STATE JOE NO. 100834

FEDERAL AID PROJECT NO. NHPP-0047(67)

DITCH AT L.M. 0.82 STR. & APPRS. (S)

STATE HIGHWAY 312 SECTION 1

IN MISSISSIPPI 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.
ARMS DEPARTMENT OF TRANSPORTATION
ArDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director
MATERIALS DIVISION
1301 West Baseline Road | P.O. Box 2261 | Little Rock, AR 72203-2261 | Phone: 501.569.2185 | Fax: 501.569.2368

July 3, 2019

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 100834
Ditch at L. M. 0.82 Str. & Apprs. (S)
Route 312 Section 1
Mississippi County

Attached is the requested soil survey and strength data test results for the above referenced job. The project consists of replacing the bridge at log mile 0.82 on Highway 312 with a box culvert. Samples were taken in the existing travel lanes and ditch line.

The subgrade soils consist primarily of highly plastic sandy clay with some gravel. The subgrade soils may require stabilization to obtain a stable working platform. It is recommended that 4% lime (by dry wt.) mixed to a depth of 16 inches be used for quantity estimation purposes. If the Engineer determines stabilization is required, field trials or local experience may dictate that a lower lime content will provide a stable working platform.

The proposed cross sections are acceptable as shown.

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 at the river port in Armored.

2. Asphalt Concrete Hot Mix

<table>
<thead>
<tr>
<th>Type</th>
<th>Asphalt Cement %</th>
<th>Mineral Aggregate %</th>
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</thead>
<tbody>
<tr>
<td>Surface Course</td>
<td>5.1</td>
<td>94.9</td>
</tr>
<tr>
<td>Binder Course</td>
<td>4.1</td>
<td>95.9</td>
</tr>
<tr>
<td>Base Course</td>
<td>3.9</td>
<td>96.1</td>
</tr>
</tbody>
</table>

Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment
cc: State Constr. Eng. – Master File Copy
    District 10 Engineer
    System Information and Research Div.
    G. C. File
DATE - 06/19/2019
JOB NUMBER - 100834

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 47
DISTRICT NO. - 10

JOB NAME - DITCH AT L.M. 0.82 STR. & APPRS. (S)

* STATION LIMITS
R-VALUE AT 240 psi

BEGIN JOB - END JOB

LESS THAN 5

REMARKS -
AASHTO TESTS : T190
<table>
<thead>
<tr>
<th>STA.#</th>
<th>LOC.</th>
<th>DEPTH</th>
<th>COLOR</th>
<th>#4</th>
<th>#10</th>
<th>#40</th>
<th>#80</th>
<th>#200</th>
<th>L.L.</th>
<th>P.I.</th>
<th>SOIL CLASS</th>
<th>LAB #</th>
<th>%MOISTURE</th>
</tr>
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<tbody>
<tr>
<td>12+00</td>
<td>20 RT</td>
<td>0-5</td>
<td>BROWN</td>
<td>99</td>
<td>99</td>
<td>96</td>
<td>89</td>
<td>85</td>
<td>52</td>
<td>29</td>
<td>A-7-6(26)</td>
<td>RV332</td>
<td></td>
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<tr>
<td>12+00</td>
<td>05 RT</td>
<td>0-5</td>
<td>BROWN</td>
<td>98</td>
<td>96</td>
<td>89</td>
<td>75</td>
<td>69</td>
<td>39</td>
<td>24</td>
<td>A-6(14)</td>
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<td>36.6</td>
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<td>74</td>
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<td>S329</td>
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<td>05 LT</td>
<td>0-5</td>
<td>BROWN</td>
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<td>74</td>
<td>62</td>
<td>51</td>
<td>42</td>
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<td>6</td>
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<td>15 LT</td>
<td>0-5</td>
<td>BROWN</td>
<td>95</td>
<td>91</td>
<td>81</td>
<td>67</td>
<td>58</td>
<td>40</td>
<td>22</td>
<td>A-6(10)</td>
<td>S331</td>
<td>21.2</td>
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**Comments:** W=MULTIPLE LAYERS

**Wednesday, June 26, 2019**
<table>
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<tr>
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<td>ACHM SC AGG. BASE CRS. CL-7</td>
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<td>10.0W 10.0</td>
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<tr>
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<td>ACHM SC AGG. BASE CRS. CL-7</td>
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<tr>
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<td>10.0W 10.0</td>
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</tbody>
</table>

comments: W=MULTIPLE LAYERS

Arkansas State Highway Transportation Department
Materials Division

Michael Benson, Materials Engineer

DATE TESTED: 6/19/2019

Wednesday, June 26, 2019
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS**

**MATERIALS DIVISION**

**MICHAEL BENSON, MATERIALS ENGINEER**

***SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT***

**DATE** - 06/19/19

**JOB NUMBER** - 100834

**FEDERAL AID NO.** - TO BE ASSIGNED

**PURPOSE** - SOIL SURVEY SAMPLE

**SPEC. REMARKS** - NO SPECIFICATION CHECK

**SUPPLIER NAME** - STATE

**NAME OF PROJECT** - DITCH AT L.M. 0.82 STR. & APPRS. (S)

**PROJECT ENGINEER** - NOT APPLICABLE

**PIT/QUARRY** - ARKANSAS

**LOCATION** - MISSISSIPPI COUNTY

**SAMPLED BY** - FRAZIER

**SAMPLE FROM** - TEST HOLE

**DATE SAMPLRED** - 04/24/19

**DATE RECEIVED** - 04/29/19

**DATE TESTED** - 06/19/19

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

**LAB NUMBER** - 20191318

**SAMPLE ID** - S328

**TEST STATUS** - INFORMATION ONLY

**STATION** - 12+00

**LOCATION** - 05 RT

**DEPTH IN FEET** - 0-5

**MAT'L COLOR** - BROWN

**MAT'L TYPE** - 

**LATITUDE DEG-MIN-SEC** - 35 52 19.70

**LONGITUDE DEG-MIN-SEC** - 89 59 30.40

**% PASSING**

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<tr>
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<tbody>
<tr>
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<tr>
<td>1 1/2 IN.</td>
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<td>3/8 IN.</td>
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<td>NO. 4</td>
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<td>NO. 40</td>
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<td>NO. 80</td>
<td>75</td>
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<td>NO. 200</td>
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</tr>
</tbody>
</table>

**LIQUID LIMIT** - 39

**PLASTICITY INDEX** - 24

**AASHTO SOIL** - A-6(14)

**UNIFIED SOIL** - 

**% MOISTURE CONTENT** - 36.6

**ACHM SC (IN)** - 10.0W

**AGG. BASE CRS. CL-7 (IN)** - 10.0

**REMARKS** - W=MULTIPLE LAYERS

**AASHTO TESTS** : T24 T88 T89 T90 T265
**SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT**

**DATE** - 06/19/19
**JOB NUMBER** - 100834
**FEDERAL AID NO.** - TO BE ASSIGNED
**PURPOSE** - SOIL SURVEY SAMPLE
**SPEC. REMARKS** - NO SPECIFICATION CHECK
**SUPPLIER NAME** - STATE
**NAME OF PROJECT** - DITCH AT L.M. 0.82 STR. & APPRS. (S)
**PROJECT ENGINEER** - NOT APPLICABLE
**PIT/QUARRY** - ARKANSAS
**LOCATION** - MISSISSIPPI COUNTY
**SAMPLED BY** - FRAZIER
**SAMPLE FROM** - TEST HOLE
**MATERIAL DESC.** - SOIL SURVEY - R VALUE - PAVEMENT SOUNDINGS

| LAB NUMBER | 20191321 |
| SAMPLE ID  | S331     |
| TEST STATUS  | INFORMATION ONLY |
| STATION | 17+00 |
| LOCATION | 15 LT |
| DEPTH IN FEET | 0-5 |
| MAT'L COLOR | BROWN |
| MAT'L TYPE |  |
| LATITUDE DEG-MIN-SEC | 35 52 19.90 |
| LONGITUDE DEG-MIN-SEC | 89 59 24.50 |
| % PASSING 2 IN. |  |
| 1 1/2 IN. |  |
| 3/4 IN. | 100 |
| 3/8 IN. | 99 |
| NO. 4 | 95 |
| NO. 10 | 91 |
| NO. 40 | 81 |
| NO. 80 | 67 |
| NO. 200 | 58 |
| LIQUID LIMIT | 40 |
| PLASTICITY INDEX | 22 |
| AASHTO SOIL | A-6(10) |
| UNIFIED SOIL |  |
| % MOISTURE CONTENT | 21.2 |

**REMARKS** - W=MULTIPLE LAYERS

**AASHTO TESTS:** T24 T88 T89 T90 T265
DATE - 06/19/19
SEQUENCE NO. - 1

JOB NUMBER - 100834
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 - 47

SUPPLIER NAME - STATE
DISTRICT NO. - 10

NAME OF PROJECT - DITCH AT L.M. 0.82 STR. & APPRS. (S)

PROJECT ENGINEER - NOT APPLICABLE

PIT/QUARRY - ARKANSAS

LOCATION - MISSISSIPPI COUNTY

SAMPLED BY - FRAZIER

SAMPLE FROM - TEST HOLE

DATE SAMPLED - 04/24/19
DATE RECEIVED - 04/29/19

DATE TESTED - 06/19/19

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

LAB NUMBER - 20191322

SAMPLE ID - RV332

TEST STATUS - INFORMATION ONLY

STATION - 12+00

LOCATION - 20 RT

DEPTH IN FEET - 0-5

MAT'L COLOR - BROWN

MAT'L TYPE -

LATITUDE DEG-MIN-SEC - 35 52 19.60

LONGITUDE DEG-MIN-SEC - 89 59 30.40

% PASSING

2 IN. -

1 1/2 IN. -

3/4 IN. -

3/8 IN. - 100

NO. 4 - 99

NO. 10 - 99

NO. 40 - 96

NO. 80 - 89

NO. 200 - 85

LIQUID LIMIT - 52

PLASTICITY INDEX - 29

AASHTO SOIL - A-7-6(26)

UNIFIED SOIL -

% MOISTURE CONTENT -

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS: T24 T88 T89 T90 T265