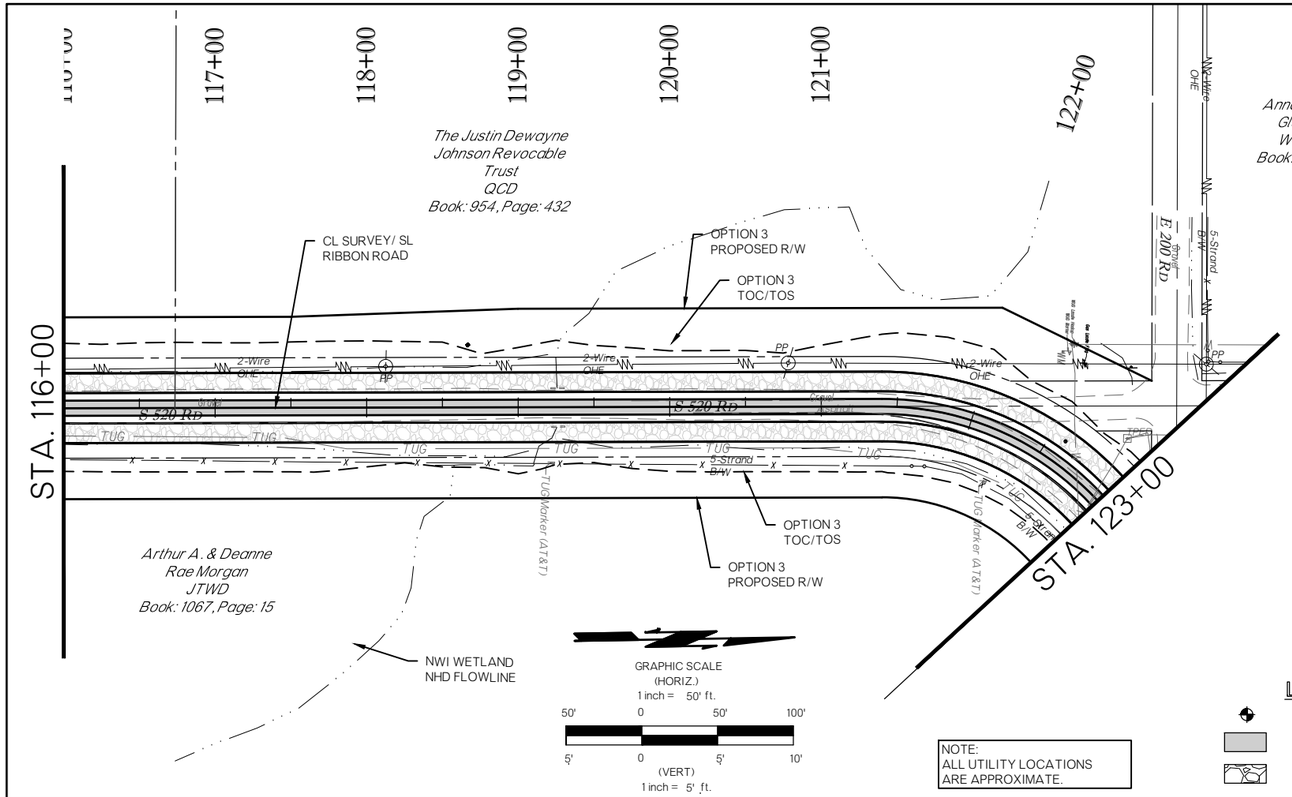
VPT 115+40.00
ELEV. = 794.02

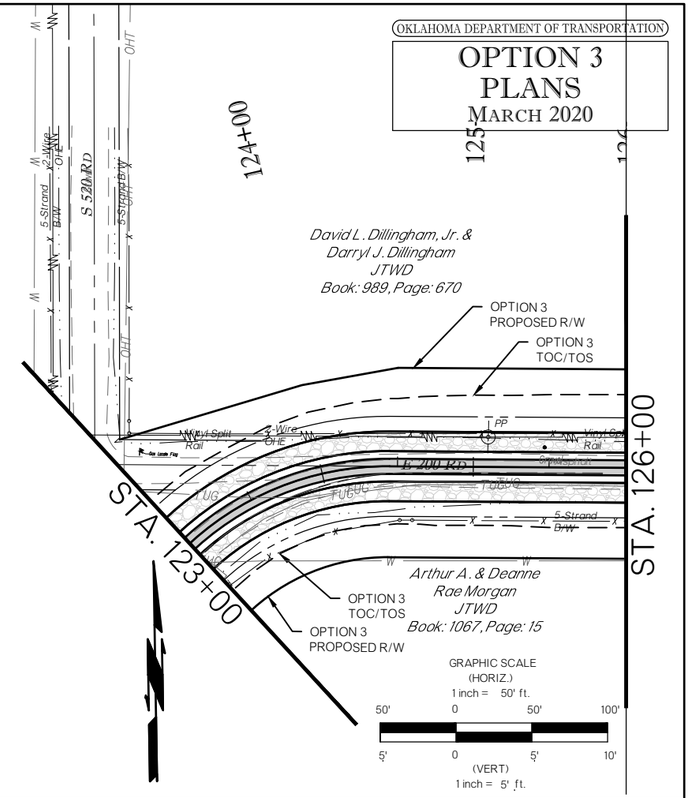
820 | 815 | 810 | 805 | 800 | 795 | 790 | 785 | 780

101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	115+00	116+00
794.97	795.18	795.45	795.63	796.00	796.33	796.60	796.92	797.20	797.50	797.80	798.12	798.45	798.76	798.99	799.30
794.93	795.18	795.43	795.68	795.98	796.29	796.59	796.89	797.20	797.50	797.80	798.11	798.41	798.72	799.02	799.32
799.55	799.60	800.00	799.98	799.80	799.53	799.24	798.67	797.81	797.01	796.10	795.29	794.51	793.90	793.34	
799.63	799.90	800.04	800.04	799.89	799.59	799.14	798.55	797.80	796.99	796.17	795.36	794.55	793.91	793.36	

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

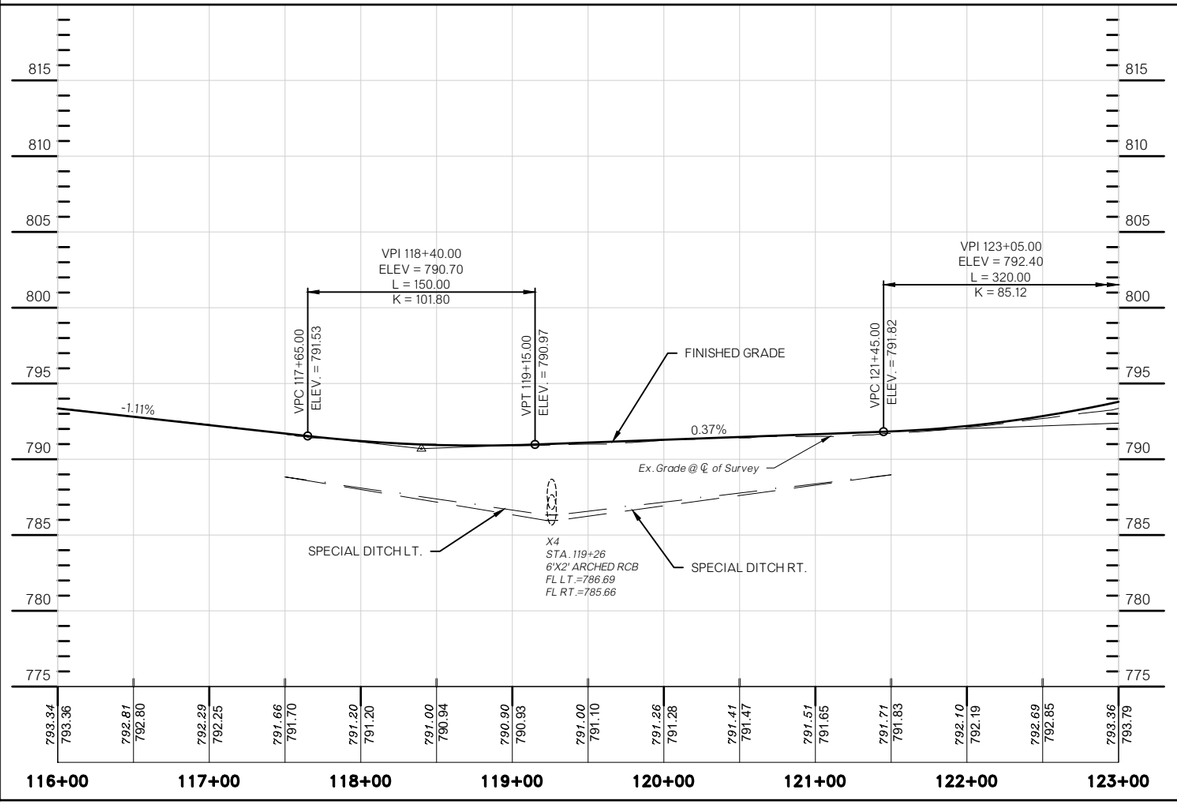


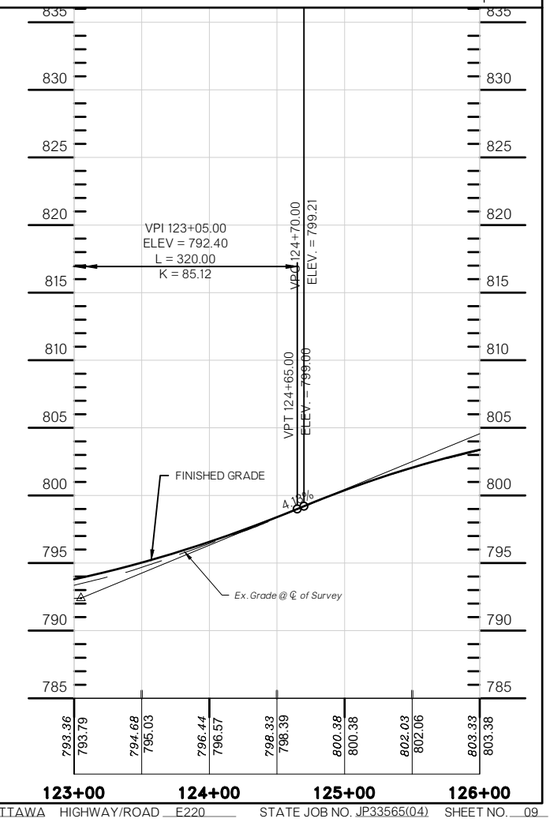


GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY





Thursday, March 05, 2020 8:22:20 AM
V:\17-1125E Rt 66 Ribbon Rd. 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00 | 132+00 | 133+00 | 134+00 | 135+00 | 136+00 | 137+00 | 138+00 | 139+00 | STA. 141+00

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Single Story Wood Framed House FF Elev.=809.61
Single Story Wood Framed House FF Elev.=809.28

James Brett & Melinda Dillingham JTWD Book: 870, Page: 172

David L. Dillingham, Jr. & Darryl J. Dillingham JTWD Book: 989, Page: 670

Gregory M. Leonard & Mary A. Leonard Revocable Trust WD Book: 1033, Page: 117

CL SURVEY/ SL RIBBON ROAD

Arthur A. & Deanne Rae Morgan JTWD Book: 1067, Page: 15

E 200 RD

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 126+65.00
ELEV = 807.25
L = 390.00
K = 71.08

VPT 128+60.00
ELEV. = 804.60

VPC 129+30.00
ELEV. = 803.64

VPI 130+80.00
ELEV = 801.60
L = 300.00
K = 184.91

VPT 132+30.00
ELEV. = 801.99

-1.36%

0.26%

FINISHED GRADE

Ex. Grade @ ℄ of Survey

SPECIAL DITCH LT.

X5
STA. 134+80
30" ARCHED RCP
FL LT.=799.47
FL RT.=799.63

SPECIAL DITCH RT.

825 820 815 810 805 800 795 790 785

126+00	127+00	128+00	129+00	130+00	131+00	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00
803.33 803.38	*804.29* 804.35	*804.99* 804.97	*805.30* 805.24	*805.19* 805.16	*804.73* 804.72	*804.07* 804.05	*803.42* 803.38	*802.73* 802.82	*802.37* 802.40	*802.22* 802.11	*802.14* 801.96	*802.10* 801.94	*802.04* 802.04	*802.09* 802.17	*802.18* 802.30
802.30 802.43	*802.40* 802.56	*802.60* 802.70	*802.70* 802.83	*802.88* 802.96	*803.00* 803.09	*803.11* 803.22	*803.32* 803.35	*803.48* 803.48	*803.51* 803.61	*803.67* 803.74	*803.63* 803.87	*803.79* 804.00	*803.93* 804.13	*804.07* 804.26	

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 10

Thursday, March 05, 2020 8:22:44 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 141+00 | 142+00 | 143+00 | 144+00 | 145+00 | 146+00 | 147+00 | 148+00 | 149+00 | 150+00 | 151+00 | 152+00 | 153+00 | 154+00 | STA. 156+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
5-Strand B/W
E 200 Rd
TOG
Gravel Shoulder
Asphalt
33'
35'
W
OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

CL SURVEY/ SL RIBBON ROAD
5-Strand B/W
Steel Pipe
6-Strand B/W
DRY
TOG
Gravel Shoulder
Asphalt

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
6-Strand B/W
E 200 Rd
TOG
Gravel Shoulder
Asphalt
OPTION 3 TOC/TOS
OPTION 3 PROPOSED R/W

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 143+45.00
ELEV = 804.90
L = 50.00
K = 140.79
VPC 143+20.00 ELEV = 804.83
VPT 143+70.00 ELEV. = 805.05
FINISHED GRADE
0.62%
Ex. Grade @ ℄ of Survey
VPI 155+30.00
ELEV = 812.20
L = 100.00
K = 189.01
VPC 154+80.00 ELEV. = 811.89
VPT 155+80.00 ELEV. = 812.24

830 825 820 815 810 805 800 795 790

141+00	142+00	143+00	144+00	145+00	146+00	147+00	148+00	149+00	150+00	151+00	152+00	153+00	154+00	155+00	156+00
804.07	804.35	804.47	804.60	804.79	804.95	805.27	805.57	805.80	806.18	806.54	806.89	807.20	807.56	807.84	808.17
804.26	804.39	804.52	804.65	804.78	804.95	805.24	805.55	805.85	806.16	806.47	806.78	807.09	807.39	807.70	808.01
808.50	808.70	809.00	809.28	809.50	809.71	810.10	810.43	810.80	811.10	811.40	811.68	811.90	812.06	812.10	
808.32	808.63	808.94	809.24	809.55	809.86	810.17	810.48	810.78	811.09	811.40	811.71	812.00	812.19	812.26	

Thursday, March 05, 2020 8:23:11 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020

STA. 156+00 | 157+00 | 158+00 | 159+00 | 160+00 | 161+00 | 162+00 | 163+00 | 164+00 | 165+00 | 166+00 | 167+00 | 168+00 | 169+00 | STA. 171+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Northeast oklahoma Vocational-Technical School District No. 11
WD
Book: 329, Page: 71

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

OPTION 3 PROPOSED R/W
OPTION 3 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
2.5" Pipe
2'x2' Brick Column
Chain
Asphalt
EB
OLP
TUG
6-Strand B/W
TPED
Guy
Wire
Telephone Junction Box
E 200 Rd
33'

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 158+75.00
ELEV = 812.50
L = 50.00
K = 105.33
VPC 158+50.00
ELEV. = 812.48
VPT 159+00.00
ELEV = 812.40
VPI 163+65.00
ELEV = 810.60
L = 200.00
K = 647.21
VPC 162+65.00
ELEV = 810.99
VPT 164+65.00
ELEV. = 810.52
VPI 170+00.00
ELEV = 810.10
L = 150.00
K = 310.07
VPC 169+25.00
ELEV. = 810.16
VPT 170+75.00
ELEV. = 809.68

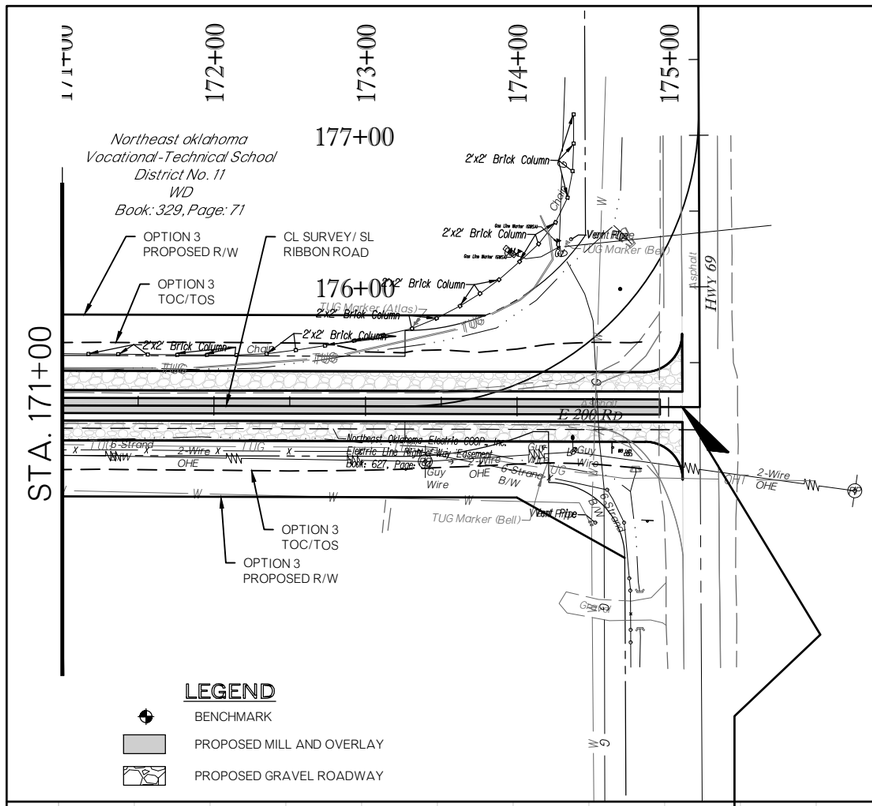
FINISHED GRADE
Ex. Grade @ ℄ of Survey
SPECIAL DITCH LT.&RT.
0.09%
-0.39%
-0.08%

825 820 815 810 805 800 795 790 785

156+00	157+00	158+00	159+00	160+00	161+00	162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00	170+00	171+00
812.10	812.25	812.22	812.40	812.40	812.40	812.30	812.22	812.06	811.90	811.60	811.30	811.15	811.00	810.81	810.67	810.60	810.61	810.50	810.40	810.40	810.35	810.25	810.20	810.29	810.21	810.20	810.10	809.86	809.66	809.54
812.26	812.30	812.35	812.39	812.43	812.48	812.40	812.21	812.02	811.82	811.63	811.43	811.24	811.05	810.86	810.71	810.61	810.53	810.49	810.45	810.41	810.38	810.34	810.30	810.26	810.22	810.18	810.13	810.01	809.81	809.54

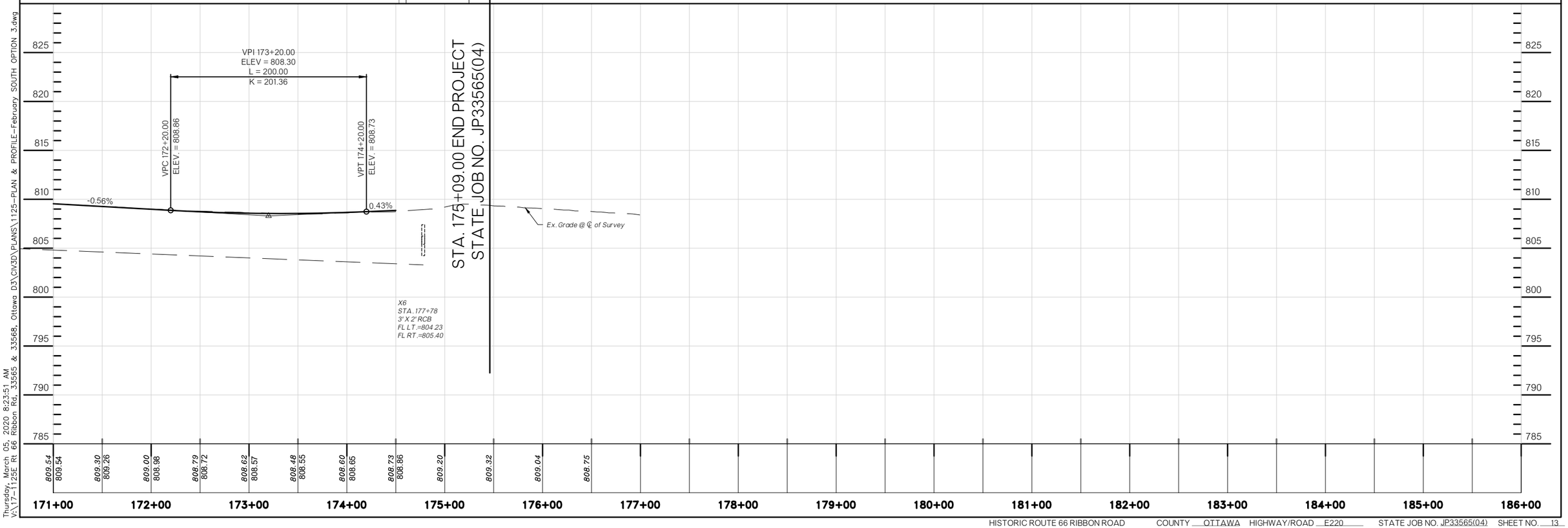
OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 3 PLANS
MARCH 2020



NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Thursday, March 05, 2020 8:23:51 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 3.dwg

APPENDIX 4 – ALTERNATIVE #4 CONCEPTUAL P&PS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00

STA. 511+00

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
Gaines Family Revocable Trust GWD Book: 553, Page: 713
WUG Marker
Tel. Handhole
WUG Marker
Guy Wire
2-Wire OHE
PP
Section Line
Gravel
Pres. R/W
12' CMP
E 140 Rd
Dirt
10' MCP
53'
36'
SH-59 DESIGN SPEED - 60 mph STA 500+00.00
Section Line
2-Wire OHE
OPTION 4 TOC/TOS
OPTION 4 PROPOSED R/W
Gaines Family Revocable Trust GWD Book: 553, Page: 713

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

STA. 500+13.00 BEGIN PROJECT

VPI 502+05.00
ELEV = 831.10
L = 50.00
K = 94.21
VPC 501+80.00 ELEV. = 830.97
VPT 502+30.00 ELEV. = 831.10

VPI 504+35.00
ELEV = 831.09
L = 100.00
K = 104.60
VPC 503+85.00 ELEV. = 831.10
VPT 504+85.00 ELEV. = 830.61

VPI 509+35.00
ELEV = 826.30
L = 50.00
K = 131.25
VPC 509+10.00 ELEV. = 826.54
VPT 509+60.00 ELEV. = 826.16

VPI 511+60.00
ELEV = 825.00
L = 250.00
K = 133.31
VPC 510+35.00 ELEV. = 825.72

Ex. Grade @ ℄ Survey
0.53%
-0.00%
-0.96%
-0.58%
FINISHED GRADE
OPTION 4 SP. DT. LT.&RT.
OPTION 4 SP. DT. LT.&RT.

855 850 845 840 835 830 825 820 815

496+00	497+00	498+00	499+00	500+00	501+00	502+00	503+00	504+00	505+00	506+00	507+00	508+00	509+00	510+00	511+00
				830.16	830.52 / 830.28	830.82 / 830.55	831.10 / 830.81	831.03 / 831.05	831.10 / 831.10	831.10 / 831.10	831.10 / 831.10	831.00 / 831.08	830.85 / 830.89	830.45 / 830.47	830.00 / 829.99	829.54 / 829.51	829.06 / 829.03	828.55 / 828.55	828.06 / 828.07	827.63 / 827.59	827.21 / 827.11	826.65 / 826.64	826.26 / 826.22	825.99 / 825.92	825.70 / 825.63	825.16 / 825.19

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

Tuesday, March 03, 2020 5:15:23 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00 | 521+00 | 522+00 | 523+00 | 524+00 | STA. 526+00

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
Property Line
Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752
CL SURVEY/ SL RIBBON ROAD
E 140 RD
Section Line
Asphalt
Gravel
Pres. R/W
2-Wire OHE
PP
TUG Marker (AT&T)
Gaines Family Revocable Trust GWD Book: 553, Page: 713
Ella Lou Reynolds Affidavit of Surviving Joint Tenant Book: 679, Page: 769
Edward E. Reynolds and Ella Lou Reynolds JTWD Book: 483, Page: 202
NWI WETLAND
NHD FLOWLINE
Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 908, Page: 192

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
BENCHMARK
PROPOSED MILL AND OVERLAY
PROPOSED GRAVEL ROADWAY

LEGEND
BENCHMARK
PROPOSED ASPH. SURFACING

VPI 511+60.00 ELEV = 825.00 L = 250.00 K = 133.31
VPT 512+85.00 ELEV. = 821.93
VPI 514+80.00 ELEV = 817.15 L = 50.00 K = 166.47
VPC 514+55.00 ELEV. = 817.76
VPT 515+05.00 ELEV. = 816.61
VPI 518+40.00 ELEV = 809.40 L = 300.00 K = 151.05
VPC 516+90.00 ELEV. = 812.63
VPT 519+90.00 ELEV. = 809.15
VPI 522+60.00 ELEV = 808.70 L = 200.00 K = 199.23
VPC 521+60.00 ELEV. = 808.87
VPT 523+60.00 ELEV. = 809.54
-2.45%
-2.15%
-0.17%
FINISHED GRADE
OPTION 4 SP. DT. RT.
OPTION 4 SP. DT. LT.
Ex. Grade @ ℄ Survey
X7 - STA. 519+52 EXIST. 42" CMP FL LT. = 803.03 FL RT. = 804.05
X8 - STA. 522+11 EXIST. 6'X2' RCB FL LT. = 803.56 FL RT. = 801.93

835 830 825 820 815 810 805 800 795

825.16 824.50 823.51 822.82 821.55 820.34 819.08 817.87 816.78 815.67 814.67 813.39 812.42 811.42 810.50 809.74 808.96 808.61 809.20 809.00 809.02 808.90 808.62 808.80 809.10 809.42 809.81 810.24 810.70 811.08 811.52

511+00 512+00 513+00 514+00 515+00 516+00 517+00 518+00 519+00 520+00 521+00 522+00 523+00 524+00 525+00 526+00

Tuesday, March 03, 2020 5:15:37 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00

STA. 526+00

STA. 541+00

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

1/4 Section Line

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

E 140 RD

Section Line

Gravel

Asphalt

Roadway

Pres. R/W

FIB

2-Wire OHE

PP

PED

TUG Marker (AT&T)

Kenneth L. Myers and Vickey G. Myers JTWD Book: 585, Page: 231

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPI 529+05.00
ELEV = 814.10
L = 50.00
K = 159.54

VPC 528+80.00 ELEV. = 813.89

VPT 529+30.00 ELEV. = 814.23

VPI 531+15.00
ELEV = 815.20
L = 50.00
K = 164.88

VPC 530+90.00 ELEV. = 815.07

VPT 531+40.00 ELEV. = 815.41

VPC 536+30.00 ELEV. = 819.46

VPI 537+80.00
ELEV = 820.70
L = 300.00
K = 191.37

VPT 539+30.00 ELEV. = 824.29

VPC 539+85.00 ELEV. = 825.61

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

0.84% 0.52% 0.83% 2.39%

FINISHED GRADE

Ex. Grade @ ℄ Survey

840 835 830 825 820 815 810 805 800

811.52 811.55 811.90 811.97 812.38 812.38 812.82 812.80 813.20 813.22 813.60 813.64 814.00 814.05 814.29 814.34 814.57 814.60 814.88 814.86 815.11 815.12 815.50 815.49 815.85 815.90 816.24 816.32 816.67 816.73 816.91 817.14 817.38 817.56 817.91 817.97 818.37 818.38 818.79 818.80 819.22 819.21 819.71 819.64 820.23 820.17 820.80 820.83 821.61 821.62 822.60 822.54 823.61 823.60 824.76 824.77 825.95 825.96 827.04 827.00 827.87 827.84

526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

Tuesday, March 03, 2020 5:15:52 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

STA. 541+00

STA. 552+40

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

E 140 RD

Section Line

Asphalt

Gravel

33'

FIB

2-Wire OHE

Pres. R/W

PP

WM

WV

Top Nut Elev.=826.68

TUG Marker (AT&T)

Kenneth L. Myers and Vickey G. Myers JTWD Book: 585, Page: 231

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

GU Wire

TUG Marker (AT&T)

TPED

Gravel

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 541+60.00
ELEV = 829.80
L = 350.00
K = 126.81

VPT 543+35.00
ELEV. = 829.16

VPC 546+30.00
ELEV. = 828.08

VPI 546+80.00
ELEV = 827.90
L = 100.00
K = 226.68

VPT 547+30.00
ELEV. = 827.94

-0.37%

0.08%

FINISHED GRADE

Ex. Grade @ ℄ Survey

OPTION 4
SP. DT. RT.

X9 - STA. 551+22
EXIST. 3'X2' ARCHED RCP
FL LT. = 824.45
FL RT. = 824.46

850 845 840 835 830 825 820 815 810

541+00	542+00	543+00	544+00	545+00	546+00	547+00	548+00	549+00	550+00	551+00	552+00 552+40
827.87 827.84	828.54 828.49	828.81 828.94	829.00 829.19	828.90 829.24	828.98 829.11	828.85 828.92	828.70 828.74	828.41 828.56	828.31 828.38	828.16 828.19	828.00 828.02	828.00 827.94	827.98 827.95	828.00 827.99	827.99 828.03	827.95 828.07	828.06 828.10	828.15 828.14	828.13 828.18	828.11 828.22	827.98 828.26	827.94 828.29	828.03 828.32

Tuesday, March 03, 2020 5:16:07 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00

STA. 552+40

STA. 564+00

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

TUG Marker

Fiber Optic Marker

Metal Pole

TPED

Tel. Handhole

PP

TUG Marker (AT&T)

Section Line

Gravel

Asphalt

S 540 Rd

Pres. R/W

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Property Line

2-Wire OHE

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

855 850 845 840 835 830 825 820 815

VPI 553+40.00
ELEV = 828.40
L = 200.00
K = 230.23

VPC 552+40.00
ELEV = 828.62

VPT 554+40.00
ELEV. = 829.34

0.94%

VPI 557+00.00
ELEV = 831.80
L = 50.00
K = 148.10

VPC 556+75.00
ELEV. = 831.56

VPT 557+25.00
ELEV. = 832.12

FINISHED GRADE

1.28%

VPC 561+85.00
ELEV = 838.02

VPI 562+85.00
ELEV = 839.30
L = 200.00
K = 117.16

VPT 563+85.00
ELEV = 838.84

Ex. Grade @ ℄ Survey

OPTION 4 SP. DT. RT.

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00

STA. 564+00

STA. 579+00

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

Gaines Family Revocable Trust GWD Book: 553, Page: 713

CL SURVEY/ SL RIBBON ROAD

1/4 Section Line

S 540 RD

Section Line

Gravel

TUG

Pres. R/W

W

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

865 860 855 850 845 840 835 830 825

VPI 566+85.00
ELEV = 837.60
L = 250.00
K = 178.60

VPI 572+80.00
ELEV = 843.40
L = 350.00
K = 87.44

VPI 576+40.00
ELEV = 832.50
L = 300.00
K = 117.26

VPC 565+60.00 ELEV. = 838.13

VPT 568+10.00 ELEV. = 838.82

VPC 571+05.00 ELEV. = 841.69

VPT 574+55.00 ELEV. = 838.10

VPC 574+90.00 ELEV. = 837.04

VPT 577+90.00 ELEV. = 831.80

FINISHED GRADE

Ex. Grade @ ℄ Survey

-0.42%

0.97%

-3.03%

OPTION 4 DT. RT.

X10 - STA. 566+30
EXIST. 36" ARCHED RCP
FL LT. = 834.56
FL RT. = 834.16

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00

STA. 579+00

STA. 594+00

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Gaines Family Revocable Trust GWD Book: 553, Page: 713

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

TUG Gravel TUG TUG TUG **S 540 RD** TUG Gravel Section Line TUG TUG TUG Gravel TUG TUG TUG Gravel TUG **S 540 RD** TUG TUG

33'

33'

Pres. R/W

Pres. R/W

Pres. R/W

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

Rubber Water Tank

WV

Top Nut Elev.=819.36

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

VPI 581+30.00
ELEV = 830.20
L = 180.00
K = 65.14

VPI 584+95.00
ELEV = 818.40
L = 550.00
K = 80.94

VPI 589+75.00
ELEV = 835.50
L = 200.00
K = 89.95

VPC 580+40.00 ELEV. = 830.62

VPT & VPC 582+20.00 ELEV. = 827.29

VPT 587+70.00 ELEV. = 828.20

VPC 588+75.00 ELEV. = 831.94

VPT 590+75.00 ELEV. = 836.84

0.47%

3.56%

1.34%

FINISHED GRADE

Ex. Grade @ ℄ Survey

OPTION 4 SP. DT. LT.

OPTION 4 SP. DT. RT.

X11 - STA. 584+78
EXIST. 12'X4' ARCHED RCB
FL LT. = 817.22
FL RT. = 816.52

850 845 840 835 830 825 820 815 810

579+00	580+00	581+00	582+00	583+00	584+00	585+00	586+00	587+00	588+00	589+00	590+00	591+00	592+00	593+00	594+00
831.30	831.12	830.86	830.51	830.07	829.05	827.99	826.50	824.80	823.47	822.59	822.10	822.13	822.59	823.29	824.37
831.28	831.04	830.81	830.57	830.06	829.18	827.91	826.38	825.10	824.13	823.47	823.12	823.08	823.35	823.93	824.81

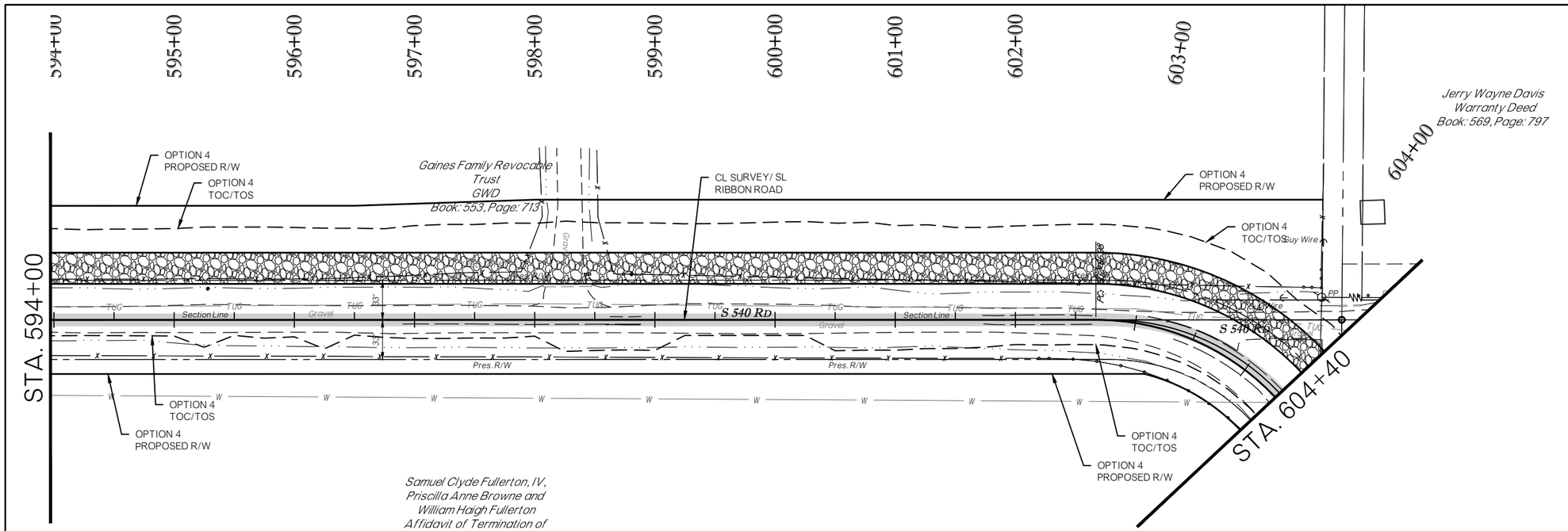
825.83	827.42	829.14	831.04	832.66	834.16	835.43	836.39	837.10	837.91	838.39	839.00	839.74	840.50	841.18
826.01	827.51	829.27	831.05	832.79	834.30	835.52	836.47	837.17	837.84	838.51	839.18	839.85	840.52	841.19

V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg
Tuesday, March 03, 2020 5:16:52 PM

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 07

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

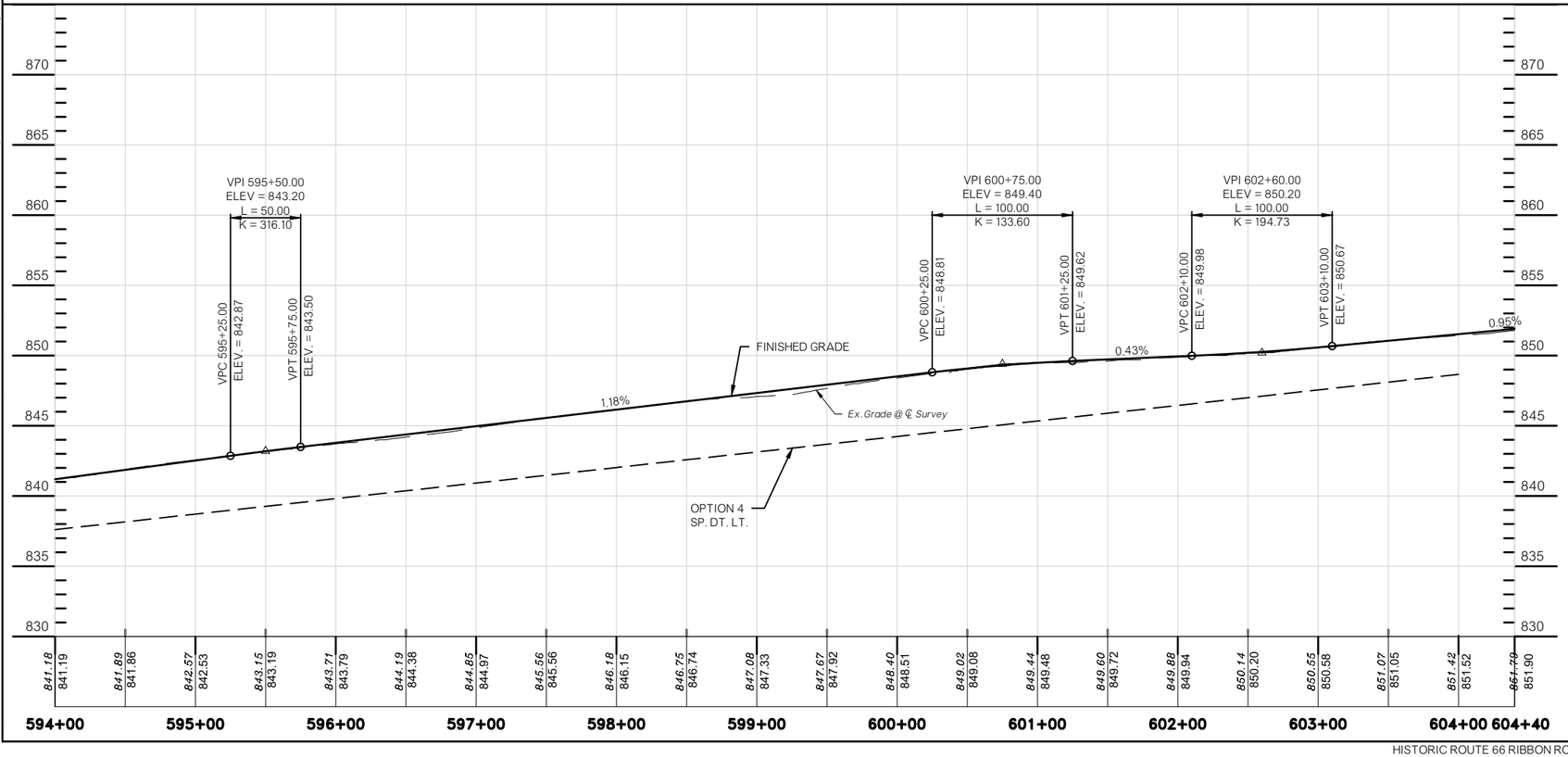


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

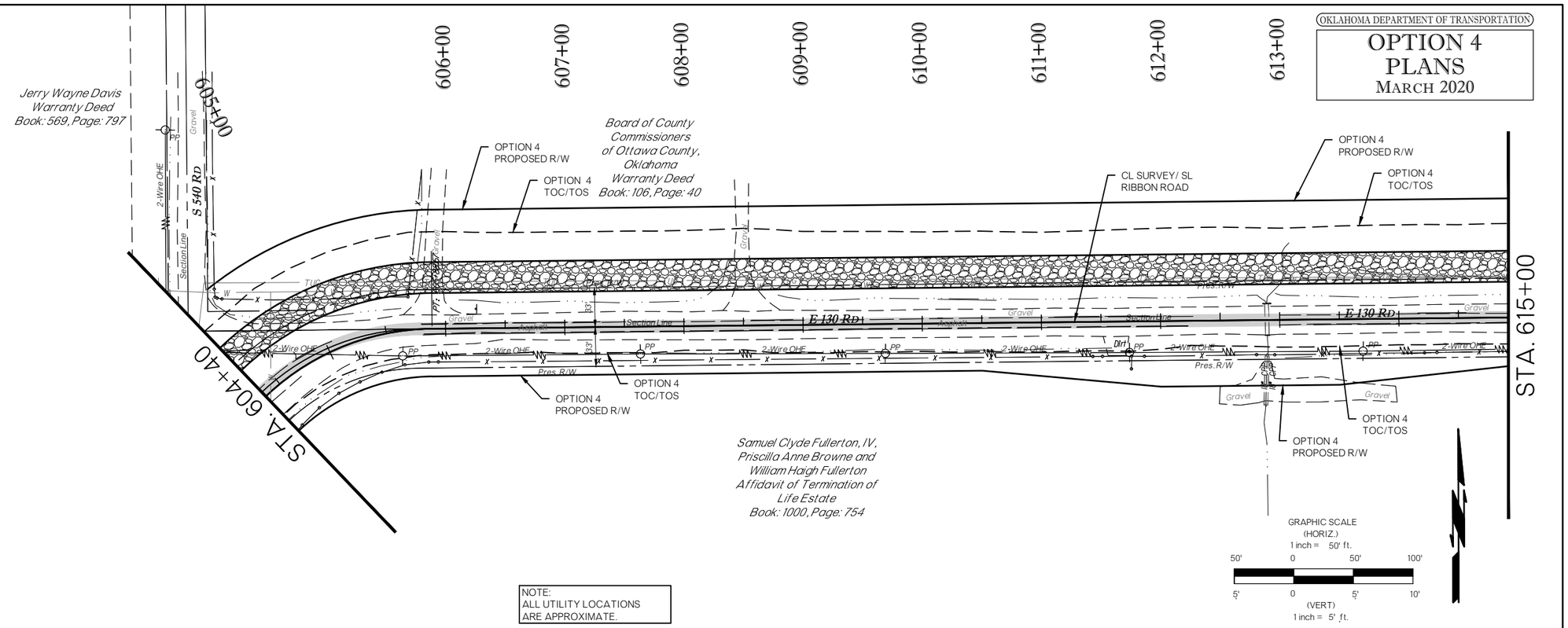
GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'



Tuesday, March 03, 2020 5:17:03 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

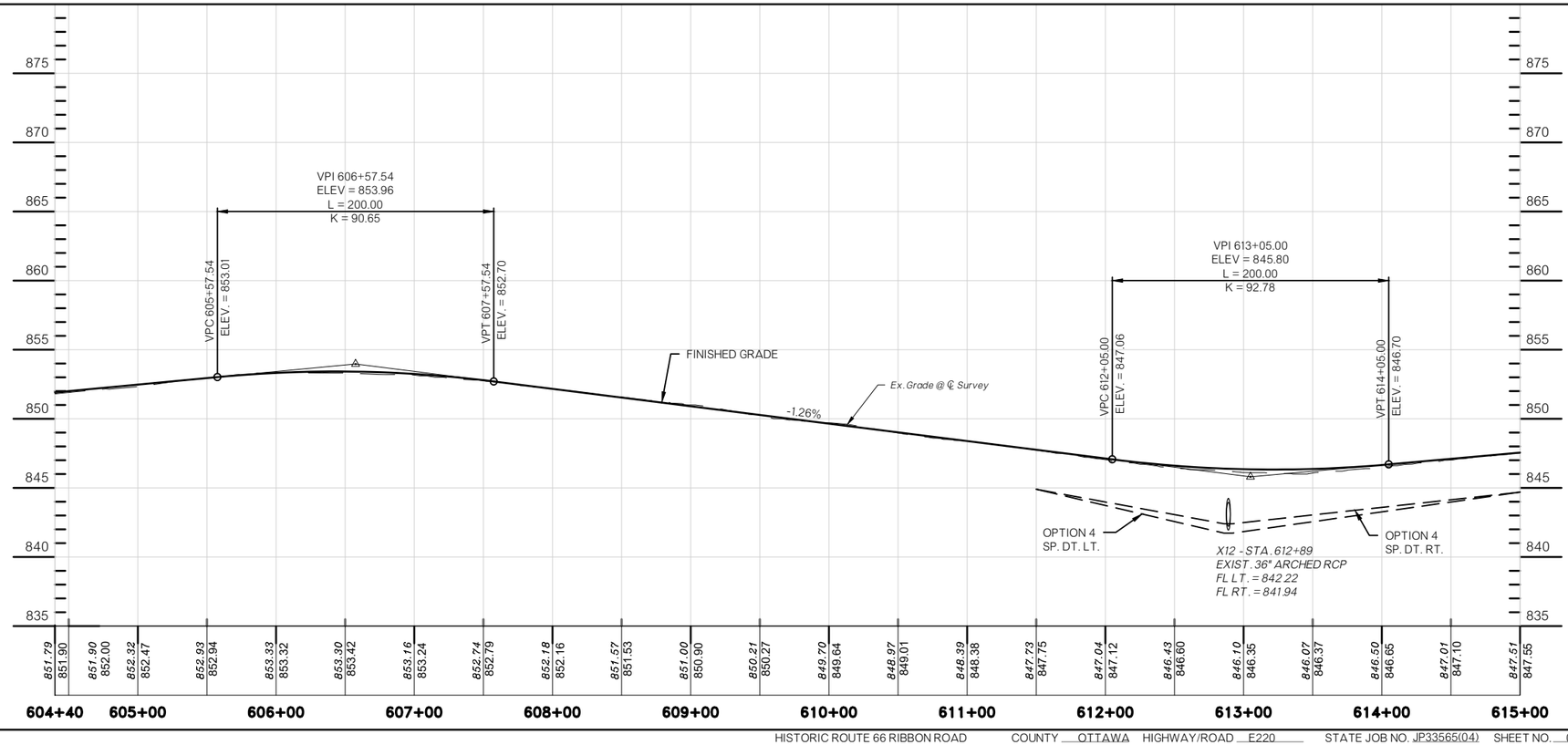


LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Tuesday, March 03, 2020 5:17:13 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 09

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 615+00 | 616+00 | 617+00 | 618+00 | 619+00 | 620+00 | 621+00 | 622+00 | 623+00 | 624+00 | 625+00 | 626+00 | 627+00 | 628+00 | STA. 630+00

Board of County Commissioners of Ottawa County, Oklahoma Warranty Deed Book: 106, Page: 40

James E. Beautte and Rhonda S. Beautte JTWD Book: 746, Page: 597

Samuel Clyde Fullerton, IV, Priscilla Anne Browne and William Haigh Fullerton Affidavit of Termination of Life Estate Book: 1000, Page: 754

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
Property Line
E 130 Rd
Section Line
Gravel
Pres. R/W
2-Wire OHE
PP
PP w/ Dip
Guy Wire
Ditch
18" CMP (Smashed)
10" CMP
4" Metal Pipe
Cattle Guard
TUG
TPED
Guy
WM
1-Wire OHE
NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.) 1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT) 1 inch = 5' ft.

VPI 621+65.00
ELEV = 853.50
L = 550.00
K = 177.56

VPC 618+90.00
ELEV. = 851.04

VPT 624+40.00
ELEV. = 847.44

VPI 626+10.00
ELEV = 843.70
L = 200.00
K = 67.68

VPC 625+10.00
ELEV. = 845.90

VPT 627+10.00
ELEV. = 844.45

VPI 630+35.00
ELEV = 846.90
L = 400.00
K = 107.43

VPC 628+35.00
ELEV. = 845.39

FINISHED GRADE
Ex. Grade @ ℄ Survey
0.90%
-2.20%
0.75%
OPTION 4 SP. DT. LT.
OPTION 4 SP. DT. RT.

X13 - STA. 626+25
EXIST. 36"x12" ARCHED RCP
FL LT. = 838.61
FL RT. = 838.03

615+00	616+00	617+00	618+00	619+00	620+00	621+00	622+00	623+00	624+00	625+00	626+00	627+00	628+00	629+00	630+00
847.51	848.01	848.41	848.90	849.35	849.67	850.17	850.61	851.00	851.43	851.51	851.60	851.60	851.45	851.00	850.59
847.55	847.99	848.44	848.89	849.34	849.78	850.23	850.68	851.12	851.47	851.68	851.75	851.68	851.46	851.11	850.61

849.96	849.19	848.30	847.22	846.03	845.13	844.50	844.20	844.34	844.70	845.15	845.51	845.70	845.62	845.26
849.98	849.20	848.28	847.22	846.12	845.14	844.52	844.27	844.39	844.75	845.13	845.50	845.69	845.64	845.37

Tuesday, March 03, 2020 5:17:23 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 630+00 | 631+00 | 632+00 | 633+00 | 634+00 | 635+00 | 636+00 | 637+00 | 638+00 | 639+00 | 640+00 | 641+00 | 642+00 | 643+00 | STA. 645+00

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 RD
Section Line
1/4 Section Line
Property Line
Pres. R/W

Doug Mayfield and Amie M. Mayfield JTWD Book: 874, Page: 130

Charles W. Rogers and Patsy J. Rogers JTWD Book: 601, Page: 776

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Donald Gene Hall, Sr. and Patricia Faye Hall Family Revocable Living Trust Agreement, dated March 2, 2007 QCD Book: 837, Page: 210

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 630+35.00
ELEV = 846.90
L = 400.00
K = 107.43

VPT 632+35.00
ELEV. = 840.96

Ex. Grade @ ℄ Survey

-2.97%

VPI 635+40.00
ELEV = 831.90
L = 150.00
K = 128.17

VPC 634+65.00
ELEV. = 834.13

VPT 636+15.00
ELEV. = 830.55

FINISHED GRADE

-1.80%

VPI 639+40.00
ELEV = 824.70
L = 100.00
K = 164.06

VPC 638+90.00
ELEV. = 825.60

VPT 639+90.00
ELEV. = 824.10

-1.19%

VPI 641+50.00
ELEV = 822.20
L = 100.00
K = 135.05

VPC 641+00.00
ELEV. = 822.80

VPT 642+00.00
ELEV. = 821.98

-0.45%

855 850 845 840 835 830 825 820 815

845.26 845.37 | 844.76 844.86 | 843.98 844.12 | 842.88 843.15 | 841.82 841.94 | 840.92 840.51 | 839.11 839.03 | 837.60 837.54 | 836.06 836.06 | 834.59 834.57 | 833.23 833.14 | 832.00 831.88 | 830.90 830.83 | 829.92 829.92 | 828.91 829.02 | 828.05 828.12 | 827.22 827.22 | 826.30 826.32 | 825.47 825.42 | 824.64 824.63 | 823.95 823.99 | 823.31 823.39 | 822.80 822.80 | 822.38 822.29 | 822.00 821.98 | 821.70 821.75 | 821.51 821.52 | 821.21 821.30 | 821.00 821.08 | 820.89 820.85 | 820.61 820.62

630+00 631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00 644+00 645+00

Tuesday, March 03, 2020 5:17:33 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 645+00 | 646+00 | 647+00 | 648+00 | 649+00 | 650+00 | 651+00 | 652+00 | 653+00 | 654+00 | 655+00 | 656+00 | 657+00 | 658+00 | STA. 660+00

The Jerry W. Plake Revocable Trust QCD Book: 1027, Page: 498

Mark E. Grigsby and Sharon Grigsby JTWD Book: 607, Page: 527

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Ella Lou Reynolds, as Trustee of the Ella Lou Reynolds Revocable Trust dated August 4, 2005 Warranty Deed Book: 813, Page: 752

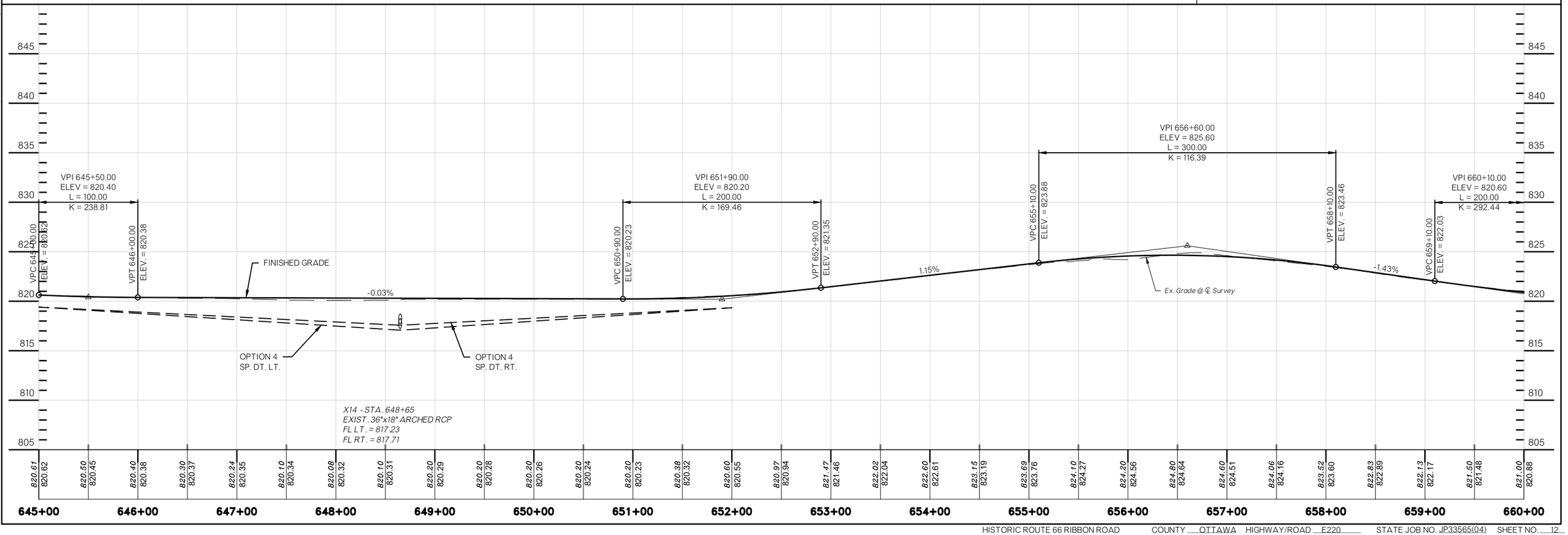
Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 130 RD
S 550 RD
Property Line
Section Line
2-Wire OHE
TUG
TUG Marker (SW Bell)
Gravel
Asphalt
Pres. R/W
Guy Wire
TPED
FO Marker (Rec Tec)
FO Marker (SW Bell)
Steel (OHT or Fo)
OHT
PP
PP W/ Gup
36" RCP (Silted)

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00

STA. 660+00

STA. 675+00

Stonehill Land & Cattle, L.L.C. GWD Book: 932, Page: 66

Property Line

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

Property Line

ROCMND Area Youth Services, Inc. WD Book: 474, Page: 923

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

E 130 RD

Section Line

Asphalt

TUG

1-Wire OHT

2-Wire OHE

FIB

PP

Pres. R/W

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

FO Marker (SW Bell)

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

Stonehill Land and Cattle, LLC an Oklahoma Limited Liability Company GWD Book: 932, Page: 70

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

840 835 830 825 820 815 810 805 800

VPI 660+10.00
ELEV = 820.60
L = 200.00
K = 292.44

VPT 661+10.00
ELEV. = 819.86

FINISHED GRADE

-0.74%

Ex. Grade @ ℄ Survey

VPI 664+80.00
ELEV = 817.10
L = 150.00
K = 391.67

VPC 664+05.00
ELEV. = 817.66

VPT 665+55.00
ELEV. = 816.83

-0.36%

VPI 669+50.00
ELEV = 815.40
L = 200.00
K = 505.76

VPC 668+50.00
ELEV. = 815.76

VPT 670+50.00
ELEV. = 814.64

-0.76%

OPTION 4 SP. DT. RT.

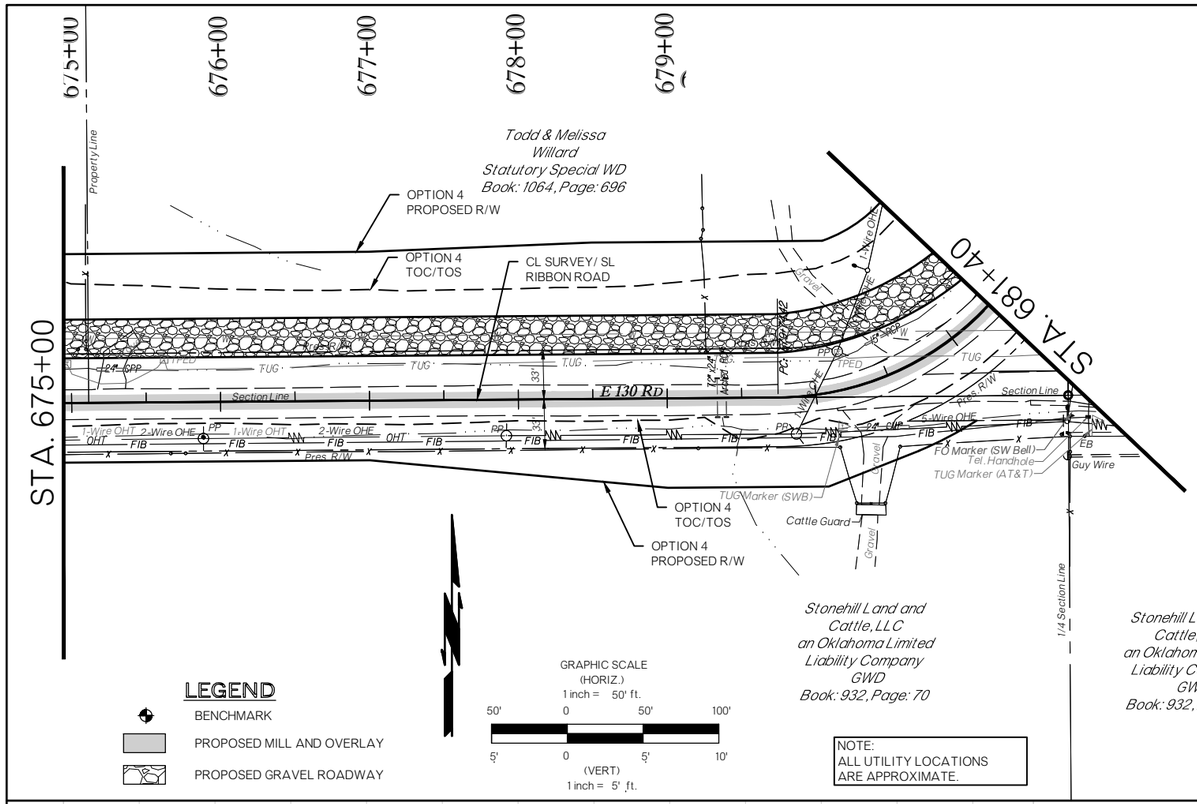
OPTION 4 SP. DT. LT.

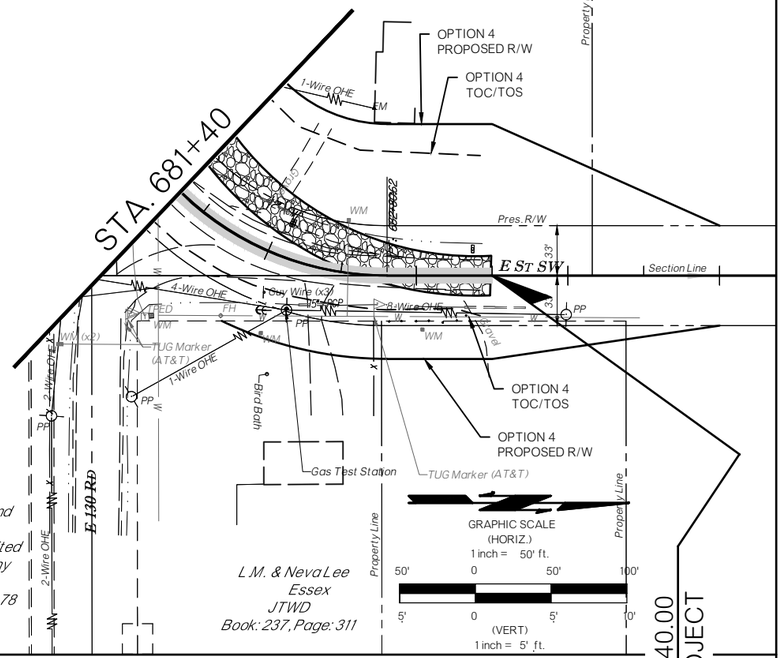
X15 - STA. 667+17
EXIST. 36"x20" ARCHED RCP
FL LT. = 812.71
FL RT. = 812.76

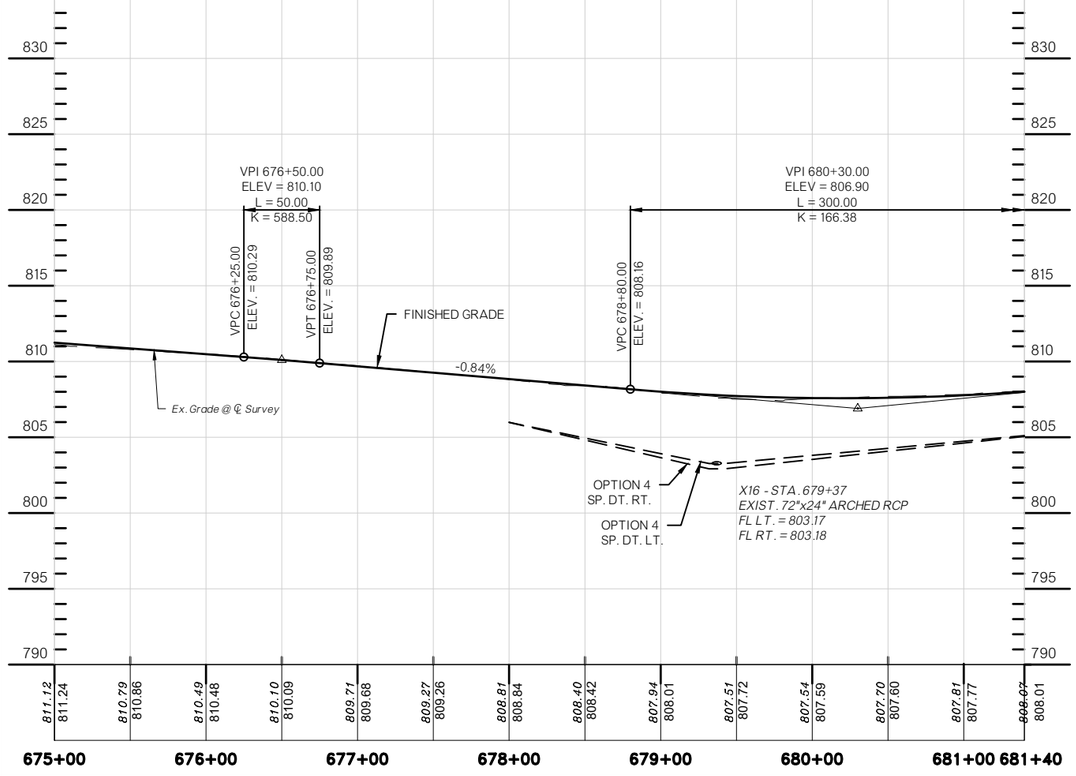
| | | |

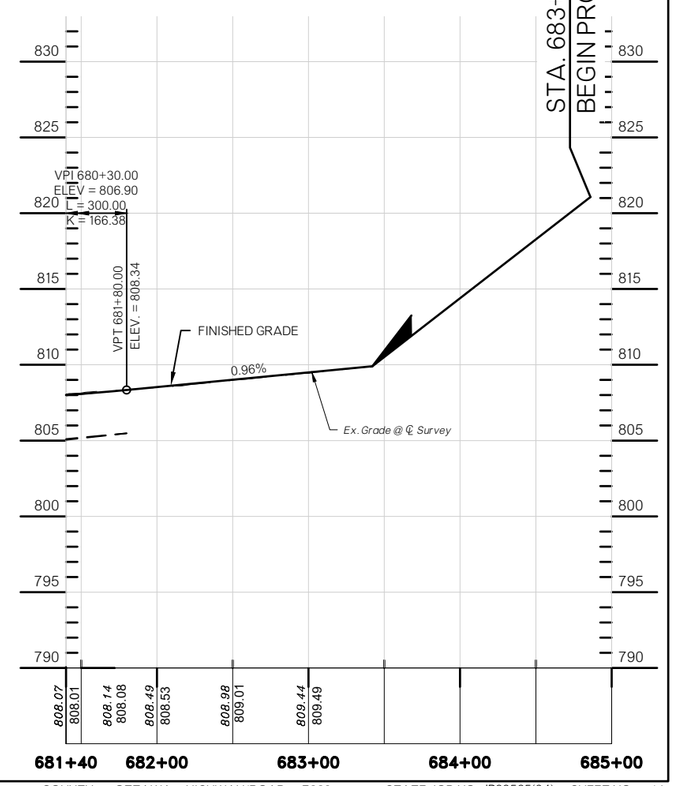
OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020









Tuesday, March 03, 2020 5:18:13 PM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February NORTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

10+00 11+00 12+00 13+00 14+00 15+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

1-Wire OHT 4-Wire OHE

OHT

Asphalt

Hwy 60

Cable Barrier

Gravel

Rickie L. Farmer QCD Book: 844, Page: 50

STA. 17+50

6%

33'

E 220 Rd

Pres. R/W

TUG Marker (AT&T)

OPTION 4 TOC/TOS

CL SURVEY RIBBON ROAD

OPTION 4 PROPOSED R/W

James Ronald Fuser GWD Book: 455, Page: 50

S 520 Rd

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

STA. 12+00.00 BEGIN PROJECT
STATE JOB NO. JP33565(04)

VPI 13+90.00
ELEV = 788.64
L = 100.00
K = 72.62

VPI 15+70.00
ELEV = 787.72
L = 100.00
K = 125.40

VPC 13+40.00 ELEV. = 788.21
VPT 14+40.00 ELEV = 788.38
VPC 15+20.00 ELEV. = 787.98
VPT 16+20.00 ELEV. = 787.86
VPC 17+40.00 ELEV = 788.21

0.87% -0.51% 0.29%

X1
STA. 17+27.00
32" X 12" RCP ARCHED
FL LT.=BURIED
FL RT.=BURIED

810 805 800 795 790 785 780 775 770

5+50	6+00	7+00	8+00	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00
							787.14	786.99 / 786.99	787.44 / 787.43	787.85 / 787.86	788.27 / 788.29	788.46 / 788.48
788.30 / 788.33	788.07 / 788.08	787.88 / 787.86	787.84 / 787.82	787.95 / 787.95	788.06 / 788.09	788.23						

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 01

Thursday, March 05, 2020 8:59:03 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 17+50

STA. 27+00

20+00 21+00 22+00 23+00 24+00 25+00

Gary Gene & Linda Diane Carroll JTWD Book: 1088, Page: 135

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 RD

E 220 RD

HWY 60

63" Steel Bollard

Asphalt

Gravel

Concrete Pad

James and Pamela Fuser Revocable Trust GWD Book: 977, Page: 85

Michael & Tracy Wheatley JTWD Book: 965, Page: 481

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

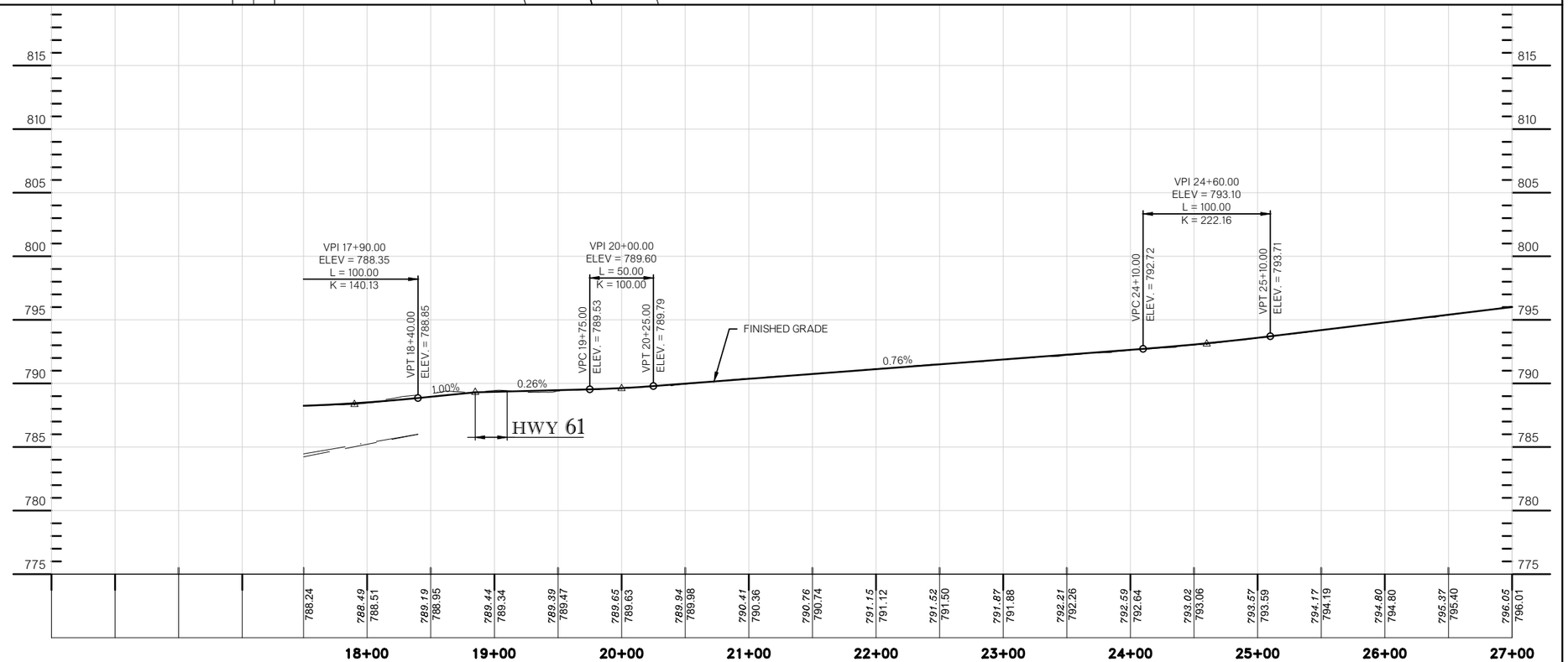
NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'



Thursday, March 05, 2020 8:59:43 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 27+00 | 28+00 | 29+00 | 30+00 | 31+00 | 32+00 | 33+00 | 34+00 | 35+00 | 36+00 | 37+00 | 38+00 | 39+00 | 40+00 | STA. 42+00

The Nilus Jean Wesley Trust, under instrument dated the 12th day of August, 2014 WD Book: 996, Page: 40

Richard L. & Ellen D. Partain JTWD Book: 896, Page: 370

Richard L. & Ellen D. Partain QCD Book: 790, Page: 553

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY / SL RIBBON ROAD

S 520 RD

1000'

2000'

NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE.

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

The Larry R. Graves Revocable Trust Dated the 3rd Day of April, 2006 & The Donna Graves Revocable Trust Dated the 3rd Day of April, 2006 WD Book: 909, Page: 298

Rici Partain & Ellen Partain JTWD Book: 654, Page: 618

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

VPC 29+30.00 ELEV. = 798.79

VPI 30+05.00 ELEV = 799.70 L = 150.00 K = 88.07

VPT & VPC 30+80.00 ELEV. = 801.89

VPI 31+80.00 ELEV = 804.80 L = 200.00 K = 64.91

VPT & VPC 32+80.00 ELEV. = 804.63

VPI 33+60.00 ELEV = 804.50 L = 160.00 K = 86.94

VPT 34+40.00 ELEV. = 805.84

VPC 38+65.00 ELEV. = 812.95

VPI 40+65.00 ELEV = 816.30 L = 400.00 K = 144.64

FINISHED GRADE

Ex. Grade @ ℄ of Survey

1.21%

1.67%

27+00	28+00	29+00	30+00	31+00	32+00	33+00	34+00	35+00	36+00	37+00	38+00	39+00	40+00	41+00	42+00
796.05	796.70	797.23	797.73	798.28	798.96	799.78	801.02	802.48	803.50	804.39	804.20	804.36	804.60	805.09	805.85
796.01	796.61	797.22	797.82	798.43	799.06	799.92	801.06	802.44	803.55	804.27	804.61	804.62	804.80	805.26	806.01

806.61	807.42	808.38	809.21	810.00	810.91	811.76	812.58	813.31	814.16	814.72	814.91	814.80	814.70
806.84	807.68	808.52	809.35	810.19	811.03	811.86	812.70	813.50	814.13	814.58	814.67	814.91	814.68

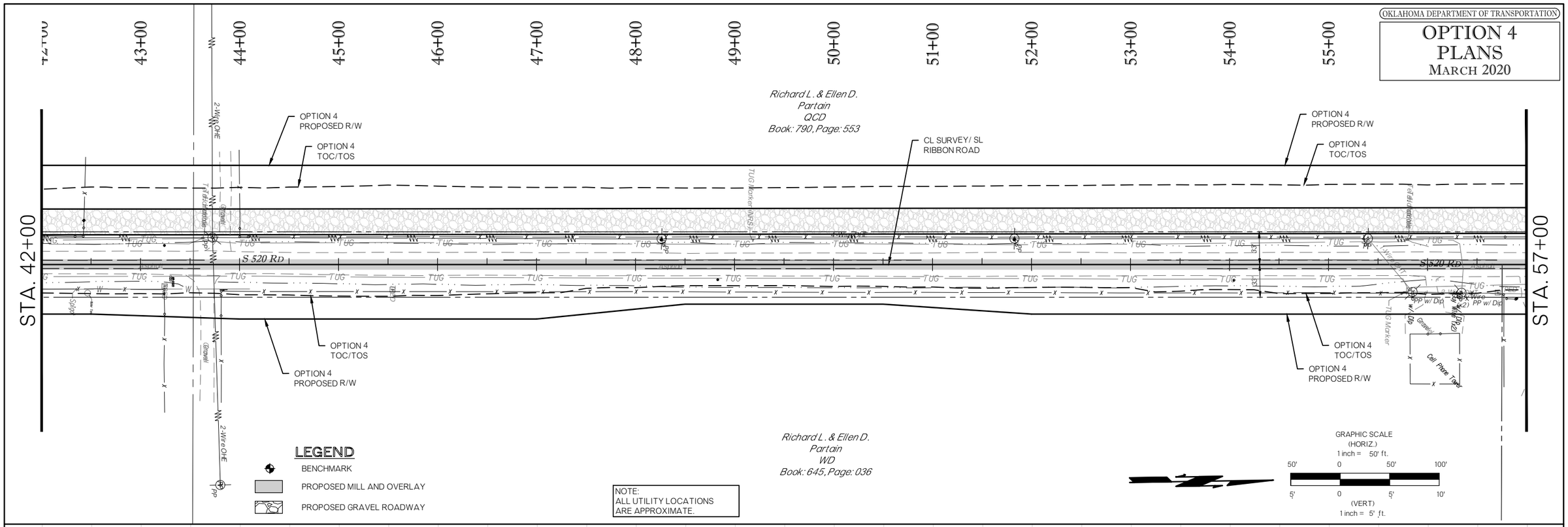
825 820 815 810 805 800 795 790 785

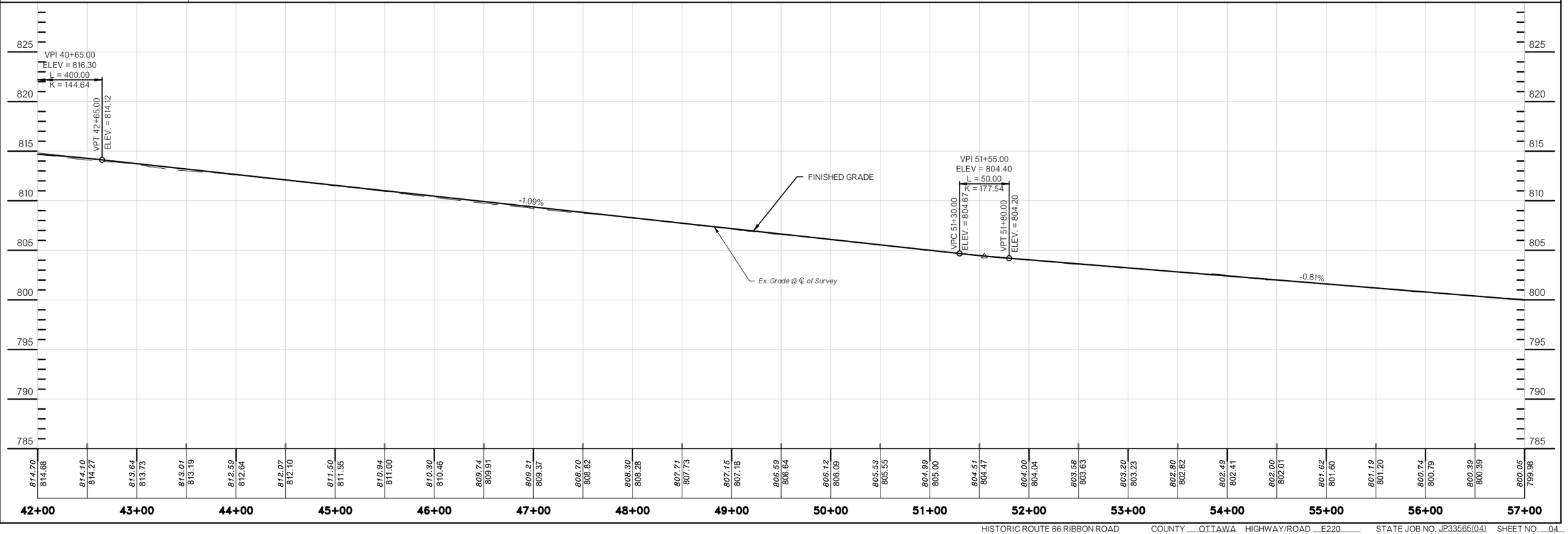
HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 03

Thursday, March 05, 2020 9:00:11 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020





Thursday, March 05, 2020 9:00:37 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 57+00 | 58+00 | 59+00 | 60+00 | 61+00 | 62+00 | 63+00 | 64+00 | 65+00 | 66+00 | 67+00 | 68+00 | 69+00 | 70+00 | STA. 72+00

E 210 RD

Richard L. & Ellen D. Partain
QCD
Book: 790, Page: 553

Marlin Turley & Shounds Bingham
JTWD
Book: 590, Page: 794

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
S 520 RD
4-Wire OHE
2-Wire OHT
TUG
ASPHALT
Gravel
TUG Marker (AT&T)
Power Pole
Guy Wire
2-Wire OHE
2-Wire Guy
Fiber Optic Marker (AT&T)
Fiber Optic Horizontal (AT&T)
FIB
OHT

OPTION 4 TOC/TOS
OPTION 4 PROPOSED R/W

NWI WETLAND
NHD FLOWLINE

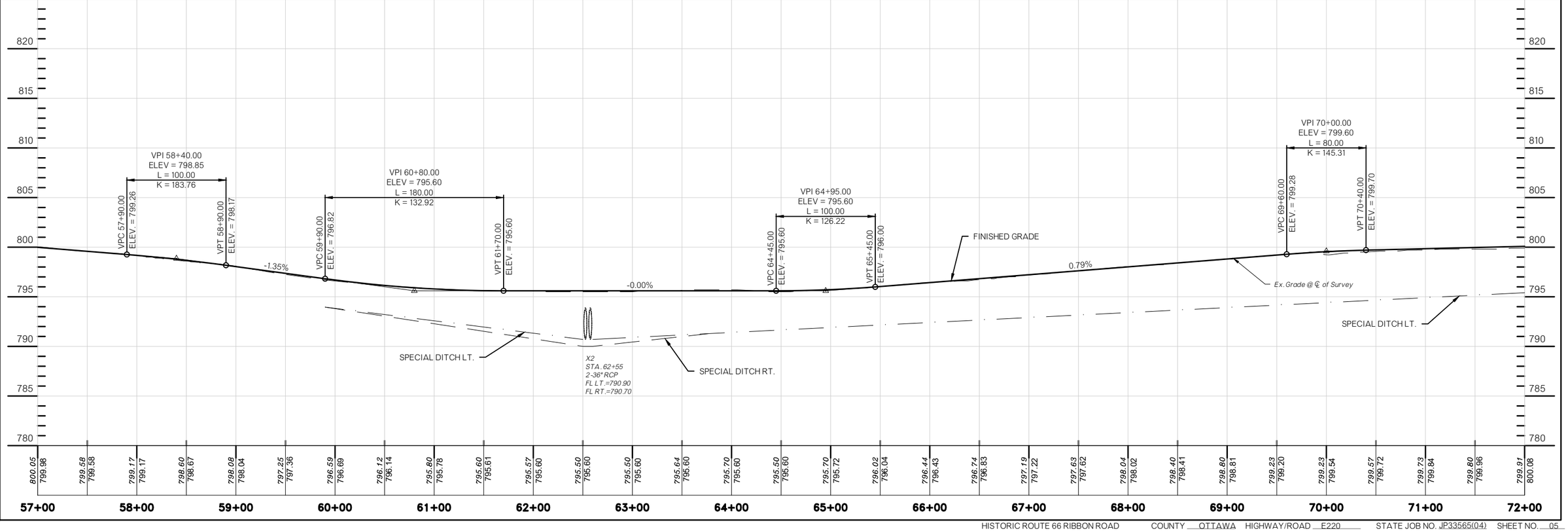
Justin Johnson
WD
Book: 1074, Page: 487

The Andre P. Derdeyn Revocable Trust
Warranty Deed
Book: 869, Page: 66

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Thursday, March 05, 2020 9:01:04 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 72+00

STA. 87+00

Marlin Turley & Shounds Bingham JTWD Book: 590, Page: 794

Turley Properties, LLC QCD Book: 1081, Page: 325

Oklahoma Turnpike Authority Warranty Deed Book: 253, Page: 287

Oklahoma Turnpike Authority Warranty Deed Book: 255, Page: 550

The Andre P. Derdeyn Revocable Trust Warranty Deed Book: 869, Page: 66

Public Service Company of Oklahoma Right of Way Easement Book: 282, Page: 365

Note: To erect a single pole electric line along the easterly line of the SE/4, SE/4 of Sec. 21, T-26N, R-23E.

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 RD

4-Wire OHE

2-Wire OHE

Guy Wire

Bore Hole

Guardrail

Bridge Deck

Gas Valve

Gas Line

Bridge Rail

Ditch

FIB

OHT

ASPH

GRAVEL

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 78+50.00 BEGIN EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

Ex. Grade @ ℄ of Survey

0.24%

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)

72+00	73+00	74+00	75+00	76+00	77+00	78+00	79+00	80+00	81+00	82+00	83+00	84+00	85+00	86+00	87+00
800.08	800.20	800.32	800.45	800.57	800.69	800.81	800.93	801.05	801.17	801.29	801.41	801.53	801.65	801.77	801.90	802.02	802.30	802.90	803.83	805.09	806.66	808.56	810.78	813.33	816.04	818.63	820.68	822.12	822.95	823.18

Thursday, March 05, 2020 9:01:41 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

HISTORIC ROUTE 66 RIBBON ROAD COUNTY OTTAWA HIGHWAY/ROAD E220 STATE JOB NO. JP33565(04) SHEET NO. 06

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

88+00 | 93+ | 94+00 | 95+00 | 96+00 | 97+00 | 98+00 | 99+00

STA. 82+00

STA. 101+00

Oklahoma Turnpike Authority
No Deed
Note: Area checks out with the less and except area declared as deeded to OTA, recorded in Book: 997, Page: 88.

State of Oklahoma
Dedication Deed
Book: 255, Page: 548

The Terry & Beth Rotman Trust
Correction WD
Book: 997, Page: 88

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Oklahoma Turnpike Authority
Warranty Deed
Book: 253, Page: 289

John Mitchell Greniger
Warranty Deed
Book: 1036, Page: 46

Robert Allen Switzer
WD
Book: 559, Page: 632

S 520 RD

Guardrail | Bridge Deck w/ Dfo | HOW Wtr | OHT | Gravel | Asphalt | TUG | Wood Planter Box | Wood Post | Mobile Home FF Elev=796.82

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
33'

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

STA. 96+50.00 END EXCEPTION
STATE JOB NO. JP33565(04)

FINISHED GRADE

STA. 78+50.00 TO STA. 96+50.00
PROJECT EXCEPTION STATE JOB NO. JP33565(04)
Ex. Grade @ ℄ of Survey

815 | 810 | 805 | 800 | 795 | 790 | 785 | 780 | 775

86+00	87+00	88+00	89+00	90+00	91+00	92+00	93+00	94+00	95+00	96+00	97+00	98+00	99+00	100+00	101+00
822.12	822.95	823.18	822.81	821.84 / 820.29	820.26 / 818.84	818.07 / 817.29	815.39 / 815.13	812.67 / 812.44	809.94 / 809.66	807.21 / 806.99	804.49 / 804.24	801.98 / 801.56	799.75 / 799.07	797.83 / 796.69	796.21 / 794.59	794.88 / 793.26	793.85 / 792.57	793.11 / 792.31	792.68 / 792.30	792.54 / 792.45	792.69 / 792.54	792.94 / 792.38	793.19 / 792.53	793.44 / 792.99	793.69 / 793.41	793.94 / 793.81	794.18 / 794.18	794.43 / 794.41	794.68 / 794.70	794.93 / 794.97

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

The Justin Dewayne Johnson Revocable Trust
QCD
Book: 954, Page: 432

Nikole Marie Johnson
QCD
Book: 872, Page: 22

STA. 101+00

STA. 116+00

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

S 520 Rd

ASPHALT

TUG

TYPED

OHW

Ditch

RP

2-Wire OHE

33'

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

Robert Allen Switzer
WD
Book: 559, Page: 632

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
(VERT)
1 inch = 5' ft.
5' 0 5' 10'

820 815 810 805 800 795 790 785 780

VPI 102+45.00
ELEV = 795.65
L = 50.00
K = 455.14

VPC 102+20.00
ELEV. = 795.53

VPT 102+70.00
ELEV. = 795.80

FINISHED GRADE

Ex. Grade @ ℄ of Survey

0.61%

VPC 109+20.00
ELEV. = 799.75

VPI 111+10.00
ELEV = 800.90
L = 380.00
K = 169.91

VPT 113+00.00
ELEV. = 797.80

-1.63%

VPI 115+15.00
ELEV = 794.30
L = 50.00
K = 95.83

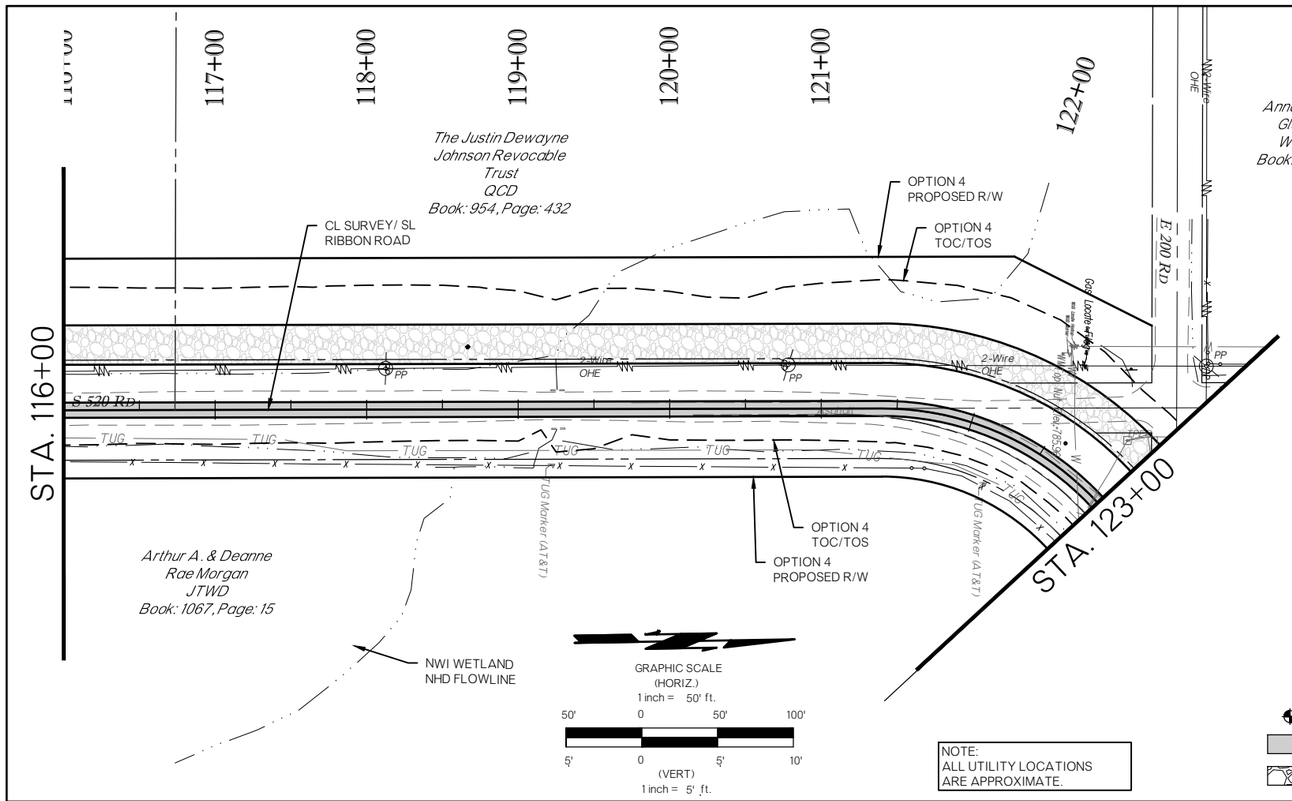
VPC 114+90.00
ELEV. = 794.71

VPT 115+40.00
ELEV. = 794.02

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

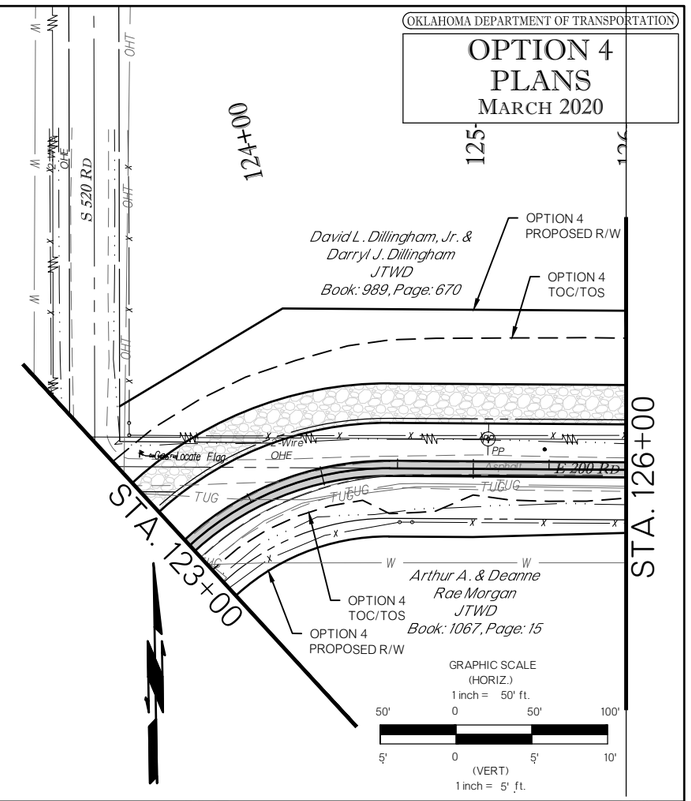
OPTION 4 PLANS
MARCH 2020

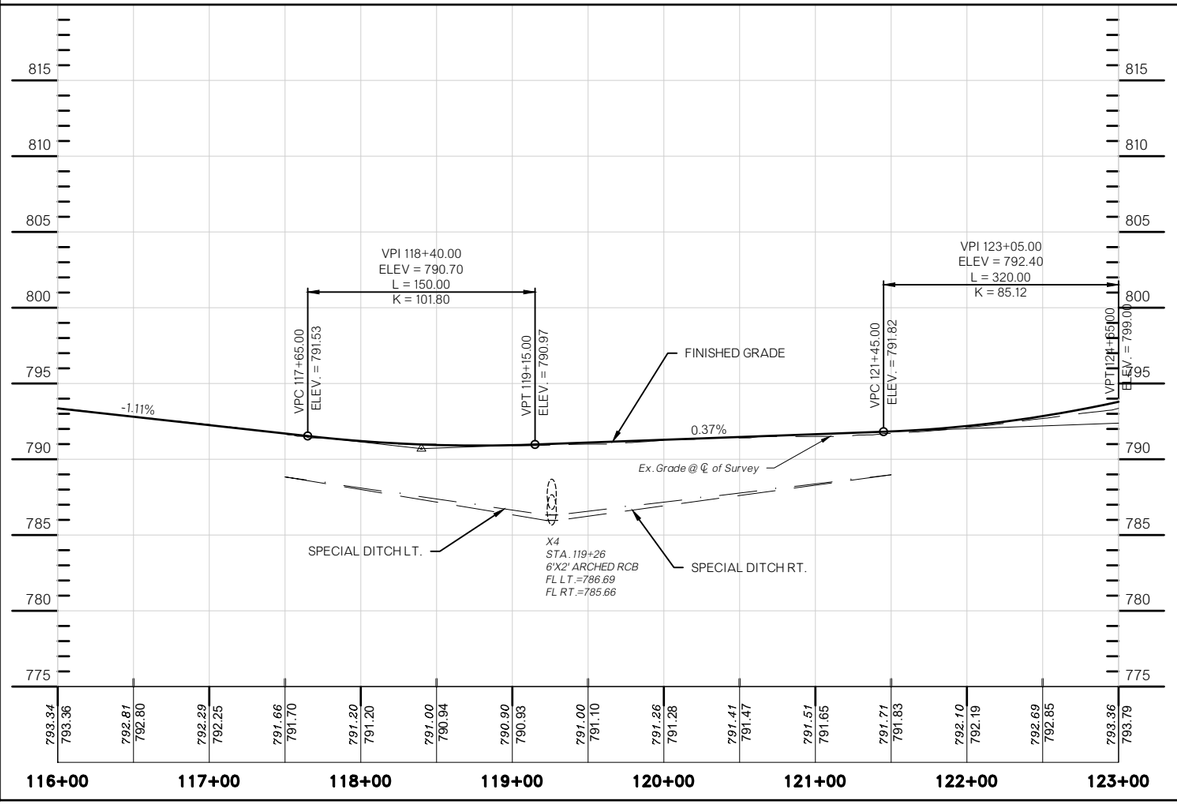


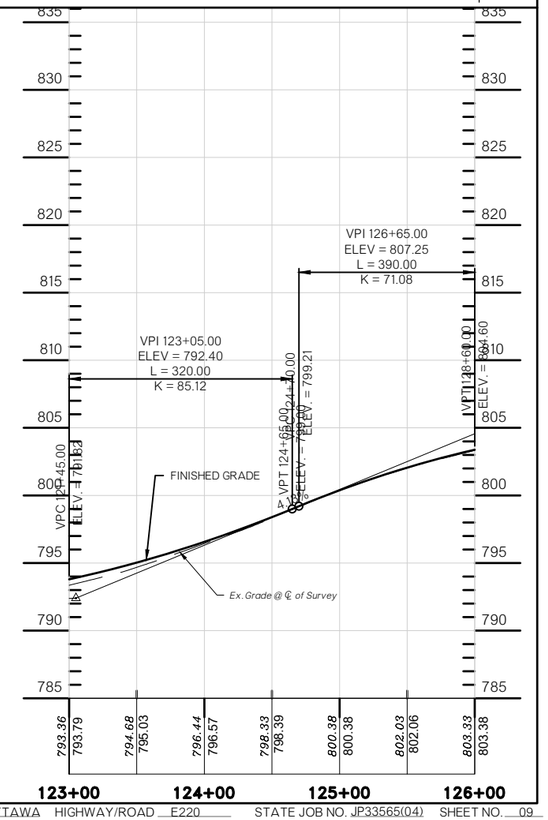
NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY



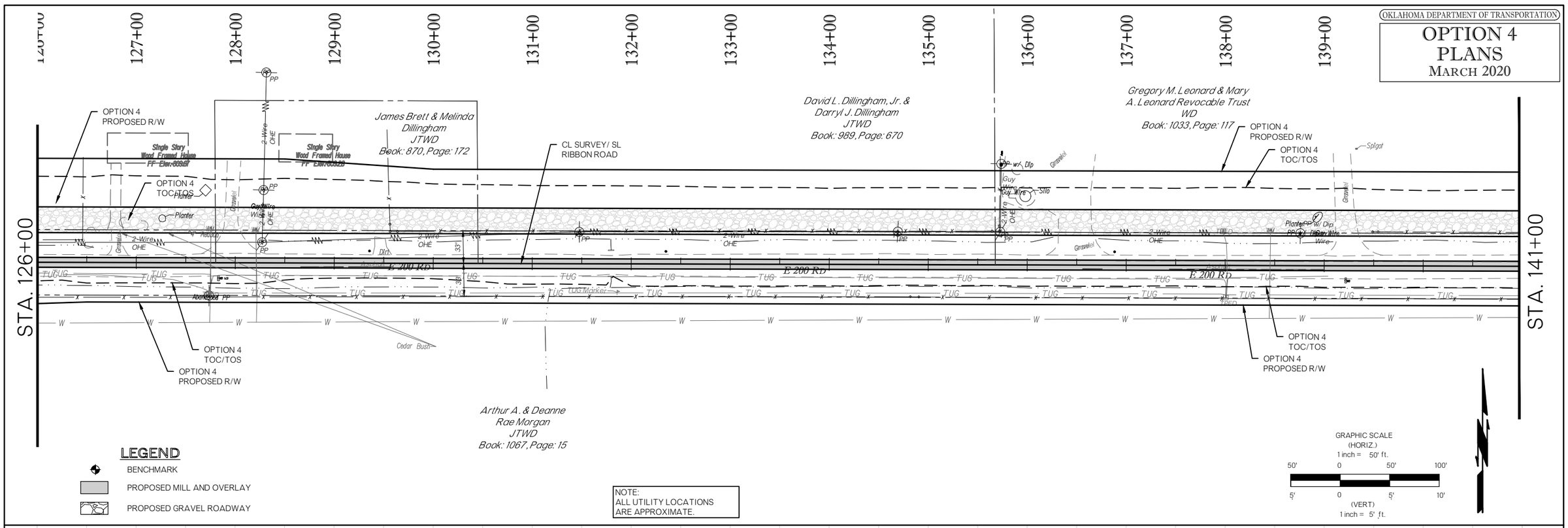


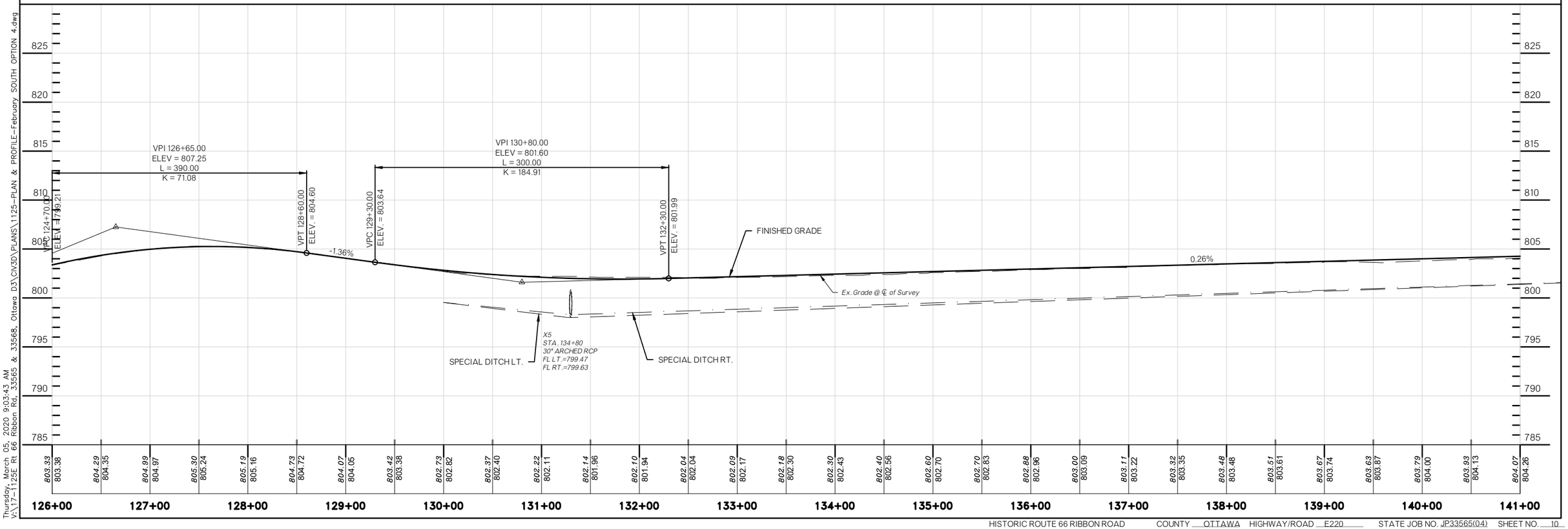


Thursday, March 05, 2020 9:03:14 AM
V:\17-1125E Rt 66 Ribbon Rd. 33565 & 33568, Ottawa OJ\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020





Thursday, March 05, 2020 9:03:43 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa 03\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00

STA. 141+00

STA. 156+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

CL SURVEY/ SL RIBBON ROAD

E 200 Rd

ASPHALT

TUG

W

33'

DH

Gravel

Spigot

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

OPTION 4 PROPOSED R/W

OPTION 4 TOC/TOS

E 200 Rd

OPTION 4 TOC/TOS

OPTION 4 PROPOSED R/W

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

LEGEND

- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE (HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

830 825 820 815 810 805 800 795 790

VPI 143+45.00
ELEV = 804.90
L = 50.00
K = 140.79

VPC 143+20.00
ELEV = 804.83

VPT 143+70.00
ELEV. = 805.05

FINISHED GRADE

0.62%

Ex. Grade @ ℄ of Survey

VPI 155+30.00
ELEV = 812.20
L = 100.00
K = 189.01

VPC 154+80.00
ELEV. = 811.89

VPT 155+80.00
ELEV. = 812.24

| | | |

OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4 PLANS
MARCH 2020

STA. 156+00 | 157+00 | 158+00 | 159+00 | 160+00 | 161+00 | 162+00 | 163+00 | 164+00 | 165+00 | 166+00 | 167+00 | 168+00 | 169+00 | STA. 171+00

Gregory M. Leonard & Mary A. Leonard Revocable Trust
WD
Book: 1033, Page: 117

Northeast Oklahoma Vocational-Technical School District No. 11
WD
Book: 329, Page: 71

Arthur A. & Deanne Rae Morgan
JTWD
Book: 1067, Page: 15

OPTION 4 PROPOSED R/W
OPTION 4 TOC/TOS
CL SURVEY/ SL RIBBON ROAD
E 200 RD
2'x2' Brick Column
Asphalt
Gravel
Dirt
TUG
TBED
Guy Wire
Telephone Junction Box
EB
LP

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

LEGEND
- BENCHMARK
- PROPOSED MILL AND OVERLAY
- PROPOSED GRAVEL ROADWAY

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

VPI 158+75.00
ELEV = 812.50
L = 50.00
K = 105.33
VPC 158+50.00
ELEV. = 812.48
VPT 159+00.00
ELEV = 812.40
FINISHED GRADE
0.09%
-0.39%
Ex. Grade @ ℄ of Survey
VPI 163+65.00
ELEV = 810.60
L = 200.00
K = 647.21
VPC 162+65.00
ELEV = 810.99
VPT 164+65.00
ELEV. = 810.52
-0.08%
SPECIAL DITCH LT.&RT.
VPI 170+00.00
ELEV = 810.10
L = 150.00
K = 310.07
VPC 169+25.00
ELEV. = 810.16
VPT 170+75.00
ELEV. = 809.68

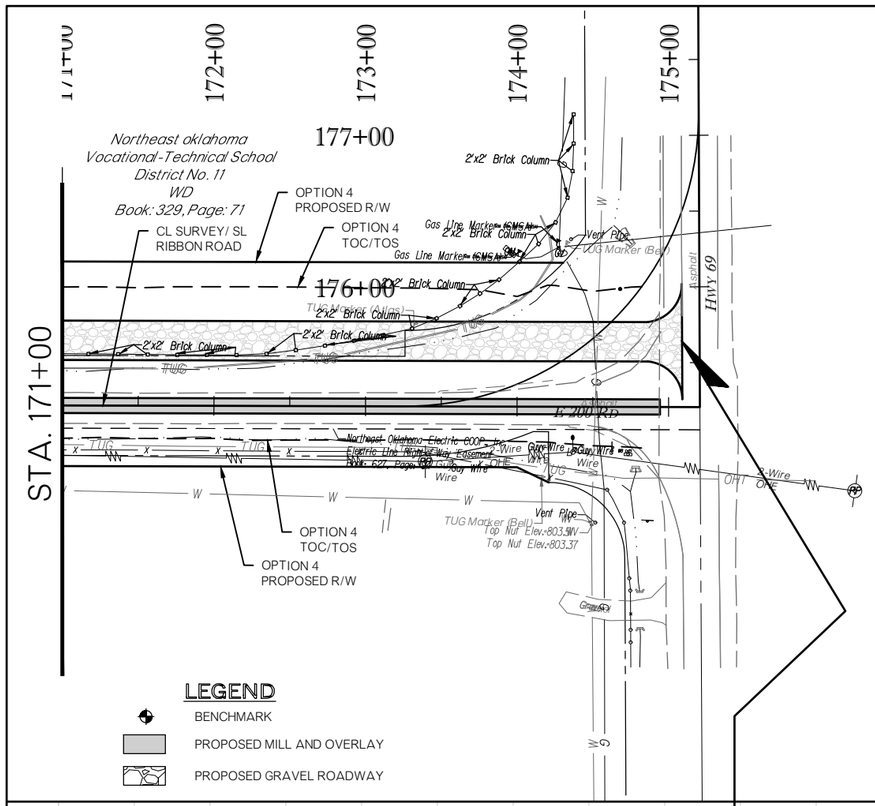
825 820 815 810 805 800 795 790 785

156+00	157+00	158+00	159+00	160+00	161+00	162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00	170+00	171+00
812.10	812.25	812.22	812.40	812.40	812.40	812.30	812.22	812.06	811.90	811.60	811.30	811.15	811.00	810.81	810.67
812.26	812.30	812.35	812.39	812.43	812.48	812.40	812.21	812.02	811.82	811.63	811.43	811.24	811.05	810.86	810.71

810.60	810.61	810.53	810.50	810.40	810.40	810.35	810.25	810.20	810.29	810.21	810.20	810.10	809.86	809.66	809.54
810.61	810.53	810.49	810.45	810.41	810.38	810.34	810.30	810.26	810.22	810.18	810.13	810.01	809.81	809.54	

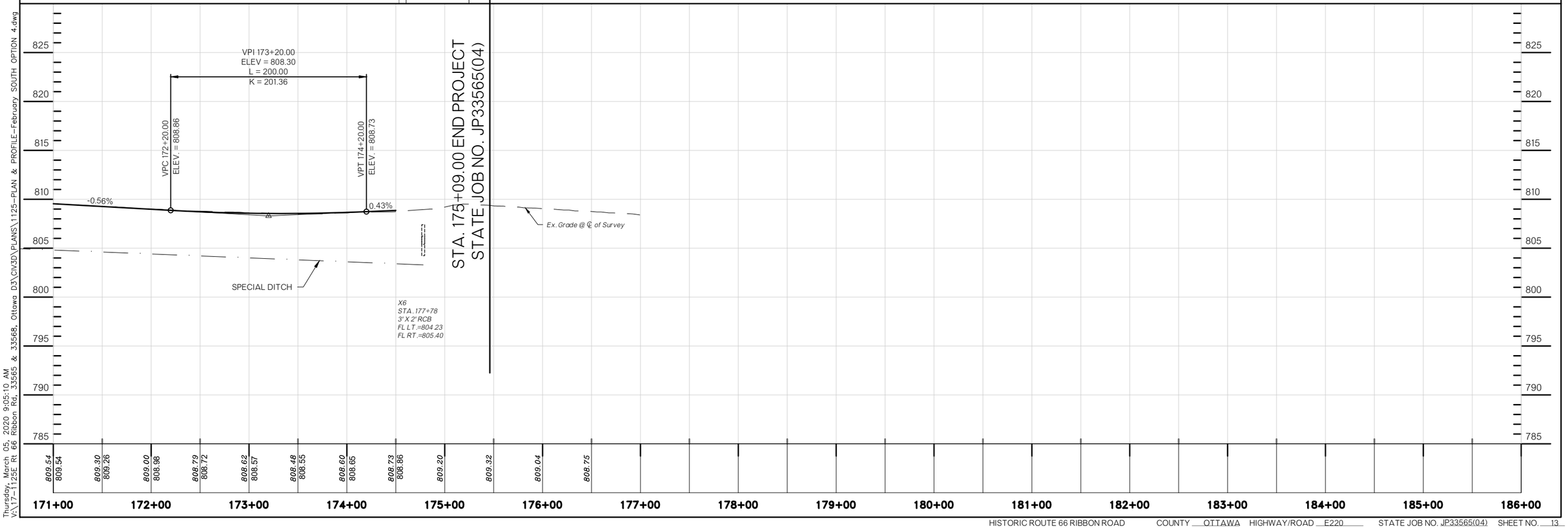
OKLAHOMA DEPARTMENT OF TRANSPORTATION

OPTION 4
PLANS
MARCH 2020



NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.



Thursday, March 05, 2020 9:05:10 AM
V:\17-1125E Rt 66 Ribbon Rd, 33565 & 33568, Ottawa D3\CIV3D\PLANS\1125-PLAN & PROFILE-February SOUTH OPTION 4.dwg

APPENDIX 5 – GEOTECHNICAL REPORT

Geotechnical Engineering Report

Route 66 Ribbon Road Rehabilitation
Ottawa County, Oklahoma
October 23, 2019
Terracon Project No. 04185018

Prepared for:
Guy Engineering Services, Inc.
Tulsa, Oklahoma

Prepared by:
Terracon Consultants, Inc.
Tulsa, Oklahoma

October 23, 2019

Guy Engineering Services, Inc.
6910 E. 14th Street
Tulsa, Oklahoma 74112

Attn: Mr. John Blickensderfer - President
P: (918) 437-0282
E: John-B@guyengr.com

Re: Geotechnical Engineering Report
Route 66 Ribbon Road Rehabilitation
Route 66 Ribbon Road
Ottawa County, Oklahoma
Terracon Project No. 04185018

Dear Mr. Blickensderfer:

We have performed Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Task Order Proposal No. P04185018 dated January 16, 2018. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.
Cert. of Auth. #CA-4531 exp. 6/30/21

Alec N. Strassburg, P.E. (KS)
Project Engineer

REGISTERED PROFESSIONAL ENGINEER
MICHAEL H. HOMAN
15777
OKLAHOMA

Michael H. Homan, P.E.
Senior Principal
Oklahoma No. 15777
10/23/2019

REPORT TOPICS

INTRODUCTION 1
SITE CONDITIONS 1
PROJECT DESCRIPTION 2
GEOTECHNICAL CHARACTERIZATION 2
GEOTECHNICAL OVERVIEW 5
EARTHWORK 6
PAVEMENTS 9
GENERAL COMMENTS 11

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report

Route 66 Ribbon Road Rehabilitation

Route 66 Ribbon Road

Ottawa County, Oklahoma

Terracon Project No. 04185018

October 23, 2019

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed roadway improvements planned along two sections of the historic Route 66 Ribbon Road in Ottawa County, Oklahoma. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface conditions
- Earthwork
- Pavement subgrade preparation
- Pavement section thickness

The geotechnical engineering Scope of Services for this project included the advancement of 18 pavement cores/borings, designated P-1 to P-18, to a depth of approximately 5 feet below existing site grades.

Maps showing the site and core/boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration.

Item	Description
Project Information	The proposed roadway improvements are planned along two sections of the historic Route 66 Ribbon Road alignment located near Afton and Miami in Ottawa County, Oklahoma. One section of the project is located along S. 520 Road extending north about 2 miles from the intersection with Highway 60, then turning east onto E. 200 Road for about 1 mile to the intersection with Highway 69. The other section of the project is located along E. 140 Road extending east about 1 mile from the intersection with Highway 69, then turning north onto S540 Road for about 1 mile, and then turning east onto E 130 Road for about 1.5 mile to the intersection with East Street. (See **Site Location**)

Item	Description
Existing Improvements	The project alignment is currently asphalt overlay over concrete with gravel sections on both sides of the paved section. The paved section is only about 9 feet wide. Based on historical records, the 9-foot wide paved section, which is called the Route 66 "Ribbon Road", was constructed in the early 1920s. Undeveloped land, agricultural land, and single-family residential properties are located along the roadway alignment.
Existing Topography (based on USGS topographic maps)	The ground surface elevations along the section of the project alignment where cores/borings P-1 to P-9 are located range from about 810 to 850 feet. The ground surface elevations along the section of the project alignment where cores/borings P-10 to P-18 are located range from about 790 to 810 feet.

PROJECT DESCRIPTION

Our final understanding of the project conditions is as follows:

Item	Description
Project Description	Based on information provided by Guy Engineering, the purpose of the project is to establish a historic structure record and rehabilitation plan of the roadway. The final configuration of the planned rehabilitation is not known at this time. We anticipate that the roadway will be widened to modern-day standards while maintaining the historical 9-foot wide pavement section. The widened sections could consist of asphalt pavements or a gravel section.
Traffic Data (provided by Guy Engineering)	Traffic data are as follows: ■ Traffic volume: 620 vehicles per day in 2015; 685 vehicles in 2020 and 1,017 vehicles in 2040 (based on a 2 percent growth rate) ■ Percent semi-trucks: 15 percent ■ Traffic growth rate: 2 percent ■ Traffic life: 20 years

GEOTECHNICAL CHARACTERIZATION

Site Geology

Based on information published in the Oklahoma Department of Transportation (ODOT) manuals, "Engineering Classification of Geologic Materials: Division 8", the portion of the project alignment located near Afton, Oklahoma is mapped as underlain by the Boone Unit and the Chester-Meramec Unit. The Boone Unit would be encountered near the locations of cores/borings P-10 to P-12 and consists mainly of limy chert with some limestone and shale. The limy chert weathers to white rock rubble with red clay soils or colluvium, and depth to true bedrock is often hard to

determine. The Chester-Meramec Unit would be encountered near the locations of cores/borings P-13 to P-18 and consists of limestone, chert, shale, sandstone, and siltstone with the lithology of the unit varying locally.

The portion of the project alignment located closer to Miami (near the locations of cores/borings P-1 to P-9) is mapped as underlain by the Hartshorne-Atoka Unit. The Hartshorne-Atoka unit consists mainly of shale with some sandstone and siltstone. The shale is black and fissile, and the sandstone is soft to moderately hard, and generally brownish in color. In Ottawa County, this unit is almost entirely shale.

Typical Profile

The subsurface conditions encountered in the cores/borings are shown on the core/boring logs found in the **Exploration Results** section and are briefly described in the following table. The stratification lines shown on the core/boring logs represent the approximate boundary between material types; in-situ, the transition between materials may be gradual and indistinct. Classification of bedrock materials was made from disturbed samples.

Stratum	Approximate Depth to Bottom of Stratum	Material Description	Consistency/Density
Surface 1	5 to 8 inches (core/borings P-1, P-4, P-6, P-8, P-9, P-11, P-14, P-16, and P-18)	Asphalt over concrete pavement or asphalt pavement	N/A
Surface 2	2.5 to 6 inches (core/borings P-2, P-3, P-5, P-7, P-10, P-12, P-13, P-15, and P-17)	Aggregate base	N/A
1	1.5 feet in core/boring P-8; Undetermined [1] in core/boring P-13	Existing fill consisting of poorly graded sand with clay and fat clay with sand	N/A
2	2.5 feet in core/boring P-7; Undetermined [2] in cores/borings P-1 to P-6, and P-8 to P-18 only	Native silty clay, lean clay, fat clay, and lean to fat clay soils with varying amounts of sand	Very soft to stiff

Stratum	Approximate Depth to Bottom of Stratum	Material Description	Consistency/Density
3	Undetermined [3] in core/boring P-7 only	Native clayey sand with gravel	Loose

1. Core/boring P-13 terminated in stratum 1 at a depth of 5 feet.
2. Cores/borings P-1 to P-6 and P-8 to P-18 terminated in stratum 2 at a depth of 5 feet.
3. Core/boring P-7 terminated in stratum 3 at a depth of 5 feet.

Laboratory tests were conducted on selected soil samples. The test results are presented on the core/boring logs and on test report forms in **Exploration Results**.

Groundwater

The boreholes were observed while drilling and immediately after completion for the presence and level of groundwater. Groundwater was not observed in the cores/borings while drilling or immediately after completion of drilling.

The groundwater level observations made during our exploration provide an indication of the groundwater conditions at the time the cores/borings were drilled. Long-term monitoring with observation wells, sealed from the influence of surface water, would be required to accurately define the potential range of groundwater conditions. Fluctuations in the groundwater level should be expected due to seasonal variations in the amount of rainfall, runoff, and other factors not apparent at the time the cores/borings were drilled. The possibility of groundwater level fluctuations and the presence of perched water should be considered when designing and developing the construction plans for the project.

Existing Pavement Thickness

The thicknesses of the pavement cores performed at the core locations are summarized in the following table. Logs of the pavement cores are included in **Exploration Results** with photographs of the pavement cores.

Core/Boring ID	Asphalt Layer Thickness (inch)	Concrete Layer Thickness (inch)	Gravel Surface Layer Thickness (inch)
P-1	1 ¼	5 ½	--
P-2	--	--	3 ½
P-3	--	--	2 ½
P-4	1 ½	5	--
P-5	--	--	2 ½
P-6	1	4	--
P-7	--	--	3 ½

Core/Boring ID	Asphalt Layer Thickness (inch)	Concrete Layer Thickness (inch)	Gravel Surface Layer Thickness (inch)
P-8	1	5 ¾	--
P-9 [1]	6	--	--
P-10	--	--	6
P-11	1 ½	5	--
P-12	--	--	6
P-13	--	--	2 ½
P-14	¾	5 ¼	--
P-15	--	--	6
P-16	1 ¾	5 ¼	--
P-17	--	--	2 ½
P-18	3	5	--

1. The asphalt pavement encountered at core/boring P-9 was not cored because the core/boring was not located within the "ribbon road" pavement section.

GEOTECHNICAL OVERVIEW

We understand that the project improvements will include widening of the existing roadway while maintaining the historical 9-foot wide "ribbon road" section of pavement. We anticipate that the widened sections will consist of full-depth asphalt pavement or a gravel-surfaced roadway. The existing grades will be modified to meet the planned final grades.

Very soft to soft silty clay and lean clay soils were encountered at cores/borings P-1, P-4, P-6, P-16, and P-18 to depths of 2.5 to 3.5 feet below existing grade. Near surface, low strength silty clay and lean clay soils are moisture sensitive and could become unstable if wetted or if they are disturbed during construction. Therefore, we recommend that the low strength soils be removed full-depth and replaced with engineered fill to develop support for the new pavements. Low strength, moisture sensitive soils could be encountered along the roadway alignment at locations away from the core/boring locations.

Based on the results of our field exploration, subgrade soils consist mainly of moderate to high plasticity clay soils (A-4, A-6, and A-7-6 AASHTO classification). Selected samples of the soils tested in our laboratory had plasticity index values ranging from 5 to 50. Subgrade stabilization procedures as outlined in Oklahoma Department of Transportation's (ODOT) OHD L-50, Soil Stabilization Mix Design Procedure are recommended for soil classifications A-6 and A-7-6 to provide a stable pavement subgrade. Based on these AASHTO soil classifications, the OHD L-50 guidelines recommend hydrated lime be used to stabilize the subgrade.

Existing fill was encountered at cores/borings P-8 and P-13 to depths of about 1.5 to 5 feet and greater below the existing top of pavement elevation. Existing fill could also be encountered along the roadway alignment at locations away from the core/boring locations. Because of the potential for variation in the composition and quality of existing fill and unsuitable materials to be buried in existing fills, there is an inherent risk of unpredictable post-construction settlement of pavements constructed over existing fill. That risk cannot be eliminated unless the existing fill is completely removed and replaced with tested and approved, new engineered fill. However, the risk can be reduced by thorough observation and testing of the existing fill by the Geotechnical Engineer during construction.

We recommend that full-depth asphalt pavement sections incorporate a layer of aggregate base beneath the asphalt pavement to improve long-term pavement support. In addition, subgrade stabilization and proper moisture conditioning and compaction of the subgrade materials will be required during construction to develop the pavement subgrade. The **Pavements** section addresses the design of project pavements.

Recommendations regarding earthwork and site preparation, pavement subgrade preparation, and pavement thicknesses are provided in the following sections. The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Site Preparation

Areas within the limits of construction should be stripped and cleared of existing pavement, surface vegetation, topsoil, trees, and any other deleterious material. Grubbing should include complete removal of tree stumps and major root systems. In addition, any existing site features encountered along the project alignment (such as existing pavements, sidewalks, or other structures), and any loose, soft, or otherwise unsuitable materials should be removed from the proposed construction areas. Any organic soils removed during site preparation should not be used as fill beneath pavements.

Near surface, very soft to soft silty clay and lean clay soils were encountered in five of the cores/borings. These soils are moisture sensitive and could become unstable if wetted or if they are disturbed during construction. Therefore, we recommend that the low strength soils encountered along the project alignment be removed full-depth from the project site.

Roadway sections that do not include curb and gutter should utilize properly constructed drainage ditches parallel to the roadway. Drainage ditches should be sufficiently deep and sloped to remove water in an expedient manner. Standing water in ditches can lead to pavement subgrade failure.

After stripping of organic soils, grubbing, demolition/removal of any existing features, removal of any unsuitable materials, completing necessary grading cuts and overexcavations, but prior to placing any new engineered fill, the subgrade should be proofrolled to aid in locating soft, unstable areas. Proofrolling should be performed with a loaded tandem axle dump truck weighing at least 25 tons. Areas too small to proofroll should be evaluated by the Geotechnical Engineer. Unstable soils identified by proofrolling or subgrade evaluation should be undercut full-depth and replaced with suitable engineered fill, if they cannot be adequately stabilized in-place.

As discussed in **Geotechnical Overview**, we recommend the any exposed subgrade consisting of soils with an AASHTO soil classification of A-6 or A-7-6 be stabilized in accordance with ODOT Specification OHD L-50 and current ODOT Standard Specifications for treated subgrades. Otherwise, the exposed subgrade should be scarified to a minimum depth of 8 inches, moisture conditioned, and compacted prior to placing any fill as recommended in the **Fill Compaction Requirements** section.

Fill Material Types

Soils used as engineered fill should meet the following material property requirements:

Soil Type [1]	USCS Classification	Acceptable Location for Placement
Select Fill Material	Lean clays (CL) or clayey sands (SC) (A-6 to A-2-6 soil types under AASHTO Soil Classification System, AASHTO M145), with a Plasticity Index (PI) of 8 to 22	All locations and elevations
On-site Clay Soils	On-site soils which do not meet the Select Fill criteria above	These soils are not recommended as select fill, unless chemically treated, as recommended herein, or blended.
On-site Silty Clay Soils	CL-ML	Not suitable as fill due to susceptibility to become unstable
ODOT Type A Aggregate Base [2]	GW-GC, GW-GM	All locations and elevations

1. Engineered fill should consist of approved materials that are free of organic matter and debris, and contain a maximum rock size of 3 inches. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. Conforming to section 703.01 of the Oklahoma Department of Transportation (ODOT) Standard Specifications for Highway Construction.

Fill Compaction Requirements

The scarified and compacted subgrade and engineering fill should be moisture conditioned and compacted using recommendations in the following table.

Item	Description
Subgrade Scarification Depth	8 inches
Maximum Fill Lift Thickness [1]	8 inches or less in loose lifts
Compaction Requirements [2]	At least 95% of the material's maximum standard Proctor dry density (AASHTO T-99)
Moisture Content	Select Fill: A level within -2 to +2 percent of the material's optimum moisture content, determined in accordance with AASHTO T-99 (standard Proctor). ODOT Type A Aggregate Base: Sufficient to achieve maximum density without pumping when proofrolled.

1. Thinner lifts are recommended in confined areas or when hand-operated compaction equipment is used.
2. We recommend that engineered fill and scarified, compacted subgrade be tested for moisture content and compaction during placement. If the results of the in-place density tests indicate the specified moisture and compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

Earthwork Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed and replaced with approved and tested engineered fill, or the materials should be scarified, moisture conditioned, and recompacted prior to pavement construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

The Geotechnical Engineer should be retained during the construction phase of the project to provide observation and testing during subgrade preparation and earthwork.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. We recommend pavement subgrades be prepared as discussed in the **Earthwork** section and in the following sections of this report.

To improve subgrade support, we recommend constructing a layer of aggregate base beneath the new asphalt pavements. Exposed subgrades which have AASHTO soil classifications of A-6 or A-7-6 should be stabilized in accordance with ODOT Specification OHD L-50 and current ODOT Standard Specifications for treated subgrades. Based on these AASHTO soil classifications, OHD L-50 guidelines recommend that hydrated lime be used to stabilize the subgrade.

Pavement Design Parameters

Our analysis is based on the 1993 AASHTO Guide for Design of Pavement Structures. Other pavement sections could be considered. The recommended pavement sections are based on a present-day Average Daily Traffic (ADT) volume of 685 vehicles with 15 percent truck traffic, and a 2 percent annual growth rate. These values were provided by Guy Engineering. For analysis purposes, the truck traffic was assumed to consist of full concrete trucks with a gross weight of 68,000 pounds or equivalent traffic loading.

Gravel-Surfaced Roadway Recommendations

Our gravel-surfaced roadway analysis is based on a 10-year traffic life and a subgrade resilient modulus (Mr) value of 3,500 psi for the scarified and recompacted subgrade soils. A structural layer coefficient of 0.14 was used for aggregate base materials. Periodic maintenance should be expected to realize the anticipated traffic life. Additional AASHTO pavement section design parameters used in our analysis include:

- Total ESALs = 0.64×10^6
- Directional Distribution Factor = 60%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.5
- Reliability = 85%
- Standard Deviation = 0.45

- Drainage Coefficient = 1.0 for Aggregate Base
- Design Structural Number = 3.89

The following table provides a recommended section for gravel-surfaced roadways.

Gravel-Surfaced Roadway Recommendations	
Aggregate Base over Compacted, Stabilized Subgrade	24.0” Aggregate Base [1]
	Geotextile Separation Fabric
	8.0” Compacted, Stabilized Subgrade [2]

1. ODOT Standard Specifications.
2. ODOT Specification OHD L-50.

Full-Depth Asphalt Pavement Recommendations

Our asphalt pavement analysis is based on a 20-year traffic life and a subgrade resilient modulus (Mr) value of 3,500 psi for the scarified and recompacted subgrade soils. Structural layer coefficients of 0.44, 0.40 and 0.14 were used for asphaltic concrete surface course, asphaltic concrete base, and aggregate base materials, respectively. Periodic maintenance should be expected to realize the anticipated traffic life. Additional AASHTO pavement section design parameters used in our analysis include:

- Total ESALs = 1.425×10^6
- Directional Distribution Factor = 60%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.5
- Reliability = 85%
- Standard Deviation = 0.45
- Drainage Coefficient = 1.0 for Aggregate Base
- Design Structural Number = 4.35

The following table provide recommended section for AC pavement.

Asphaltic Concrete Minimum Pavement Recommendations	
Asphaltic Concrete over Aggregate Base over Compacted, Stabilized Subgrade	2.0” Type “S4” Asphaltic Concrete [1]
	4.0” Type “S3” Asphaltic Concrete [1]
	10.0” Aggregate Base [1]
	Geotextile Separation Fabric
	8.0” Compacted, Stabilized Subgrade [2]

Continued from page 10

1. ODOT Standard Specifications.
2. ODOT Specification OHD L-50.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration.

Pavement Maintenance

The pavement sections presented above represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Preventative maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Preventative maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program and provides the highest return on investment for pavements. Prior to implementing any maintenance, additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Core/Boring Depth (feet)	Core/Boring Location
18 (P-1 through P-18)	5	Within existing roadways

Boring Layout and Elevations: The core/boring locations were laid out in the field by a Terracon representative using a handheld GPS unit. Project plans were not provided at this time to determine stationing and offset of the cores/borings. The locations of the cores/borings should be considered accurate only to the degree implied by the means and methods used to define them.

Subsurface Exploration Procedures: At core/boring locations where pavement was encountered, we used a core machine with a diamond-bit core barrel to core the pavement. After coring, we advanced the cores/borings with an ATV-mounted rotary drill rig using continuous flight augers. Samples of the soils encountered in the cores/borings were obtained using the split-barrel sampling procedure. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. These values are used to estimate the in situ relative density of cohesionless soils and consistency of cohesive soils. The samples were tagged for identification, sealed to reduce moisture loss, and transported to our laboratory for examination, testing, and classification. In addition, we observed and recorded groundwater levels during drilling and sampling, and immediately after completion of drilling. For safety purposes, all cores/borings were backfilled with sand and auger cuttings and capped with cold-mix asphalt and/or gravel after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field logs. Our exploration team prepared field logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. Final core/boring logs were prepared from the field logs. The final logs represent the Geotechnical Engineer's interpretation of the subsurface conditions encountered at the core/boring locations based on field and laboratory data and observation of the samples.

Laboratory Testing

Samples collected during the field exploration were transported to our laboratory for observation by the project Geotechnical Engineer and were classified in accordance with the Unified Soil Classification System (USCS) and the American Association of State Highway and Transportation Officials (ASSHTO) classification system described in **Supporting Information**. Bedrock materials were classified according to the General Notes for Sedimentary Rock Classifications and described using commonly accepted geotechnical terminology. After the laboratory testing was completed, the field descriptions of the materials encountered at the core/boring locations were confirmed or modified as necessary.

Selected soil samples obtained from the project site were tested for the following engineering properties:

- Water (moisture) content
- Atterberg limits
- Grain-size analysis

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan (7 pages)

Note: All attachments are one page unless noted above.



© 2019 GOOGLE

2 mi 0 1 mi 2 mi

APPROXIMATE SCALE IN MILES

N

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr: ANS	Project No. 04185018
Drawn By: MM	Scale: SEE BAR SCALE
Checked By: ANS	File No. 04185018
Approved By: MHH	Date: OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

SITE LOCATION MAP

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTOWA COUNTY, OKLAHOMA





© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

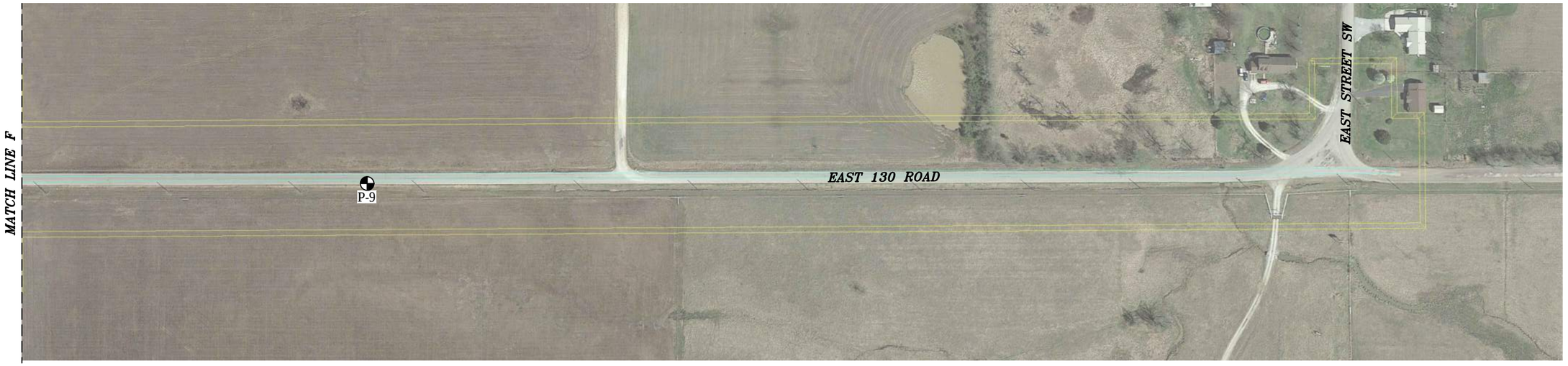
EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND

BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH
Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

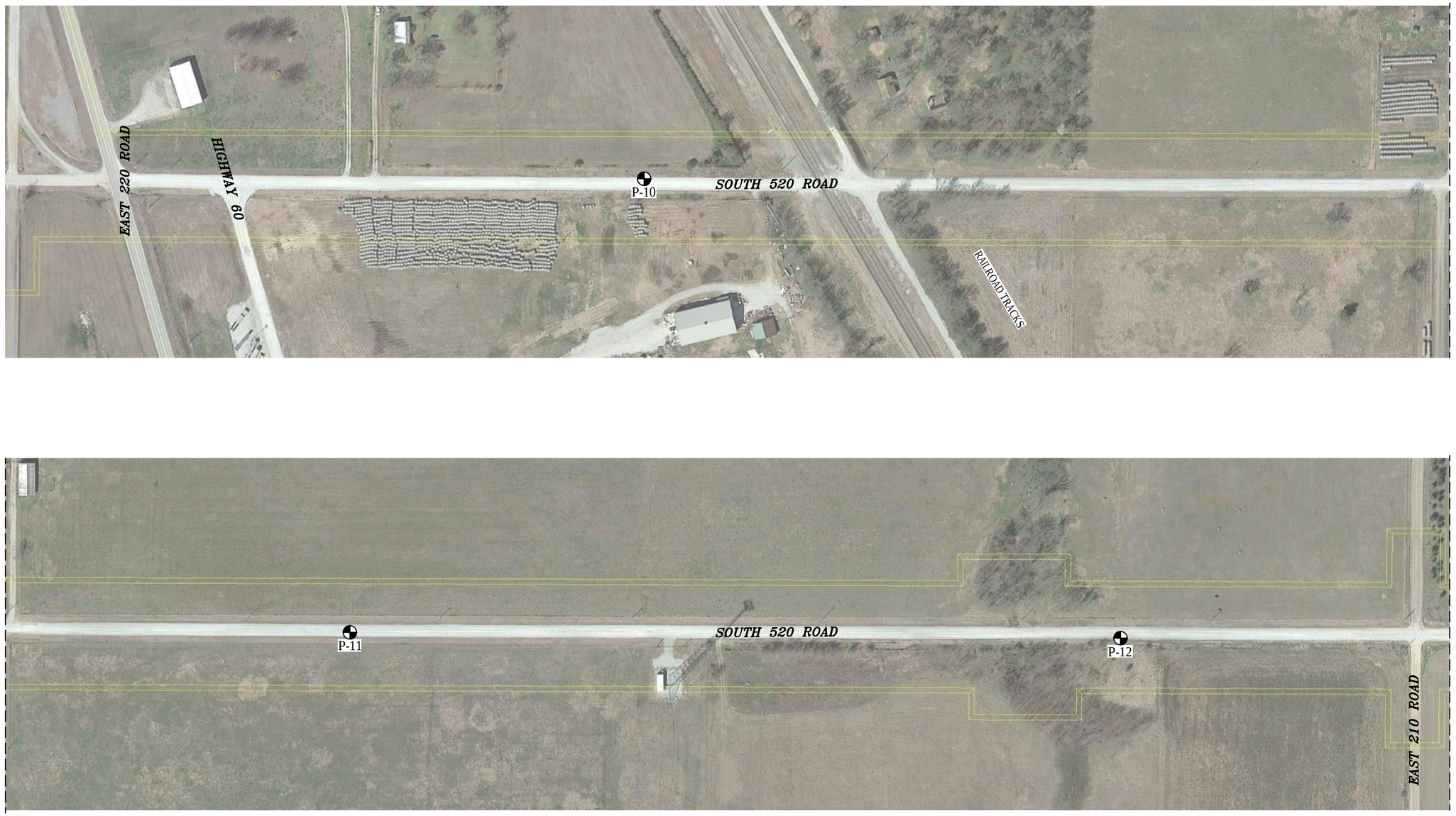
EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH
Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA





© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH

Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

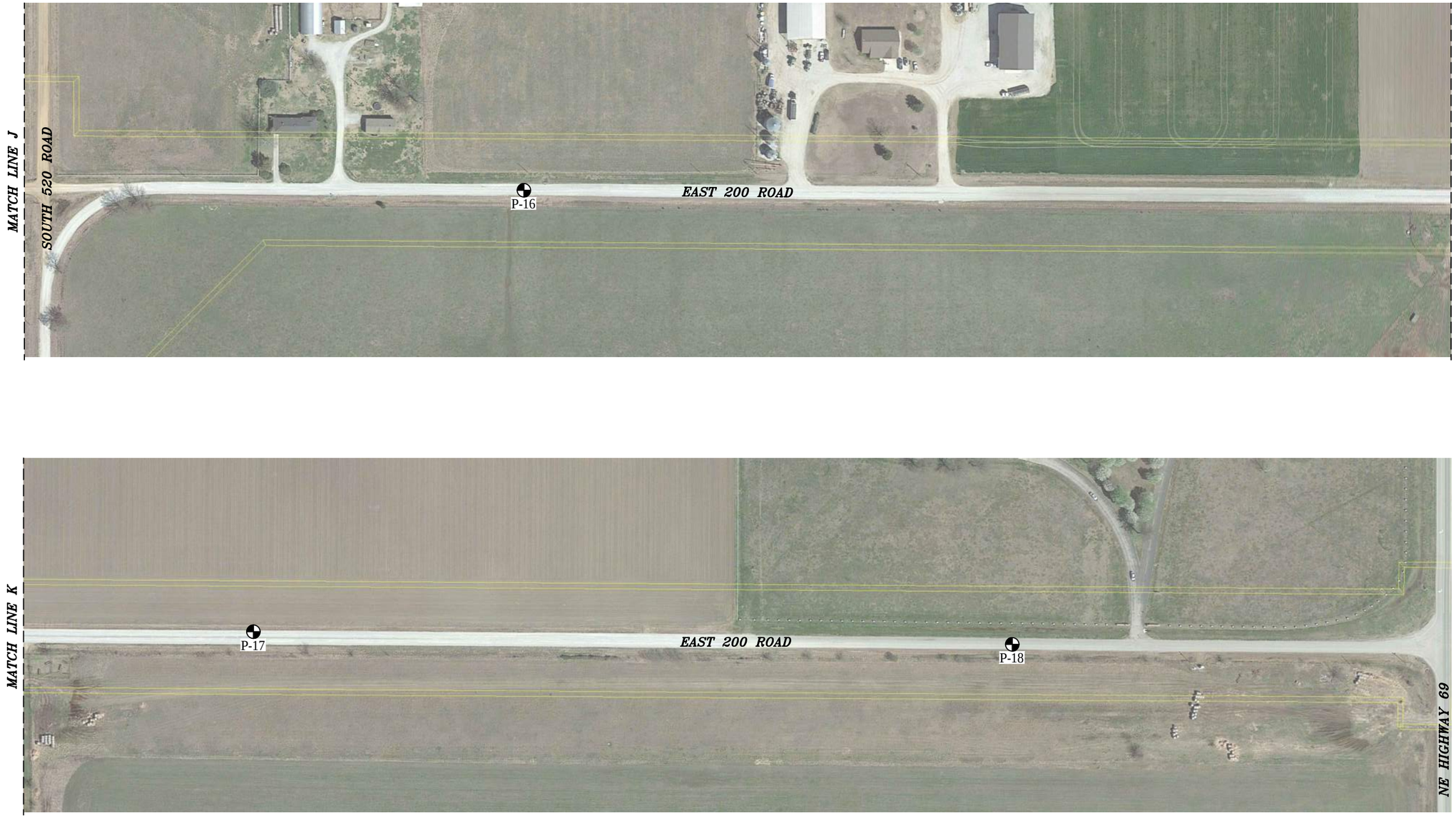
EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA



© 2015 GOOGLE

200 0 100 200

APPROXIMATE SCALE IN FEET

LEGEND
BORING LOCATION

** STATIONS AND OFFSETS BASED ON PROPOSED US-60 CL
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ANS
Drawn By:	MM
Checked By:	ANS
Approved By:	MHH
Project No.	04185018
Scale:	SEE BAR SCALE
File No.	04185053
Date:	OCTOBER 2019

Terracon
Consulting Engineers and Scientists
9522 EAST 47TH PLACE, UNIT D TULSA, OKLAHOMA 74145
PH. (918) 250-0461 FAX. (918) 250-4570

EXPLORATION PLAN

GEOTECHNICAL EXPLORATION

ROUTE 66 RIBBON ROAD REHABILITATION

SH-66 RIBBON ROAD

OTTAWA COUNTY, OKLAHOMA

EXPLORATION RESULTS

Contents:

Core/Boring Logs (P-1 through P-18)
Grain Size Distribution (5 pages)

Note: All attachments are one page unless noted above.

BORING LOG NO. P-1

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8156° Longitude: -94.9255°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1.25" Asphalt 5.5" Concrete **SILTY CLAY (CL-ML)**, with sand, brown, very soft - A-4 (1)									
					18	1-0-1 N=1	21	21-16-5	76
3.0									
LEAN CLAY (CL), with silt and sand, brown to light brown with gray and red, stiff									
					18	1-4-7 N=11	22		
5.0									
Boring Terminated at 5 Feet		5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-2

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8156° Longitude: -94.9202°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	3.5" Gravel **LEAN CLAY (CL)**, trace sand, brown to dark brown, medium stiff								
	- A-6 (16)				18	2-2-3 N=5	32	36-16-20	86
	3.0 **FAT CLAY (CH)**, brownish gray, medium stiff				15	2-3-3 N=6	41		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-3

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8155° Longitude: -94.9111°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **LEAN CLAY (CL)**, trace sand, gray and brown, medium stiff								
					18	3-2-3 N=5	25		
	2.5 **FAT CLAY (CH)**, brown and gray, stiff								
	- A-7-6 (36)				18	2-4-5 N=9	22	53-16-37	93
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-4

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8177° Longitude: -94.9091°

DEPTH	GRAPHIC LOG		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		1.5" Asphalt 5" Concrete **LEAN CLAY (CL)**, with sand, brownish gray								
		- A-6 (7)				18	1-1-1 N=2	25	28-17-11	81
2.5		**FAT CLAY (CH)**, brownish gray, medium stiff								
						18	2-3-4 N=7	24		
5.0		***Boring Terminated at 5 Feet***	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-5

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8243° Longitude: -94.9091°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **LEAN CLAY (CL)**, with sand, brownish gray, medium stiff - A-4 (6)				15	3-3-2 N=5	22	26-16-10	78
	2.5 **FAT CLAY (CH)**, with sand, brownish gray, stiff				12	3-4-5 N=9	22		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-6

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.8299° Longitude: -94.9088°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1" Asphalt 4" Concrete **LEAN CLAY (CL)**, with sand, gray and brown, soft - A-4 (4)				18	1-1-1 N=2	22	27-17-10	68
	2.5 **FAT CLAY (CH)**, with sand, brown with gray and reddish brown, stiff				15	2-5-6 N=11	20		
	5.0 ***Boring Terminated at 5 Feet***	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-7

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.9057°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	3.5" Gravel **LEAN CLAY (CL)**, trace sand, dark gray to dark brown, medium stiff								
	2.5				15	3-2-2 N=4	21		
	CLAYEY SAND (SC), with gravel, brownish gray; trace reddish brown, loose								
	- A-6 (4)				18	1-2-2 N=4	26	30-13-17	46
	5.0	5							
	Boring Terminated at 5 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-8

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.8958°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1" Asphalt 5.75" Concrete **FILL - POORLY GRADED SAND**, with clay, brown to reddish brown								
	1.5								
	LEAN CLAY (CL), with sand, brownish gray, stiff - A-4 (4)				15	7-8-4 N=12	18	24-16-8	74
	3.5								
	LEAN TO FAT CLAY (CL/CH), trace sand, brownish gray, medium stiff				15	1-2-3 N=5	34		
	5.0	5							
	Boring Terminated at 5 Feet								



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-9

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.83° Longitude: -94.8886°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Asphalt **LEAN CLAY (CL)**, gray, stiff - A-4 (6)								
	3.0 **FAT CLAY (CH)**, brown with gray, stiff				18	7-4-5 N=9	32	27-19-8	91
	5.0 ***Boring Terminated at 5 Feet***	5			18	2-4-5 N=9	26		

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-04-2019 | Boring Completed: 09-04-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-10

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7023° Longitude: -94.9454°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, brown and gray, stiff								
					15	6-5-4 N=9	26		
	3.5								
	LEAN CLAY (CL), trace sand, brown to light brown with very dark gray, medium stiff - A-7-6 (27)				18	2-2-4 N=6	20	46-15-31	86
	5.0	5							
	Boring Terminated at 5 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-11

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7087° Longitude: -94.9454°

DEPTH	GRAPHIC LOG	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1.5" Asphalt 5" Concrete **LEAN CLAY (CL)**, with sand, brownish gray, stiff							
	- A-6 (14)			18	5-3-5 N=8	19	35-16-19	82
3.0	**LEAN CLAY (CL)**, brown with light gray, stiff							
				18	4-5-6 N=11	21		
5.0	***Boring Terminated at 5 Feet***							
5								



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-12

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7126° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, gray with brown, stiff								
					18	4-6-7 N=13	16		
	2.5 **FAT CLAY (CH)**, trace sand, gray with brown, medium stiff								
	- A-7-6 (51)				18	1-3-3 N=6	27	64-15-49	96
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-13

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7183° Longitude: -94.9451°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **FILL - FAT CLAY**, with sand; trace gravel, brownish gray								
	- A-7-6 (25)				15	2-4-5 N=9	19	51-16-35	75
	- trace gravel in sample at 3.5 feet				15	4-6-5 N=11	18		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-14

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7234° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	0.75" Asphalt 5.25" Concrete **LEAN CLAY (CL)**, gray with brown, stiff - A-7-6 (32)								
	2.5				18	2-3-5 N=8	17	47-15-32	95
	FAT CLAY (CH), light gray with brown, medium stiff								
	5.0				18	1-2-2 N=4	23		
	Boring Terminated at 5 Feet	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-15

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7282° Longitude: -94.9453°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	6" Gravel **LEAN CLAY (CL)**, trace sand, gray with brown, medium stiff - A-4 (7)				15	3-3-2 N=5	22	27-17-10	89
	2.5 **FAT CLAY (CH)**, brownish gray, medium stiff				15	1-2-2 N=4	25		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-16

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7286° Longitude: -94.9423°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	1.75" Asphalt 5.25" Concrete **SILTY CLAY (CL-ML)**, gray with brown, soft								
					15	1-1-1 N=2	24		
	3.5								
	FAT CLAY (CH), brownish gray, medium stiff - A-7-6 (51)				18	1-3-3 N=6	28	69-19-50	93
	5.0	5							
	Boring Terminated at 5 Feet								



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-17

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7286° Longitude: -94.9349°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	2.5" Gravel **SILTY CLAY (CL-ML)**, trace sand, gray, stiff - A-4 (4)				15	9-8-5 N=13	18	24-17-7	91
	3.0 **FAT CLAY (CH)**, brownish gray, stiff				1	2-3-5 N=8	22		
	5.0 ***Boring Terminated at 5 Feet***	5							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

BORING LOG NO. P-18

PROJECT: Route 66 Ribbon Road Rehabilitation

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

LOCATION See Exploration Plan

Latitude: 36.7285° Longitude: -94.9301°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	3" Asphalt 5" Concrete **SILTY CLAY (CL-ML)**, gray with brown, soft - A-4 (5)				18	3-1-1 N=2	24	25-18-7	90
	3.0 **FAT CLAY (CH)**, trace sand, brownish gray, stiff				15	2-3-5 N=8	36		
	5.0 ***Boring Terminated at 5 Feet***	5							



Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Power Auger

Abandonment Method:
Boring backfilled with soil cuttings and gravel; Surface capped with cold-patch asphalt upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations not obtained

Notes:

WATER LEVEL OBSERVATIONS

Not Encountered While Drilling

Not Encountered After Boring

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

Boring Started: 09-03-2019 | Boring Completed: 09-03-2019

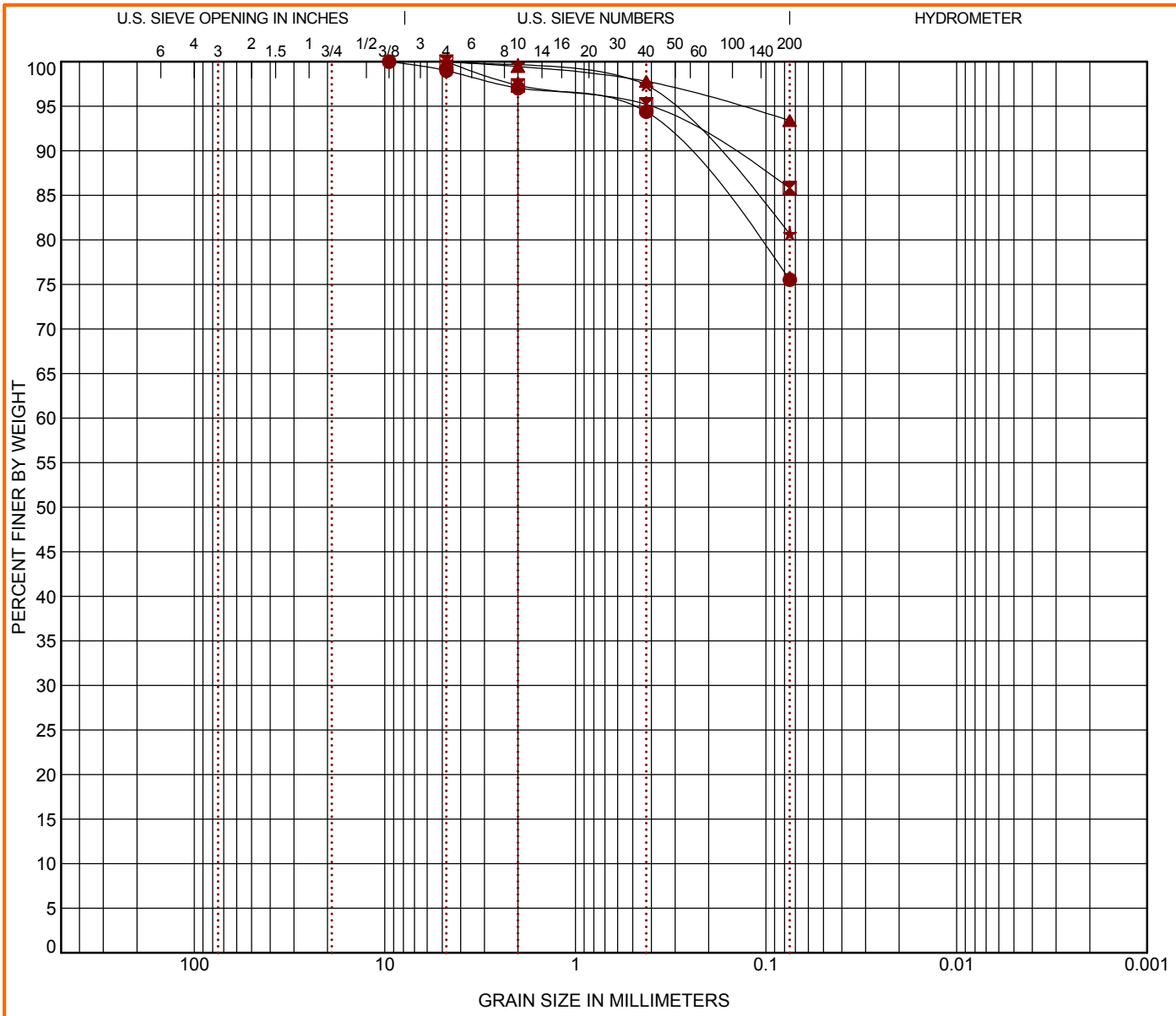
Drill Rig: ATV 709 | Driller: SK

Project No.: 04185018

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/23/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-1	1 - 2.5	SILTY CLAY with SAND (CL-ML)	A-4 (1)	21	21	16	5		
⊠	P-2	1 - 2.5	LEAN CLAY (CL)	A-6 (16)	32	36	16	20		
▲	P-3	3.5 - 5	FAT CLAY (CH)	A-7-6 (36)	22	53	16	37		
★	P-4	1 - 2.5	LEAN CLAY with SAND (CL)	A-6 (7)	25	28	17	11		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-1	1 - 2.5	9.5				1.0	23.5		75.5	
⊠	P-2	1 - 2.5	4.75				0.0	14.2		85.8	
▲	P-3	3.5 - 5	4.75				0.0	6.6		93.4	
★	P-4	1 - 2.5	4.75				0.0	19.3		80.7	

PROJECT: Route 66 Ribbon Road Rehabilitation

PROJECT NUMBER: 04185018

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

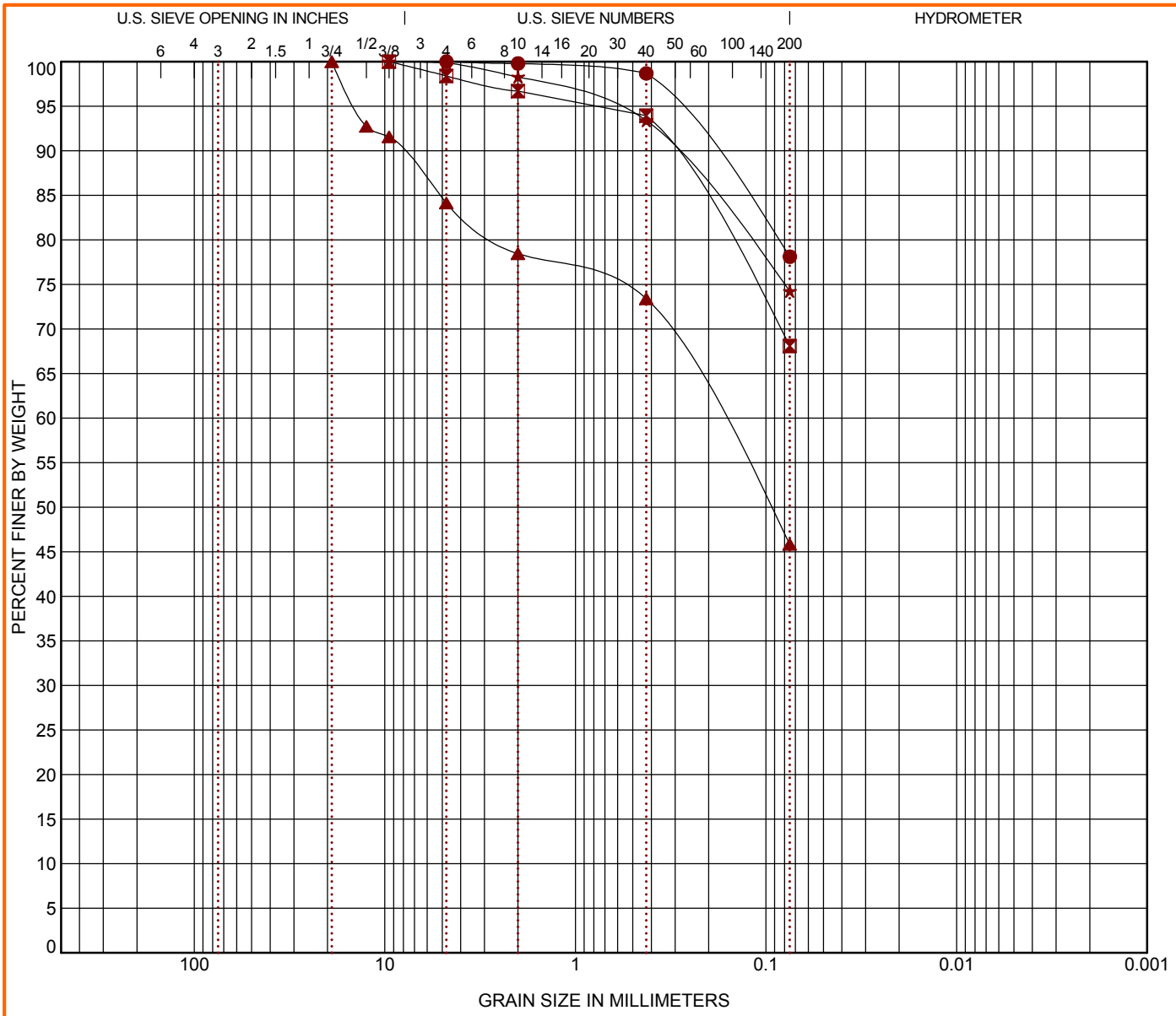
Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-5	1 - 2.5	LEAN CLAY with SAND (CL)	A-4 (6)	22	26	16	10		
⊠	P-6	1 - 2.5	SANDY LEAN CLAY (CL)	A-4 (4)	22	27	17	10		
▲	P-7	3.5 - 5	CLAYEY SAND with GRAVEL (SC)	A-6 (4)	26	30	13	17		
★	P-8	1 - 2.5	LEAN CLAY with SAND (CL)	A-4 (4)	18	24	16	8		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-5	1 - 2.5	4.75				0.0	21.9		78.1	
⊠	P-6	1 - 2.5	9.5				1.6	30.3		68.1	
▲	P-7	3.5 - 5	19	0.183			15.9	38.3		45.8	
★	P-8	1 - 2.5	9.5				0.1	25.6		74.2	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

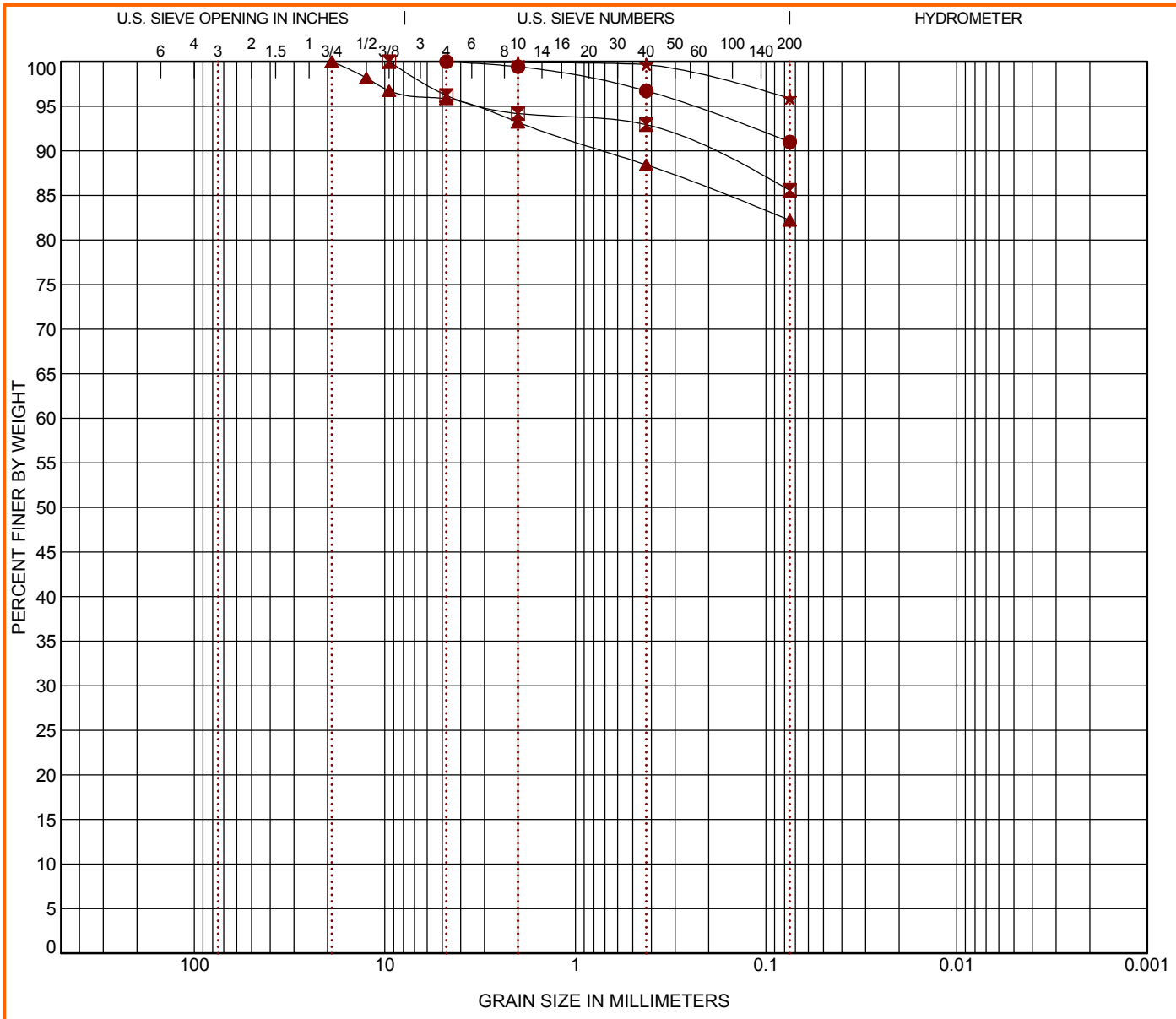
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-9	1 - 2.5	LEAN CLAY (CL)	A-4 (6)	32	27	19	8		
⊠	P-10	3.5 - 5	LEAN CLAY (CL)	A-7-6 (27)	20	46	15	31		
▲	P-11	1 - 2.5	LEAN CLAY with SAND (CL)	A-6 (14)	19	35	16	19		
★	P-12	3.5 - 5	FAT CLAY (CH)	A-7-6 (51)	27	64	15	49		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-9	1 - 2.5	4.75				0.0	9.0		91.0	
⊠	P-10	3.5 - 5	9.5				3.8	10.6		85.6	
▲	P-11	1 - 2.5	19				4.2	13.6		82.2	
★	P-12	3.5 - 5	4.75				0.0	4.1		95.9	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

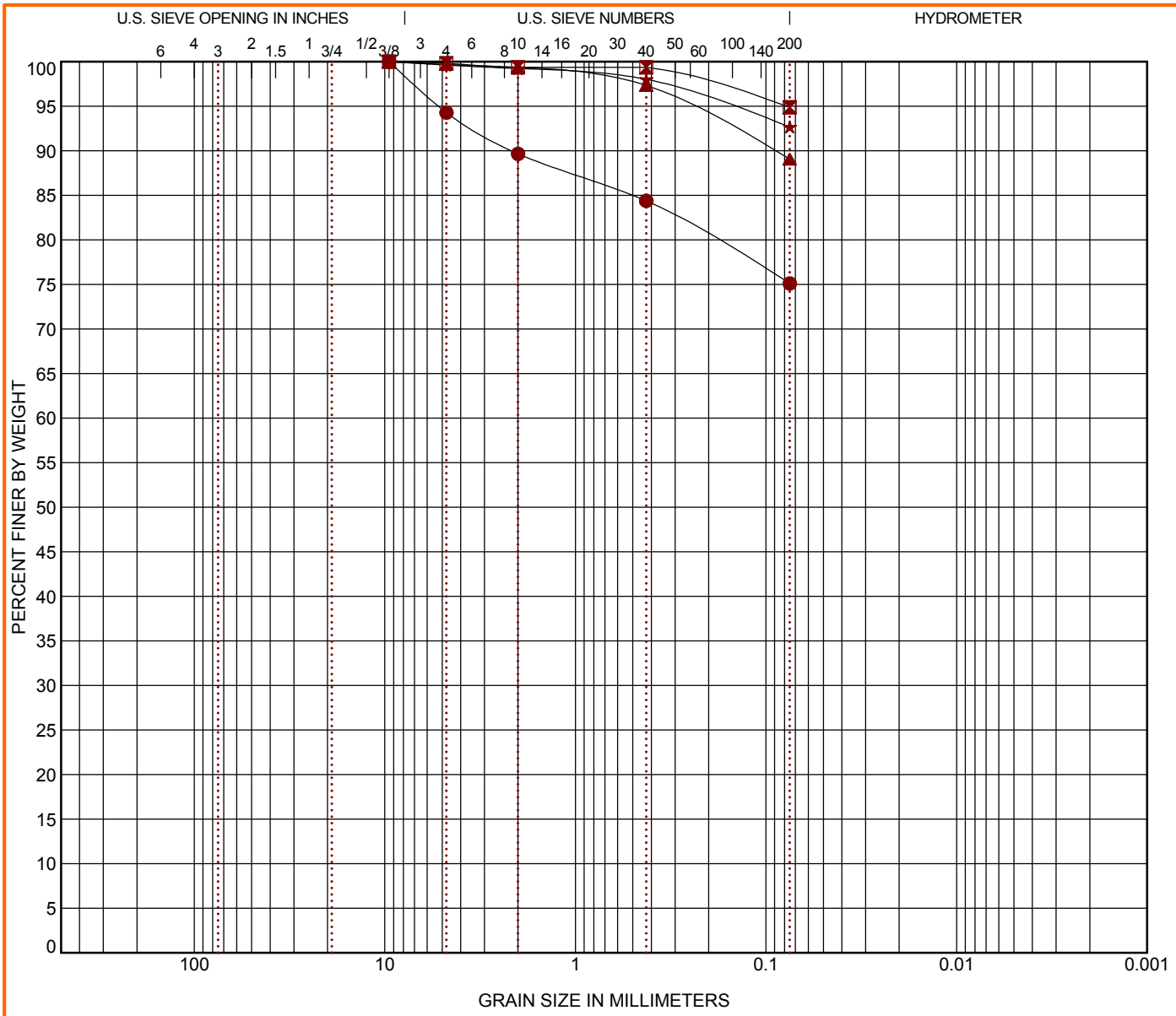
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
●	P-13	1 - 2.5	FAT CLAY with SAND (CH)	A-7-6 (25)	19	51	16	35		
⊠	P-14	1 - 2.5	LEAN CLAY (CL)	A-7-6 (32)	17	47	15	32		
▲	P-15	1 - 2.5	LEAN CLAY (CL)	A-4 (7)	22	27	17	10		
★	P-16	3.5 - 5	FAT CLAY (CH)	A-7-6 (51)	28	69	19	50		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
●	P-13	1 - 2.5	9.5				5.7	19.2		75.1	
⊠	P-14	1 - 2.5	9.5				0.2	4.9		94.9	
▲	P-15	1 - 2.5	9.5				0.3	10.6		89.1	
★	P-16	3.5 - 5	9.5				0.4	6.9		92.7	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

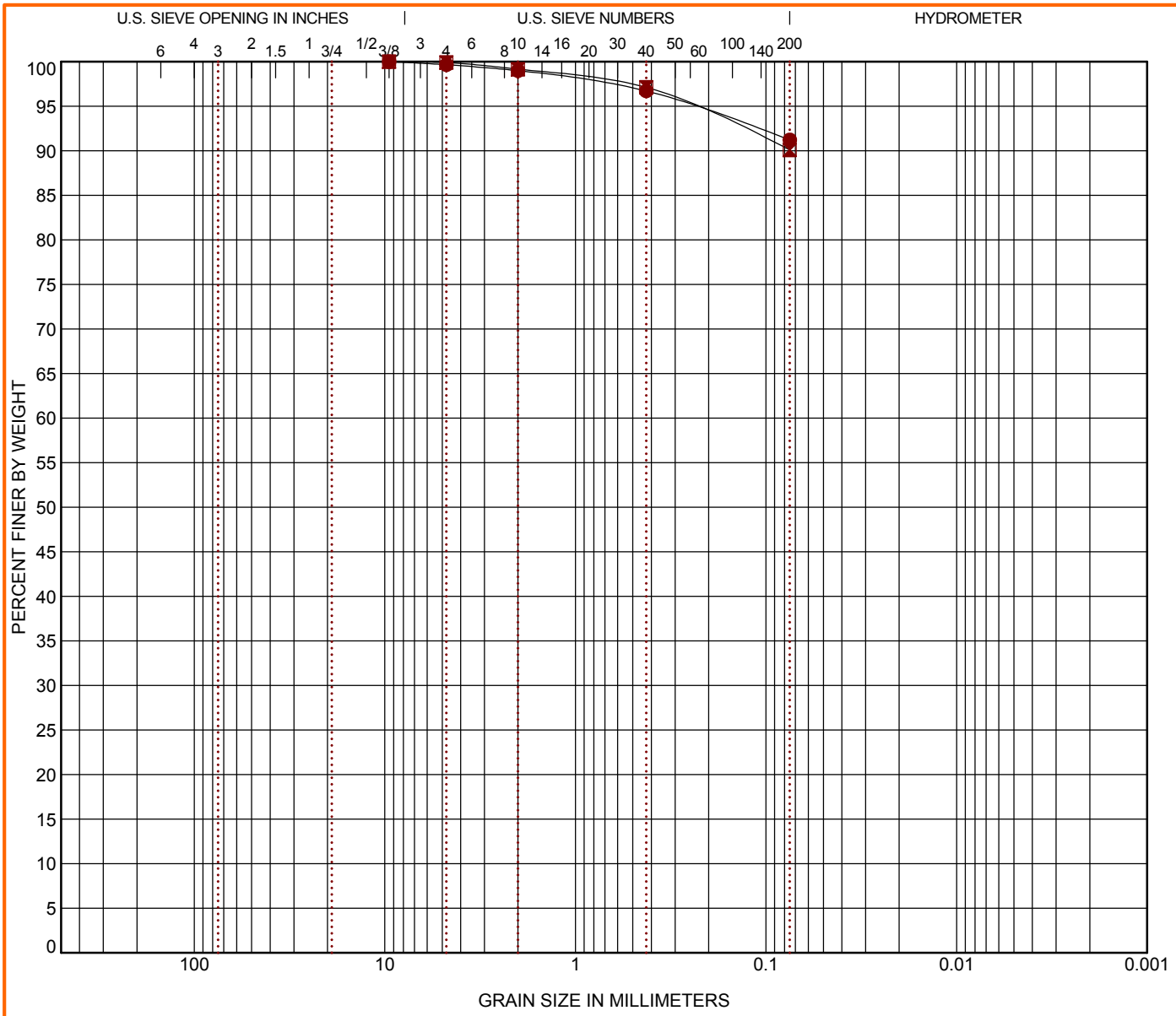
PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring ID	Depth	USCS Classification	AASHTO Classification	WC (%)	LL	PL	PI	Cc	Cu
P-17	1 - 2.5	SILTY CLAY (CL-ML)	A-4 (4)	18	24	17	7		
P-18	1 - 2.5	SILTY CLAY (CL-ML)	A-4 (5)	24	25	18	7		

Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
P-17	1 - 2.5	9.5				0.3	8.4		91.2	
P-18	1 - 2.5	9.5				0.1	9.8		90.1	

PROJECT: Route 66 Ribbon Road Rehabilitation

SITE: Route 66 Ribbon Road
Ottawa County, Oklahoma

Terracon
9522 E 47th Pl, Ste D
Tulsa, OK

PROJECT NUMBER: 04185018

CLIENT: Guy Engineering Services, Inc.
Tulsa, Oklahoma

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS & AASHTO DESC COMBINED 04185018 ROUTE 66 RIBBON R.GPJ TERRACON_DATATEMPLATE.GDT 10/02/19

SUPPORTING INFORMATION

Contents:

General Notes
Unified Soil Classification System
AAHSTO Classification System

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Route 66 Ribbon Road Rehabilitation ■ Ottawa County, Oklahoma

Terracon Project No. 04185018

Terracon GeoReport

SAMPLING	WATER LEVEL	FIELD TESTS
Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (psi)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 3.50	0 - 1
Loose	4 - 9	Soft	3.5 to 7.0	2 - 4
Medium Dense	10 - 29	Medium Stiff	7.0 to 14.0	4 - 8
Dense	30 - 50	Stiff	14.0 to 28.0	8 - 15
Very Dense	> 50	Very Stiff	28.0 to 55.5	15 - 30
		Hard	> 55.5	> 30

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES	
Descriptive Term(s) of other constituents	Percent of Dry Weight	**Descriptive Term(s) of other constituents**	**Percent of Dry Weight**
Trace	<15	Trace	<5
With	15-29	With	5-12
Modifier	>30	Modifier	>12

GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Major Component of Sample	**Particle Size**	**Term**	**Plasticity Index**
Boulders	Over 12 in. (300 mm)	Non-plastic	0
Cobbles	12 in. to 3 in. (300mm to 75mm)	Low	1 - 10
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)	Medium	11 - 30
Sand	#4 to #200 sieve (4.75mm to 0.075mm	High	> 30
Silt or Clay	Passing #200 sieve (0.075mm)		

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ³ 4 and 1 £ Cc £ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ³ 6 and 1 £ Cc £ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above “A”		CL	Lean clay [K, L, M]
			PI < 4 or plots below “A” line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above “A” line		CH	Fat clay [K, L, M]
			PI plots below “A” line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add “with cobbles or boulders, or both” to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ³ 15% sand, add “with sand” to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add “with organic fines” to group name.

[I] If soil contains ³ 15% gravel, add “with gravel” to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add “with sand” or “with gravel,” whichever is predominant.

[L] If soil contains ³ 30% plus No. 200 predominantly sand, add “sandy” to group name.

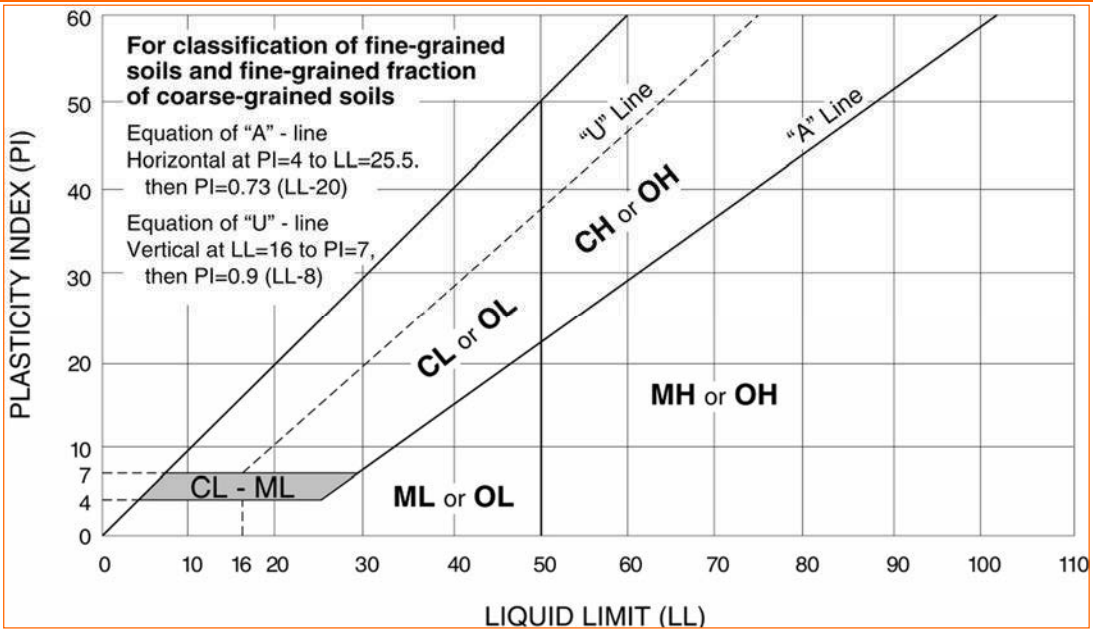
[M] If soil contains ³ 30% plus No. 200, predominantly gravel, add “gravelly” to group name.

[N] PI ³ 4 and plots on or above “A” line.

[O] PI < 4 or plots below “A” line.

[P] PI plots on or above “A” line.

[Q] PI plots below “A” line.



AASHTO SOIL CLASSIFICATION SYSTEM

GENERAL CLASSIFICATION	GRANULAR MATERIALS (35% OR LESS PASSING 0.075 SIEVE)							SILT-CLAY MATERIALS (MORE THAN 35% PASSING 0.075 SIEVE)			
GROUP CLASSIFICATION	A–1		A–3	A–2				A–4	A–5	A–6	A–7–5 A–7–6
	A–1–a	A–1–b		A-2-4	A-2-5	A-2-6	A-2-7				
SIEVE ANALYSIS, PERCENT PASSING:											
2.00 mm (No. 10)	≤ 50	–	–	–	–	–	–	–	–	–	–
0.425 mm (No. 40)	≤ 30	≤ 50	≥ 51	–	–	–	–	–	–	–	–
0.075 mm (No. 200)	≤ 15	≤ 25	≤ 10	≤ 35	≤ 35	≤ 35	≤ 35	≥ 36	≥ 36	≥ 36	≥ 36
CHARACTERISTICS OF FRACTION PASSING 0.425 SIEVE (No. 40):											
LIQUID LIMIT	–		–	≤ 40	≥ 41	≤ 40	≥ 41	≤ 40	≥ 41	≤ 40	≥ 41
PLASTICITY INDEX *	6 max		NP	≤ 10	≤ 10	≥ 11	≥ 11	≤ 10	≤ 10	≥ 11	≥ 11
USUAL TYPES OF CONSTITUENT MATERIALS	STONE FRAGM'TS, GRAVEL, SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS	
GENERAL RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR			

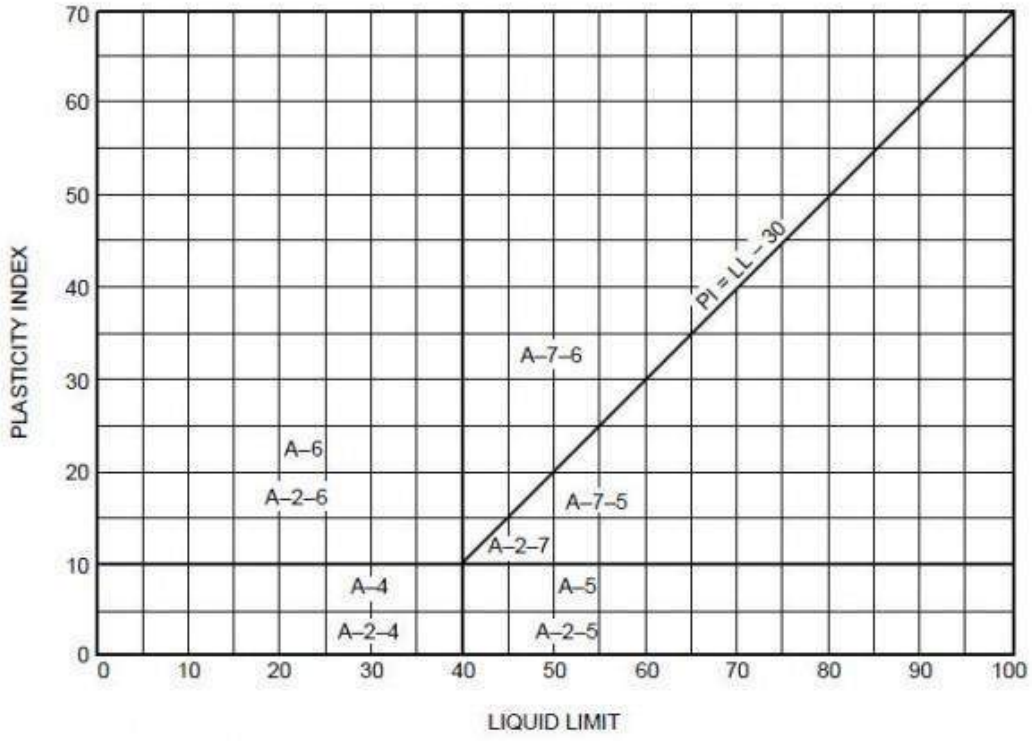
*Plasticity index of A-7-5 subgroup is equal to or less than LL-30. Plasticity index of A-7-6 subgroup is greater than LL-30.
NP = Non-plastic (use "0"). Symbol "–" means that the particular sieve analysis is not considered for that classification.

If the soil classification is A4-A7, then calculate the group index (GI) as shown below and report with classification. The higher the GI, the less suitable the soil. Example: A-6 with GI = 15 is less suitable than A-6 with GI = 10.

$$GI = (F - 35)[0.2 + 0.005(LL - 40)] + 0.01(F - 15)(PI - 10)$$

where: F = Percent passing No. 200 sieve, expressed as a whole number. This percentage is based only on the material passing the No. 200 sieve.
LL = Liquid limit
PI = Plasticity index

If the computed value of GI < 0, then use GI = 0.



Terracon

Appendix 6 – Public Meeting Documentation

OTTAWA COUNTY
PUBLIC MEETING

WHEN: **Tuesday, March 10, 2020 at 6:30 pm**

WHERE: Northeastern Tribal Health System
Health Education Center, Conference Room
7600 South Hwy 69A, Miami, OK
Park and enter at rear of building.

WHAT: Discuss options for rehabilitating Historic Rt 66 Ribbon Road



Historic Route 66 Ribbon Road

Construction completed in 1922

Designated Route 66 in 1926

Northern Section

Approx 3.5 miles long

Planned rehabilitation in 2024

Near Dotyville, approx. 3.0 miles south and 1.5 miles west of Miami, OK

Southern Section

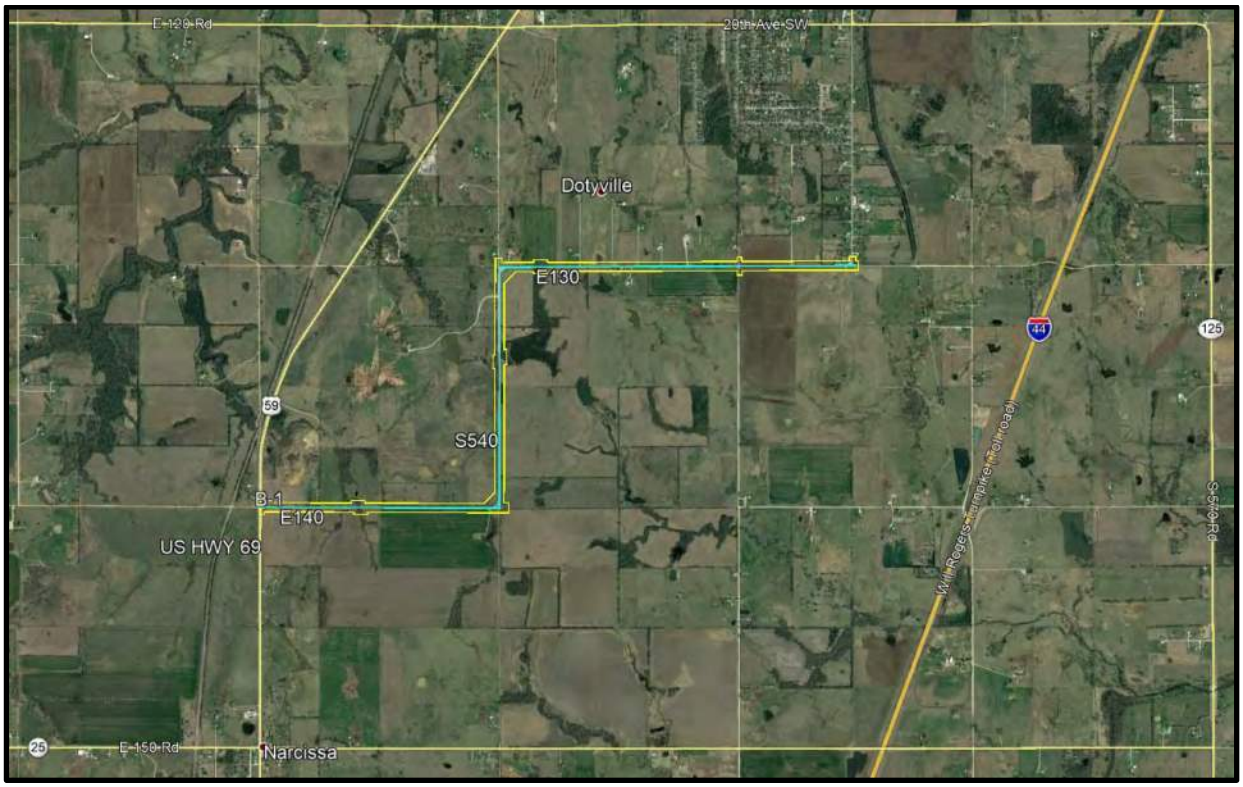
Approx. 3.0 miles long

Planned rehabilitation in 2025

Near Afton, approx. 1.5 miles north and 1.0 miles east of Afton, OK

We want your input and feedback!

NORTHERN SECTION



SOUTHERN SECTION



COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	*Business / Organization:*		
Address:	*City:*	*State:*	*Zip Code:*
Phone Number:	*Email Address:*		
"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."			

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

Ottawa County
COMMENT FORM

Historic Route 66 Ribbon Road Rehabilitation



GUY ENGINEERING

Design Team

GUY ENGINEERING

Terracon

COX | McLAIN
Environmental Consulting

Project Goals

- Document the historic aspects
- Rehabilitate/restore pavement section
- Provide for day-to-day traffic

Public Meeting Goals

- Discuss the need
- Present the options
- Document public comments
- Provide information for decision makers

Historic Aspects

- 1918 construction Miami to Afton
- Oklahoma Department of Transportation Federal Aid Project #8
- 5-inch concrete base
- 2-inch asphalt top
- 9 feet wide with 6 inch curb
- Designated Route 66 in 1926



Existing Conditions

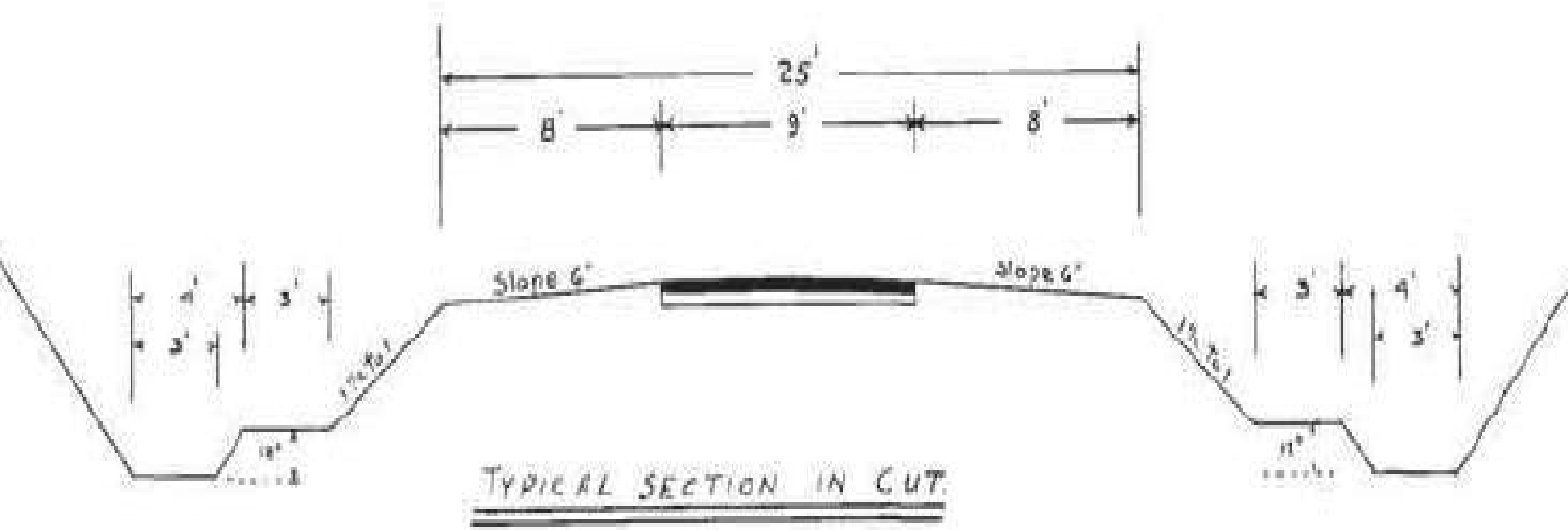
- Width
- Pavement section
- Drainage
- Deterioration
- Heavy vehicles



GUY ENGINEERING

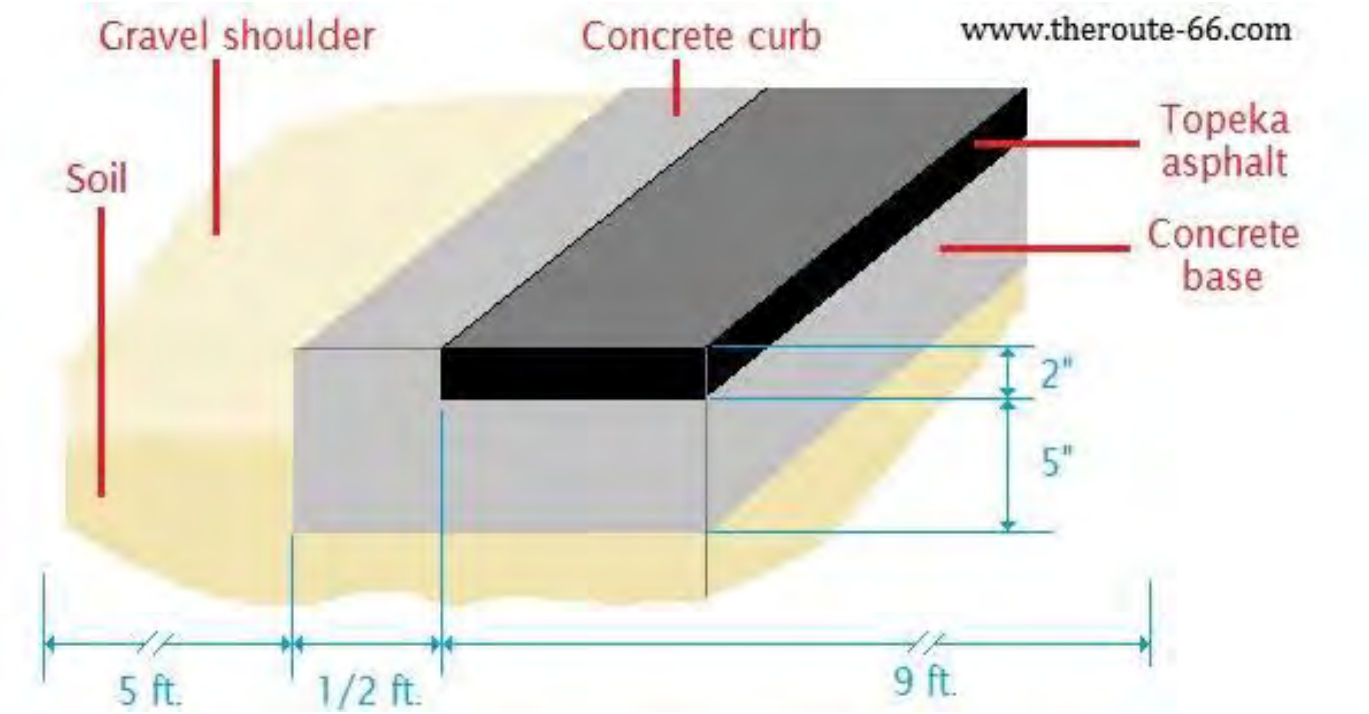
Existing Conditions

- Design width



Existing Conditions

- Constructed width



Existing Conditions

- Repair and restoration needs





GUY ENGINEERING

Project Extents

- North section



GUY ENGINEERING

Project Extents

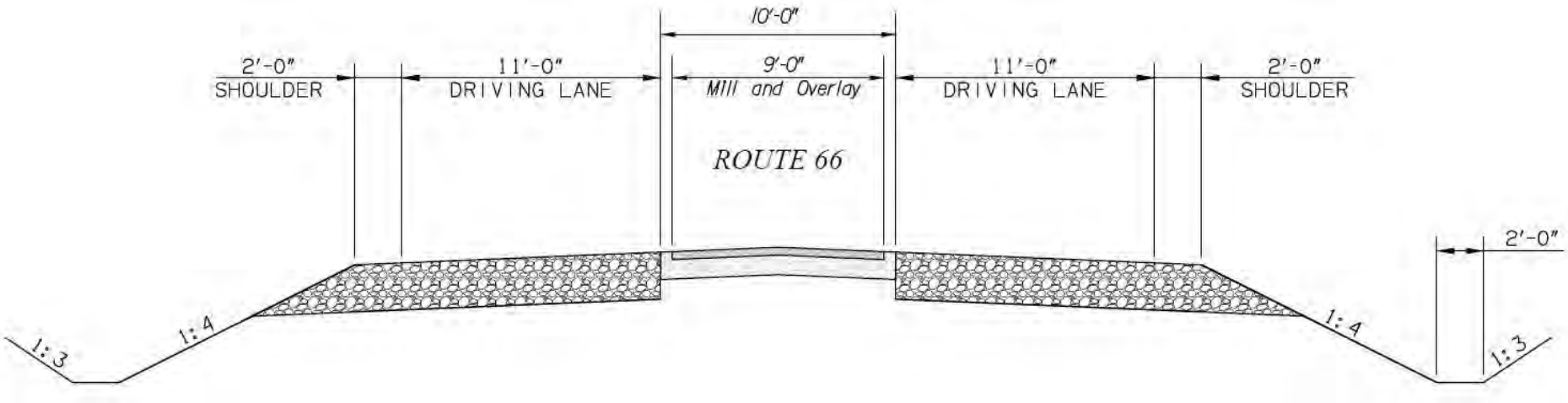
- South section



GUY ENGINEERING

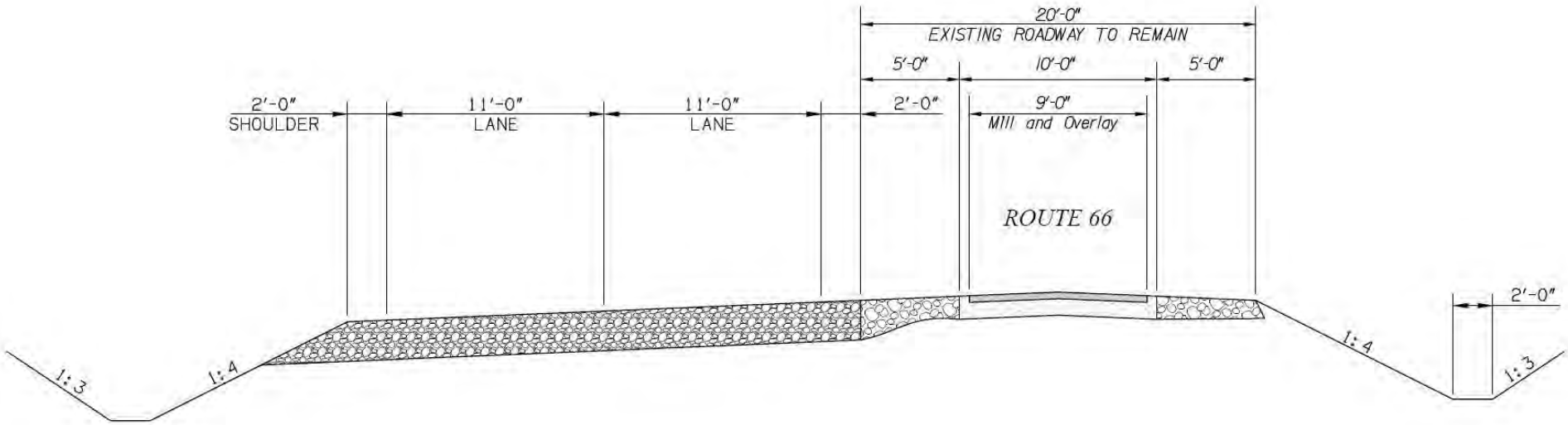
Option #1

- Widening - adds 16 feet to top width
  - Keep original concrete and asphalt section
  - Rebuild existing gravel shoulders into new gravel driving lanes each side
  - Add new gravel shoulders both sides



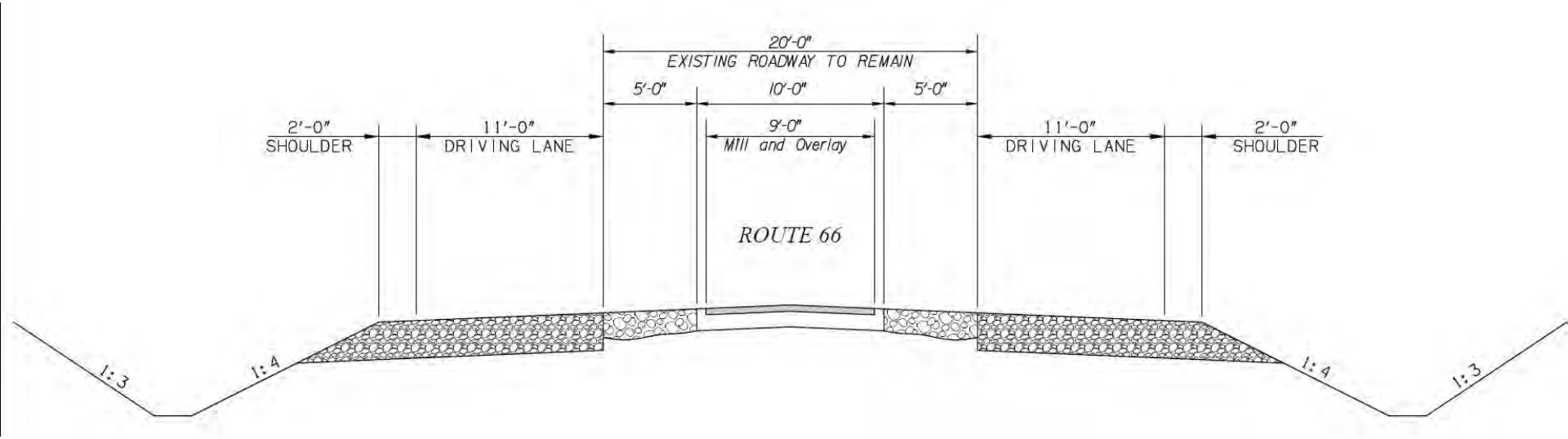
Option #2

- Widen one side - adds 26 feet to top width
  - Keep original concrete and asphalt section
  - Keep original gravel shoulders
  - Add two new gravel driving lanes to one side
  - Add new gravel shoulders each side



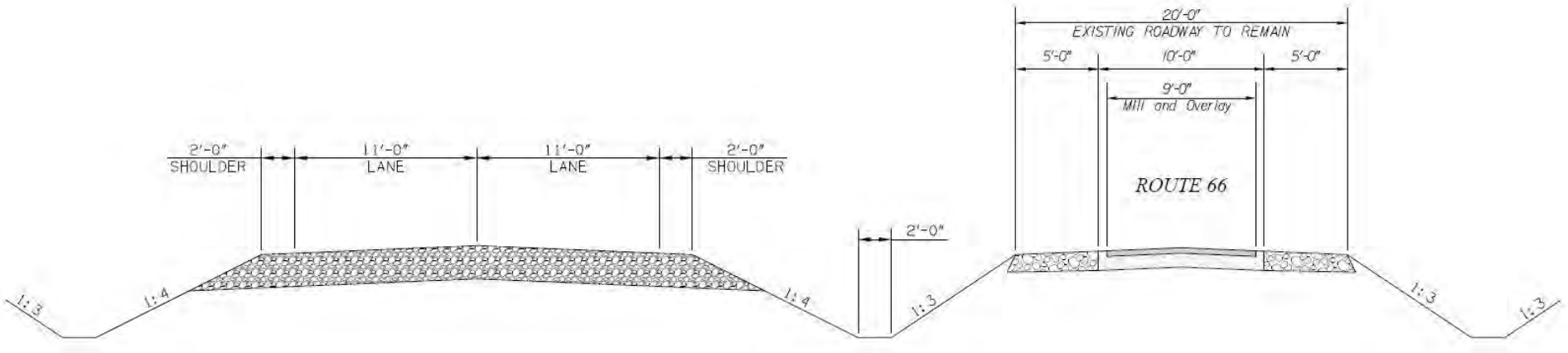
Option #3

- Widen beyond existing - adds 26 feet to top width
  - Keep original concrete and asphalt section
  - Keep original gravel shoulders
  - Add new gravel driving lanes to each side
  - Add new gravel shoulders each side



Option #4

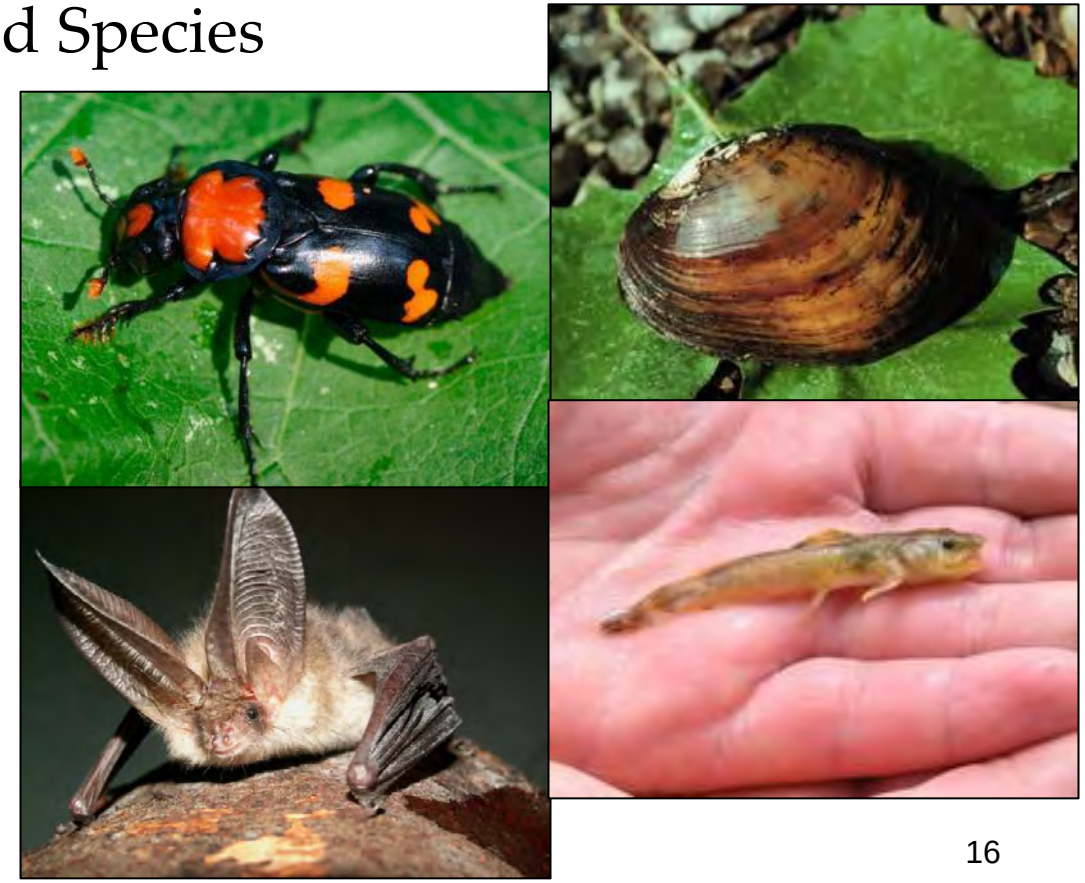
- New parallel road - Adds 46 feet to width
  - Keep original concrete and asphalt section
  - Keep original gravel shoulders
  - Add new gravel roadway separated by a drainage ditch



GUY ENGINEERING

Environmental

- Potential Impacts
  - Two potential historic structures/buildings
  - Two potential archeological sites
  - Minimal wetlands impacted
- Endangered/Threatened Species
  - Gray Bat (E)
  - Northern Long-eared Bat (T)
  - Ozark Big-eared Bat (E)
  - Least Tern Bird (E)
  - Piping Plover Bird (T)
  - Red Knot Bird (T)
  - Neosho Madtom Fish (T)
  - Neosho Mucket Clam (E)
  - American Burying Beetle (E)
- Waters of the U.S.
  - Five stream crossings



Impacts

Category	Do Nothing	Option #1 Widen	Option #2 Widen One Side	Option #3 Widen Each Side	Option #4 Parallel Road
Speed	45 mph	45 mph	45 mph	45 mph	45 mph
New ROW	-	36.4 ac	43.6 ac	44.3 ac	58.8 ac
Relative Cost	$ 0 m	$ 3.8 m	$ 3.8 m	$ 3.9 m	$ 4.0 m
Wetlands	-	0.2 acres	0.21 acres	0.22 acres	0.28 acres
Streams	-	415 LF	450 LF	455 LF	525 LF
T&E	none	same	same	same	same
Cultural	none	low	low	low	low
Longevity	minimal	>30 yrs	>50 yrs	>30 yrs	>80 yrs

NOTE: All data are estimates only

What's Next?

- Collect comments and suggestions
- Present study to Ottawa County
- Ottawa County selects preferred Option
- Begin design process
- Begin environmental clearance process
- Obtain new right-of-way easements required
- Relocate utilities as necessary
- The construct in 2 phases

What's Next?

- Timeline

	North Section	South Section
Design	2020-2021	2020-2021
ROW/Utilities	2022	2024
Construction	2023	2025

- Plan is to be finished for the 100-year anniversary of Route 66!

2026

Breakouts for Q&A

Thank you!

...

Remember to fill out your comment forms

Historic Route 66 Ribbon Road Rehabiliation

PUBLIC MEETING

March 10, 2020

Name	Address	Phone Number
Justin Johnson	20300 S. 510 Rd Afton OK	4177439 8700
Scott & Kim Johnson	51301 E. 180 Rd Afton, OK 74331	918-397-6161
Marcus Hueka	320 S. Boston Ave Tulsa, OK	2103907353
Robyn Mitchell	714 Sunset Strip Miami	918-961-1181
J WADE Brown	4428 Southern Ave Dallas TX 75205	214-674-7843
Martha Jordan	1845 D NE Miami OK	303-547-2203
Debbie Ess	8011 W. 68th St Grove	918 231 5062
Deb Poole	66303 E 22nd Rd. Quapaw, Ok	918-533-1816

Historic Route 66 Ribbon Road Rehabiliation

PUBLIC MEETING

March 10, 2020

Name	Address	Phone Number
M.C & Linda Goodrich	211 16th PL SW Miami, OK	918 542-5233
Russell Earls	60200 E 190 Rd Fairland OK	918 542 0430
Kristy Chance	33 Port Duncan Blvd Afton OK	918 533 6540
Tink Smith	7600 S HWY 69A Miami OK	918 332 4331
Rich Dinkela	165 ARNOLD AVE ST. PETERS MO 63376	314-369-4366
Jim Ross	13100 E. Old Hwy. 66 Arcadia, OK 73007	405-396-2166
Rudy Schuetz	1501 Skyline Dr Miami	918 533-0545
Sharon Caine	13201 ~~13201~~ S 540 Rd Miami Ok 74354	918-540-4091
Chad & Trishia Masterson	68350 E 120 Rd Wyandotte Ok 74370	(918)533-4863
Mark Grigsby	12951 S. 550 Rd Miami, OK 74354	918-919-9750
Larry Smith	29 S Main St. Suite 200 Miami Ok 74354	918-961-2001
Greg Leonard	52350 E 200 Rd Afton OK 74331	918-231-3792

Historic Route 66 Ribbon Road Rehabiliation

PUBLIC MEETING

March 10, 2020

Name	Address	Phone Number
Melvin Cook	2603 E. SW Miami ok.	918-542-5796
Rhys Martin	5006 E 38th Pl Tulsa OK	918.237.7497
Butch Lainer	13201 S 540 Rd Miami, Ok.	918.540-4603
Charlie Rogers	54700 E 130 Rd Miami, Ok	918-540-2411
Amanda Davis	111 N. Main St Miami, OK 74354	918-542-4435
Debbie Scaly	~~74358~~	918.6810433
Beth Rotman	12321 So. 569 Rd, Miami OK 74354	918-533-4904
Pat Hecksher	2715 E. St. S.W. Miami, Ok	918.541.4749
James Fusen	Box 275 afton, OK 74331	918 542 0244
Kory Van Hemert	320 S. Boston Suite 1104, Tulsa, OK	Cox McLain
Norm Hildebrand	P.O. Box 691 Quapaw, OK.	918-541-3589
Mike Feeman	49500 E 370 Rd Miami OK	918-961-0830

Appendix 7 – Public Comments

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81ST STREET
TULSA, OKLAHOMA 74137-4290

March 2, 2020

Regulatory Office

Mr. John Blickensderfer
Guy Engineering Services
6910 E 14th Street
Tulsa, OK 74112

Dear Mr. Blickensderfer:

Please reference your correspondence regarding a request for comments on the proposed rehabilitation of Historic Route 66 Ribbon Road. The proposed project is located in Ottawa County, Oklahoma. We have reviewed the submitted data to determine whether a Department of the Army (DA) permit would be required pursuant to Section 404 of the Clean Water Act.

A preliminary review indicates possible jurisdictional waters or wetlands may be present on described lands within the proposal. A DA permit may be required if the proposed project requires placement of dredge or fill material into these areas.

We ask that you re-submit your request once more detailed site specific information, including construction plans, is available. Please address any planned impacts to possible jurisdictional areas which may be present on the described lands.

Your request has been assigned Identification Number SWT-2020-00130. Please reference this number during any future correspondence. If you have any questions please contact Mr. Brett Adams at 918-669-7534.

Sincerely,

for Andrew R. Commer
Chief, Regulatory Office

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name: Carol Piatkowski	Business / Organization:		
Address: 18127 Broadview Dr	City: Springdale	State: AR	Zip Code: 72764
Phone Number: 479-372-0007	Email Address: pitcrew26@aol.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

First, thank you for looking in to ways to preserve Rte 66, until a few years ago, we had a house at GranTara at Cleora, and I never knew there was the Ribbon Road at Afton.

Please choose a plan that will not disturb the integrity of the original hiway - it needs to be preserved and not refurbished or restored.

Thankyou again.

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name: Dave Todd	*Business / Organization:*		
Address: P.O. Box 601	*City:* Oxford	*State:* MI	*Zip Code:* 48371
Phone Number: 248-628-2958	*Email Address:* cordobaclubusa@bcglobal.net		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I would encourage you to adopt the plan below from Rich Dinkela which provides the best, most easily maintainable surface for local road users, while providing the best possible preservation of the historic, original road.

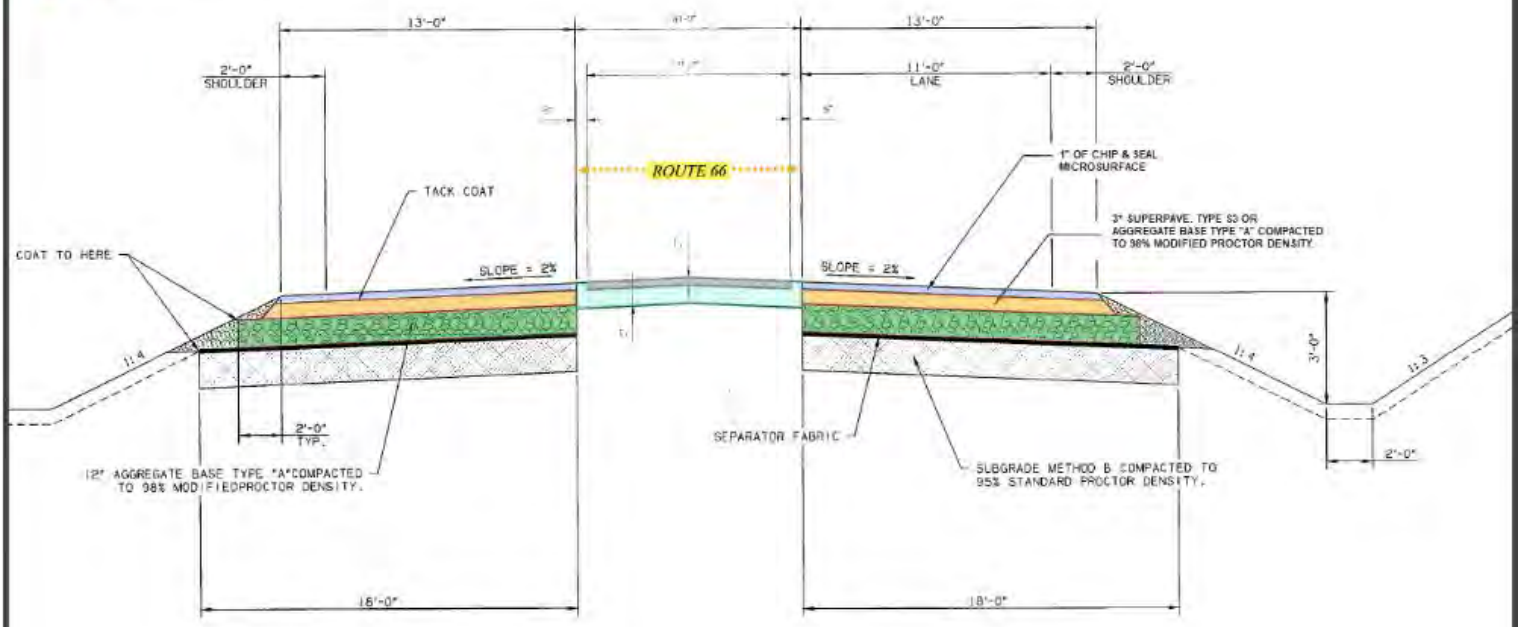
Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

1. Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences
3. Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock /chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface



OPTION 1

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
DAVID WICKLINE	ROADHOUSE 66.COM		
Address:	City:	State:	Zip Code:
P.O. BOX 1995	WESTERVILLE	OHIO	43086
Phone Number:	Email Address:		
614-989-4515	EXCELLTA@AOL.COM		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

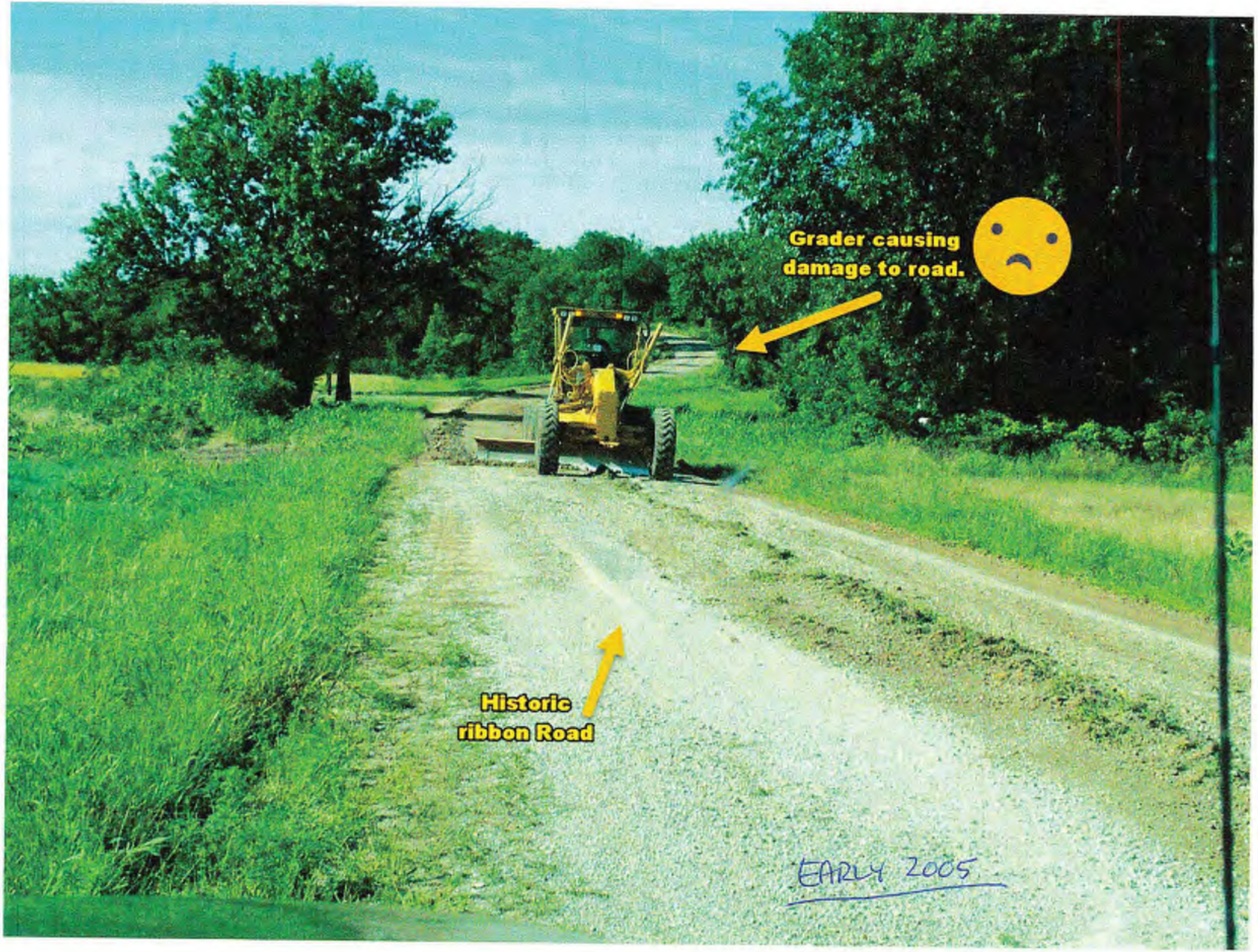
I BELIEVE THE SCOPE PROVIDED ON PAGE 2 SERVES ALL INTERESTED PARTIES AND PROVIDES THE MOST BALANCED APPROACH FOR BUDGET, LOCAL NEEDS, PRESERVATION AND TOURISM. A CHIP AND SEAL SURFACE ON TOP OF ASPHALT WOULD PROVIDE A VERY LOW MAINTENANCE SOLUTION, BUT IF BUDGET WILL NOT ALLOW FOR APPROVED BASE LAYERS THEN CHIP & SEAL OVER COMPACTED/ROLLED STONE SHOULD PROVIDE THE DESIRED HISTORICAL APPEARANCE ALONG WITH PREVENTING THE NEED FOR A GRADER TO BE USED NEAR THE HISTORIC ROAD BED. I AM ATTACHING A PHOTO FROM 2005, SHOWING THE GRADER TEARING UP THE ROAD AND DESTROYING HISTORY. I INCLUDED SAID PHOTO IN MY BOOK BRINGING ATTENTION TO THE DESTRUCTION BUT NO BODY LISTENED THEN. LISTEN NOW AND DO THE RIGHT THING!

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.


Grader causing
damage to road.
Historic
ribbon Road
EARLY 2005













Narcissa Sunray D-X Station (1925*) located on US 69 at State Highway 25 (SH 25), Narcissa. In 2004 it was a beer, bait and grocery store. In late 2005 it was reported that the structure had been demolished. In 1937 it was relocated to Narcissa when the path of old 66 was realigned. The building to the north of the station was an old garage, station and grocery store during the heyday of Route 66.

The southern segment of the Sidewalk Highway was bypassed in 1937. It begins just south of the Northeast Technology Center on E 200th Rd and then turns left onto S 520th Rd. In early 2005 ODOT was busy showing us how to destroy yet another antiquated Route 66 relic ... by using a road grader on the fragile surface, leaving chunks of vintage asphalt and concrete roadbed behind. US 69 is built on top of the Sidewalk Highway between the two surviving segments.

I-44 cut the southern segment of 9' wide roadbed in half. Old 66 was routed up and over I-44 by means of a bridge. The original, straight path of the Sidewalk Highway is still visible through the field.

The last curve and visible remnant of the Sidewalk Highway heading west, is just south of US 69 / US 60. It turns right and west toward Afton. This curve widens out to 14' across.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	*Business / Organization:*		
Doug Smith	Corporate Photographer, retired		
Address:	*City:*	*State:*	*Zip Code:*
6334 Franks Road	Byrnes Mill	MO	63051
Phone Number:	*Email Address:*		
314-550-9042	dscpinc@sbcglobal.net		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I grew up in Oklahoma and traveled Rt66 with my parents, so I have a personal interest. Aside from that, I had a career, in which my clients were national advertizing experts, and I learned from them that tourism dollars represent value added for the state and for businesses in the state, not just on Rt66, but all over the state. The investment to restore an important icon, like the Ribbon Road is quite small v.s. the potential benefit. Please, Please take the advice of an experienced paving contractor who also understands the significance of this important source of tourism and income. Please, don't go for a solution that will not be long lasting. Rich Dinkela is offering his expertise for the good of Rt66 and Oklahoma. Even more value added. Thank you, Doug Smith

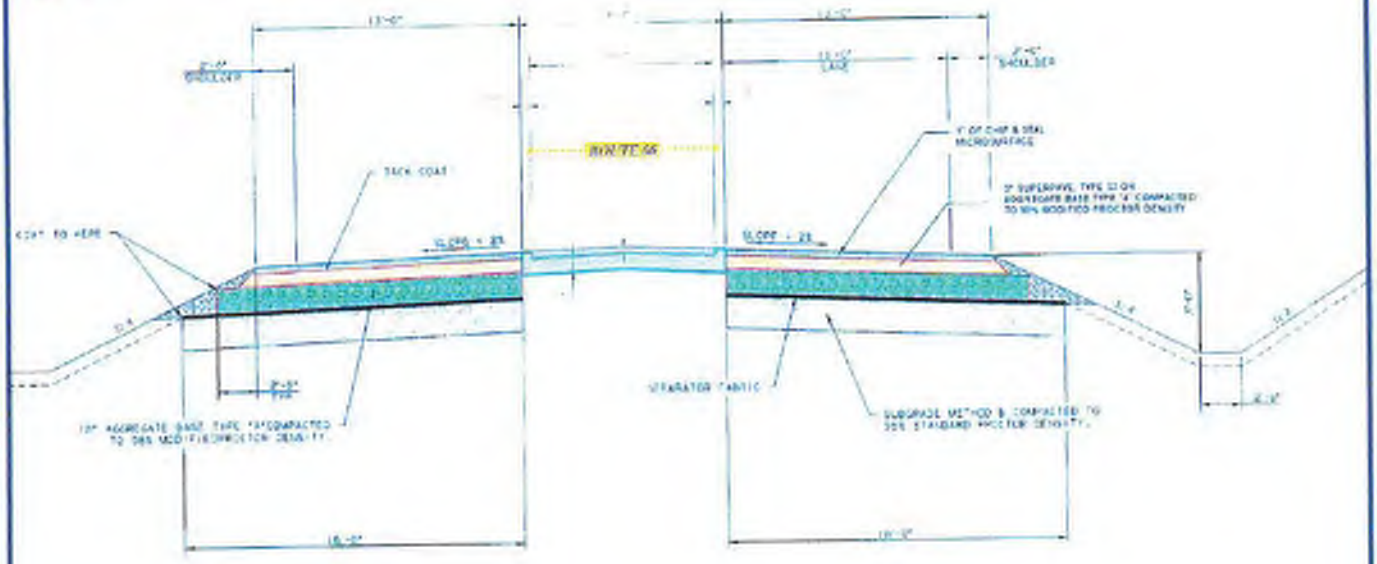
Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

1. Mill / Grind existing material away from historic road bed, beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences.
3. Repair curbing as needed using sand. Use materials as found in historic road. Install combination rock chip & sand to finish improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exist. like materials and processes as used to install original surface.



OPTION 1

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name: Greg Leonard	*Business / Organization:*		
Address: 52350 E 200 Road	*City:* Afton	*State:* OK	*Zip Code:* 74331
Phone Number: 918-231-3792	*Email Address:*		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

(1) How much land to be taken?
(2) need - Who will use southern section?
(4) Restrictions to land owners and road users after Project?
(5) How much is cost of these projects to the tax payors including what has already been spent? Counting Grants form US Government.
(6) Who requested this project be started?
(7) Will eminent domain be used to take land?

(ON BACK)

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

Ottawa County
COMMENT FORM

(8) Will the bridges over the turnpike be rebuilt to be wider?

(9) What economic gain above cost does this project hold for Ottawa County?

(10) What or who is the intended user of this after project is finished?

RECEIVED
FEB 20 2020
GUY ENGINEERING SERVICES, INC.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name: **Jim D. Huddleston**	*Business / Organization:*		
Address: **500 Stowers Ave.**	*City:* **Elkins**	*State:* **AR.**	*Zip Code:* **72727**
Phone Number: **479-305-4893**	*Email Address:* **hudpro@aol.com**		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I would like to submit the following option for preservation of the old Route 66 Ribbon Road. I believe it is important to preserve the historic old road to as close as it can possible be done without losing it's historic value. Sadly the old road is deteriorating to a point, it is almost non existent in places. Thank you for viewing and considering my suggestion.

Comments on this project can be submitted in several ways, including but not limited to:

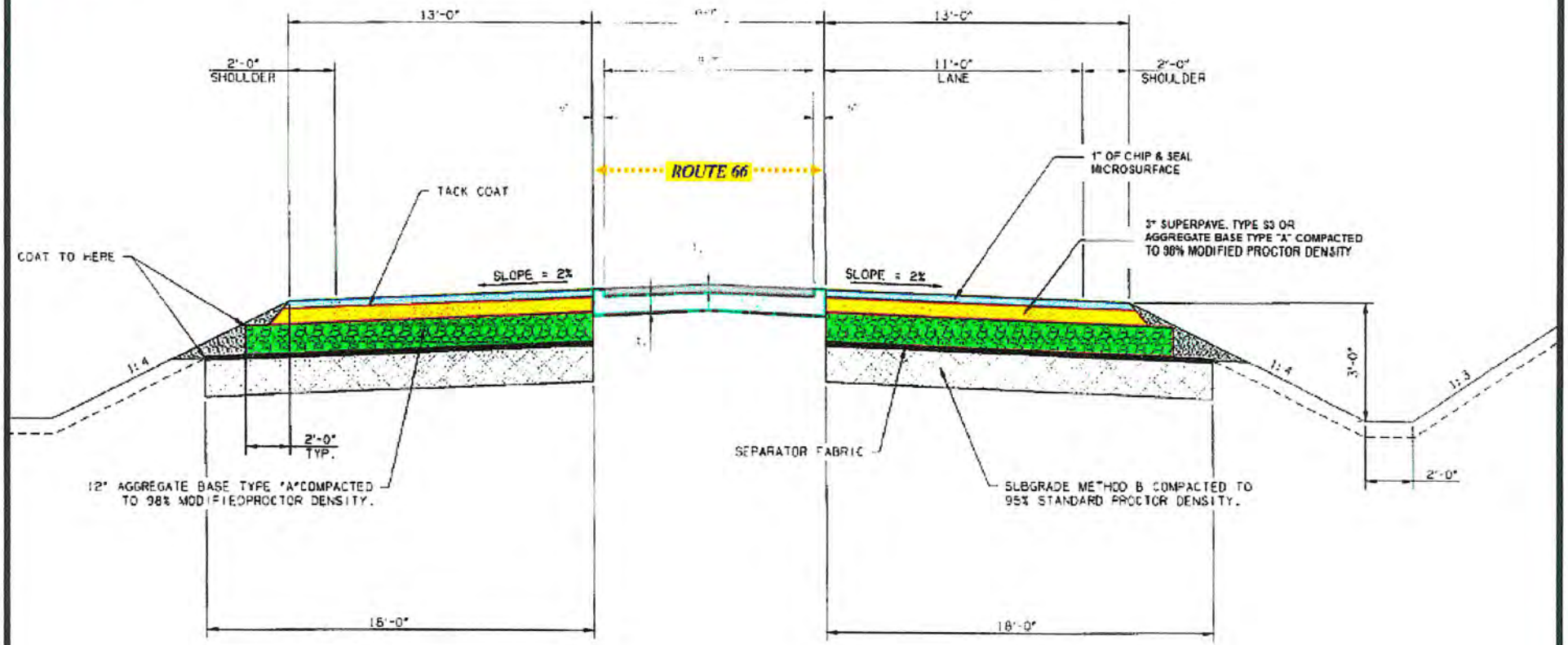
By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

RECEIVED
MAR 19 2020
GUY ENGINEERING SERVICES, INC.

1. Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences
3. Repair curbing as needed using exact / like materials as found on historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock /chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface



OPTION 1

Jim Ross
13100 E. Old Hwy. 66
Arcadia, OK 73007
www.66maps.com
405-396-2166
Pathfinder66@earthlink.net

Along with my wife and fellow highway historian Shellee Graham, I attended the public meeting in Miami on March 10th, where the options below were discussed. For 30 years I have been involved in advocating, writing about, exploring, and preserving Route 66 across all eight states. I am the author of "*Oklahoma Route 66*," and many other books related to the old highway. In Ottawa County, I was part of an effort to save the Neosho River Bridge in 1995, and most recently I worked to preserve the Horse Creek Bridge in Afton, both projects of ODOT. I applaud this effort to save the "sidewalk" highway, the only section of 9-foot-wide historic paving anywhere on the route, and a world-wide tourist draw. Here are my thoughts on the project options:

- OPTION #1: Widening- adds 16 feet to top width; keeps original concrete and asphalt section; rebuilds existing gravel shoulders into new gravel driving lanes on each side; adds new gravel shoulders to both sides.

  No. 1 seems worthwhile only if the new lanes are paved, with one-inch of chip-sealed gravel on top of the new driving surfaces. Loose gravel will migrate onto the old roadbed and will lose its shape over time, requiring a grader to maintain it. It is the grader blade that causes the most damage to the historic roadway.

- OPTION #2: Widen one side- adds 26 feet to top width; keeps original concrete and asphalt section; keeps original gravel shoulders; adds two new gravel driving lanes to one side; adds new gravel shoulders to each side.

  Better than using No. 1 with loose gravel, but not by much, for the same reasons.

- OPTION #3: Widen beyond existing- adds 26 feet to top width; keeps original concrete and asphalt section; keeps original gravel shoulders; adds new gravel driving lanes to each side; adds new gravel shoulders to each side.

  Same thoughts here that pertain to No. 2, although this might be more aesthetically appealing than No. 2.

- OPTION #4: New Parallel Road- adds 46 feet to width; keeps original concrete and asphalt section; keeps original gravel shoulders; adds new gravel roadway separated by a drainage ditch.

  Requires the most right of way acquisition, but by far the best option in terms of preserving the historic roadbed and serving as a permanent solution, which is the purpose of the project. Only No. 1, modified to use chip-sealed gravel over paving, would be comparable.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Kathy Black	N/A		
Address:	City:	State:	Zip Code:
26125 W 207th St	Spring Hill	KS	66083
Phone Number:	Email Address:		
913-957-9572	Kate.b3296@gmail.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I am very interested in seeing this portion of Route 66 restored using Rich Pinkela's attached proposal. Not only would it be "green" by re-use of materials, it would come as close as possible to restoration to historic preservation standards. I appreciate the opportunity to have our voices heard in this matter.

Comments on this project can be submitted in several ways, including but not limited to:

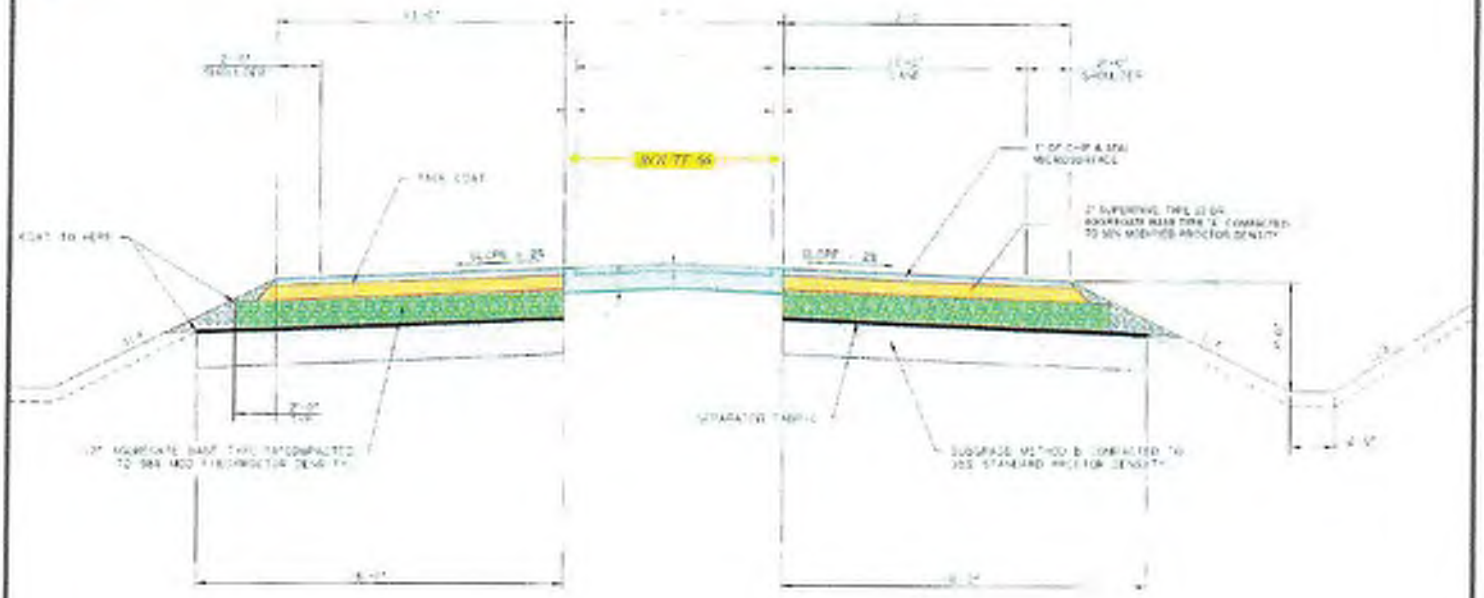
By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

RECEIVED
MAR 26 2020
GUY ENGINEERING SERVICES, INC.

1. [illegible]
2. Make grade changes and improvements to drainage swales, culverts, and fences.
3. [illegible]
4. [illegible]
5. [illegible]



OPTION 1

COMMENT FORM

RECEIVED
MAR 17 2020
GUY ENGINEERING SERVICES, INC

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Kristy Chance	N/A		
Address:	City:	State:	Zip Code:
33 Port Duncan Blvd.	Afton	OK	74331
Phone Number:	Email Address:		
918-533-6540	takeachance112000@yahoo.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I would select Option #1 with a few modifications including reduced speed limit of 25 miles per hour, asphalt/concrete under shoulders with chip seal to look like original gravel shoulders but with staying power so that road grating is no longer needed. Also install signs asking/recommending for thru truck/tractor traffic repect the road and take the next mile section over. If cost are too high to do all 6 miles, only complete the North (Miami) 3 miles.

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Mark Grigsby			
Address:	City:	State:	Zip Code:
12951 S. 550 Rd.	Miami		
Phone Number:	Email Address:		
918-919-9750	mgrigsby@neo.edu		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

Option #3 seems most logical to me. Expand the shoulders so local traffic could drive on it. Fix the original so tourists + cars could drive on it + tourists would recognize it as the "ribbon road." Graders should be able to grade 11' without damaging the main road. It would require less extension of right of ways.

If ~~it was~~ sides were asphalt, it would be better.

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	*Business / Organization:*		
Maureen Dennis	Rt. 66 association of Missouri		
Address:	*City:*	*State:*	*Zip Code:*
6216 Blackhawk Dr	N. Little Rock	AR	72116
Phone Number:	*Email Address:*		
501-831-5286	nonamaureen@gmail.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

would like to vote on Option #1, but using the attached modifications made in suggestion by Rich Dinkla of Missouri.

Comments on this project can be submitted in several ways, including but not limited to:

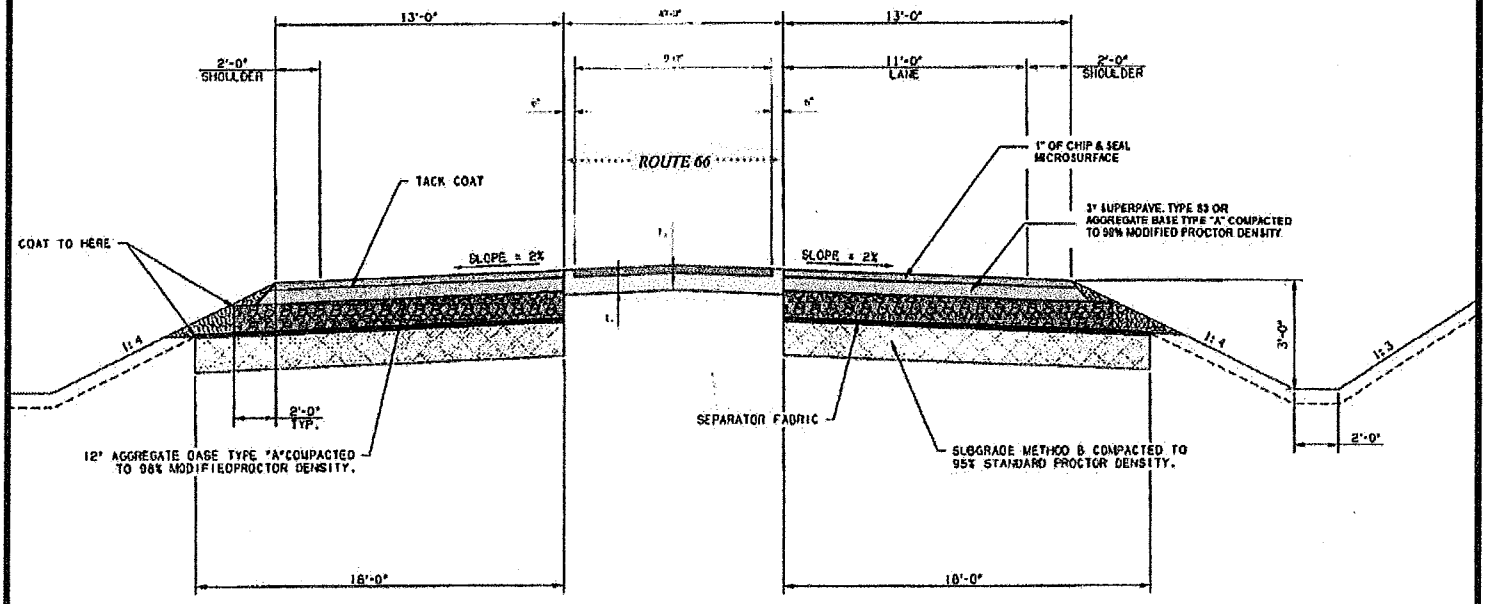
By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

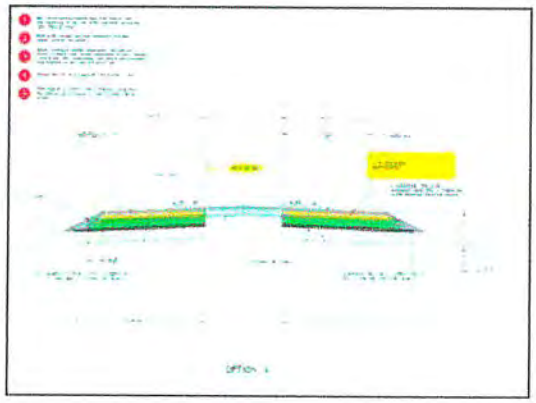
Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

RECEIVED
MAR 30 2020
GUY ENGINEERING SERVICES, INC.

1. Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences
3. Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock /chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface



OPTION 1



Option #1 with Modification

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Melvin Cook	Cook's Processing		
Address:	City:	State:	Zip Code:
2603 E. 5 W	Miami	Ok	74354
Phone Number:	Email Address:		
918 542 5796	melvincook@cableone.net		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

Re due Make look like it did 100 years ago. Do not Buy any hand Right Way Do not Make wider it has lasted For 100 years like it was/is

Melvin Cook

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

John Blickensderfer

From: Randi Jones <randi.jones@oksenate.gov>
Sent: Tuesday, March 03, 2020 1:39 PM
To: INFO
Subject: Ottawa county public meeting

Good afternoon,
Senator Bergstrom will not be able to attend the Public meeting but would like a report of what comes out of this meeting please.
Please let me know if I can be of any further assistance. Feel free to send all correspondence to this email I will make sure the Senator gets it .
Thank you

Randi Jones
Executive Assistant to
Senator Micheal Bergstrom

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
PHILLIP L. HESSE			
Address:	City:	State:	Zip Code:
W65 N710 SAINT JOHN AVE	CEDARBURG	WI	53012
Phone Number:	Email Address:		
(262) 488-0004	phhesse57@hotmail.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I WOULD SUGGEST THAT YOU CONSIDER THE RESTORATION PLAN THAT HAS BEEN SUGGESTED BY RICH DINKELA. I HAVE ATTACHED A COPY OF HIS PLAN. I'M SURE THAT YOU ARE IN AGREEMENT THAT THIS STRETCH OF ROUT 66 IS AN IMPORTANT PART OF OUR HISTORY. I BELIEVE THAT IT SHOULD REPAIRED AND PRESERVED IN AS FASHION AS CLOSE TO THE ORGINAL DESIGN AS POSSIBLE. I THINK THAT MR. DINKELA'S PLAN WOULD ACHIEVE THAT GOAL.

THANK YOU FOR YOUR CONSIDERATION IN THIS MATTER.

Phillip L. Hesse

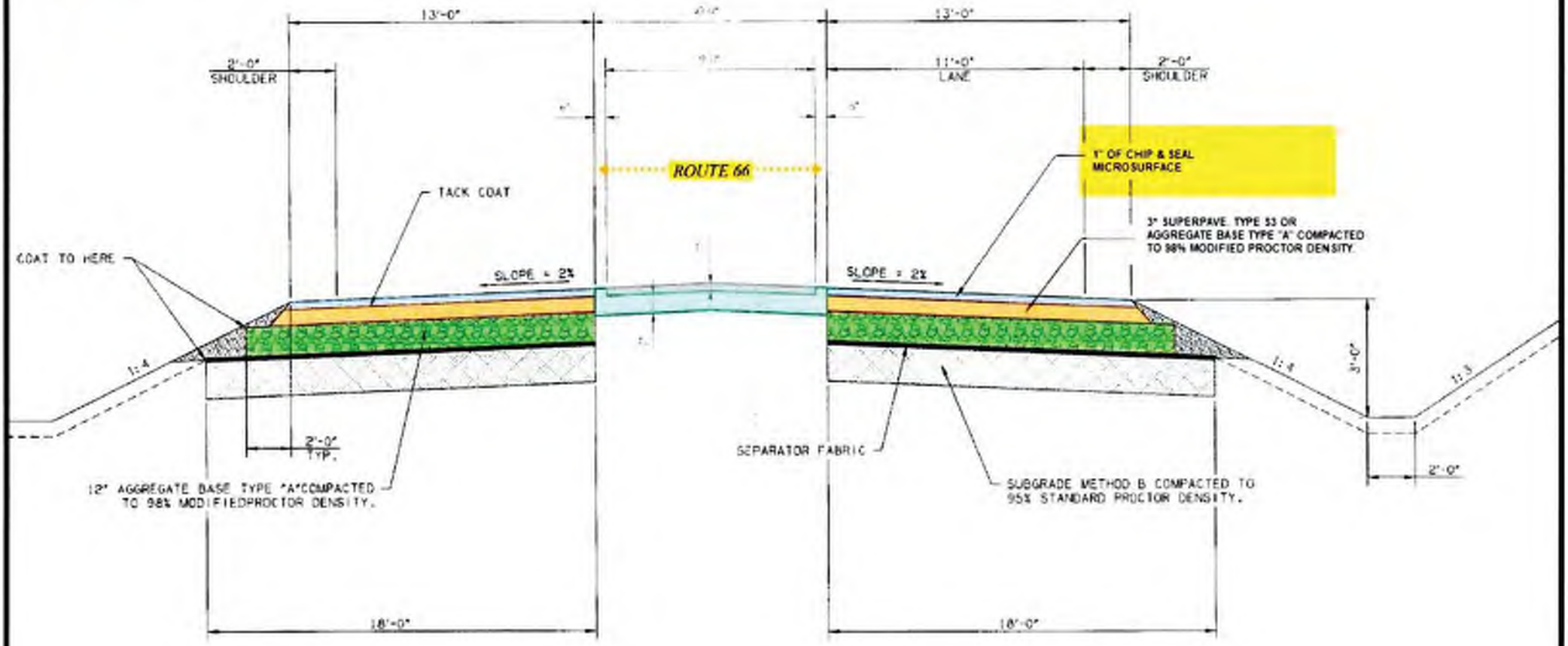
Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

1. Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences.
3. Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal. -OR- combination rock /chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface.



OPTION 1

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020 March 23, 2020

Name: RICHARD BESSER	Business / Organization:		
Address: 1544 GETTYSVUE WAY	City: PRESCOTT	State: AZ	Zip Code: 86301
Phone Number: 928-717-0187	Email Address: djbesser@cableone.net		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I am in favor of option 5 (Rich Dinkela's) to use in restoring the 9 foot highway. I first traveled the road in April 2001 at which time the surface was in quite good condition. I've traveled this section of the road on numerous other Route 66 trips since and each time the road surface had deteriorated a little more.

Please do not let this historic road continue to deteriorate further.

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

RECEIVED
MAR 27 2020
GUY ENGINEERING SERVICES, INC.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	*Business / Organization:*		
Richard Dinkela	MO RT 66 Association / HookedonRoute66		
Address:	*City:*	*State:*	*Zip Code:*
165 ARNOLD AVE	St. Peters	MO	63376
Phone Number:	*Email Address:*		
314-369-4366	Rich@HookedOnRoute66.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I believe the scope provided below serves all interested parties and provides the most balanced approach when considering budget, local's needs, preservation, and tourism. Ideally if budgets would allow, a chip and seal surface on top of asphalt would provide a a very low maintenance solution. However, if paving a base layer is beyond budget constraints, Chip & Seal over rock should give the desired historical appearance along with preventing the need for a grader to be used near the historic road. Grader blades are what caused all the damage to begin with and should be prohibited from being used on or near the ribbon road. This is a unique asset to the local and Route 66 community and deserves careful planning to ensure useful longevity. Im available for consultation and help in this project.

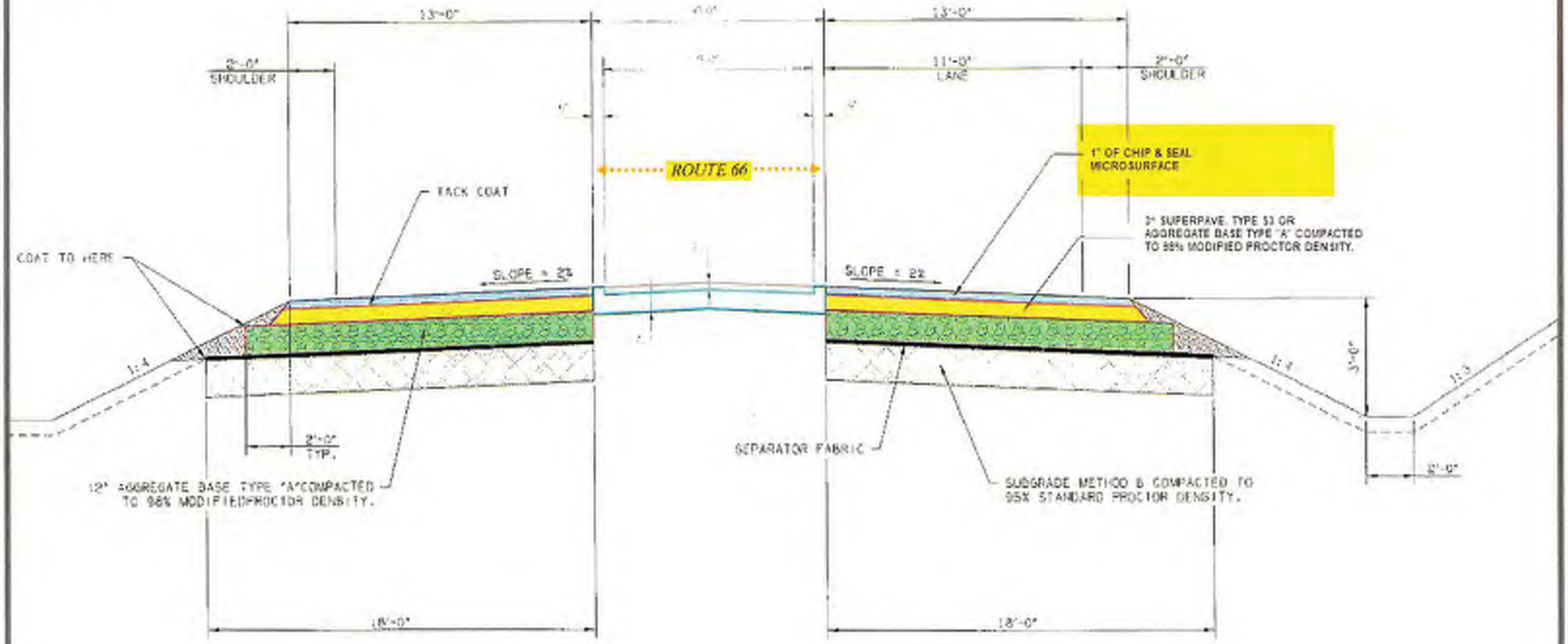
Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

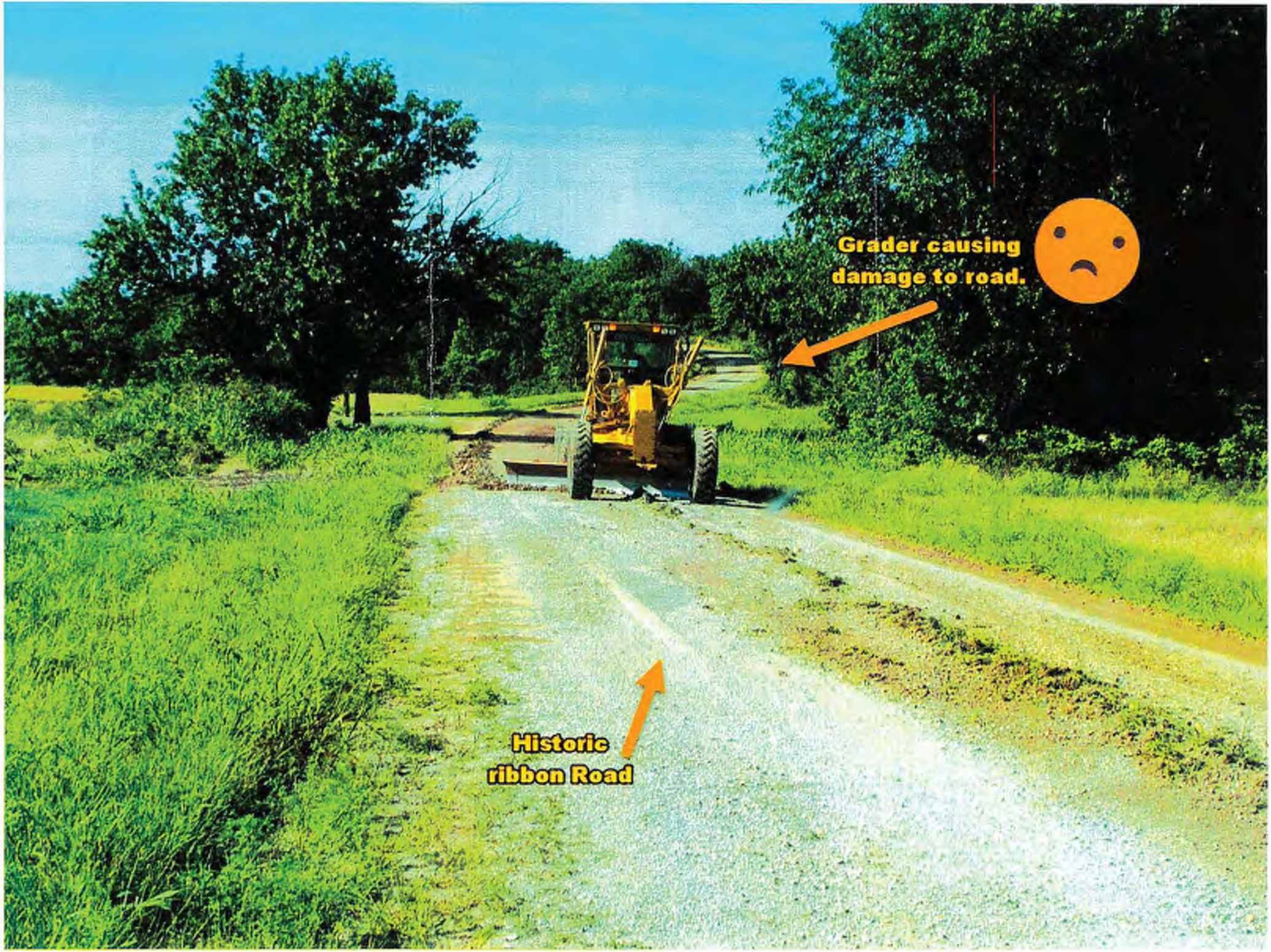
By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

1. Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences
3. Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock /chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface



OPTION 1


Grader causing
damage to road.
Historic
ribbon Road

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Richard Patton			
Address:	**City:**	**State:**	**Zip Code:**
52507 E. 240 Rd.	Afton	OK	74331
Phone Number:	**Email Address:**		
918-636-3213			

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I have already had people Trespassing surveying — How much worse will it get when the road is Rehabbed — Farmers use this road constantly — How will that work with a lot of traffic —
I am against it. Thank you

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name: Rob Kroupa	Business / Organization:		
Address: 6530 BOWLINE DR.	City: SARASOTA	State: FL	Zip Code: 34231
Phone Number: 636-290-3770	Email Address: rkroupa151@gmail.com		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I would highly recommend the attached option.

I feel this is the most cost effective way to preserve and repair this historic, iconic stretch of world famous Route 66.

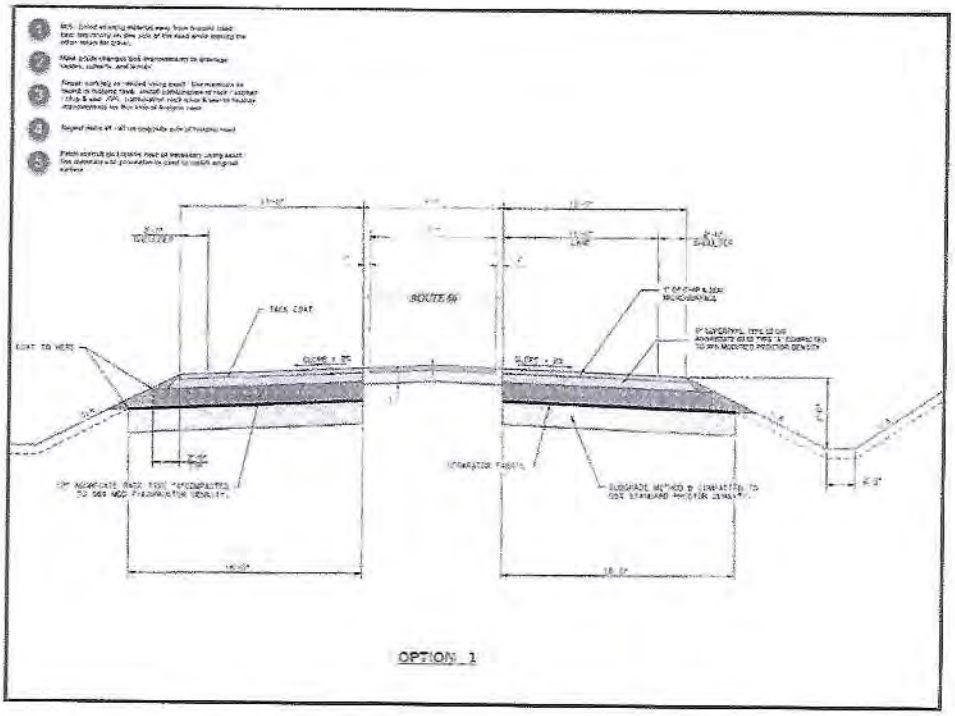
Thank you for your consideration.

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.



OPTION 1

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Shellee Graham			
Address:	City:	State:	Zip Code:
13100 E. Old Highway 66	Arcadia	OK	73007
Phone Number:	Email Address:		
(405) 396-2166	shellee66@earthlink.net		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I am in favor of Rich Pinkela's MODIFIED OPTION 1 as the best solution for the historic Sidewalk Highway / Ribbon Road rehabilitation.

Thank you —

See attached modified option

Shellee Graham

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

1. Mill / Grind existing material away from historic road bed, beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and fences.
3. Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock/chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact / like materials and processes as used to install original surface.

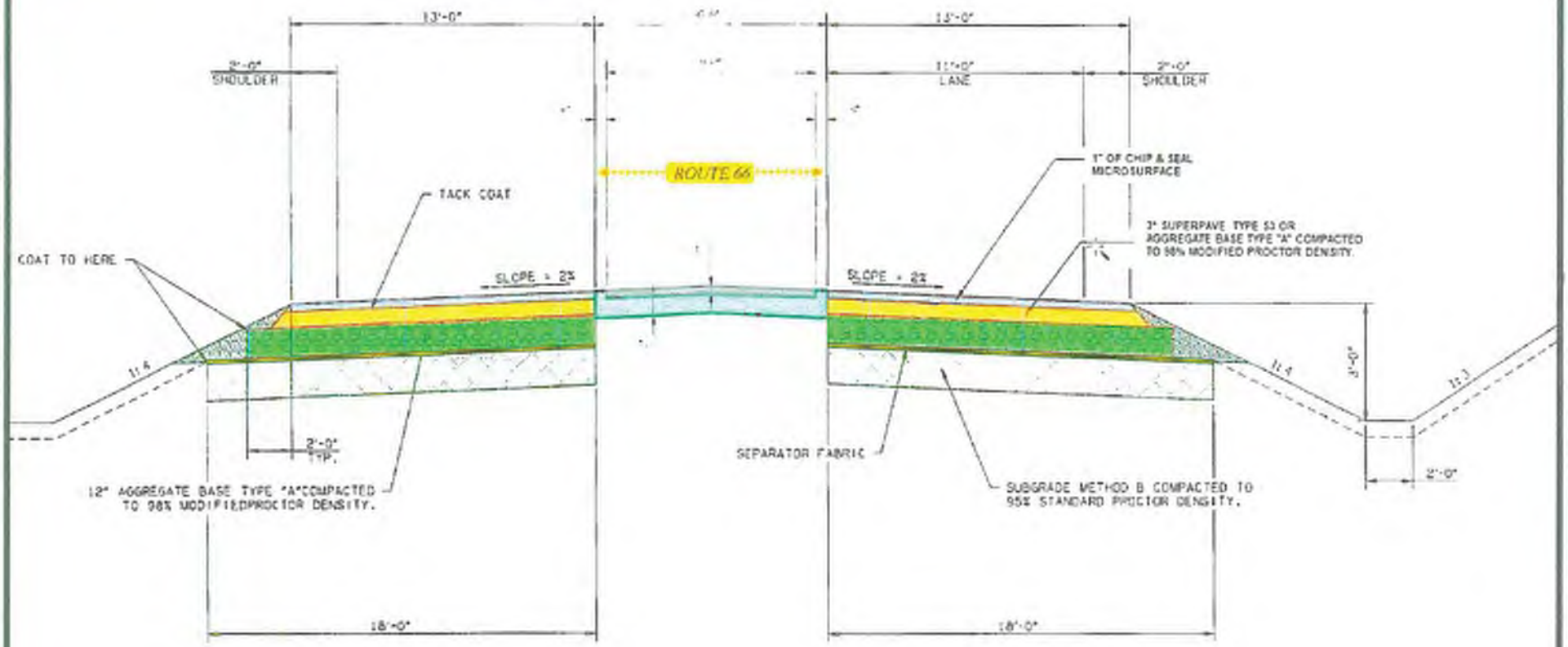
(1) Mill / Grind existing material away from historic road bed; beginning on one side of the road while leaving the other intact for travel.

(2) Make grade changes and improvements to drainage swales, culverts and fences.

(3) Repair curbing as needed using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal -OR- combination rock/chip & seal to finalize improvements for this side of historic road.

(4) Repeat items #1, 2, 3 on opposite side of historic road.

(5) Patch asphalt on historic road as necessary using exact/like materials and processes as used to install original surface.



Richard Dinkela's MODIFIED OPTION 1

Part 2 of 2



RECEIVED

MAR 23 2020

GUY ENGINEERING SERVICES, INC.

March 21, 2020

DOG ON ROUTE 66
NEAR MIAMI, OKLAHOMA 1993

This surviving, ten-mile stretch of the original Route 66 is known as the Sidewalk Highway. In 1926, it was paved just nine feet wide–space enough for a Moon Roadster or a friendly farm dog.

Here's my photograph from 1993 - I'd love to see the highway look like this again!

Shellee Graham

Photo by Shellee Graham © 1996
Cumquat Publishing Co. P.O. Box 4932 St. Louis, MO 63108

RECEIVED
MAR 23 2020
GUY ENGINEERING SERVICES, INC.

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
TOM WHITMORE	PERFORMANCE MOTOR ART		
Address:	City:	State:	Zip Code:
3300 RUFFORD CT.	CHESTER	VA	23831
Phone Number:	Email Address:		
(804) 748-0307	MOTORARTTOM@VERIZON.NET		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

I THINK THAT THE PLAN SUBMITTED BY RICH DINKELA IS THE WAY TO GO. WE CAME TO OK. JUST TO TRAVEL 66 AND THE "SIDEWALK" HWY. THIS HELPS SUPPORT THE LOCAL & STATE Economy

Comments on this project can be submitted in several ways, including but not limited to:

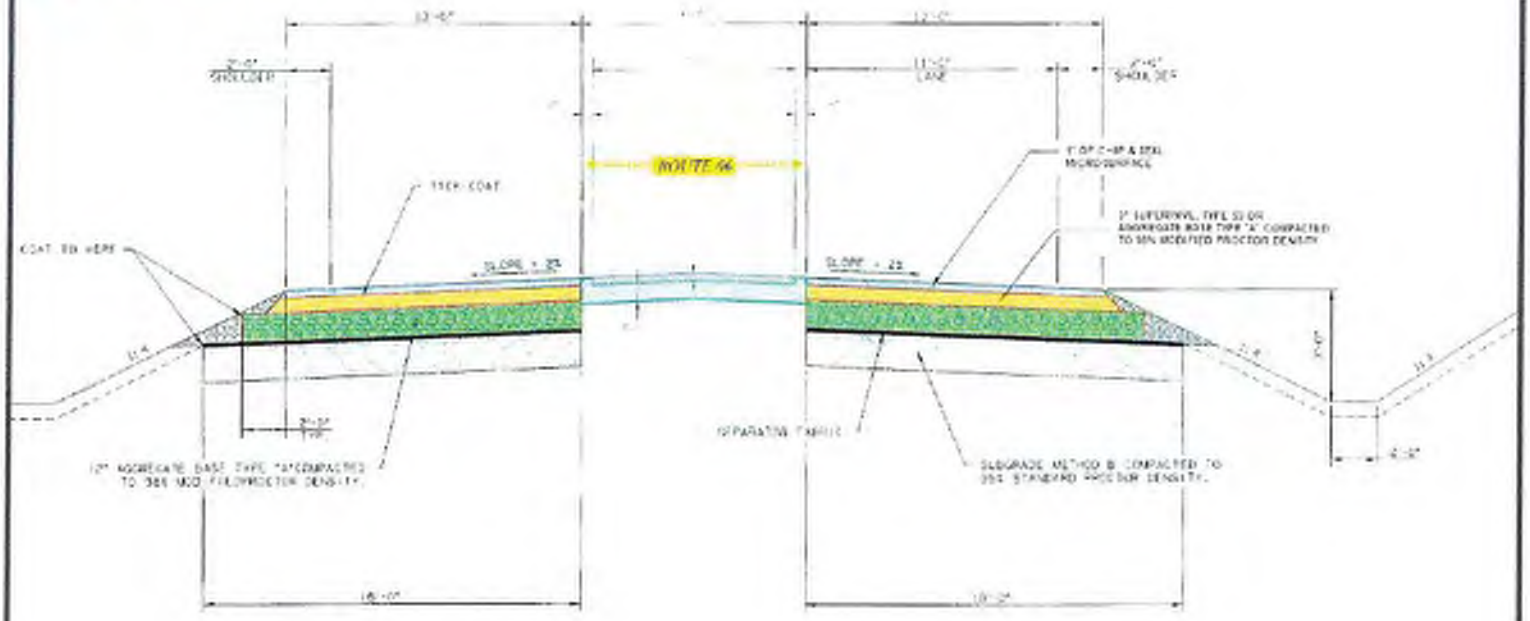
By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

RECEIVED
MAR 25 2020
GUY ENGINEERING SERVICES, INC.

1. Mill / Grind existing material away from historic road fabric beginning on one side of the road while leaving the other intact for travel.
2. Make grade changes and improvements to drainage swales, culverts, and ditches.
3. Repair curbing in rounded using exact / like materials as found in historic road. Install combination of rock / asphalt / chip & seal / OR / combination rock / chip & seal to finalize improvements for this side of historic road.
4. Repeat items #1 - #3 on opposite side of historic road.
5. Patch asphalt on historic road as necessary using exact like materials and processes as used to install original surface.



OPTION 1

COMMENT FORM

PROJECT: Historic Route 66 Ribbon Road Rehabilitation
Ottawa County, District 3

Public Meeting Date: *March 10, 2020*
Public Meeting Time: *6:30pm*
Public Meeting Location: *Northeastern Tribal Health System, 7600 South Hwy 69A, Miami, OK*

Thank you for your interest in this project and taking the time to provide us with your written comments. Submitting your comments in writing is the most effective way to have your concerns be heard and considered.

PLEASE SUBMIT YOUR COMMENTS BY 03/31/2020

Name:	Business / Organization:		
Trishia Masterson	Northeast Tech - Afton		
Address: (home)	City:	State:	Zip Code:
68350 E 120 Rd	Wyandotte	OK	74370
Phone Number:	Email Address:		

"I have the following comment(s) and/or question(s) about the rehabilitation of the Historic Route 66 Ribbon Road in Ottawa County, District 3."

FYI - Northeast Tech is building a new welding shop & parking lots on the south side of our campus that could be heavily impacted by Option #4.

Also, all options are gravel. Why would anyone choose to drive on the gravel and stay off the original road? There needs to be asphalt or chip seal to encourage people to drive the new road. Plus, it

Comments on this project can be submitted in several ways, including but not limited to:

By U.S. Mail to:
Guy Engineering Services
6910 E 14th St
Tulsa, OK 74112

By Fax:
(918) 512-2277
By E-mail:
info@guyengr.com

Please be aware that all information submitted on this form is subject to public disclosure under the Oklahoma Public Information Act.

Ottawa County
COMMENT FORM

will be a much safer option for bicyclists and motorcyclists.

Appendix 8 – County Resolution

RESOLUTION# 2021-#20
BY
THE BOARD OF COUNTY COMMISSIONERS OF OTTAWA COUNTY
OF THE STATE OF OKLAHOMA

WHEREAS, THE BOARD OF COUNTY COMMISSIONERS OF OTTAWA COUNTY, WITHIN AND FOR THE STATE OF OKLAHOMA, BEING IN SESSION ON THIS 26th DAY OF July, 2021; AND,

WHEREAS, THERE BEING A QUORUM OF THE BOARD PRESENT, THE FOLLOWING MOTION WAS MADE BY Mike Furnas AND SECONDED BY Russell Earls, AFFIRMATIVE VOTE BY ALL.

WHEREAS, THE COUNTY DESIRES TO REHABILITATE THE HISTORIC ROUTE 66 RIBBON ROAD LOCATED BETWEEN MIAMI AND AFTON, OKLAHOMA;

WHEREAS, THE COUNTY HAS CONSULTED FOR INVESTIGATIVE AND CONCEPTUAL PLANNING FOR THE PROJECT THROUGH SURVEY, GEOTECHNICAL STUDIES, HISTORIC DOCUMENTATION, AND DESIGN ALTERNATIVES;

WHEREAS, THE COUNTY HAS PARTICIPATED IN A PUBLIC MEETING HELD ON MARCH 10, 2020 AND HAS REVIEWED THE INVESTIGATIVE AND CONCEPTUAL PLAN DOCUMENTS ABOVE;

THEREFORE, BE IT RESOLVED THAT THE BOARD OF COUNTY COMMISSIONERS OF OTTAWA COUNTY DO HEREBY SELECT ALTERNATIVE #5 AS OUTLINED IN THE ALTERNATIVES DESIGN REPORT DATED MAY 4, 2021 WHICH WILL ADD DRIVING LANES AND MINIMAL SHOULDERS TO EACH SIDE OF THE HISTORIC 9-FOOT WIDE SECTION. THE LANES SHALL BE CONSTRUCTED USING AN ASPHALT BASE WITH AN OIL AND ROCK OVERLAY TO RESEMBLE A GRAVEL ROADWAY.

SIGNED THIS 26th DAY OF July, 2021.

BOARD OF COUNTY COMMISSIONERS
OTTAWA COUNTY, OKLAHOMA

Russell Earls **CHAIRMAN**

MEMBER

MEMBER

OTTAWA COUNTY 1907

Robyn Mitchell
OTTAWA COUNTY CLERK

APPENDIX E: RESULTS OF PETROGRAPHIC EXAMINATION AND LABORATORY TESTING OF CONCRETE CORE

Results of Petrographic Examination and Laboratory Testing of Concrete Core

Historic Route 66
Ribbon Road (East 200 Road)
Near Afton, Oklahoma

Terracon Project No. N121MLAB
Task No. 04201336
Lab No's. 484 & 485
February 17, 2021

Prepared for:
Guy Engineering Services
Tulsa, Oklahoma

Prepared by:
Terracon Consultants, Inc.
Cincinnati, Ohio

RESULTS OF PETROGRAPHIC EXAMINATION AND LABORATORY TESTING OF CONCRETE CORES
Historic Route 66
Ribbon Road (East 200 Road)
Near Afton, Oklahoma

Terracon Project No. N121MLAB
Task No. 04201336
February 17, 2021

1.0 INTRODUCTION & BACKGROUND

Two concrete cores (P-16 and P-18) from the referenced location were obtained by Terracon, Tulsa, Oklahoma personnel and was received at the Terracon, Cincinnati, Ohio materials laboratory on January 8, 2021. The concrete core was provided to perform a petrographic examination and laboratory testing (determination of cement content and water-cement ratio) to assist in "reverse engineering" to provide a mix design for concrete to "match" the original concrete. The referenced cores were assigned Terracon Lab No.'s 484 and 485, respectively. Both cores were visibly virtually identical. One core was used for the petrographic examination, and the second core was used to obtain the cement content and water-cement ratio

According to provided information, the section of Route 66 from which the cores were obtained was constructed between July,1921 and February,1922.

2.0 PETROGRAPHIC METHODOLOGY

Both cores were visually examined and photographed upon receipt and found to be nearly identical in observed physical characteristics. Core P-16 was examined petrographically. Both the visual and stereomicroscopic examination was performed in general accordance with ASTM Method C 856. The hardened air content was determined in accordance with ASTM C 457, Procedure B (Modified Point Count). Core P-18 was used for the determination of cement content and water-cement ratio.

Portions of the ground cement paste from the examined sample were also examined for the presence of fly ash, ground granulated blast furnace slag (GGBFS), and matrix carbonation using a polarized light microscope and refractive index oils.

Phenolphthalein stain was applied to sawn surfaces of this core. Phenolphthalein is a pH indicator which turns from colorless to magenta at about a pH of 9-10. When the stain remains colorless after application, the concrete is usually carbonated and maintains a pH below 9.

Photographs of the examined core as received, after sawing, and after stain application are included in Appendix A.

Concrete proportions and the hardened air content are presented in Table I below.

TABLE I
CONCRETE PROPORTIONS & HARDENED AIR CONTENT, %
(ASTM C 457, Procedure B)

Core No.	Lab No.	Total Aggregate	Total Cementitious Materials	Total Air
P-16	484	52.0	38.0	10.0 (5.7)

Note: Air in parentheses represents entrapped **size** air (>0.04 inches). Method ASTM C457 does not distinguish between entrained air and entrapped air. Typically, entrapped air is identified by the petrographer based on size, shape and location of the air voids.

Lab No. 484 (Core P-16)

3.1 Gross Characteristics

The concrete portion of the core was 4 inches in diameter by 5-1/2 inches in length and was a full depth core. The substrate material was not visibly determinable. The exterior 1-3/4 inches of the overall core consisted of an asphalt overlay, which was completely debonded from the underlying concrete. The sample contained no steel reinforcement or wire mesh. No visible fractures were apparent. Drilled surfaces exhibited abundant air. Neither coalescing voids nor honeycombing were visibly apparent.

3.2 Coarse Aggregate

The concrete contained no "coarse" aggregate. The largest aggregate particle was ¼-inch in size.

3.3 Fine Aggregate

The fine aggregate was a very coarsely graded manufactured sand consisting entirely of crushed limestone (often pyritiferous). Trace amounts of granular pyrite, quartz and igneous rocks (the latter two likely impurities) were present in the finer fractions. Maximum aggregate size was 1/4-inch. This aggregate was evenly distributed, generally angular, and very densely packed. No aggregate segregation was observed.

3.4 Matrix

The matrix was gray in color (Munsell color 5Y 5/1) when wetted. The matrix was slightly mottled, subtranslucent, non-friable, hard, and moderately to highly absorbent. Microscopically, much of the matrix appeared to be white in color, and broken surfaces indicated the presence of calcium hydroxide in the matrix adjacent to many of the aggregate particles. Cementitious materials were very well hydrated, with a few large unhydrated cement particles. No fly ash or slag cement was observed. No visible fracturing of the matrix was apparent. No microfracturing was observed.

The aggregate-matrix bonds were good. The concrete broke entirely through the aggregate when struck by a hammer. Neither alkali-silica gels, calcium hydroxide, nor ettringite were apparent in the cement paste. Based on the application of phenolphthalein stain, the concrete matrix was not carbonated.

3.5 Air

The concrete exhibited a total air content of 10.0 %. This is consistent with the low determined dry unit weight of 129.1 lbs.cu. ft. (3,486 lbs./cu.yd.). Air voids were generally irregular to elongate, indicating that these represent entrapped air. Voids were typically moderate in size. Voids were generally isolated, with a few localized coalescing voids. No honeycombing was observed. Underside voids were common, indicating a lack of consolidation. Voids were empty of alkali-silica gels or ettringite, but rinds and void fillings of calcium hydroxide were present in virtually every air void. The largest observed void was 1/8-inch in size.

4.0 Cement Content and Water-Cement Ratio

In addition to the petrographic examination, the cement content and water-cement ratio of a powdered portion of the sample from P-18 was obtained in accordance with ASTM Method C1084. The analysis was performed by RJ Lee Group, Monroeville, Pennsylvania. A copy of the RJ Lee report is included in Appendix II. Results indicated a cement content of 544 lbs./cu. yd of cement, and a water-cement ratio of 0.48.

5.0 FINDINGS

- The concrete represented by the examined core consisted of a non-air-entrained plain (Portland cement only) concrete. No fly ash or slag cement was present.
- Despite the high air content (10.0%), the concrete was not purposefully air entrained. The abundant entrapped air is consistent with the low dry unit weight of 129.1 lbs./cu. ft and is indicative of less than optimal consolidation.
- The maximum aggregate size was only 1//4-inch, and the aggregate consisted entirely of well graded crushed limestone, with minor impurities of quartz and pyrite.
- The cement content was determined to be 544 lbs./cu.yd., and the water cement ratio was 0.48.

Terracon appreciates the opportunity to have provided these services. Please contact either of the undersigned with comments or questions.

Sincerely,

Terracon

Terracon Consultants, Inc.

Terry E. Stransky, P.G.
Senior Geologist / Manager Petrographic Services
(513) 612-9081

Wil Beckwith, P.E.
Principal / Materials Engineering Manager
(513) 612-9089

APPENDIX A

Photographs



Photo 1: Core P-16 (Lab No. 484) as received.



Photo 2: Side view of same core showing abundant entrapped air.

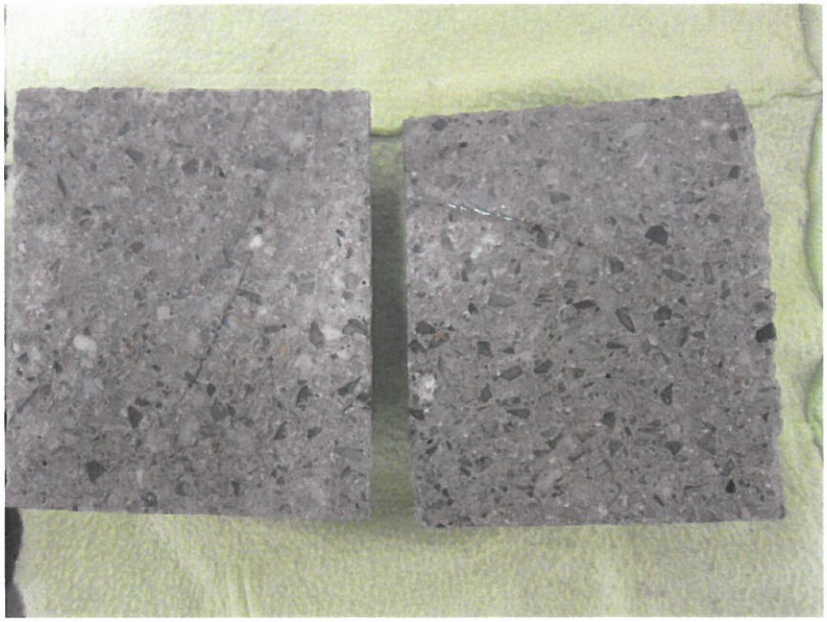


Photo 3: Longitudinally sawn sections of core.



Photo 4: Longitudinally sawn section of core after application of phenolphthalein stain. Matrix carbonation was not apparent.

APPENDIX B

Cement Content and Water-cement Ratio

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

LABORATORY REPORT

Terracon Consultants, Inc.
611 Lunken Park Drive
Cincinnati, OH 45226
ATTENTION: Terry Stransky

Report Date: 02/11/21
Samples Received: 01/25/21
RJ Lee Group Job No.: TCH001578
Client Job No.: N121MLAB Task 04201336

ANALYSIS: Portland Cement Content (ASTM C1084-10)

The Portland cement content was determined using Procedures 8 and 9 of ASTM C1084. The cement content was derived from a maleic acid extraction (sub procedure 8.2). The w/c ratio was estimated using C_m and the combined + free water contents.

Table 1. Results of ASTM C1084 analysis.

Client Sample Number	485
RJLG Sample Number	3172442
9. Unit Weight and Loss of Free Water	
Saturated Surface Dry Mass, W_1 (lb)	2.35
Mass Suspended in Water, W_2 (lb)	1.24
Dry Mass, W_3 (lb)	2.24
Saturated Surface Dry Density, D_{SSD} (lb/yd^3)	3542
Dry Density, D_{dry} (lb/yd^3)	3367
Free Water (%)	4.95
8.2 Maleic Acid Extraction Procedure	
Combined water, L_C (%)	2.74
Insoluble Residue, R (%)	81.1
Cement content, C_m (%)	16.2
Cement content (kg/m^3)	323
Cement content, (lb/yd^3)	544
Water to cement ratio (w/c)*	0.48

* Based on assumption that combined + free water is equivalent to the mix water.

April Snyder

April Snyder, Director Concrete Materials Laboratory

APPENDIX F: RE: ASPHALT TESTING SERVICES

April 6, 2021

Guy Engineering
6910 East 14th Street
Tulsa, Oklahoma 74112

Attention: Mr. John Blickensderfer
P: 918-437-0282
E: John-B@guyengr.com

Re: Asphalt Testing Services
Historic Route 66 Ribbon Road Pavement Mix Design Investigation
Afton and Miami, Oklahoma
Terracon Project No. 04201336

Dear Mr. Blickensderfer:

Terracon Consultants was provided chunk asphalt samples of Historic Route 66 Ribbon Road by you to perform laboratory testing to evaluate the properties of the mixture and match with a currently produced Oklahoma Department of Transportation mix design, if appropriate.

To evaluate the properties of the historic mixture, a bulk chunk sample was heated to make the material pliable. Aggregate with visually noticeable broken or fractured (from handling) aggregate faces were removed to prevent these specimens from affecting subsequent test results. Laboratory testing consisted of asphalt content extraction, sieve analysis testing, and Rice Maximum Theoretical Specific Gravity. The attached worksheet shows the results of the laboratory testing.

As part of our evaluation, we researched the asphalt mix thought to be used for this section of Historic Route 66. As part of that research we reached out to Larry Patrick of the Oklahoma Asphalt Pavement Association.

This section of Route 66 is widely known as the Ribbon Road, or Nine-Foot Section. The original roadbed construction is shown in the attached figure.

From our conversations with Mr. Patrick, we were informed the Washington Asphalt Pavement Association provides a history of asphalt pavement. The following information is from their website www.asphaltwa.com:

“HMA pavement began to take on its modern form around the beginning of the 20th century when Frederick J. Warren was issued patents for a “hot mix” asphalt paving material and process, which he called “bitulithic”. A typical bitulithic mix contained about 6 percent “bituminous cement” and graded aggregate proportioned for low air voids. The concept was to produce a mix which could use a more “fluid” binder than was used for sheet asphalt. Warren received eight patents in 1903. A review of the associated claims reveals that Warren, in effect, patented HMA, the asphalt binder, the construction of HMA surfaced streets and roads, and the overlay of “old” streets.”

"In 1910 in Topeka, Kansas, a court ruling stated that HMA mixes containing 0.5-inch maximum size aggregate did not infringe on Warren's patent (Steele and Himmelman 1986). Thus, most U.S. hot mix asphalt (HMA) thereafter became oriented to the smaller maximum aggregate sizes. A typical "Topeka mix" consisted of 30 percent graded crushed rock or gravel (all passing the 0.5-inch sieve), about 58 to 62 percent sand (material passing the No. 10 sieve and retained on the No. 200 sieve), 8 to 12 percent filler (material passing the No. 200 sieve). This mixture required 7.5 to 9.5 percent asphalt cement. By 1920, Warren's original patents had expired in the U.S. (Oglesby and Hewes 1962) but the legacy of the Topeka mix lived on as reflected by the U.S. tendency towards finer mixes."

The results of the extraction/ gradation tests show that the material sampled and tested has a finer gradation than the typical "Topeka mix" as shown below.

Mixture Requirements	Chunk Sample, Percent	Topeka Mix, Percent	ODOT S6 Mix, Percent
Passing ½-inch Sieve	100	100	100
Gravel (retained on #8 sieve)	18	30	10 to 46
Sand (material passing #8 sieve and retained on #200 sieve)	68	58 to 62	49 to 75
Filler (material passing #200 sieve)	14	8 to 12	5 to 15
Asphalt Cement	8.1	7.5 to 9.5	5.6 or greater

The test results of the chunk sample are within the ODOT broadband specification for an S6 Superpave Mixture from the 2009 ODOT Standard Specifications, Table 708.6. The Rice's Maximum Theoretical Specific Gravity result of 2.361 is like various mixtures that are in use today and is not indicative of a specific mix type.

If you have any questions regarding the contents of this letter or if we can be of further service, please do not hesitate to contact us.

Sincerely,

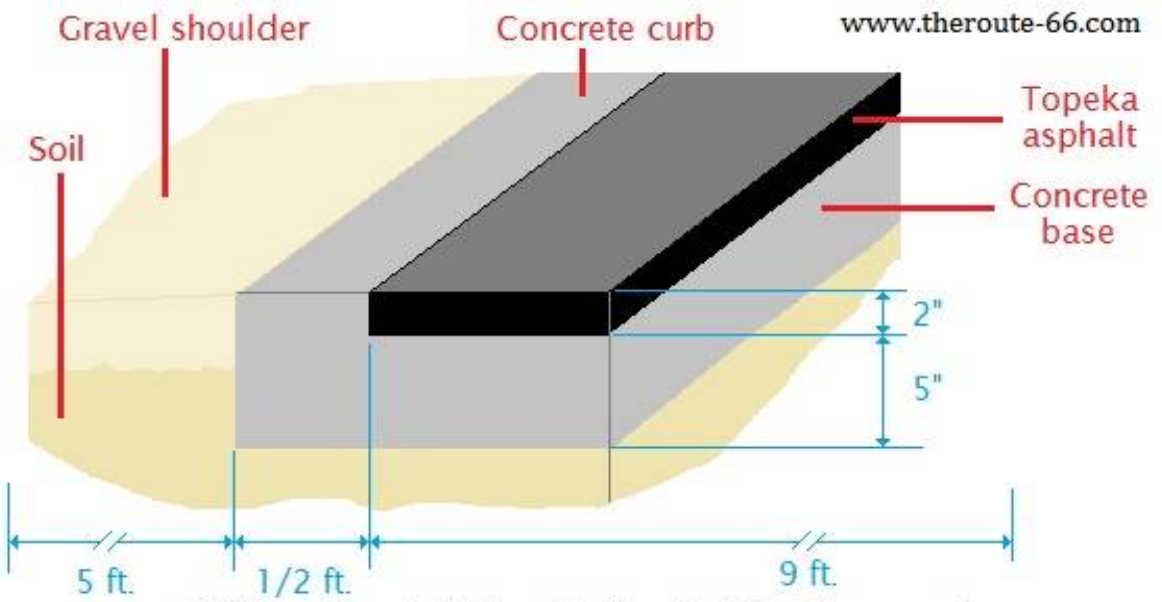
Terracon

Cert. of Auth. #CA.- #4531, Expires 6/30/21

Michael H. Homan, P.E.
Senior Principal

Scott A. Randle, P.E.
Regional Manager

Enclosures: Bituminous Mixture Test Results
Ribbon Road/Nine-Foot Road Section



Ribbon Road - Sidewalk Road - Nine-foot section
Historic Route 66 Miami to Afton, OK

Bituminous Mixture Test Results

9522 E 47th Pl. Unit D
Tulsa, OK 74145
918-250-0461

Client Name:	Guy Engineering	Report No:	04201336.0001A
Address:	6910 East 14th Street	Project No:	04201336 Report Date: 2/12/2021
	Tulsa, Oklahoma 74112	Mix source:	APAC - Central
		Mix Type:	N/A N/A
Project Name:	Historic Route 66 Ribbon Road Pavement:	Lot No.	N/A Sample ID No. N/A
		Sampled By:	Guy Engr.
		Submitted By:	Guy Engr.
Sample Location	Bulk chunks collected by client	Reviewed By:	JDC

Test Procedures:

_____ ASTM D 2172, Quantitative Extraction of Bitumen from Bituminous Paving Mixtures

X OHD L-26 Method of Test for Determinatinon of Bitumen Content in Bituminous Paving Materials

Sample Mass, g	1779.30	Temp. Compensation Factor	0
Calibration Factor	0	Moisture Content, %	0.33
Total Loss		Test Temperature, deg C	538

Bituminous Content%

8.4 AC 8.1 Corrected

Specification limits: >= 5.6

Sieve Analysis of: X Ignited Agg.

_____ Extracted Agg.

_____ Cold Belt Comb.

Sieve Size	% Accumulative Passing	*Specs. Min.	*Specs. Max
1"	100	0	
3/4"	100	0	0
1/2"	100	0	0
3/8"	100	100	0
#4	92	80	100
#8	82	54	90
#16	74	0	0
#30	64	0	0
#50	49	0	0
#100	21	0	0
#200	14.4	5.0	15.0

Physical Properties of Bituminous Mixtures:

X AASHTO T-312

_____ Nini Number of Gyrations

_____ Ndes Number of Gyrations

_____ Nmax Number of Gyrations

Property	AASHTO Method	Results	Specification
Nini, Gmm	T-312	N/A	
Ndes, Gmm	T-312	N/A	
Nmax, Gmm	T-312	N/A	
ESG	T-209	N/A	
Theo. Max. SG	T-209	2.361	
Gmm Bulk Density, %	OHD L-14	N/A	
Compaction Temperature ©	T-312	N/A	
VMA, % @ Ndes	OHD L-14	N/A	
Air Voids, % @ Ndes	OHD L-14	N/A	
Average Roadway Density %	OHD L-14	N/A	
Sand Equivalent	T-176	N/A	

Comments: *ODOT S6 Mix Specifications