**ARKANSAS DEPARTMENT OF TRANSPORTATION**

# SUBSURFACE INVESTIGATION

**STATE JOB NO.** 050280

**FEDERAL AID PROJECT NO.** NHPP-HSIP-0073(60)

**JOY – SEARCY (S)**

**STATE HIGHWAY** 36 **SECTION** 3

**IN** WHITE **COUNTY**

The information contained herein was obtained by the Department for design and estimating purposes only. It is being furnished with the express understanding that said information does not constitute a part of the Proposal or Contract and represents only the best knowledge of the Department as to the location, character and depth of the materials encountered. The information is only included and made available so that bidders may have access to subsurface information obtained by the Department and is not intended to be a substitute for personal investigation, interpretation and judgment of the bidder. The bidder should be cognizant of the possibility that conditions affecting the cost and/or quantities of work to be performed may differ from those indicated herein.

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

April 4, 2016

**TO:** Mr. Trinity Smith, Engineer of Roadway Design

**SUBJECT:** Job No. 050280
Joy – Searcy (Safety Impvts.)(S)
Route 36 Section 3
White County

Transmitted herewith are the requested Soil Survey, strength data, and Resilient Modulus test results for the above referenced job. The project consists of making safety improvements to three sections of Highway 36. Samples were obtained in the existing travel lanes, paved shoulder and ditch line.

Based on laboratory results of samples obtained, the subgrade soils primarily consist of low plasticity sandy clay. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction. Rock was encountered at several locations within the project limits, Table 1 below list the location and depth to rock.

Table 1 Depth of Rock

| Station | Location from Centerline (ft.) | Depth (ft.) |
|---|---|---|
| 129+00 | 6, 13, 21 Rt | 4.3, 3.5, 1.8 |
| 145+00 | 6 Rt | 1.25 |
| 201+00 | 6 Lt | 3.0 |

Based on currently available cross sections, the construction grade line closely matches that of the existing roadway. The maximum cut depth is approximately 8 feet; the 3:1 cut slope configuration is acceptable as shown. The maximum embankment height is approximately 6 feet. The proposed embankments extend into the existing ditch line. All soft unstable organic material in the ditch should be undercut, anticipated to be no more than 2 feet, prior to embankment construction. The embankment may be constructed with locally available unspecified material utilizing the proposed 3:1 slope configuration.

Listed below is the additional information requested for use in developing the plans:

1. The Qualified Products List (QPL) indicates that Aggregate Base Course (Class CL-7) is available from commercial producers located in the vicinity of Judsonia.

2. Asphalt Concrete Hot Mix

| Type | Asphalt Cement % | Mineral Aggregate % |
|---|---|---|
| Surface Course | 5.3 | 94.7 |
| Binder Course | 4.3 | 95.7 |
| Base Course | 4.0 | 96.0 |

Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment
cc: State Constr. Eng. – Master File Copy
District 5 Engineer
System Information and Research Div.
G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 04/01/2016
JOB NUMBER - 050280

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

JOB NAME - JOY - SEARCY (SAFETY IMPVTS.)(S)

| STATION LIMITS | R-VALUE AT 240 psi |
|---|---|
| BEGIN JOB - END JOB | 18 |
| RESILIENT MODULUS | |
| 161+00 | 5883 |
| 318+00 | 7025 |

REMARKS -
-

AASHTO TESTS : T190

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**
**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**
**RECOMPACTED SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 161+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 24'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160882 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV176 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

**1. Testing Information:**

| | |
|---|---|
| Preconditioning - Permanent Strain > 5% (Y=Yes or N= No) | N |
| Testing - Permanent Strain > 5% (Y=Yes or N=No) | N |
| Number of Load Sequences Completed (0-15) | 15 |

**2. Specimen Information:**

| | |
|---|---|
| Specimen Diameter (in): | |
| Top | 3.95 |
| Middle | 3.96 |
| Bottom | 3.96 |
| Average | 3.96 |
| Membrane Thickness (in): | 0.00 |
| Height of Specimen, Cap and Base (in): | 8.01 |
| Height of Cap and Base (in): | 0.00 |
| Initial Length, Lo (in): | 8.01 |
| Initial Area, Ao (sq. in): | 12.30 |
| Initial Volume, AoLo (cu. in): | 98.49 |

**3. Soil Specimen Weight:**

| | |
|---|---|
| Weight of Wet Soil Used (g): | 3213.20 |

**4. Soil Properties:**

| | |
|---|---|
| Optimum Moisture Content (%): | 14.2 |
| Maximum Dry Density (pcf): | 112.7 |
| 95% of MDD (pcf): | 107.1 |
| In-Situ Moisture Content (%): | N/A |

**5. Specimen Properties:**

| | |
|---|---|
| Wet Weight (g): | 3213.20 |
| Compaction Moisture content (%): | 14.3 |
| Compaction Wet Density (pcf): | 124.31 |
| Compaction Dry Density (pcf): | 108.76 |
| Moisture Content After Mr Test (%): | 14.1 |

**6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable):** #VALUE!

**7. Resilient Modulus, Mr:** $7624(Sc)^{-0.27210}(S3)^{0.39909}$

**8. Comments**

**9. Tested By:** G.WENDLAND **Date:** March 29, 2016

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**
**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**
**RECOMPACTED SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 161+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 24'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160882 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV176 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

| PARAMETER | *Chamber Confining Pressure* | *Nominal Maximum Axial Stress* | *Actual Applied Max. Axial Load* | *Actual Applied Cyclic Load* | *Actual Applied Contact Load* | *Actual Applied Max. Axial Stress* | *Actual Applied Cyclic Stress* | *Actual Applied Contact Stress* | *Average Recov Def. LVDT 1 and 2* | *Resilient Strain* | *Resilient Modulus* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGNATION | $S_3$ | $S_{cyclic}$ | $P_{max}$ | $P_{cyclic}$ | $P_{contact}$ | $S_{max}$ | $S_{cyclic}$ | $S_{contact}$ | $H_{avg}$ | $\varepsilon_r$ | $M_r$ |
| UNIT | psi | psi | lbs | lbs | lbs | psi | psi | psi | in | in/in | psi |
| Sequence 1 | 6.0 | 2.0 | 25.4 | 22.6 | 2.8 | 2.1 | 1.8 | 0.2 | 0.00113 | 0.00014 | 13,017 |
| Sequence 2 | 6.0 | 4.0 | 47.8 | 44.9 | 2.9 | 3.9 | 3.7 | 0.2 | 0.00261 | 0.00033 | 11,187 |
| Sequence 3 | 6.0 | 6.0 | 70.7 | 66.9 | 3.8 | 5.7 | 5.4 | 0.3 | 0.00429 | 0.00054 | 10,145 |
| Sequence 4 | 6.0 | 8.0 | 94.4 | 88.1 | 6.3 | 7.7 | 7.2 | 0.5 | 0.00625 | 0.00078 | 9,183 |
| Sequence 5 | 6.0 | 10.0 | 118.2 | 109.5 | 8.7 | 9.6 | 8.9 | 0.7 | 0.00820 | 0.00102 | 8,695 |
| Sequence 6 | 4.0 | 2.0 | 25.2 | 22.4 | 2.8 | 2.1 | 1.8 | 0.2 | 0.00129 | 0.00016 | 11,296 |
| Sequence 7 | 4.0 | 4.0 | 47.0 | 44.2 | 2.9 | 3.8 | 3.6 | 0.2 | 0.00313 | 0.00039 | 9,186 |
| Sequence 8 | 4.0 | 6.0 | 68.1 | 65.2 | 2.9 | 5.5 | 5.3 | 0.2 | 0.00528 | 0.00066 | 8,049 |
| Sequence 9 | 4.0 | 8.0 | 91.8 | 86.4 | 5.4 | 7.5 | 7.0 | 0.4 | 0.00747 | 0.00093 | 7,530 |
| Sequence 10 | 4.0 | 10.0 | 116.0 | 108.1 | 7.9 | 9.4 | 8.8 | 0.6 | 0.00952 | 0.00119 | 7,396 |
| Sequence 11 | 2.0 | 2.0 | 25.0 | 22.2 | 2.8 | 2.0 | 1.8 | 0.2 | 0.00162 | 0.00020 | 8,897 |
| Sequence 12 | 2.0 | 4.0 | 45.7 | 42.8 | 2.9 | 3.7 | 3.5 | 0.2 | 0.00395 | 0.00049 | 7,059 |
| Sequence 13 | 2.0 | 6.0 | 65.7 | 62.7 | 3.0 | 5.3 | 5.1 | 0.2 | 0.00652 | 0.00081 | 6,269 |
| Sequence 14 | 2.0 | 8.0 | 87.8 | 83.3 | 4.5 | 7.1 | 6.8 | 0.4 | 0.00917 | 0.00114 | 5,920 |
| Sequence 15 | 2.0 | 10.0 | 111.8 | 104.5 | 7.2 | 9.1 | 8.5 | 0.6 | 0.01158 | 0.00145 | 5,883 |

TESTED BY i.WENDLAND DATE March 29, 2016

REVIEWED BY _____ DATE _____

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**

**RECOMPACTED / THINWALL TUBE SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 161+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 24'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160882 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV176 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

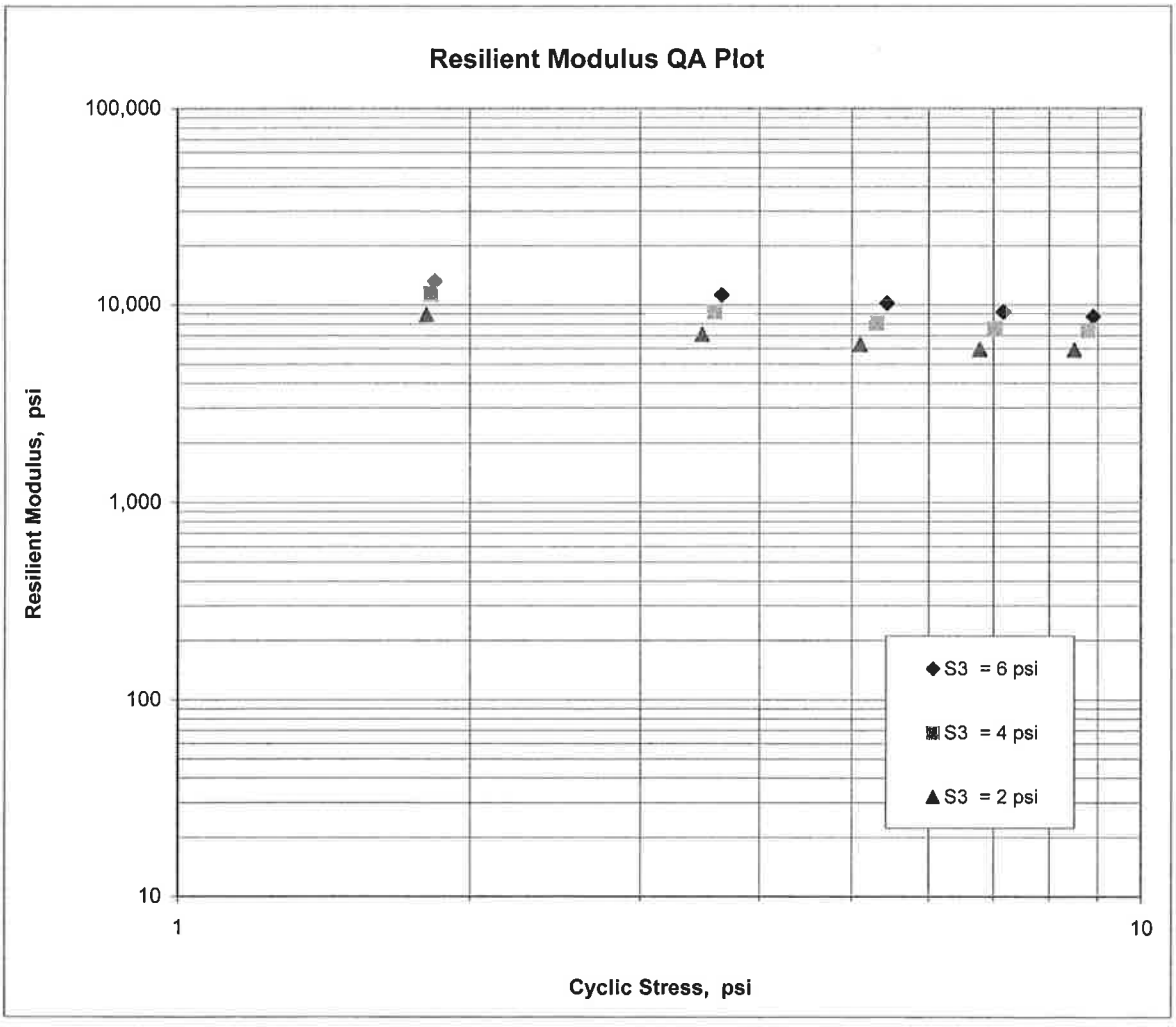
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 7,624

K2 = -0.27210

K5 = 0.39909

$R^2$ = 0.99



**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**
**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**
**RECOMPACTED SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 318+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 21'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160883 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV177 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

**1. Testing Information:**

| | |
|---|---|
| Preconditioning - Permanent Strain > 5% (Y=Yes or N= No) | N |
| Testing - Permanent Strain > 5% (Y=Yes or N=No) | N |
| Number of Load Sequences Completed (0-15) | 15 |

**2. Specimen Information:**

| | |
|---|---|
| Specimen Diameter (in): | |
| Top | 3.94 |
| Middle | 3.94 |
| Bottom | 3.94 |
| Average | 3.94 |
| Membrane Thickness (in): | 0.00 |
| Height of Specimen, Cap and Base (in): | 8.02 |
| Height of Cap and Base (in): | 0.00 |
| Initial Length, Lo (in): | 8.02 |
| Initial Area, Ao (sq. in): | 12.19 |
| Initial Volume, AoLo (cu. in): | 97.78 |

**3. Soil Specimen Weight:**

| | |
|---|---|
| Weight of Wet Soil Used (g): | 3245.20 |

**4. Soil Properties:**

| | |
|---|---|
| Optimum Moisture Content (%): | 13.9 |
| Maximum Dry Density (pcf): | 113.2 |
| 95% of MDD (pcf): | 107.5 |
| In-Situ Moisture Content (%): | N/A |

**5. Specimen Properties:**

| | |
|---|---|
| Wet Weight (g): | 3245.20 |
| Compaction Moisture content (%): | 13.8 |
| Compaction Wet Density (pcf): | 126.46 |
| Compaction Dry Density (pcf): | 111.12 |
| Moisture Content After Mr Test (%): | 13.8 |

**6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable):** #VALUE!

**7. Resilient Modulus, Mr:** 8326(Sc)^-0.22673(S3)^0.39789

**8. Comments** _____

**9. Tested By:** C.GARRETT **Date:** March 29, 2016

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**
**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**
**RECOMPACTED SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 318+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 21'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160883 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV177 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

| PARAMETER | *Chamber Confining Pressure* | *Nominal Maximum Axial Stress* | *Actual Applied Max. Axial Load* | *Actual Applied Cyclic Load* | *Actual Applied Contact Load* | *Actual Applied Max. Axial Stress* | *Actual Applied Cyclic Stress* | *Actual Applied Contact Stress* | *Average Recov Def. LVDT 1 and 2* | *Resilient Strain* | *Resilient Modulus* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGNATION | $S_3$ | $S_{cyclic}$ | $P_{max}$ | $P_{cyclic}$ | $P_{contact}$ | $S_{max}$ | $S_{cyclic}$ | $S_{contact}$ | $H_{avg}$ | $\varepsilon_r$ | $M_r$ |
| UNIT | psi | psi | lbs | lbs | lbs | psi | psi | psi | in | in/in | psi |
| Sequence 1 | 6.0 | 2.0 | 25.0 | 22.2 | 2.8 | 2.0 | 1.8 | 0.2 | 0.00102 | 0.00013 | 14,331 |
| Sequence 2 | 6.0 | 4.0 | 46.9 | 44.1 | 2.8 | 3.8 | 3.6 | 0.2 | 0.00222 | 0.00028 | 13,065 |
| Sequence 3 | 6.0 | 6.0 | 69.4 | 65.8 | 3.6 | 5.7 | 5.4 | 0.3 | 0.00361 | 0.00045 | 11,998 |
| Sequence 4 | 6.0 | 8.0 | 92.7 | 86.6 | 6.1 | 7.6 | 7.1 | 0.5 | 0.00518 | 0.00065 | 11,011 |
| Sequence 5 | 6.0 | 10.0 | 116.1 | 107.6 | 8.5 | 9.5 | 8.8 | 0.7 | 0.00679 | 0.00085 | 10,416 |
| Sequence 6 | 4.0 | 2.0 | 24.9 | 22.1 | 2.7 | 2.0 | 1.8 | 0.2 | 0.00114 | 0.00014 | 12,754 |
| Sequence 7 | 4.0 | 4.0 | 46.2 | 43.4 | 2.8 | 3.8 | 3.6 | 0.2 | 0.00269 | 0.00033 | 10,627 |
| Sequence 8 | 4.0 | 6.0 | 67.0 | 64.2 | 2.8 | 5.5 | 5.3 | 0.2 | 0.00441 | 0.00055 | 9,565 |
| Sequence 9 | 4.0 | 8.0 | 90.3 | 85.1 | 5.1 | 7.4 | 7.0 | 0.4 | 0.00623 | 0.00078 | 8,989 |
| Sequence 10 | 4.0 | 10.0 | 113.9 | 106.2 | 7.7 | 9.3 | 8.7 | 0.6 | 0.00784 | 0.00098 | 8,913 |
| Sequence 11 | 2.0 | 2.0 | 24.5 | 21.8 | 2.7 | 2.0 | 1.8 | 0.2 | 0.00144 | 0.00018 | 9,998 |
| Sequence 12 | 2.0 | 4.0 | 45.0 | 42.2 | 2.8 | 3.7 | 3.5 | 0.2 | 0.00338 | 0.00042 | 8,221 |
| Sequence 13 | 2.0 | 6.0 | 64.6 | 61.9 | 2.8 | 5.3 | 5.1 | 0.2 | 0.00554 | 0.00069 | 7,339 |
| Sequence 14 | 2.0 | 8.0 | 86.7 | 82.3 | 4.3 | 7.1 | 6.8 | 0.4 | 0.00769 | 0.00096 | 7,041 |
| Sequence 15 | 2.0 | 10.0 | 109.8 | 103.1 | 6.7 | 9.0 | 8.5 | 0.6 | 0.00965 | 0.00120 | 7,025 |

TESTED BY C.GARRETT DATE March 29, 2016

REVIEWED BY _____ DATE _____

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

**MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS**

**RECOMPACTED / THINWALL TUBE SAMPLES**

| | | | |
|---|---|---|---|
| **Job No.** | 050280 | **Material Code** | SSRVPS |
| **Date Sampled:** | 3/29/16 | **Station No.:** | 318+00 |
| **Date Tested:** | March 29, 2016 | **Location:** | 21'RT |
| **Name of Project:** | JOY - SEARCY (SAFETY IMPVTS.) (S) | | |
| **County:** | **Code:** 73 **Name:** WHITE | | |
| **Sampled By:** | D.DICKERSON | **Depth:** | 0-5 |
| **Lab No.:** | 20160883 | **AASHTO Class:** | A-4(0) |
| **Sample ID:** | RV177 | **Material Type (1 or 2):** | 2 |
| **LATITUDE:** | | **LONGITUDE:** | |

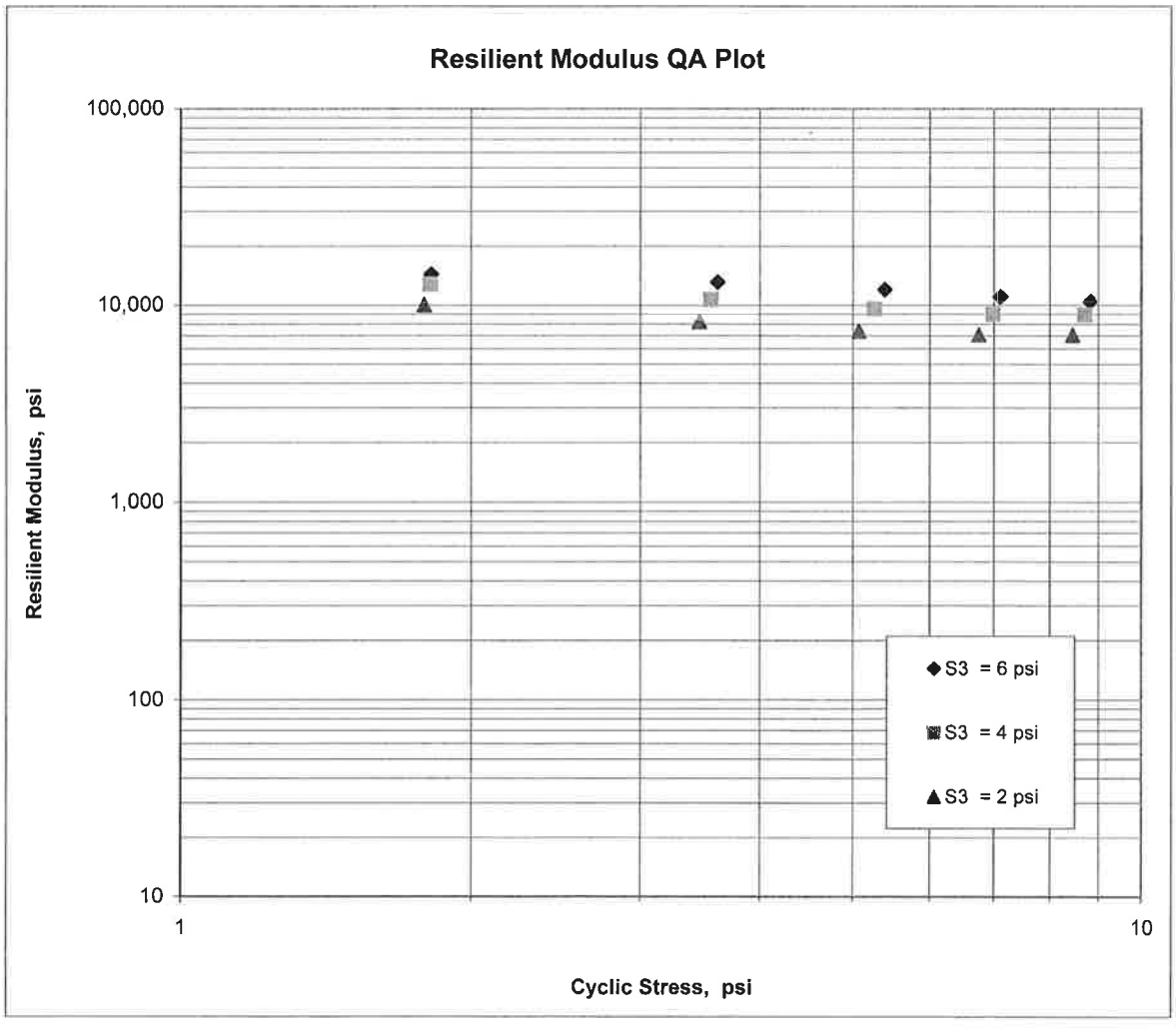
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 8,326

K2 = -0.22673

K5 = 0.39789

$R^2$ = 0.98



**JOB:** 050280

**JOB NAME:** JOY - SEARCY (SAFETY IMPVTS.)(S)

**COUNTY NO.** 73 **DATE TESTED** 3/29/2016

# Arkansas State Highway Transporation Department

*Materials Division*

*Michael Benson, Materials Engineer*

| STA.# | LOC. | DEPTH | COLOR | #4 SIEVE | #10 | #40 | #80 | #200 | L.L. | P.I. | SOIL CLASS | LAB #: | %MOISTURE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 161+00 | 24' RT | 0-5 | BROWN | 99 | 96 | 92 | 91 | 84 | ND | NP | A-4(0) | RV176 | |
| 318+00 | 21' RT | 0-5 | BROWN | 97 | 91 | 83 | 79 | 73 | 24 | 5 | A-4(2) | RV177 | |
| 113+00 | 06' RT | 0-5 | BROWN | 99 | 96 | 93 | 89 | 76 | 21 | 5 | A-4(1) | S135 | 23.3 |
| 113+00 | 13' RT | 0-5 | BROWN | 99 | 91 | 89 | 84 | 80 | 21 | 5 | A-4(1) | S136 | 18.9 |
| 113+00 | 20' RT | 0-5 | BROWN | 99 | 98 | 94 | 90 | 79 | 25 | 5 | A-4(4) | S137 | 22 |
| 121+00 | 06' LT | 0-5 | BROWN | 99 | 96 | 92 | 90 | 81 | 24 | 8 | A-4(4) | S138 | 17 |
| 121+00 | 13' LT | 0-5 | BROWN | 94 | 88 | 83 | 80 | 70 | 23 | 5 | A-4(1) | S139 | 14.4 |
| 121+00 | 21' LT | 0-5 | BROWN | 99 | 97 | 93 | 91 | 83 | 29 | 10 | A-4(7) | S140 | 23.2 |
| 129+00 | 06' RT | 0-4.3Z | BROWN | 99 | 95 | 87 | 85 | 77 | 27 | 9 | A-4(5) | S141 | 9.6 |
| 129+00 | 13' RT | 0-3.5Z | BROWN | 95 | 91 | 86 | 84 | 78 | 28 | 11 | A-6(7) | S142 | 10.1 |
| 129+00 | 21' RT | 0-1.8Z | BROWN | 99 | 94 | 86 | 83 | 72 | 28 | 12 | A-6(6) | S143 | 9.3 |
| 137+00 | 06' LT | 0-5 | BROWN | 99 | 97 | 92 | 90 | 85 | 26 | 8 | A-4(5) | S144 | 13.9 |
| 137+00 | 13' LT | 0-5 | BROWN | 98 | 96 | 92 | 88 | 77 | 23 | 6 | A-4(2) | S145 | 16.3 |
| 145+00 | 06' RT | 0-1.25Z | BROWN | 99 | 99 | 96 | 94 | 87 | 29 | 12 | A-6(9) | S146 | 16.3 |
| 153+00 | 06' LT | 0-5 | BROWN | 96 | 92 | 87 | 84 | 78 | 25 | 8 | A-4(4) | S147 | 15.4 |
| 153+00 | 13' LT | 0-5 | BROWN | 95 | 87 | 79 | 74 | 62 | ND | NP | A-4(5) | S148 | 16.5 |
| 153+00 | 19' LT | 0-5 | BROWN | 97 | 93 | 87 | 85 | 76 | 22 | 4 | A-4(1) | S149 | 16.4 |
| 161+00 | 06' RT | 0-5 | BROWN | 97 | 93 | 88 | 84 | 75 | 24 | 8 | A-4(4) | S150 | 14.2 |
| 161+00 | 13' RT | 0-5 | BROWN | 96 | 94 | 88 | 78 | 71 | 22 | 5 | A-4(1) | S151 | 8.7 |
| 161+00 | 18' RT | 0-5 | BROWN | 99 | 96 | 92 | 88 | 80 | 25 | 8 | A-4(4) | S152 | 13.8 |
| 169+00 | 06' LT | 0-5 | BROWN | 96 | 89 | 83 | 81 | 74 | 25 | 7 | A-4(3) | S153 | 15.3 |
| 169+00 | 13' LT | 0-5 | BROWN | 95 | 89 | 82 | 79 | 71 | 25 | 7 | A-4(3) | S154 | 18.6 |
| 169+00 | 21' LT | 0-5 | BROWN | 96 | 92 | 86 | 82 | 71 | 25 | 7 | A-4(3) | S155 | 18.4 |
| 177+00 | 06' RT | 0-5 | BROWN | 97 | 94 | 89 | 87 | 81 | 24 | 7 | A-4(4) | S156 | 19.9 |
| 185+00 | 06' LT | 0-5 | BROWN | 99 | 96 | 93 | 91 | 88 | 30 | 10 | A-4(8) | S157 | 21.5 |
| 185+00 | 13' LT | 0-5 | BROWN | 96 | 88 | 83 | 81 | 77 | 26 | 8 | A-4(4) | S158 | 20.8 |

***comments:*** W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

*Monday, April 04, 2016*

| STA.# | LOC. | DEPTH | COLOR | #4 | #10 | #40 | #80 | #200 | L.L. | P.I. | SOIL CLASS | LAB #: | %MOISTURE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | S | I | E | V | E S | | | | | |
| 185+00 | 18' LT | 0-5 | BROWN | 94 | 86 | 76 | 71 | 65 | 24 | 7 | A-4(2) | S159 | 14.9 |
| 193+00 | 06' RT | 0-5 | BROWN | 99 | 97 | 87 | 84 | 81 | 34 | 14 | A-6(10) | S160 | 18.3 |
| 201+00 | 06' LT | 0-3.0Z | BROWN | 98 | 94 | 90 | 88 | 83 | 25 | 8 | A-4(5) | S161 | 22.8 |
| 201+00 | 13' LT | 0-5 | BROWN | 99 | 96 | 93 | 91 | 88 | 35 | 18 | A-6(15) | S162 | 11.8 |
| 201+00 | 19' LT | 0-5 | BROWN | 98 | 94 | 84 | 80 | 73 | 27 | 8 | A-4(4) | S163 | 18.4 |
| 209+00 | 06' RT | 0-5 | BROWN | 98 | 95 | 92 | 90 | 87 | 26 | 8 | A-4(5) | S164 | 18.9 |
| 209+00 | 13' RT | 0-5 | BROWN | 99 | 92 | 84 | 81 | 74 | 24 | 7 | A-4(3) | S165 | 19 |
| 209+00 | 28' RT | 0-5 | BROWN | 100 | 100 | 100 | 100 | 95 | 26 | 5 | A-4(4) | S166 | 20.5 |
| 303+00 | 06' RT | 0-5 | BROWN | 96 | 89 | 85 | 78 | 60 | ND | NP | A-4(0) | S167 | 17 |
| 303+00 | 13' RT | 0-5 | BROWN | 96 | 91 | 86 | 81 | 70 | 23 | 5 | A-4(1) | S168 | 15.8 |
| 303+00 | 19' RT | 0-5 | BROWN | 98 | 95 | 89 | 84 | 78 | 26 | 6 | A-4(3) | S169 | 22.2 |
| 311+00 | 06' LT | 0-5 | BROWN | 98 | 94 | 86 | 74 | 61 | 26 | 8 | A-4(2) | S170 | 13.5 |
| 318+00 | 06' RT | 0-5 | BROWN | 99 | 96 | 91 | 88 | 83 | 26 | 7 | A-4(4) | S171 | 16.9 |
| 318+00 | 13' RT | 0-5 | BROWN | 98 | 93 | 86 | 83 | 79 | 29 | 9 | A-4(6) | S172 | 15.7 |
| 318+00 | 21' RT | 0-5 | BROWN | 99 | 92 | 80 | 76 | 68 | 26 | 5 | A-4(2) | S173 | 19.1 |
| 327+00 | 06' LT | 0-5 | BROWN | 99 | 98 | 92 | 80 | 70 | 33 | 12 | A-6(7) | S174 | 14 |
| 327+00 | 13' LT | 0-5 | BROWN | 99 | 97 | 93 | 91 | 85 | 26 | 8 | A-4(5) | S175 | 14.6 |

***comments:*** W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

*Monday, April 04, 2016*

**JOB:** 050280
**JOB NAME:** JOY - SEARCY (SAFETY IMPVTS.)(S)

**COUNTY NO.** 73

*Arkansas State Highway Transporation Department*
*Materials Division*
*Michael Benson, Materials Engineer*

**DATE TESTED**
3/29/2016

## PAVEMENT SOUNDINGS

| STA.# | LOC. | | | |
|---|---|---|---|---|
| 113+00 | 13' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **4.0** | **---** | **4.0** |
| 113+00 | 20' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **---** | **---** | **---** |
| 113+00 | 06' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.5W** | **2.0** | **---** |
| 121+00 | 06' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.0W** | **2.5** | **4.0** |
| 121+00 | 13' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **6.0** | **---** | **4.0** |
| 121+00 | 21' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **---** | **---** | **---** |
| 129+00 | 06' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.0W** | **2.25** | **---** |
| 129+00 | 13' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **5.25W** | **---** | **---** |
| 129+00 | 21' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **---** | **---** | **---** |
| 137+00 | 06' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **8.0W** | **2.0** | **3.0** |
| 137+00 | 13' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.0** | **---** | **5.0** |
| 145+00 | 06' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **6.0W** | **2.25** | **---** |
| 153+00 | 06' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.0W** | **2.0** | **7.0** |
| 153+00 | 13' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **3.0** | **3.0** | **8.0** |
| 153+00 | 19' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **---** | **---** | **---** |
| 161+00 | 06' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **7.0W** | **2.0** | **---** |
| 161+00 | 13' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **0.5** | **---** | **---** |

***comments:*** W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

*Monday, April 04, 2016*

| STA.# | LOC. | | | |
|---|---|---|---|---|
| 161+00 | 18' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | --- | --- | --- |
| 169+00 | 21' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | --- | --- | --- |
| 169+00 | 06' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **6.5W** | **3.0** | **5.0** |
| 169+00 | 13' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **6.0** | --- | **6.0** |
| 177+00 | 06' RT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **5.0W** | **3.0** | **5.0** |
| 185+00 | 06' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **6.0W** | **4.0** | **7.0** |
| 185+00 | 13' LT | ACHMSC | ACHMBC | AGG BASE CRS CL-7 |
| | | **5.0** | --- | **5.0** |
| 185+00 | 18' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | --- | --- | --- |
| 193+00 | 06' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **5.5W** | **5.0** | **4.0** |
| 201+00 | 06' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **6.5W** | **2.0** | **8.0** |
| 201+00 | 13' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **3.5** | **1.5X** | **5.0** |
| 201+00 | 19' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | --- | --- | --- |
| 209+00 | 06' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **6.0W** | **3.5** | **5.0** |
| 209+00 | 13' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **3.5W** | **3.0** | **5.0** |
| 209+00 | 28' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | --- | --- | --- |
| 303+00 | 06' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **7.0W** | **2.0** | **5.0** |
| 303+00 | 13' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **6.0W** | --- | **5.0** |
| 303+00 | 19' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | --- | --- | --- |
| 311+00 | 06' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **7.5W** | **2.0** | **5.0** |

***comments:*** W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

| STA.# | LOC. | PAVEMENT SOUNDINGS | | |
|---|---|---|---|---|
| 318+00 | 06' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **7.0W** | **2.5** | **4.0** |
| 318+00 | 13' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **6.5** | **---** | **3.0** |
| 318+00 | 21' RT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **---** | **---** | **---** |
| 327+00 | 13' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **6.0W** | **---** | **5.0** |
| 327+00 | 06' LT | ACHMSC | ACHMBC | AGG.BASE CL.7 |
| | | **8.5W** | **2.0** | **6.0** |

***comments:*** W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/01/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160841 | 20160842 | 20160843 |
| SAMPLE ID | S135 | S136 | S137 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 113+00 | 113+00 | 113+00 |
| LOCATION | 06' RT | 13' RT | 20' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 51.70 | 35 15 51.60 | 35 15 51.60 |
| LONGITUDE DEG-MIN-SEC | 91 53 30.20 | 91 53 30.20 | 91 53 30.30 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | |
| 3/8 IN. | 100 | 100 | 100 |
| NO. 4 | 99 | 99 | 99 |
| NO. 10 | 96 | 91 | 98 |
| NO. 40 | 93 | 89 | 94 |
| NO. 80 | 89 | 84 | 90 |
| NO. 200 | 76 | 80 | 79 |
| LIQUID LIMIT | 21 | 21 | 25 |
| PLASTICITY INDEX | 5 | 5 | 5 |
| AASHTO SOIL | A-4(1) | A-4(1) | A-4(4) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 23.3 | 18.9 | 22.0 |
| ACHMSC (IN) | 7.5W | 4.0 | --- |
| ACHMBC (IN) | 2.0 | --- | --- |
| AGG BASE CRS CL-7 (IN) | --- | 4.0 | --- |

REMARKS - W=MULTIPLE LAYETS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 2
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160844 | 20160845 | 20160846 |
| SAMPLE ID | S138 | S139 | S140 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 121+00 | 121+00 | 121+00 |
| LOCATION | 06' LT | 13' LT | 21' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 46.90 | 35 15 47.00 | 35 15 47.00 |
| LONGITUDE DEG-MIN-SEC | 91 53 22.20 | 91 53 22.10 | 91 53 22.10 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | 100 | |
| 3/8 IN. | 100 | 99 | 100 |
| NO. 4 | 99 | 94 | 99 |
| NO. 10 | 96 | 88 | 97 |
| NO. 40 | 92 | 83 | 93 |
| NO. 80 | 90 | 80 | 91 |
| NO. 200 | 81 | 70 | 83 |
| LIQUID LIMIT | 24 | 23 | 29 |
| PLASTICITY INDEX | 8 | 5 | 10 |
| AASHTO SOIL | A-4(4) | A-4(1) | A-4(7) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 17.0 | 14.4 | 23.2 |
| ACHMSC (IN) | 7.0W | 6.0 | --- |
| ACHMBC (IN) | 2.5 | --- | --- |
| AGG BASE CRS CL-7 (IN) | 4.0 | 4.0 | --- |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/04/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 3
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160847 | 20160848 | 20160849 |
| SAMPLE ID | S141 | S142 | S143 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 129+00 | 129+00 | 129+00 |
| LOCATION | 06' RT | 13' RT | 21' RT |
| DEPTH IN FEET | 0-4.3Z | 0-3.5Z | 0-1.8Z |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 46.10 | 35 15 46.00 | 35 15 46.00 |
| LONGITUDE DEG-MIN-SEC | 91 53 12.90 | 91 53 12.90 | 91 53 12.90 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | 100 | |
| 3/8 IN. | 100 | 99 | 100 |
| NO. 4 | 99 | 95 | 99 |
| NO. 10 | 95 | 91 | 94 |
| NO. 40 | 87 | 86 | 86 |
| NO. 80 | 85 | 84 | 83 |
| NO. 200 | 77 | 78 | 72 |
| LIQUID LIMIT | 27 | 28 | 28 |
| PLASTICITY INDEX | 9 | 11 | 12 |
| AASHTO SOIL | A-4(5) | A-6(7) | A-6(6) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 9.6 | 10.1 | 9.3 |
| ACHMSC (IN) | 7.0W | 5.25W | --- |
| ACHMBC (IN) | 2.25 | --- | --- |
| AGG BASE CRS CL-7 (IN) | --- | --- | --- |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/01/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 4
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160850 | 20160851 | 20160852 |
| SAMPLE ID | S144 | S145 | S146 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 137+00 | 137+00 | 145+00 |
| LOCATION | 06' LT | 13' LT | 06' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-1.25Z |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 46.00 | 35 15 46.10 | 35 15 45.90 |
| LONGITUDE DEG-MIN-SEC | 91 53 3.20 | 91 53 3.20 | 91 52 53.70 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | |
| 3/8 IN. | 100 | 100 | 100 |
| NO. 4 | 99 | 98 | 99 |
| NO. 10 | 97 | 96 | 99 |
| NO. 40 | 92 | 92 | 96 |
| NO. 80 | 90 | 88 | 94 |
| NO. 200 | 85 | 77 | 87 |
| LIQUID LIMIT | 26 | 23 | 29 |
| PLASTICITY INDEX | 8 | 6 | 12 |
| AASHTO SOIL | A-4(5) | A-4(2) | A-6(9) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 13.9 | 16.3 | 16.3 |
| ACHMSC (IN) | 8.0W | 7.0 | 6.0W |
| ACHMBC (IN) | 2.0 | --- | 2.25 |
| AGG BASE CRS CL-7 (IN) | 3.0 | 5.0 | --- |

REMARKS - W=MUTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/01/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 5
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160853 | 20160854 | 20160855 |
| SAMPLE ID | S147 | S148 | S149 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 153+00 | 153+00 | 153+00 |
| LOCATION | 06' LT | 13' LT | 19' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 44.00 | 35 15 44.00 | 35 15 44.00 |
| LONGITUDE DEG-MIN-SEC | 91 52 44.50 | 91 52 44.40 | 91 52 44.40 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | |
| 3/8 IN. | 100 | 100 | 100 |
| NO. 4 | 96 | 95 | 97 |
| NO. 10 | 92 | 87 | 93 |
| NO. 40 | 87 | 79 | 87 |
| NO. 80 | 84 | 74 | 85 |
| NO. 200 | 78 | 62 | 76 |
| LIQUID LIMIT | 25 | ND | 22 |
| PLASTICITY INDEX | 8 | NP | 4 |
| AASHTO SOIL | A-4(4) | A-4(5) | A-4(1) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 15.4 | 16.5 | 16.4 |
| ACHMSC (IN) | 7.0W | 3.0 | --- |
| ACHMBC (IN) | 2.0 | 3.0 | --- |
| AGG BASE CRS CL-7 (IN) | 7.0 | 8.0 | --- |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/01/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 6
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160856 | 20160857 | 20160858 |
| SAMPLE ID | S150 | S151 | S152 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 161+00 | 161+00 | 161+00 |
| LOCATION | 06' RT | 13' RT | 18' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 38.90 | 35 15 38.80 | 35 15 38.80 |
| LONGITUDE DEG-MIN-SEC | 91 52 37.10 | 91 52 37.20 | 91 52 37.20 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | 100 | |
| 3/8 IN. | 100 | 99 | 100 |
| NO. 4 | 97 | 96 | 99 |
| NO. 10 | 93 | 94 | 96 |
| NO. 40 | 88 | 88 | 92 |
| NO. 80 | 84 | 78 | 88 |
| NO. 200 | 75 | 71 | 80 |
| LIQUID LIMIT | 24 | 22 | 25 |
| PLASTICITY INDEX | 8 | 5 | 8 |
| AASHTO SOIL | A-4(4) | A-4(1) | A-4(4) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 14.2 | 8.7 | 13.8 |
| ACHMSC (IN) | 7.0W | 0.5 | --- |
| ACHMBC (IN) | 2.0 | --- | --- |
| AGG BASE CRS CL-7 (IN) | --- | --- | --- |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 7
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160859 | 20160860 | 20160861 |
| SAMPLE ID | S153 | S154 | S155 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 169+00 | 169+00 | 169+00 |
| LOCATION | 06' LT | 13' LT | 21' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 34.20 | 35 15 34.20 | 35 15 34.30 |
| LONGITUDE DEG-MIN-SEC | 91 52 29.20 | 91 52 29.20 | 91 52 29.20 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | 100 | | |
| 3/8 IN. | 98 | 100 | 100 |
| NO. 4 | 96 | 95 | 96 |
| NO. 10 | 89 | 89 | 92 |
| NO. 40 | 83 | 82 | 86 |
| NO. 80 | 81 | 79 | 82 |
| NO. 200 | 74 | 71 | 71 |
| LIQUID LIMIT | 25 | 25 | 25 |
| PLASTICITY INDEX | 7 | 7 | 7 |
| AASHTO SOIL | A-4(3) | A-4(3) | A-4(3) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 15.3 | 18.6 | 18.4 |
| ACHMSC (IN) | 6.5W | 6.0 | --- |
| ACHMBC (IN) | 3.0 | --- | --- |
| AGG BASE CRS CL-7 (IN) | 5.0 | 6.0 | --- |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/01/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 8
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160862 | 20160863 | 20160864 |
| SAMPLE ID | S156 | S157 | S158 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 177+00 | 185+00 | 185+00 |
| LOCATION | 06' RT | 06' LT | 13' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 30.10 | 35 15 26.30 | 35 15 26.30 |
| LONGITUDE DEG-MIN-SEC | 91 52 21.00 | 91 52 12.60 | 91 52 12.50 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | 100 |
| 3/8 IN. | 100 | 100 | 99 |
| NO. 4 | 97 | 99 | 96 |
| NO. 10 | 94 | 96 | 88 |
| NO. 40 | 89 | 93 | 83 |
| NO. 80 | 87 | 91 | 81 |
| NO. 200 | 81 | 88 | 77 |
| LIQUID LIMIT | 24 | 30 | 26 |
| PLASTICITY INDEX | 7 | 10 | 8 |
| AASHTO SOIL | A-4(4) | A-4(8) | A-4(4) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 19.9 | 21.5 | 20.8 |
| ACHMSC (IN) | 5.0W | 6.0W | 5.0 |
| ACHMBC (IN) | 3.0 | 4.0 | --- |
| AGG BASE CRS CL-7 (IN) | 5.0 | 7.0 | 5.0 |

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 9
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160865 | 20160866 | 20160867 |
| SAMPLE ID | S159 | S160 | S161 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 185+00 | 193+00 | 201+00 |
| LOCATION | 18' LT | 06' RT | 06' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-3.0Z |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 26.40 | 35 15 22.20 | 35 15 18.80 |
| LONGITUDE DEG-MIN-SEC | 91 52 12.50 | 91 52 4.30 | 91 51 55.70 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | 100 | | |
| 3/8 IN. | 99 | 100 | 100 |
| NO. 4 | 94 | 99 | 98 |
| NO. 10 | 86 | 97 | 94 |
| NO. 40 | 76 | 87 | 90 |
| NO. 80 | 71 | 84 | 88 |
| NO. 200 | 65 | 81 | 83 |
| LIQUID LIMIT | 24 | 34 | 25 |
| PLASTICITY INDEX | 7 | 14 | 8 |
| AASHTO SOIL | A-4(2) | A-6(10) | A-4(5) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 14.9 | 18.3 | 22.8 |
| ACHMSC (IN) | --- | 5.5W | 6.5W |
| ACHMBC (IN) | --- | 5.0 | 2.0 |
| AGG.BASE CL.7 (IN) | --- | 4.0 | 8.0 |

REMARKS - W=MULITPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 10
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160868 | 20160869 | 20160870 |
| SAMPLE ID | S162 | S163 | S164 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 201+00 | 201+00 | 209+00 |
| LOCATION | 13' LT | 19' LT | 06' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 18.90 | 35 15 18.90 | 35 15 18.40 |
| LONGITUDE DEG-MIN-SEC | 91 51 55.70 | 91 51 55.70 | 91 51 46.10 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | 100 |
| 3/8 IN. | 100 | 100 | 99 |
| NO. 4 | 99 | 98 | 98 |
| NO. 10 | 96 | 94 | 95 |
| NO. 40 | 93 | 84 | 92 |
| NO. 80 | 91 | 80 | 90 |
| NO. 200 | 88 | 73 | 87 |
| LIQUID LIMIT | 35 | 27 | 26 |
| PLASTICITY INDEX | 18 | 8 | 8 |
| AASHTO SOIL | A-6(15) | A-4(4) | A-4(5) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 11.8 | 18.4 | 18.9 |
| ACHMSC (IN) | 3.5 | --- | 6.0W |
| ACHMBC (IN) | 1.5X | --- | 3.5 |
| AGG.BASE CL.7 (IN) | 5.0 | --- | 5.0 |

REMARKS - W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 11
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160871 | 20160872 | 20160873 |
| SAMPLE ID | S165 | S166 | S167 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 209+00 | 209+00 | 303+00 |
| LOCATION | 13' RT | 28' RT | 06' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 18.40 | 35 15 18.30 | 35 15 .80 |
| LONGITUDE DEG-MIN-SEC | 91 51 46.10 | 91 51 46.10 | 91 49 57.60 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | 100 |
| 3/8 IN. | 100 | | 99 |
| NO. 4 | 99 | 100 | 96 |
| NO. 10 | 92 | 100 | 89 |
| NO. 40 | 84 | 100 | 85 |
| NO. 80 | 81 | 100 | 78 |
| NO. 200 | 74 | 95 | 60 |
| LIQUID LIMIT | 24 | 26 | ND |
| PLASTICITY INDEX | 7 | 5 | NP |
| AASHTO SOIL | A-4(3) | A-4(4) | A-4(0) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 19.0 | 20.5 | 17.0 |
| ACHMSC (IN) | 3.5W | --- | 7.0W |
| ACHMBC (IN) | 3.0 | --- | 2.0 |
| AGG.BASE CL.7 (IN) | 5.0 | --- | 5.0 |

REMARKS - W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 12
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160874 | 20160875 | 20160876 |
| SAMPLE ID | S168 | S169 | S170 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 303+00 | 303+00 | 311+00 |
| LOCATION | 13' RT | 19' RT | 06' LT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 .80 | 35 15 .70 | 35 15 .80 |
| LONGITUDE DEG-MIN-SEC | 91 49 57.60 | 91 49 57.60 | 91 49 48.00 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | 100 | |
| 3/8 IN. | 100 | 99 | 100 |
| NO. 4 | 96 | 98 | 98 |
| NO. 10 | 91 | 95 | 94 |
| NO. 40 | 86 | 89 | 86 |
| NO. 80 | 81 | 84 | 74 |
| NO. 200 | 70 | 78 | 61 |
| LIQUID LIMIT | 23 | 26 | 26 |
| PLASTICITY INDEX | 5 | 6 | 8 |
| AASHTO SOIL | A-4(1) | A-4(3) | A-4(2) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 15.8 | 22.2 | 13.5 |
| ACHMSC (IN) | 6.0W | --- | 7.5W |
| ACHMBC (IN) | --- | --- | 2.0 |
| AGG.BASE CL.7 (IN) | 5.0 | --- | 5.0 |

REMARKS - W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 03/29/16
JOB NUMBER - 050280
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - JOY - SEARCY (SAFETY IMPVTS.)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - WHITE, COUNTY
SAMPLED BY - THORNTON
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 13
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 73
DISTRICT NO. - 05

DATE SAMPLED - 03/02/16
DATE RECEIVED - 03/17/16
DATE TESTED - 03/29/16

| | | | |
|---|---|---|---|
| LAB NUMBER | 20160877 | 20160878 | 20160879 |
| SAMPLE ID | S171 | S172 | S173 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 318+00 | 318+00 | 318+00 |
| LOCATION | 06' RT | 13' RT | 21' RT |
| DEPTH IN FEET | 0-5 | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN | BROWN |
| MAT'L TYPE | | | |
| LATITUDE DEG-MIN-SEC | 35 15 .30 | 35 15 .30 | 35 15 .20 |
| LONGITUDE DEG-MIN-SEC | 91 49 39.60 | 91 49 39.60 | 91 49 39.60 |
| % PASSING 2 IN. | | | |
| 1 1/2 IN. | | | |
| 3/4 IN. | | | |
| 3/8 IN. | 100 | 100 | 100 |
| NO. 4 | 99 | 98 | 99 |
| NO. 10 | 96 | 93 | 92 |
| NO. 40 | 91 | 86 | 80 |
| NO. 80 | 88 | 83 | 76 |
| NO. 200 | 83 | 79 | 68 |
| LIQUID LIMIT | 26 | 29 | 26 |
| PLASTICITY INDEX | 7 | 9 | 5 |
| AASHTO SOIL | A-4(4) | A-4(6) | A-4(2) |
| UNIFIED SOIL | | | |
| % MOISTURE CONTENT | 16.9 | 15.7 | 19.1 |
| ACHMSC (IN) | 7.0W | 6.5 | --- |
| ACHMBC (IN) | 2.5 | --- | --- |
| AGG.BASE CL.7 (IN) | 4.0 | 3.0 | --- |

REMARKS - W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

| | | | |
|---|---|---|---|
| DATE | - 04/01/16 | SEQUENCE NO. | - 14 |
| JOB NUMBER | - 050280 | MATERIAL CODE | - SSRVPS |
| FEDERAL AID NO. | - TO BE ASSIGNED | SPEC. YEAR | - 2014 |
| PURPOSE | - SOIL SURVEY SAMPLE | SUPPLIER ID. | - 1 |
| SPEC. REMARKS | - NO SPECIFICATION CHECK | COUNTY/STATE | - 73 |
| SUPPLIER NAME | - STATE | DISTRICT NO. | - 05 |
| NAME OF PROJECT | - JOY - SEARCY (SAFETY IMPVTS.)(S) | | |
| PROJECT ENGINEER | - NOT APPLICABLE | | |
| PIT/QUARRY | - ARKANSAS | | |
| LOCATION | - WHITE, COUNTY | DATE SAMPLED | - 03/02/16 |
| SAMPLED BY | - THORNTON | DATE RECEIVED | - 03/17/16 |
| SAMPLE FROM | - TEST HOLE | DATE TESTED | - 03/29/16 |

MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

| | | |
|---|---|---|
| LAB NUMBER | 20160880 | 20160881 |
| SAMPLE ID | S174 | S175 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 327+00 | 327+00 |
| LOCATION | 06' LT | 13' LT |
| DEPTH IN FEET | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN |
| MAT'L TYPE | | |
| LATITUDE DEG-MIN-SEC | 35 14 57.00 | 35 14 57.00 |
| LONGITUDE DEG-MIN-SEC | 91 49 29.60 | 91 49 29.60 |
| % PASSING 2 IN. | | |
| 1 1/2 IN. | | |
| 3/4 IN. | | 100 |
| 3/8 IN. | 100 | 99 |
| NO. 4 | 99 | 99 |
| NO. 10 | 98 | 97 |
| NO. 40 | 92 | 93 |
| NO. 80 | 80 | 91 |
| NO. 200 | 70 | 85 |
| LIQUID LIMIT | 33 | 26 |
| PLASTICITY INDEX | 12 | 8 |
| AASHTO SOIL | A-6(7) | A-4(5) |
| UNIFIED SOIL | | |
| % MOISTURE CONTENT | 14.0 | 14.6 |
| ACHMSC (IN) | 8.5W | 6.0W |
| ACHMBC (IN) | 2.0 | --- |
| AGG.BASE CL.7 (IN) | 6.0 | 5.0 |

REMARKS - W=MULTIPLE LAYERS,X=STRIPPED,Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

| | | | |
|---|---|---|---|
| DATE | - 03/30/16 | SEQUENCE NO. | - 1 |
| JOB NUMBER | - 050280 | MATERIAL CODE | - RV |
| FEDERAL AID NO. | - TO BE ASSIGNED | SPEC. YEAR | - 2014 |
| PURPOSE | - SOIL SURVEY SAMPLE | SUPPLIER ID. | - 1 |
| SPEC. REMARKS | - NO SPECIFICATION CHECK | COUNTY/STATE | - 73 |
| SUPPLIER NAME | - STATE | DISTRICT NO. | - 05 |
| NAME OF PROJECT | - JOY - SEARCY (SAFETY IMPVTS.)(S) | | |
| PROJECT ENGINEER | - NOT APPLICABLE | | |
| PIT/QUARRY | - ARKANSAS | | |
| LOCATION | - WHITE, COUNTY | DATE SAMPLED | - 03/02/16 |
| SAMPLED BY | - THORNTON | DATE RECEIVED | - 03/17/16 |
| SAMPLE FROM | - TEST HOLE | DATE TESTED | - 03/29/16 |

MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

| | | |
|---|---|---|
| LAB NUMBER | 20160882 | 20160883 |
| SAMPLE ID | RV176 | RV177 |
| TEST STATUS | INFORMATION ONLY | INFORMATION ONLY |
| STATION | 161+00 | 318+00 |
| LOCATION | 24' RT | 21' RT |
| DEPTH IN FEET | 0-5 | 0-5 |
| MAT'L COLOR | BROWN | BROWN |
| MAT'L TYPE | | |
| LATITUDE DEG-MIN-SEC | 35 15 38.00 | 35 15 .20 |
| LONGITUDE DEG-MIN-SEC | 91 52 37.30 | 91 49 39.60 |
| % PASSING 2 IN. | | |
| 1 1/2 IN. | | |
| 3/4 IN. | | |
| 3/8 IN. | 100 | 100 |
| NO. 4 | 99 | 97 |
| NO. 10 | 96 | 91 |
| NO. 40 | 92 | 83 |
| NO. 80 | 91 | 79 |
| NO. 200 | 84 | 73 |
| LIQUID LIMIT | ND | 24 |
| PLASTICITY INDEX | NP | 5 |
| AASHTO SOIL | A-4(0) | A-4(2) |
| UNIFIED SOIL | | |
| % MOISTURE CONTENT | | |

REMARKS -

AASHTO TESTS : T24 T88 T89 T90 T265

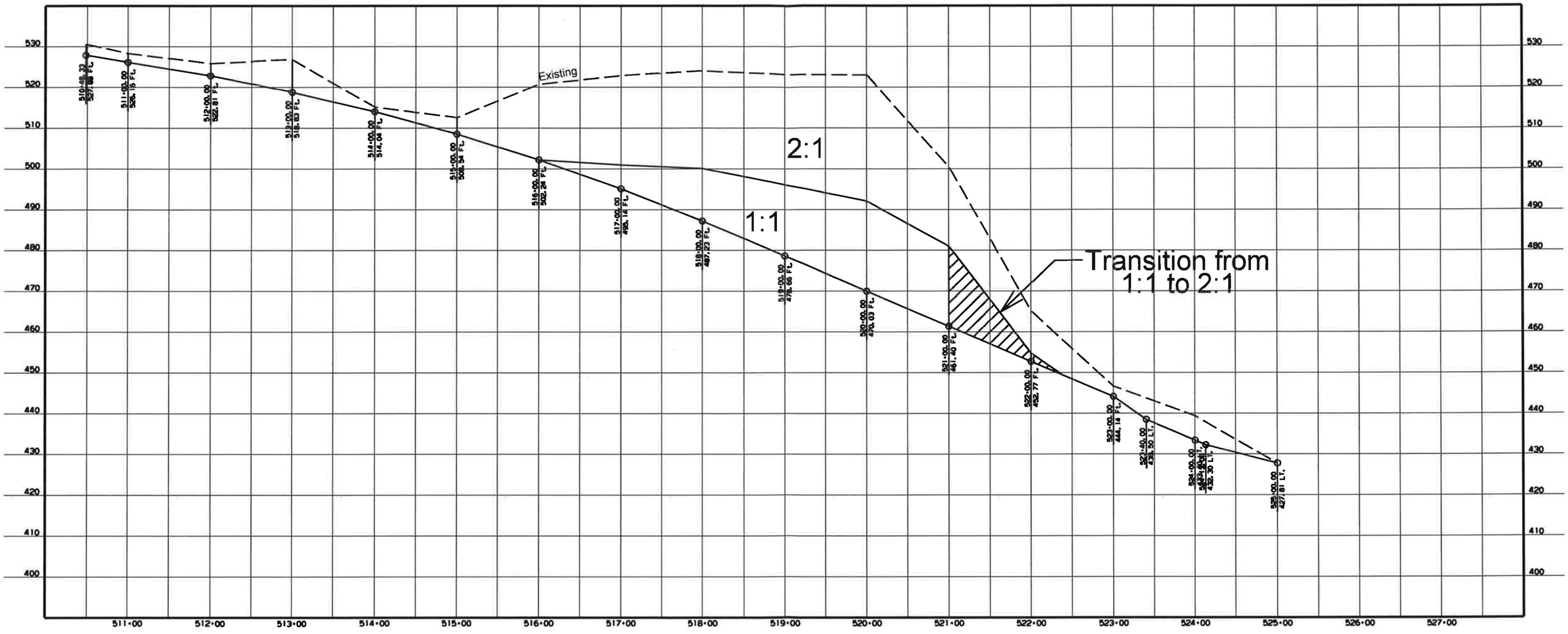



Figure 1 - Left Ditch Profile

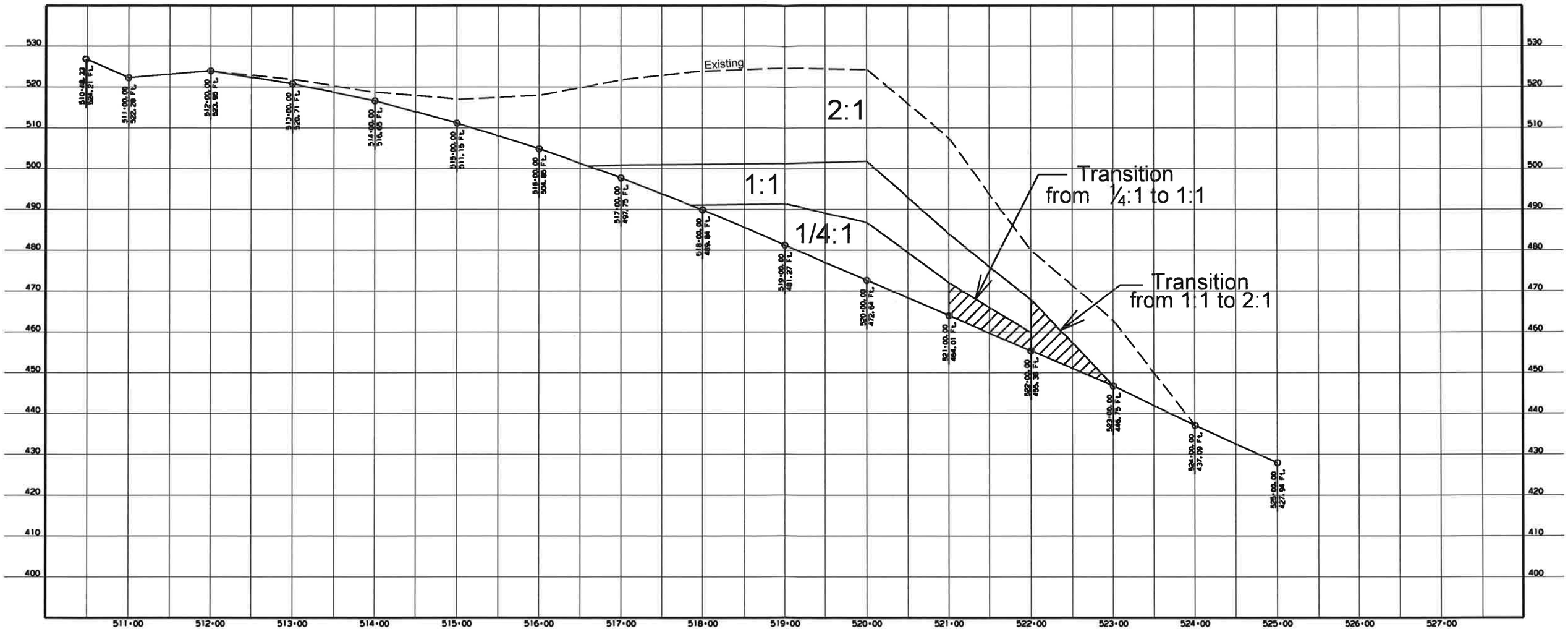



Figure 2 - Right Ditch Profile

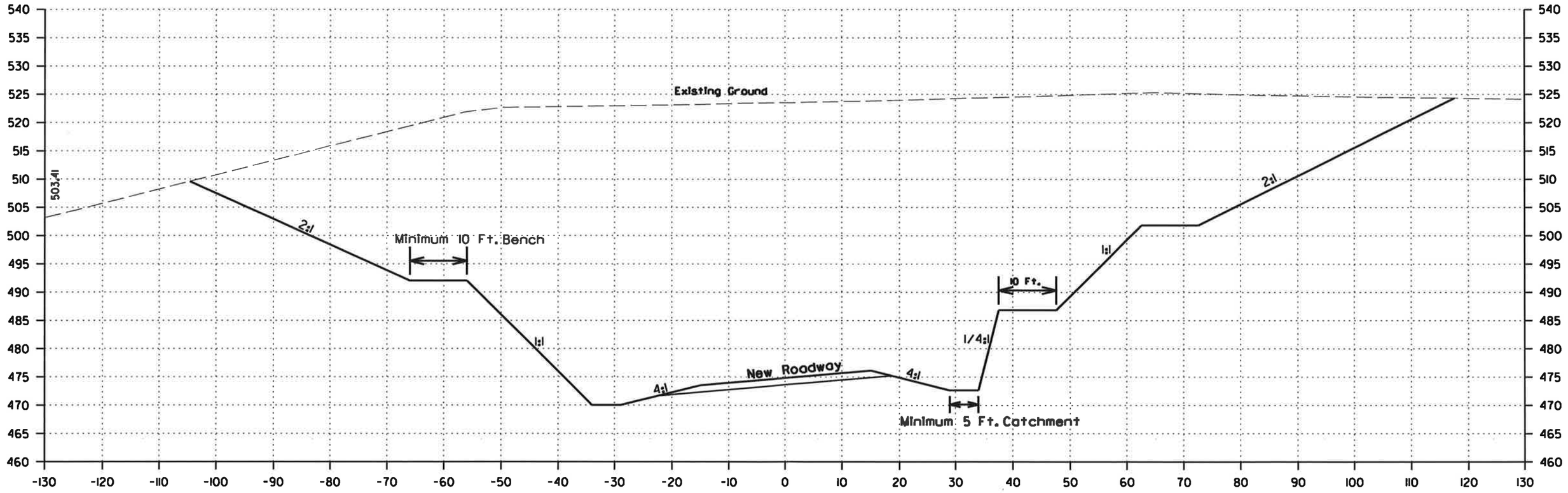



Figure 3 - Cut Slope Typical Section

ARKANSAS DEPARTMENT OF TRANSPORTATION
ARDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director
MATERIALS DIVISION
11301 West Baseline Road | P.O. Box 2261 | Little Rock, AR 72203-2261 | Phone: 501.569.2185 | Fax: 501.569.2368

March 8, 2018

**TO:** Mr. Rick Ellis, Bridge Engineer
Mr. Trinity Smith, Engineer of Roadway Design

**SUBJECT:** Job No. 050280
Joy – Searcy (Safety Impvts.) (S)
Route 36 Section 3
White County

Transmitted herewith are a brief summary of the geology and site conditions, rock core unconfined compression test summary, RMR, D50 scour analysis, and the logs of the borings conducted for the structures, approaches, and cut slopes of the above referenced project. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel to confirm the field identifications.

This project consists of shifting the alignment, of a section of Highway 36. The existing bridges, crossing East & West Hog Thief Creeks, will be reconstructed on the new alignment. Six of the eight requested borings were performed for this project: four for the West Hog Thief Creek Bridge and two for the East Hog Thief Creek Bridge. All borings had to be offset from the proposed construction centerline, due to conflicts with utilities. The two borings that were not obtained, for the East Hog Thief Creek Bridge, were located at: 817+50 C.L. Construction and 818+10 C.L. Construction. These borings were not obtained due to conflicts with utilities.

Based on plans provided by Bridge Division, it is anticipated that all bents will be founded on steel shell trestle piles. However, findings from this subsurface investigation revealed that bedrock is less than fifteen feet deep at each boring location. Therefore, spread footings may be considered as a viable foundation alternative. Spread footings founded in competent Shale to Shale with Sandstone should be designed based on the values provided in Table 1.

TABLE 1 – Bearing Capacity Recommendations for Spread Footings

| Nominal Bearing Resistance (ksf) | Factored Bearing Resistance (ksf) | Bearing Resistance at Service Limit State (ksf) |
|---|---|---|
| 356 | 160 | 40 |

Relocating this section of Highway 36 will require a large amount of excavation. Borings for the cut slopes were performed every 100 feet alternating from the proposed left ditch to the right ditch. Each boring was terminated below the elevation of the bottom of the ditch. Based on the boring logs a profile was developed, for the left and right ditch, showing the proposed cut slopes and transition zones. These profiles are attached in Figures 1 & 2. A typical section depicting the geometry of the cut slopes is attached in Figure 3.

If you have any questions concerning these recommendations, please contact the Geotechnical Section.

Michael C. Benson
Materials Engineer

MCB:rpt:mlg
cc: State Construction Engineer - Master File Copy
District 5 Engineer
G.C. File

# GEOLOGY AND SITE CONDITIONS
## Job No. 050280

## Joy – Searcy (Safety Impvts.) (S)
## White County
## Route 36 Section 3

### Site Conditions

The proposed project consists of improving the safety of a section of Highway 36 by shifting the current alignment. This shift will result in large cut slopes and two bridges being replaced.

### Bridge 1: West Hog Thief Creek Bridge

The existing bridge crosses West Hog Thief Creek and is located approximately 45 feet west of Miranda Lane on Highway 36, east of the town of Joy. It is an approximately 66 feet long, 27 feet wide, east to west running bridge. The bridge has 3 spans and the superstructure consists of cast-in-place concrete decking supported by 2 concrete piers with concrete caps and concrete end walls. The bridge guardrails are composed of steel and are supported by steel posts leading up to the bridge and concrete posts on the bridge. There is piled riprap on both of the embankments leading up to the bridge and also on the slopes below the end walls. West Hog Thief Creek runs from northwest to southeast under the existing bridge and merges with East Hog Thief Creek approximately 0.2 miles downstream from the project alignment. Observed sediment in the channel and on the channel banks is primarily sand and silt and no signs of prior scour were evident. The south side of highway 36 consists of heavy woodlands both up and down station from the bridge. Overhead power lines, buried telecommunication lines, and a buried water line all parallel the north side of highway 36 up and down station from the existing bridge. These 3 utilities additionally run north of the bridge, paralleling the east side of the creek and leading up to a residence at the end of Miranda lane. There is a BHP Billiton gas pad approximately 500 feet down station from the bridge on the left side of highway 36.

### Bridge 2: East Hog Thief Creek Bridge

The existing East Hog Thief Creek Bridge is much like the West Hog Thief Creek Bridge in size and structure. It is located approximately 0.13 miles up station and to the east of the West Hog Thief Creek Bridge and Miranda Lane on Highway 36. It is an approximately 66 feet long, 27 feet wide, 3 span bridge. The superstructure consists of cast-in-place concrete decking supported by concrete piers with concrete caps and end walls. There is piled riprap on both of the embankments leading up to the bridge and also on the slopes below the end walls. The bridge guardrails are composed of steel and are supported by steel posts leading up to the bridge and concrete posts on the bridge. Three of the concrete posts on the southeast side of the bridge have been replaced. Overhead power lines, buried telecommunication lines, and a buried water line all parallel the north side of highway 36 up and down station from the existing bridge. East Hog Thief Creek runs from north to south under the existing bridge and merges with West Hog Thief Bridge approximately 290 feet downstream from the project alignment. Observed sediment in the channel and on the channel banks is primarily sand and silt and no signs of prior scour were evident. Property surrounding the bridge is primarily pasture land with some dense woodland to the southwest.

## Site Geology

The project alignment is located on the mapped outcrop of the Atoka Formation (Pa) of Pennsylvanian age. The Atoka Formation is a sequence of marine, mostly tan to gray silty sandstones and grayish-black shales. Some rare calcareous beds and siliceous shales are known. This unit has the largest areal extent of any of the Paleozoic formations in the state. It is the surface rock of the Boston Mountains and dominates the exposures in the Arkansas River Valley and the frontal Ouachita Mountains. It is also present in the southern part of the Ouachita Mountains. The unit locally contains discontinuous streaks of coal and coaly shale in the Boston Mountains and Arkansas River Valley. This formation can be up to 25,000 feet thick in the Ouachita Mountains, although only largely incomplete sections are known. The geology for both bridges was similar in overall composition and depth to bedrock. There were no exposed rock outcrops to evaluate during the field investigation, but the average depth to bedrock in the borings for this project was between 10 to 12 feet below ground level. There are many mapped faults surrounding the project locality and unmapped faults in the area are possible.

## Subsurface Conditions

Based on the results of the borings, the subsurface stratigraphy may be generalized as follows:

0 to 10.5 Feet:* Varies from moist to wet, very soft to very hard, brown **sandy** to **silty clay** with some **gravel** to medium dense to very dense, brown **sand** and **silt** with **clay** and **gravel** (**rock fragments**).

10.5 to 41.5 Feet: Consists of slightly weathered to unweathered, medium hard, occasionally to frequently fractured, gray **shale** with frequent **sandstone partings**.

* Based on 24-hour groundwater measurements made in two of the borings, a water table is present at 4.0 to 4.9 feet below the surface.

# Rock Core Unconfined Compression Test Summary

Project Number: 050280
Project Name: Joy - Searcy (Safety Impvts.) (S)
Date Tested: 1/30/2018

| Station | Location | Sample No. | Depth (ft) | Diameter (in) | Height (in) | Total Load (lbs) | Correction Factor | Stress (psi) | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 809+54 | 16' Rt | 1 | 15.0 | 1.75 | 3.40 | 30,470 | 1.00 | 12,668 | |
| 809+85 | 16' Rt | 2 | 17.0 | 1.75 | 3.35 | 24,450 | 1.00 | 10,165 | |
| 810+30 | 19' Rt | 3 | 15.0 | 1.75 | 3.40 | 23,910 | 1.00 | 9,941 | |
| 810+56 | 15' Rt | 4 | 12.0 | 1.75 | 3.40 | 29,240 | 1.00 | 12,157 | |
| 817+20 | 20' Rt | 5 | 12.4 | 1.75 | 3.50 | 23,510 | 1.00 | 9,774 | |
| 817+80 | 24' Rt | 6 | 13.4 | 1.75 | 3.40 | 20,310 | 1.00 | 8,444 | |
| | | | | | | | | | |
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* Please note any broken samples, fractures or other characteristics of sample in Remarks.

# ROCK MASS RATING SUMMARY

## JOB # 050280

### SAMPLE #1

| | |
|---|---|
| Station/Location | 809+54 / 16' RT CL |
| Depth (ft) | 15 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 3 |
| Spacing of Joints | 10 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *47* |
| Class Number | III |
| Description | FAIR ROCK |

### SAMPLE #2

| | |
|---|---|
| Station/Location | 809+85 / 16' RT CL |
| Depth (ft) | 17 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 8 |
| Spacing of Joints | 10 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *52* |
| Class Number | III |
| Description | FAIR ROCK |

### SAMPLE #3

| | |
|---|---|
| Station/Location | 810+30 / 19.0 FT RT |
| Depth (ft) | 15 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 13 |
| Spacing of Joints | 20 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *67* |
| Class Number | II |
| Description | GOOD ROCK |

### SAMPLE #4

| | |
|---|---|
| Station/Location | 810+56 / 15.0 FT RT |
| Depth (ft) | 12 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 3 |
| Spacing of Joints | 10 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *47* |
| Class Number | III |
| Description | FAIR ROCK |

### SAMPLE #5

| | |
|---|---|
| Station/Location | 817+20 / 20.0 FT RT |
| Depth (ft) | 12.4 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 17 |
| Spacing of Joints | 20 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *71* |
| Class Number | II |
| Description | GOOD ROCK |

### SAMPLE #6

| | |
|---|---|
| Station/Location | 817+80 / 24.0 FT RT |
| Depth (ft) | 13.4 |
| | Relative Rating |
| Uniaxial Compressive Strength | 7 |
| RQD | 13 |
| Spacing of Joints | 10 |
| Condition of Joints | 20 |
| Groundwater Conditions | 7 |
| Sum | *57* |
| Class Number | III |
| Description | FAIR ROCK |

# $D_{50}$ AGGREGATE ANALYSIS FOR SCOUR CALCULATIONS

**Job No.** 050280

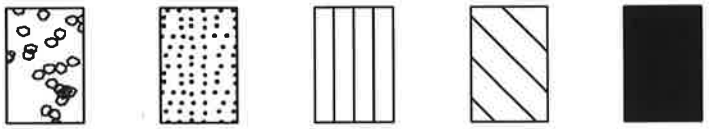
| Creek Name | Station | Sample Type | Location | Depth (FT) | Aggregate Size (D50) (IN) |
|---|---|---|---|---|---|
| West Hog Thief Creek | 810+15 | Edge of Creek Bank | 2' Right of Const. C.L. | N/A | 0.0041 |
| East Hog Thief Creek | 817+50 | Edge of Creek Bank | 15' Right of Const. C.L. | N/A | Less Than 0.0029 |

# LEGEND

## SOIL TYPES

(SHOWN IN SYMBOL COLUMN)

(PREDOMINANT TYPE SHOWN HEAVY)



GRAVEL | SAND | SILT | CLAY | ORGANIC MATTER

## ROCK TYPES

(SHOWN IN SYMBOL COLUMN)

SANDSTONE | SHALE or SILTSTONE | LIMESTONE or DOLOMITE | ALTERNATING LAYERS of SHALE and SANDSTONE | OTHER

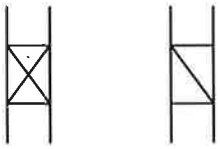
## SAMPLER TYPES

(SHOWN IN SAMPLE COLUMN)

SHELBY TUBE

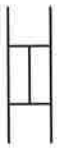
UNDISTURBED SAMPLE RECOVERY | DISTURBED SAMPLE RECOVERY | NO RECOVERY

SPLIT SPOON



SAMPLE RECOVERY | NO RECOVERY

ROCK CORING



% RECOVERY INDICATED ON LOGS

## TERMS DESCRIBING CONSISTENCY OR CONDITION

| GRANULAR SOIL | | CLAY | | CLAY-SHALE | | SHALE | |
|---|---|---|---|---|---|---|---|
| "N" Value | Density | "N" Value | Consistency | "N" Value | Consistency | "N" Value | Consistency |
| 0-4 | Very Loose | 0-1 | Very Soft | 0-1 | Very Soft | | |
| 5-10 | Loose | 2-4 | Soft | 2-4 | Soft | 31-60 | Soft |
| 11-30 | Medium Dense | 5-8 | Medium Stiff | 5-8 | Medium Stiff | Over 60 | |
| 31-50 | Dense | 9-15 | Stiff | 9-15 | Stiff | More than 2" | |
| Over 50 | Very Dense | 16-30 | Very Stiff | 16-30 | Very Stiff | Penetration | |
| | | 31-60 | Hard | 31-60 | Hard | in 60 Blows: | Medium Hard |
| | | Over 60 | Very Hard | Over 60 | Very Hard | Less than 2" | |
| | | | | | | Penetration | |
| | | | | | | in 60 Blows: | Hard |

1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
3. Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value ($N_f$) can be obtained by adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9=17 blows/ft$. The "N" Value corrected to 60% efficiency ($N_{60}$) can be obtained by multiplying $N_f$ by the hammer correction factor published on the boring log.

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 1
PAGE 1 OF 1

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 516+00
LOCATION: 29' Left of Construction Centerline
LOGGED BY: Paul Campbell

DATE: August 1, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 23.2

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 520.3 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Brown Sand with Clay | | | | | | | | |
| 5 | | | Moist, Very Dense, Brown Sand with Gravel (Sandstone Fragments) | | | | | | 33<br>60<br>(4") | | |
| | | | SANDSTONE | | | | | | | | |
| | | | SANDSTONE - Weathered, Cemented, Frequent Fractures, Brown and Gray | | | | | | | 100 | 0 |
| 10 | | | SANDSTONE - Slightly Weathered, Well Cemented, Frequent Fractures, Brown and Gray | | | | | | | 94 | 7 |
| 15 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Gray | | | | | | | 98 | 0 |
| 20 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Frequent Fractures, Gray* | | | | | | | 52 | 0 |
| 25 | | | Boring Terminated | | | | | | | | |
| 30 | | | | | | | | | | | |
| 35 | | | | | | | | | | | |

REMARKS: Cut slope boring. * Poor recovery from 18.2 to 23.2 due to core barrel malfunction. Lat/Long: 35.27646804, -91.93463052

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 2
PAGE 1 OF 1

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 517+00
LOCATION: 29' Right of Construction Centerline
LOGGED BY: Paul Campbell

DATE: August 1, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 31.2

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 522.1 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | X | Moist, Very Dense, Brown and Gray Sand with Some Clay | | | | | | 10<br>30-10 (6") | | |
| 10 | | | SANDSTONE - Highly Weathered, Poorly Cemented, Occasional Clay Partings, Frequent Fractures, Brown | | | | | | | 62 | 0 |
| 15 | | | SANDSTONE - Unweathered, Well Cemented, Frequent Fractures, Brown and Gray | | | | | | | 100 | 22 |
| 20 | | | SANDSTONE - Unweathered, Well Cemented, Gray | | | | | | | 96 | 7 |
| 25 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Occasional Fractures, Gray | | | | | | | 100 | 44 |
| 30 | | | | | | | | | | 100 | 52 |
| 35 | | | Boring Terminated | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.27616359, -91.93449978

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 3
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 518+00
LOCATION: 29' Left of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: July 25, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 43.8

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 524.1 | | | | | | | | |
| 5 | | | Moist, Dense, Brown Clayey Sand With Gravel (Sandstone Fragments) | | | | | | 23<br>14-27 | | |
| 10 | | | | | | | | | 30<br>(0") | | |
| 15 | | | SANDSTONE - Weathered with Highly Weathered Layers, Cemented with Poorly Cemented Layers, Occasional Clay Seams, Brown and Gray | | | | | | | 91 | 37 |
| 20 | | | | | | | | | | 99 | 44 |
| 25 | | | SANDSTONE WITH INTERBEDDED SHALE - Slightly Weathered, Cemented, Gray | | | | | | | 95 | 0 |
| 30 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Gray | | | | | | | 100 | 42 |
| 35 | | | | | | | | | | 100 | 40 |

REMARKS: Cut slope boring. Lat/Long: 35.2760945, -91.9340915

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 3
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 518+00
LOCATION: 29' Left of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: July 25, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 43.8

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 524.1 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Occasional Fractures, Gray | | | | | | | 100 | 70 |
| 40 | | | SHALE WITH INTERBEDDED SANDSTONE - Unweathered, Hard, Gray | | | | | | | 99 | 62 |
| 45 | | | Boring Terminated | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.2760945, -91.9340915

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 4
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 519+00
LOCATION: 29' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: July 24, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 49.3

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 525.7 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | Moist, Very Dense, Brown and Gray Clayey Sand with Gravel (Sandstone Fragments) | | | | | | 20<br>60<br>(4") | | |
| 10 | | | SANDSTONE - Highly Weathered, Cemented with Poorly Cemented Layers, Frequent Fractures, Occasional Clay Seams, Brown and Gray | | | | | | | 68<br>65 | 0<br>0 |
| 15 | | | SANDSTONE - Weathered, Cemented, Occasional Clay Seams, Brown and Gray | | | | | | | 92 | 18 |
| 20 | | | SANDSTONE - Weathered, Cemented, Occasional Fractures, Brown and Gray | | | | | | | 94 | 23 |
| 25 | | | SANDSTONE WITH INTERBEDDED SHALE - Slightly Weathered, Well Cemented, Gray | | | | | | | 100 | 40 |
| 30 | | | SANDSTONE WITH INTERBEDDED SHALE - Slightly Weathered, Well Cemented, Frequent Fractures, Gray | | | | | | | 96 | 34 |
| 35 | | | | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.27646804, -91.93463052

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 4
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 519+00
LOCATION: 29' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: July 24, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 49.3

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 525.7 | | | | | | | | |
| | | | | | | | | | | 99 | 64 |
| 40 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Gray | | | | | | | 100 | 77 |
| 45 | | | | | | | | | | 100 | 92 |
| 50 | | | Boring Terminated | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.27646804, -91.93463052

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 5
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 519+87
LOCATION: 39' Right of Construction Centerline
LOGGED BY: Paul Campbell/ Winston Buie

DATE: August 8, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.3

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 526.1 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | Dry, Dense, Light Brown Sand with Gravel (Sandstone Fragments) | | | | | | 44<br>18-22 | | |
| 10 | | | Dry, Very Dense, Light Brown Sand with Gravel (Sandstone Fragments) | | | | | | 60<br>(4") | | |
| | | | SANDSTONE - Highly Weathered, Poorly Cemented, Frequent Fractures, Brown | | | | | | | 66 | 0 |
| | | | Clay Layer (11.8' - 12.1') | | | | | | | | |
| 15 | | | SANDSTONE - Highly Weathered, Poorly Cemented, Frequent Fractures, Brown | | | | | | | | |
| | | | SANDSTONE - Slightly Weathered, Well Cemented, Frequent Fractures, Brown and Gray | | | | | | | 92 | 26 |
| 20 | | | SHALE - Slightly Weathered, Medium Hard, Gray | | | | | | | | |
| | | | SANDSTONE - Slightly Weathered, Well Cemented, Occasional Shale Partings and Seams, Gray | | | | | | | 100 | 15 |
| 25 | | | SHALE WITH INTERBEDDED SANDSTONE - Slightly Weathered, Medium Hard, Gray | | | | | | | 100 | 28 |
| 30 | | | SANDSTONE WITH INTERBEDDED SHALE - Slightly Weathered, Well Cemented, Gray | | | | | | | 100 | 27 |
| 35 | | | | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.2757178, -91.9337080

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 5
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 519+87
LOCATION: 39' Right of Construction Centerline
LOGGED BY: Paul Campbell/ Winston Buie

DATE: August 8, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.3

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 526.1 | | | | | | | | |
| | | | SHALE WITH INTERBEDDED SANDSTONE - Unweathered, Hard, Gray | | | | | | | 100 | 58 |
| 40 | | | | | | | | | | 100 | 98 |
| 45 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS AND SEAMS - Unweathered, Hard, Gray | | | | | | | 100 | 82 |
| 50 | | | | | | | | | | 100 | 80 |
| 55 | | | Boring Terminated | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: Cut slope boring. Lat/Long: 35.2757178, -91.9337080

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 6
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3 .
STATION: 519+97
LOCATION: 27' Left of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: August 2, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 58

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 525.1 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | Moist, Very Dense, Brown and Gray Clayey Sand with Gravel (Sandstone Fragments) | | | | | | 17<br>60<br>(3") | | |
| | | | SANDSTONE - Highly Weathered, Poorly Cemented, Brown and Gray | | | | | | | 96 | 0 |
| 10 | | | SANDSTONE - Highly Weathered, Poorly Cemented, Frequent Fractures, Occasional Clay Partings and Seams, Brown and Gray | | | | | | | 90 | 0 |
| 15 | | | SANDSTONE - Highly Weathered, Poorly Cemented, Frequent Fractures, Brown and Gray | | | | | | | 80 | 0 |
| 20 | | | | | | | | | | 92 | 0 |
| | | | SHALE - Slightly Weathered, Hard, Gray | | | | | | | | |
| 25 | | | SANDSTONE - Weathered, Cemented, Frequent to Occasional Fractures, Occasional Shale Seams, Brown and Gray* | | | | | | | 97 | 0 |
| 30 | | | | | | | | | | 14 | 0 |
| 35 | | | | | | | | | | | |

REMARKS: Cut slope boring. * Poor recovery from 28.0 to 33.0 due to core barrel malfunction. Lat/Long: 35.2758242, -91.9335763

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 6
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 519+97
LOCATION: 27' Left of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: August 2, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 58

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 525.1 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SHALE WITH INTERBEDDED SANDSTONE - Slightly Weathered, Medium Hard, Occasional Fractures, Brown and Gray | | | | | | | 96 | 62 |
| 40 | | | SHALE - Slightly Weathered, Hard, Occasional Clay Seams, Gray | | | | | | | 100 | 58 |
| 45 | | | SANDSTONE WITH INTERBEDDED SHALE - Slightly Weathered, Well Cemented, Brown and Gray | | | | | | | 82 | 24 |
| | | | Soil Filled Void (47.8' - 49.5') | | | | | | | | |
| 50 | | | SHALE WITH INTERBEDDED SANDSTONE - Slightly Weathered, Hard, Occasional Fractures, Gray | | | | | | | 70 | 32 |
| 55 | | | SANDSTONE WITH INTERBEDDED SHALE - Unweathered, Well Cemented, Gray | | | | | | | 94 | 73 |
| 60 | | | Boring Terminated | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: Cut slope boring. * Poor recovery from 28.0 to 33.0 due to core barrel malfunction. Lat/Long: 35.2758242, -91.9335763

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 7
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 809+54
LOCATION: 16' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: December 13, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 38.9

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 272.5 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | X | Moist, Soft, Gray Sandy Clay | | | | | | 2<br>2-2 | | |
| 10 | | X | Moist, Hard, Brown Clay with Some Sand | | | | | | 1<br>12-44 | | |
| | | | SHALE - Highly Weathered, Soft, Gray | | | | | | | | |
| | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Slightly Weathered, Medium Hard, Occasional Fractures, Gray | | | | | | | 100 | 16 |
| 15 | | | | | | | | | | 96 | 15 |
| 20 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Occasional Fractures, Gray | | | | | | | 99 | 56 |
| 25 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Frequent Fractures, Gray | | | | | | | 100 | 66 |
| 30 | | | | | | | | | | 100 | 78 |
| 35 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Gray | | | | | | | | |

REMARKS: West Hog Thief Creek. Lat/Long: 34.2709399, -91.9064216

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 7
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 809+54
LOCATION: 16' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: December 13, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 38.9

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 272.5 | | | | | | | | |
| | | | | | | | | | | 100 | 100 |
| 40 | | | Boring Terminated | | | | | | | | |
| 45 | | | | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. Lat/Long: 34.2709399, -91.9064216

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 8
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 809+85
LOCATION: 16' Right of Construction Centerline
LOGGED BY: Steve Faulker

DATE: December 11, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamand Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 38.7

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 272.0 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Moist, Brown Clay with Gravel and Some Sand | | | | | | | | |
| 5 | | X | Moist, Soft, Brown Sandy Clay* | | | | | | 1<br>2-2 | | |
| 10 | | X | Wet, Very Hard, Brown Sandy Clay<br>SHALE - Highly Weathered, Soft, Gray | | | | | | 6<br>22-60<br>(9") | | |
| | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Slightly Weathered, Soft, Frequent Fractures, Gray | | | | | | | 100 | 0 |
| 15 | | | | | | | | | | 96 | 20 |
| 20 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Soft, Frequent Fractures, Gray | | | | | | | 100 | 40 |
| 25 | | | | | | | | | | 100 | 94 |
| 30 | | | | | | | | | | 99 | 88 |
| 35 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Soft, Gray | | | | | | | | |

REMARKS: West Hog Thief Creek. *Based on 24 hour water level reading, the water table was encountered approximately 4.9 feet below ground level. Lat/Long: 35.2709106, -91.9062052

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 8
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 809+85
LOCATION: 16' Right of Construction Centerline
LOGGED BY: Steve Faulker

DATE: December 11, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamand Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 38.7

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 272.0 | | | | | | | | |
| | | | | | | | | | | 99 | 96 |
| 40 | | | Boring Terminated | | | | | | | | |
| 45 | | | | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. *Based on 24 hour water level reading, the water table was encountered approximately 4.9 feet below ground level. Lat/Long: 35.2709106, -91.9062052

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 9
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 810+30
LOCATION: 19' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: December 18, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 43.7

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 271.4 | | | | | | | | |
| | | | Brown Clayey Sand | | | | | | | | |
| 5 | | | Moist, Medium Dense, Brown and Gray Clayey Sand with Gravel | | | | | | 3<br>4-7 | | |
| | | | Wet, Medium Dense, Brown and Gray Clayey Sand with Gravel | | | | | | | | |
| 10 | | | Wet, Very Hard, Brown and Gray Sandy Clay with Gravel (Shale Fragments) | | | | | | 1<br>14-60<br>(7") | | |
| | | | SHALE - Highly Weathered, Soft, Gray | | | | | | | | |
| | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Slightly Weathered, Medium Hard, Frequent Fractures, Gray | | | | | | | 100 | 0 |
| 15 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Frequent Fractures, Gray | | | | | | | 94 | 40 |
| 20 | | | | | | | | | | 98 | 92 |
| 25 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Occasional Fractures, Gray | | | | | | | 99 | 92 |
| 30 | | | | | | | | | | 98 | 92 |
| 35 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. Lat/Long: 35.270884, -91.9060979

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 9
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 810+30
LOCATION: 19' Right of Construction Centerline
LOGGED BY: Steve Faulkner

DATE: December 18, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 43.7

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 271.4 | | | | | | | | |
| | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Gray | | | | | | | 100 | 100 |
| 40 | | | | | | | | | | 100 | 92 |
| 45 | | | Boring Terminated | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. Lat/Long: 35.270884, -91.9060979

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 10
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 810+56
LOCATION: 15' Right of Construction Centerline
LOGGED BY: Winston Buie

DATE: December 20, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 39

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL<br>SURFACE ELEVATION: 271.3 | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Gravel* | | | | | | | | |
| 5 | | X | No Sample (Gravel Blocked Off Sampler) | | | | | | 8<br>7-5 | | |
| 10 | | X | Wet, Very Dense, Brown Sand with Clay | | | | | | 1<br>12-10<br>(6") | | |
| | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Slightly Weathered, Medium Hard, Gray | | | | | | | 92 | 0 |
| 15 | | | | | | | | | | 97 | 54 |
| 20 | | | | | | | | | | 98 | 80 |
| 25 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Gray | | | | | | | 100 | 97 |
| 30 | | | | | | | | | | 98 | 96 |
| 35 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. * Based on 24 hour water level reading, the water table was encountered approximately 4 feet below ground level. Lat/Long: 35.270836, -91.906598

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 10
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 810+56
LOCATION: 15' Right of Construction Centerline
LOGGED BY: Winston Buie

DATE: December 20, 2017
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 39

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 271.3 | | | | | | | | |
| | | | | | | | | | | 100 | 100 |
| 40 | | | Boring Terminated | | | | | | | | |
| 45 | | | | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: West Hog Thief Creek. * Based on 24 hour water level reading, the water table was encountered approximately 4 feet below ground level. Lat/Long: 35.270836, -91.906598

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 11
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 817+20
LOCATION: 20' Right of Construction Centerline
LOGGED BY: Stanley Bates

DATE: January 8, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 44

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 269.5 | | | | | | | | |
| 5 | | | Sandy Clay | | | | | | | | |
| 10 | | | Wet, Very Soft, Gray Silty Clay | | | | | | 0<br>0-0<br>(0") | | |
| | | | Moist, Very Hard, Clay with Gravel (Shale Fragments) | | | | | | 8<br>60<br>(3") | | |
| 15 | | | | | | | | | | 95 | 75 |
| 20 | | | | | | | | | | 96 | 83 |
| 25 | | | | | | | | | | 100 | 96 |
| 30 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Gray | | | | | | | 100 | 92 |
| 35 | | | | | | | | | | 90 | 88 |

REMARKS: East Hog Thief Creek. Lat/Long: 35.270233, -91.90387

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 11
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 817+20
LOCATION: 20' Right of Construction Centerline
LOGGED BY: Stanley Bates

DATE: January 8, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 44

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 269.5 | | | | | | | | |
| | | | | | | | | | | 100 | 70 |
| 40 | | | | | | | | | | 100 | 82 |
| 45 | | | Boring Terminated | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: East Hog Thief Creek. Lat/Long: 35.270233, -91.90387

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 12
PAGE 1 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 817+80
LOCATION: 24' Right of Construction Centerline
LOGGED BY: Stanley Bates

DATE: January 10, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 44.5

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 271.1 | | | | | | | | |
| 5 | | | Sandy Clay | | | | | | | | |
| 10 | | | Moist, Medium Dense, Brown Silt | | | | | | 4<br>9-8 | | |
| | | | SHALE - Highly Weathered, Medium Hard, Gray | | | | | | 30<br>60<br>(5") | | |
| | | | SHALE - Weathered, Medium Hard, Gray | | | | | | | 84 | 44 |
| 15 | | | | | | | | | | 98 | 66 |
| 20 | | | | | | | | | | 100 | 100 |
| 25 | | | | | | | | | | 100 | 100 |
| 30 | | | SHALE WITH FREQUENT SANDSTONE PARTINGS - Unweathered, Medium Hard, Gray | | | | | | | 100 | 100 |
| 35 | | | | | | | | | | | |

REMARKS: East Hog Thief Creek. Lat/Long: 35.270122, -91.903650

**ARKANSAS HWY. & TRANS. DEPARTMENT**
**MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 12
PAGE 2 OF 2

JOB NO. 050280 White County
JOB NAME: Joy - Searcy (Safety Impvts.) (S)
Route 36 Section 3
STATION: 817+80
LOCATION: 24' Right of Construction Centerline
LOGGED BY: Stanley Bates

DATE: January 10, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 1779

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 44.5

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | SOIL GROUP | PLASTIC LIMIT | % MOIST. | LIQUID LIMIT | DRY WEIGHT LBS PER CU.FT. | NO. OF BLOWS PER 6-IN. | % TCR | % RQD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SURFACE ELEVATION: 271.1 | | | | | | | | |
| | | | | | | | | | | 100 | 94 |
| 40 | | | | | | | | | | | |
| | | | | | | | | | | 100 | 100 |
| 45 | | | Boring Terminated | | | | | | | | |
| 50 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |
| 65 | | | | | | | | | | | |
| 70 | | | | | | | | | | | |

REMARKS: East Hog Thief Creek. Lat/Long: 35.270122, -91.903650

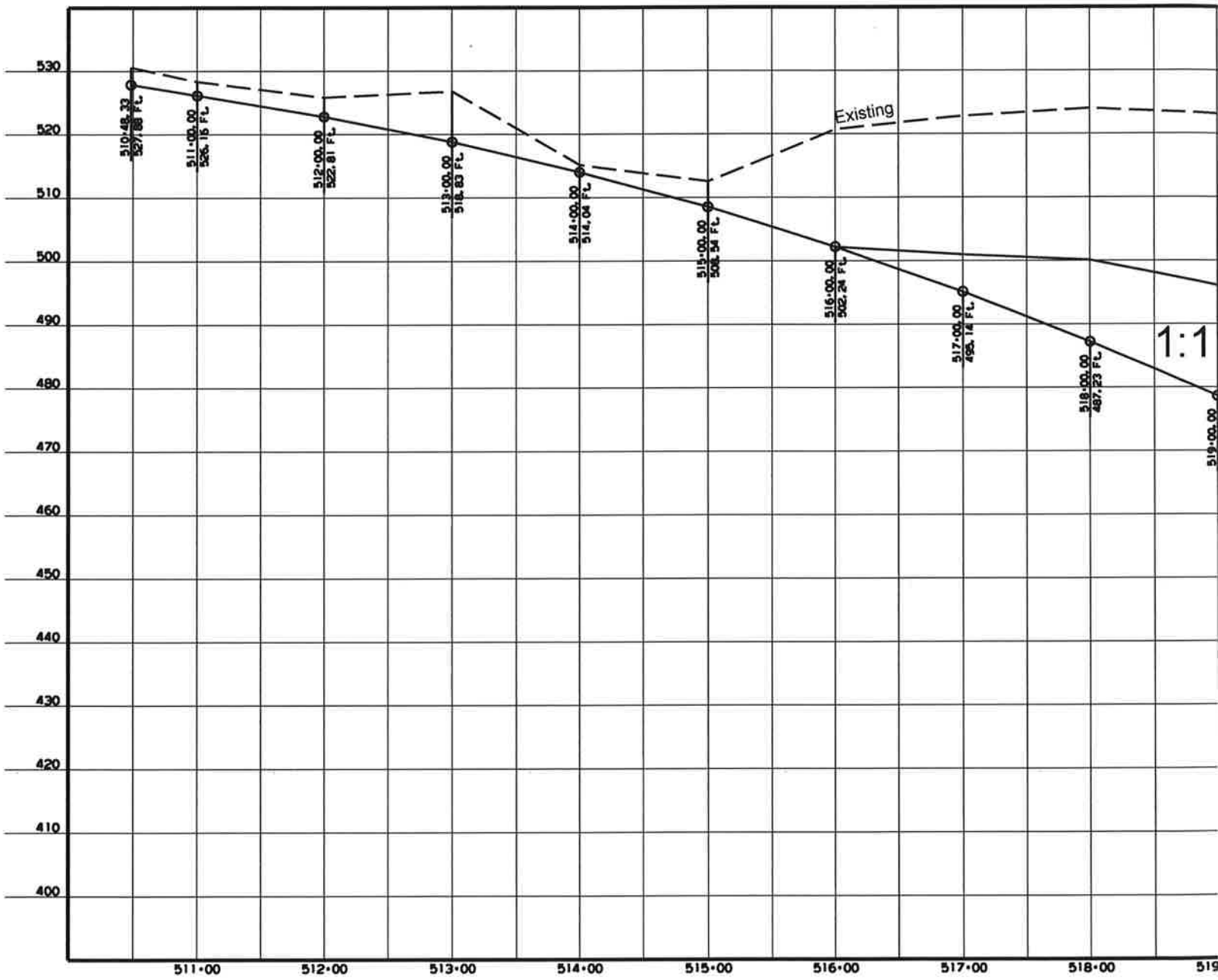



Figure 1 - Left

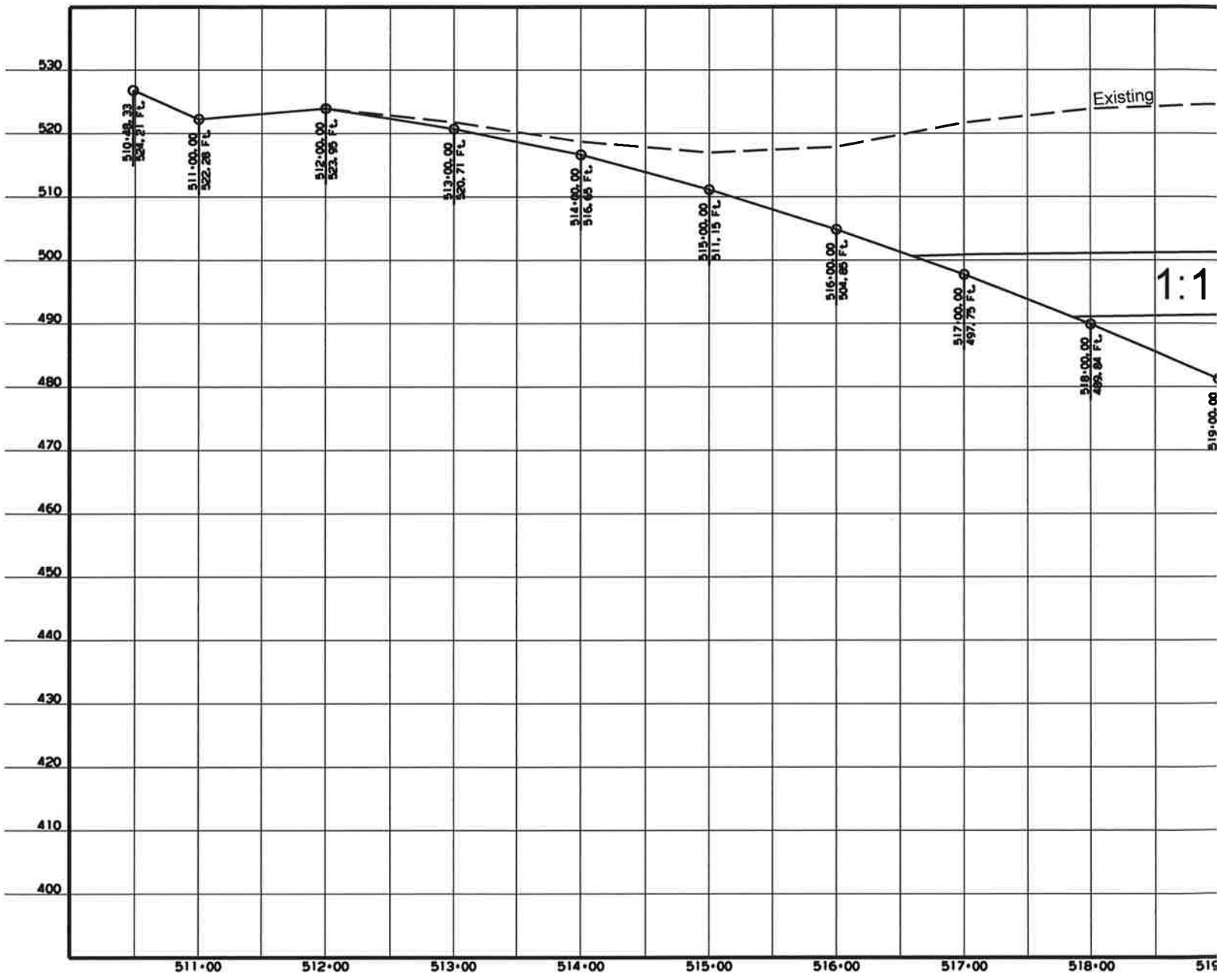



Figure 2 - Right

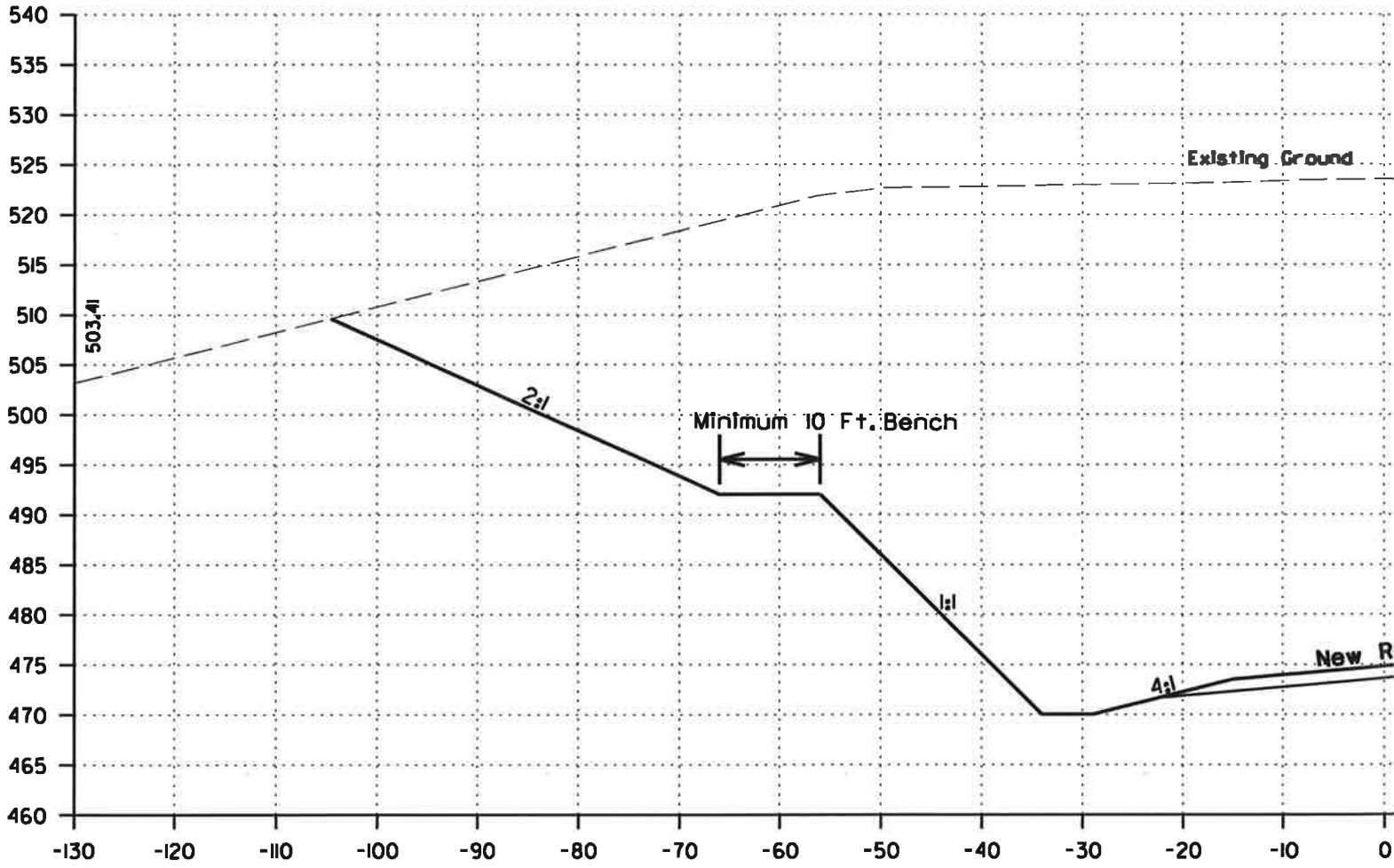



Figure 3 - Cut Slop