ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY
WHITE RIVER STR. & APPRS. (ELKINS) (S)
WASHINGTON COUNTY
ROUTE 74 SECTION 2
F.A.P. STPF-0072(39)
JOB 040024

NOT TO SCALE

BRIDGE CONSTRUCTION DATA

③ STATION 115+13.88
BRIDGE NUMBER 07228
4.70' CONTINUOUS COMPOSITE W-BEAM UNIT (75'-75'-75'-75'-95'-75')
40'-0" CLEAR ROADWAY
472'-2" TOTAL LENGTH
15' RIGHT FORWARD SKEW
STATION 119+86.12

STA. 101+80.00 BEGIN
JOB 040024 L.M. 0.05

STA. 127+65.00 END
JOB 040024

PROJECT COORDINATES:
BEGIN MID-POINT END
LAT. N35°00'45" N35°00'50" N35°00'46"
LON. W94°00'21" W94°00'03" W94°00'55"

GROSS LENGTH OF PROJECT 2585.00 FEET OR 0.490 MILE
NET LENGTH OF ROADWAY 2112.76 FEET OR 0.401 MILE
NET LENGTH OF BRIDGES 472.24 FEET OR 0.089 MILE
GROSS LENGTH OF PROJECT 2585.00 FEET OR 0.490 MILE

APPROVED

DEPUTY DIRECTOR
AND CHIEF ENGINEER
<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>TITLE</th>
<th>BRIDGE NO.</th>
<th>DRWG NO.</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TITLE SHEET</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>INDEX OF SHEETS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>GOVERNING SPECIFICATIONS AND GENERAL NOTES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>TYPICAL SECTIONS OF IMPROVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>SPECIAL DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>TEMPORARY EROSION CONTROL DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>MAINTENANCE OF TRAFFIC DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>PERMANENT PAVEMENT MARKING DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>QUANTITIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>SCHEDULE OF BRIDGE QUANTITIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>SUMMARY OF QUANTITIES AND REVISIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>SURVEY CONTROL DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>PLAN AND PROFILE SHEETS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>LAYOUT OF BRIDGE OVER WHITE RIVER SHEET 1 OF 2</td>
<td>07228</td>
<td>52277</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>LAYOUT OF BRIDGE OVER WHITE RIVER SHEET 2 OF 2</td>
<td>07228</td>
<td>52277</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>DETAILS OF END BEAMS (SHEET 1 OF 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>DETAILS OF END BEAMS (SHEET 2 OF 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>DETAILS OF END BEAMS (SHEET 3 OF 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>DETAILS OF MAST 2 AND 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>DETAILS OF MAST 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>DETAILS OF MAST 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>DETAILS OF MAST 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>DETAILS OF ELASTOMERIC BEARINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 1 OF 4)</td>
<td>07228</td>
<td>52287</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 2 OF 4)</td>
<td>07228</td>
<td>52288</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 3 OF 4)</td>
<td>07228</td>
<td>52289</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 4 OF 4)</td>
<td>07228</td>
<td>52290</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 5 OF 4)</td>
<td>07228</td>
<td>52291</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>DETAILS OF 470-0 CONTINUOUS W/B EAM UNIT (SHEET 6 OF 4)</td>
<td>07228</td>
<td>52292</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS</td>
<td>50003</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>STANDARD DETAILS FOR DUMBED W/PIECE PER FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES</td>
<td>50001</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL &amp; CONCRETE SPANS</td>
<td>50002</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE</td>
<td>50010</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>STANDARD DETAILS FOR STEEL /-PIECE AND SHEET- ENCASEMENTS</td>
<td>50020</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>STANDARD DETAILS FOR STANDARD TYPE A APPROACH GUTTER</td>
<td>50030</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>CONCRETE DITCH PAVING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>GUARD RAIL DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>GUARD RAIL DETAILS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>61</td>
<td>GUARD RAIL DETAILS</td>
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<td>62</td>
<td>GUARD RAIL DETAILS</td>
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<td>63</td>
<td>GUARD RAIL DETAILS</td>
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<td>64</td>
<td>GUARD RAIL DETAILS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>65</td>
<td>GUARD RAIL DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>MAILBOX DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>CONCRETE PIPE CULVERT FILL HEIGHTS &amp; BEDDING</td>
<td>50038</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>METAL PIPE CULVERT FILL HEIGHTS &amp; BEDDING</td>
<td>50039</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)</td>
<td>50040</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>PLASTIC PIPE CULVERT (PIVC FABY)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>PAVEMENT MARKING DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>DETAILS OF PIPE UNDERDRAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>REINFORCED CONCRETE BOX CULVERT DETAILS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>EXCAVATION PAVY LIMITS, BACKFILL &amp; SOLID SODDING FOR BOX CULVERTS</td>
<td>50041</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>METHOD OF EXTENDING EXISTING R/C BOX CULVERTS</td>
<td>50042</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>TABLES AND METHOD OF SUPEREVELEATION FOR TWO-WAY TRAFFIC</td>
<td>50043</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>50044</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>50045</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>50046</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>50047</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</td>
<td>50048</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>TEMPORARY EROSION CONTROL DEVICES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>TEMPORARY EROSION CONTROL DEVICES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>TEMPORARY EROSION CONTROL DEVICES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>WIRE FENCE TYPE A&amp;D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS</td>
<td>50049</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS</td>
<td>50050</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>DETAILS OF STANDARD WINGS OF REINFORCED CONCRETE BOX CULVERTS</td>
<td>50051</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>DETAILS OF STANDARD WINGS OF REINFORCED CONCRETE BOX CULVERTS</td>
<td>50052</td>
<td>2-27-14</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>DETAILS OF STANDARD WINGS OF REINFORCED CONCRETE BOX CULVERTS</td>
<td>50053</td>
<td>2-27-14</td>
<td></td>
</tr>
</tbody>
</table>

Note: Cross sections not normally included in plans sold to prospective bidders, but may be had upon request.
GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.

2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERS WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAIL BOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BILL ITEMS.

5. ALL MARKED MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.

9. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOREGOING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER
ERRATA  ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273 SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273 SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273 SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273 SUPPLEMENT - WAGE RATE DETERMINATION

TITLE
106_1 LIQUIDATED DAMAGES
410_1 CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSE
620_1 MOWER COVER
JOB 040024_ BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040024_ BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 040024_ CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 040024_ GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 040024_ HIGH PERFORMANCE PAVEMENT MARKING
JOB 040024_ MANDATORY USE OF INTERNET BIDDING
JOB 040024_ NESTING SITES OF MIGRATORY BIRDS
JOB 040024_ PRE-BID ON SITE INVESTIGATION OF SOIL CONDITIONS
JOB 040024_ PARTNERING REQUIREMENTS
JOB 040024_ PLASTIC PIPE
JOB 040024_ REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 040024_ SECTION 604 NATIONAL AID 14 PERMIT REQUIREMENTS
JOB 040024_ SHARNING
JOB 040024_ SOD STABILIZATION
JOB 040024_ STORM WATER POLLUTION PREVENTION PLAN
JOB 040024_ SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040024_ UTILITY ADJUSTMENTS
JOB 040024_ VALUE ENGINEERING
JOB 040024_ WARM MIX ASPHALT

GOVERNING SPECS. & GEN. NOTES
FULL DEPTH - TANGENT SECTION

NOTCH & WIDENING - TANGENT SECTION

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAYED. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
NOTE: ON ALL SUPERELEVATED CURVES
AND THRU SUPERELEVATION TRANSITIONS
THE ALGEBRAIC DIFFERENCE BETWEEN
Pavement Slope and Shoulder Slope
SHALL NOT EXCEED 0.08**.

FULL DEPTH -
SUPERELEVATED SECTION

NOTCH & WIDEN -
SUPERELEVATED SECTION

TYPICAL SECTIONS OF IMPROVEMENT
C.L. CONST.

9'-9" SUBGRADE WIDTH

28'-0" ACHM SURFACE COURSE (0"

220 LBS. PER 50 YD.

*VARIABLE WIDTH (20'-0" Nom), ACHM, SURFACE COURSE 6/2")

VAR. LBS./PER 50 YD. FOR LEVELING & TACK COAT

VARIABLE WIDTH TACK COAT (0.025 CAL./50 YD.)

12'-0"

4'-0" 10'-0" LANE

10'-0" LANE

PROFILE GRADE

0.02 FT./FT.

0.02 FT./FT.

0.04 FT./FT.

5'-9"

4'-0"

4'-0"

15" NOTCH

15" NOTCH

AGGREGATE BASE

VARIABLE COMP. DEPTH

(67.50 TONS PER STA.)

VARIABLE WIDTH (20'-0" Nom) EXISTING PAVEMENT

RETAIN AND OVERLAY

*LEVELING TO BE USED IF AND WHERE DIRECTED BY

THE ENGINEER.

AGGREGATE BASE

VARIABLE COMP. DEPTH

(67.50 TONS PER STA.)

COUNTY ROAD 302

(HUMMINGBIRD ROAD)

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES, NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
DETAIL FOR DRIVEWAY TURNOUTS
(Collectors)

EDGE OF PAVEMENT

EDGE OF SHOULDER

CONSTRUCTION LIMITS

SHOULDER WIDTH

20' R

20' MAX

20' R

ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7' COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6' CONCRETE IF CONCRETE DRIVE EXIST.
AGGREGATE BASE COURSE (CLASS 7)
9' COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY

GUARDRAIL (TYPE A)
5'-6" ADDITIONAL A.D.H.A.M. SURFACE COURSE 0'-1
220 LBS. PER SQ. YD.

ADDITIONAL AGGREGATE BASE COURSE
CLASS 7 (VAR. COMPACTED DEPTH
VAR. TON/31A)

NORMAL SHOULDER

5'-6"

0.04'/'

0.02'/'

NOTE: REFER TO STD. DWG OR-9A
AND CROSS SECTIONS FOR
SLOPE REQUIREMENTS BEHIND GUARDRAIL.

WIDENING FOR GUARDRAIL DETAIL

BEGINNING OR END SECTION

PROPOSED OVERLAY

100' TRANSITION

COLD M MILL EXISTING ASPHALT PAVEMENT

EXISTING ASPHALT PAVEMENT RETAIN AND OVERLAY

DETAIL FOR TRANSITIONS

SPECIAL DETAILS
DETAIL FOR BENCHING IN SOLID ROCK
STA. 126+50 TO STA. 127+65

NOTES:
(a) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
(b) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

METHOD OF RAISING GRADE
STA. 104+50 TO STA. 107+00
STA. 121+50 TO STA. 124+00

SPECIAL DETAILS
STA. 127+65 END
JOB 040024

LEGEND
- (S) Sand Bag Ditch Check
- (F) Silt Fence
- (E) Sediment Basin

STAGE 1 TEMPORARY EROSION CONTROL DETAILS

DATE OF
REVISION
REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES

Sand bag ditch checks (type E) are estimated at 20 bags per ditch check.

The quantities and locations of the erosion control devices shown in the plans are estimated and may be altered if and where directed by the engineer to maximize their effectiveness. The devices are to be installed in an area only when the soil disturbing activity in that area begins.

Refer to Section 10 of the standard specifications for additional requirements.
LEGEND

- Sand Bag Ditch Check
- Silt Fence
- Sediment Basin

TEMPORARY EROSION CONTROL GENERAL NOTES

Sand Bag Ditch Checks (Type E-SI) are estimated at 20 bags per ditch check.

The quantities and locations of the erosion control devices shown in the plans are estimated and may be altered if and where directed by the engineer to maximize their effectiveness. The devices are to be installed in an area only when the soil disturbing activity in that area begins.

Refer to Section 40 of the standard specifications for additional requirements.
STAGE 1-A

1. ALL TRAFFIC WILL BE MAINTAINED ON EXISTING LANE DURING BOTH PARTS OF STAGE 1. INSTALL TEMPORARY PIPE CULVERTS ON EXISTING MILE 74. PLACE PRECAST CONCRETE BARRIERS ALONG EXISTING LINES AS SHOWN ON PLANS.

2. CONSTRUCT LEFT SIDE WIDENING FROM STA 121+00 TO STA 127+55.

3. USE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER FROM STA 101+00 TO STA 106+50 AND STA 121+50 TO STA 127+55 TO MAINTAIN TRAFFIC DURING STAGE 1.

4. CONSTRUCT NEW EMERGENCY AND NEW BRIDGE, STA 106+50 TO STA 121+00.

5. CONSTRUCT WIDENING OF LEFT SIDE OF C.R. 302 (HUMMINGBIRD RD.) BEFORE BEGINNING RIGHT SIDE CONSTRUCTION OF C.R. 302. MAINTAIN C.R. 302 WITH LEVELING IF AND WHERE DIRECTED BY THE ENGINEER DURING WIDENING.

6. EXTENSION OF EXISTING R.C. BOX CULVERT AT STA 124+50 MAY BE CONSTRUCTED AT ANY TIME DURING STAGE ONE.

ADVANCE WARNING SIGNS - ALL STAGES

STAGE 1 CONSTRUCTION PAVEMENT MARKINGS

STAGING IS ON CURB

CENTERLINE WILL BE DOUBLE YELLOW FOR ENTIRE LENGTH.

STA. 101+00 TO STA. 120+00
CONSTRUCTION PAVEMENT MARKINGS DOUBLE YELLOW (4") : 5600 LINEAR FEET
CONSTRUCTION PAVEMENT MARKINGS WHITE (4") : 5600 LINEAR FEET
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS : 3000 LINEAR FEET

MAINTENANCE OF TRAFFIC DETAILS
STAGE 1-A

1. ALL TRAFFIC WILL BE MAINTAINED IN EXISTING LANES DURING BOTH PARTS OF STAGE 1.
   INSTALL TEMPORARY TYPE C CLADETS ON EXISTING HWY. PLACE PRECAST CONCRETE BARRIERS ALONG EXISTING LANES AS SHOWN IN PLANS.

2. CONSTRUCT LEFT SIDE WIDENING FROM STA. 101+80 TO STA. 127+65.

3. USE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER FROM STA. 101+80 TO STA. 106+50 AND STA. 121+00 TO STA. 127+60 TO MAINTAIN TRAFFIC DURING STAGE 1.

4. CONSTRUCT NEW EMBANKMENT AND NEW BRIDGE, STA. 106+50 TO STA. 121+00.

5. CONSTRUCT WIDENING OF LEFT SIDE OF C.R. 302 (HUMMINGBIRD RD.) BEFORE BEGINNING RT. SIDE CONSTRUCTION OF C.R. 302. MAINTAIN C.R. 302 WITH LEVELING IF AND WHERE DIRECTED BY THE ENGINEER DURING WIDENING.

6. EXTENSION OF EXISTING R.C. BOX CULVERT AT STA. 124+50 MAY BE CONSTRUCTED AT ANY TIME DURING STAGE ONE.

STAGE 1-A
MAINTENANCE OF TRAFFIC DETAILS
STAGE 1-A

1. ALL TRAFFIC WILL BE MAINTAINED IN EXISTING LANES DURING BOTH PARTS OF STAGE 1. INSTALL TEMPORARY RIDE CULVERTS ON EXISTING HIGHWAY 72. PLACE PRECAST CONCRETE BARIERS ALONG EXISTING LANES AS SHOWN IN PLANS.

2. CONSTRUCT LEFT SIDE WIDENING FROM STA 101+80 TO STA 127+05.

3. USE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER FROM STA 101+80 TO STA 106+50 AND STA 121+60 TO STA 127+05 TO MAINTAIN TRAFFIC DURING STAGE 1.

4. CONSTRUCT NEW EMBANKMENT AND NEW BRIDGE, STA 106+50 TO STA 121+00.

5. CONSTRUCT WIDENING OF LEFT SIDE OF C.R. 302 (HUMMINGBIRD RD.) BEFORE BEGINNING RT. SIDE CONSTRUCTION OF C.R. 302. MAINTAIN C.R. 302 WITH LEVELING IF AND WHERE DIRECTED BY THE ENGINEER DURING WIDENING.

6. EXTENSION OF EXISTING R.C. BOX CULVERT AT STA 124+50 MAY BE CONSTRUCTED AT ANY TIME DURING STAGE ONE.
STAGE 1-B

1. ALL TRAFFIC WILL BE MAINTAINED IN EXISTING Lanes FROM STAGE 1-A. PRECAST CONCRETE BARRIERS SHALL REMAIN IN PLACE IN STAGE 1-B.

2. CONSTRUCT RIGHT SIDE WIDENING FROM STA. 101+80 TO STA. 104+50 AND FROM TO STA. 123+50 TO 127+65.

STA. 107+17 TO STA. 115+80
PRECAST CONCRETE BARRIERS 792 L.F. INCLUDES ONE SPECIAL END UNIT
STAGE 1-B

1. ALL TRAFFIC WILL BE MAINTAINED IN EXISTING Lanes FROM STAGE 1-A.
   PÉRECAST CONCRETE BARRIERS SHALL REMAIN IN PLACE IN STAGE 1-B.

2. CONSTRUCT RIGHT SIDE WIDENING FROM STA 101+80 TO STA 104+50
   AND FROM STA 123+50 TO 127+65.

STAGE 1-B
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

1. Relocate Precast Concrete Barrier and Shift Traffic to the Proposed Lanes.
2. Remove Existing Bridge and Earthwork as shown on Bridge and Roadway Plans. Remove Temporary Shoring.
5. Construct Remaining Final 2" Surface Course and Install Final Stripping.

NOTE: Stage 2 striping is the permanent striping with the exception of the right edge stripe, the right edge stripe on Stage 2 will be construction pavement marking white 1/4" x 2800 linear feet.

SEE PERMANENT PAVEMENT MARKING SHEET FOR PLACEMENT AND MATERIAL REQUIREMENTS.
STAGE 2

1. Relocate precast concrete barrier and shift traffic to the proposed lanes.
2. Remove existing bridge and earthwork as shown on bridge and roadway plans.
3. Construct remaining right side shoulders and right side widening for guardrail, install right side guardrail and truss beams.
4. The existing pavement of HWY 74, not part of the new roadway alignment, shall be removed as directed by the 2014 specification book.
5. Construct remaining final 2" surface course and install final striping.

NOTE: Stage 2 striping is the permanent striping, with the exception of the right edge striping. The right edge stage in Stage 2 will be construction pavement marking white (4") x 2500 linear feet.

See permanent pavement marking sheet for placement and material requirements.
STAGE 2

1. RELocate PRECAST CONCRETE BARRIER AND SHIFT TRAFFIC TO THE PROPOSED LANES.
2. REMOVE EXISTING BRIDGE AND EARTHWORK AS SHOWN ON BRIDGE AND ROADWAY PLANS.
   REMOVE TEMPORARY SHORING.
3. CONSTRUCT REMAINING RIGHT SIDE SHOULDERS AND RIGHT SIDE WIDENING FOR GUARDRAIL.
   INSTALL RIGHT SIDE GUARDRAIL AND TRAFFIC BEAM.
4. THE EXISTING PAVEMENT OF HAY, 7A, NOT PART OF THE NEW ROADWAY ALIGNMENT, SHALL BE
   REMOVED AS DIRECTED BY THE 2014 SPECIFICATION BOOK.
5. CONSTRUCT REMAINING FINAL 2" SURFACE COURSE AND INSTALL FINAL STRIPING.
"The 4" yellow striping quantity has been estimated based on a double yellow centerline stripe for the entire project. The striping quantities can be decreased per the discretion of the maintenance division after the final set of road closure has been placed to schedule the zoning of the project.

8" White Thermoplastic Island Outline
12" White (Stop Bar)
4" Solid White Line

"STA 99+00 to STA 115+13
Thermoplastic Pavement Marking Yellow (4"
(Double Yellow) Centerline) 375 R.F.
Thermoplastic Pavement Marking White (4"
White Edge Stripes) 333 R.F.

STA 115+13 to STA 119-46
Thermoplastic Pavement Marking White (4"
White Edge Stripes) 946 R.F.

STA 119-46 to STA 123-56
Thermoplastic Pavement Marking Yellow (4"
(Double Yellow) Centerline) 742 R.F.
Thermoplastic Pavement Marking White (4"
White Edge Stripes) 812 R.F.

STA 123-56 to STA 128-50
Thermoplastic Pavement Marking Yellow (4"
(Solid Yellow) Centerline) 544 R.F.
(Double Yellow) Centerline) 134 R.F.
Thermoplastic Pavement Marking White (4"
White Edge Stripes) 1045 R.F."
THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING / NO PASSING ZONES PRIOR TO THE DOWNSCAVENGING PHASE. THE ECONOMIST OF THE MOUNTAIN VIEW MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLEASED TO SCHEDULE THE ZONING OF THE PROJECT.

PERMANENT PAVEMENT MARKING DETAILS QUANTITIES:

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 570 LIN.FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 486 LIN.FT.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4") = 946 LIN.FT.
### ADVANCE WARNING SIGNS AND DEVICES

<table>
<thead>
<tr>
<th>SIGN NUMBER</th>
<th>DESCRIPTION</th>
<th>SIGN SIZE</th>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>MAXIMUM NUMBER REQUIRED</th>
<th>TOTAL SIGNS REQUIRED</th>
<th>VERTICAL PANELS</th>
<th>TRAFFIC DRUMS</th>
<th>BARRIACADES (TYPE &amp;)</th>
<th>FURNISHING &amp; INSTALLING PRECAST CONCRETE BARRIER</th>
<th>RELOCATING PRECAST CONCRETE BARRIER</th>
<th>TEMPORARY IMPACT ATTENUATION BARRIER</th>
<th>TEMP. IMPACT ATTEN. BARR. (REPAIR)</th>
<th>TEMP. IMPACT ATTEN. BARR. (RELOCATION)</th>
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**NOTE:** THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

### CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

<table>
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<tr>
<th>DESCRIPTION</th>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>END OF JOB</th>
<th>REMOVAL OF PERMANENT PAVEMENT MARKINGS</th>
<th>REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS</th>
<th>CONSTRUCTION PAVEMENT MARKINGS</th>
<th>REMOVABLE CONSTRUCTION PAVEMENT MARKINGS</th>
<th>THERMOPLASTIC PAVEMENT MARKINGS</th>
<th>REFLECTORIZED PAINT PAVEMENT MARKINGS</th>
<th>HIGH PERFORMANCE CONTRAST PAVEMENT MARKING (4&quot;)</th>
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**NOTE:** THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.
### SOIL LOG

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<tr>
<th>STATION</th>
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<th>DEPTH</th>
<th>LIQUID LIMIT</th>
<th>PLASTICITY INDEX</th>
<th>AASHO CLASSIFICATION</th>
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<td>18</td>
<td>A-6(2)</td>
<td>BRGR</td>
</tr>
<tr>
<td>120+00</td>
<td>40 FT.</td>
<td>1.2</td>
<td>33</td>
<td>14</td>
<td>A-2(50)</td>
<td>GRAY</td>
</tr>
<tr>
<td>127+00</td>
<td>5' LT.</td>
<td>2.5</td>
<td>31</td>
<td>14</td>
<td>A-6(13)</td>
<td>GRAY</td>
</tr>
<tr>
<td>137+00</td>
<td>26' LT.</td>
<td>1.5</td>
<td>33</td>
<td>3</td>
<td>A-2(40)</td>
<td>BROWN</td>
</tr>
</tbody>
</table>

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

Z: AUER REFUSE  NP: NON-PLASTIC  ND: NOT DETERMINABLE

### CLEARING AND GRUBBING

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>CLEARING</th>
<th>GRUBBING</th>
</tr>
</thead>
<tbody>
<tr>
<td>101+40</td>
<td>MAIN LANE, LT. &amp; RT.</td>
<td>27</td>
<td>27</td>
</tr>
</tbody>
</table>

TOTALS: 27 27

### REMOVAL AND DISPOSAL OF CULVERTS

<table>
<thead>
<tr>
<th>PIPE</th>
<th>CULVERTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>102+55</td>
<td>24' 3&quot; DRAIN ON RT.</td>
</tr>
<tr>
<td>201+22</td>
<td>18&quot; DRAIN ONLY</td>
</tr>
</tbody>
</table>

TOTAL: 2

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

### EARTHWORK

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION / DESCRIPTION</th>
<th>UNCLASSIFIED EXCAVATION</th>
<th>COMPACTED EMBANKMENT</th>
<th>*SOIL STABILIZATION</th>
<th>*PRESPLITTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>101+00</td>
<td>HWY 74</td>
<td>4563</td>
<td>2844</td>
<td>115</td>
<td>1200</td>
</tr>
<tr>
<td>300+30</td>
<td>C.R. 302 (SUMMIT LTD. RD.)</td>
<td>15</td>
<td>208</td>
<td>115</td>
<td>1200</td>
</tr>
<tr>
<td>100+00</td>
<td>ADDITIONAL FOR BRIDGEWORK</td>
<td>115</td>
<td>1200</td>
<td></td>
<td></td>
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</tbody>
</table>

ENTIRE PROJECT: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TOTALS: 5427 3860 160 2700

* QUANTITY ESTIMATED. SEE SECTION 104.G3 OF THE STANDARD SPECIFICATIONS.

### MAILBOXES

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>MAILBOXES</th>
<th>MAILBOX SUPPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EACH</td>
<td>SINGLE</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
</tr>
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TOTALS: 1 1

### REMOVAL AND DISPOSAL ITEMS

<table>
<thead>
<tr>
<th>GUARDRAIL</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>114+59</td>
<td>115+35</td>
</tr>
<tr>
<td>114+59</td>
<td>115+40</td>
</tr>
<tr>
<td>119+70</td>
<td>120+41</td>
</tr>
<tr>
<td>119+70</td>
<td>120+53</td>
</tr>
</tbody>
</table>

TOTAL: 317

### BENCH MARKS

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>BENCH MARKS (EXCEPT BTM.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>115+13.88</td>
<td>BRIDGE ABUTMENT ON LEFT</td>
<td>1</td>
</tr>
<tr>
<td>119+86.13</td>
<td>BRIDGE ABUTMENT ON RIGHT</td>
<td>1</td>
</tr>
<tr>
<td>124+58</td>
<td>LT. HEADWALL OF BRK.</td>
<td>1</td>
</tr>
</tbody>
</table>

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.
### Erosion Control

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Permanent Erosion Control</th>
<th>Temporary Erosion Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>Stage 1</td>
<td></td>
<td>3.14</td>
<td>3.14</td>
</tr>
<tr>
<td>Entire Project</td>
<td>Stage 2</td>
<td></td>
<td>1.49</td>
<td>1.49</td>
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<tr>
<td>Entire Project</td>
<td></td>
<td></td>
<td>4.63</td>
<td>9.26</td>
</tr>
<tr>
<td>Entire Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS:</strong></td>
<td></td>
<td></td>
<td>4.63</td>
<td>9.26</td>
</tr>
</tbody>
</table>

*Quantities estimated; see Section 104.03 of the Std. Specs.*

This temporary erosion control devices shown above and on the plans shall be installed in such a sequence as to deter erosion and sedimentation on U.S. waterways as explained by the National Pollutant Discharge Elimination System permit.

---

### Concrete Ditch Paving

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>&quot;W&quot;</th>
<th>Conc. Ditch Paving (Type B)</th>
<th>Solid Sodding</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>L100</td>
<td>L120</td>
<td>Hwy. 74 Lt. Side Ditch</td>
<td>100.00</td>
<td>5</td>
<td>88.89</td>
<td>44.44</td>
<td>0.56</td>
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</tbody>
</table>

**TOTALS:**

<table>
<thead>
<tr>
<th>Basis of Estimate</th>
<th>Water:</th>
<th>12.6 G.P. / Sq. Yd. of Solid Sodding</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>88.89</td>
<td>44.44</td>
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</tbody>
</table>

### Fencing

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Wire Fence (Type D)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>L101</td>
<td>L102</td>
</tr>
<tr>
<td></td>
<td>Hwy. 74 Lt. Side</td>
<td>1700</td>
</tr>
<tr>
<td></td>
<td>Hwy. 74 Lt. Side</td>
<td>260</td>
</tr>
</tbody>
</table>

**TOTAL:**

**1605**

---

### Temporary Culverts

<table>
<thead>
<tr>
<th>Station</th>
<th>Locations</th>
<th>Underdrain Protector</th>
</tr>
</thead>
<tbody>
<tr>
<td>L100</td>
<td>EXISTING HWY. 74, STAGE ONE</td>
<td>42</td>
</tr>
<tr>
<td>L100</td>
<td>EXISTING HWY. 74, STAGE ONE</td>
<td>42</td>
</tr>
<tr>
<td>L100</td>
<td>EXISTING HWY. 74, STAGE ONE</td>
<td>54</td>
</tr>
</tbody>
</table>

**TOTAL:**

**138**

---

### 4" Pipe Underdrain

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Locations</th>
<th>4&quot; Pipe Underdrains</th>
<th>Outlets Protectors</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>400</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WHERE DIRECTED BY THE ENGINEER</td>
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**TOTAL:**

**400**
## DRIVEWAYS & TURNSOUTS

<table>
<thead>
<tr>
<th>STATION</th>
<th>SIDE</th>
<th>WIDTH</th>
<th>ACHIM SURFACE COURSE (1/2)</th>
<th>AGGREGATE BASE COURSE (CLASS T7)</th>
<th>SIDE DRAINS</th>
<th>STANDARD DRAWING NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(station)</td>
<td></td>
<td></td>
<td>FEET</td>
<td>SQ. YD.</td>
<td>TON</td>
<td>FEET</td>
</tr>
</tbody>
</table>

| 104+50 | RT   | 100   | 103.9| 11.4 | 42.4 | 18 | 16 | PCC-1, PCC-1 |
| 104+65 | RT   | 20    | 68.8 | 5.4  | 19.9 | 18 | 16 | PCC-1, PCC-1 |
| 104+55 | RT   | 16    | 83.1 | 5.6  | 21.7 | 28 | 20 | PCC-1, PCC-1 |
| 50+00  | RT   | 16    | 24.7 | 7.7  | 15.1 | 18 | 16 | PCC-1, PCC-2 |

**TOTALS:** 660

**BASE OF ESTIMATE:**
- ACHIM SURFACE COURSE (1/2) = 94.4% MIN. AGGR.
- 5.6% ASPHALT BINDER

**MAXIMUM NUMBER OF GRAVATIONS = 115 FOR PG 64-22**

## COLD MILLING ASPHALT PAVEMENT

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>AVG. WIDTH</th>
<th>COLD MILLING ASPHALT PAVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATION</td>
<td>STATION</td>
<td>LOCATION</td>
<td>AVG. WIDTH</td>
<td>TOTAL</td>
</tr>
<tr>
<td>(station)</td>
<td>(station)</td>
<td></td>
<td>(station)</td>
<td></td>
</tr>
<tr>
<td>99+61.50</td>
<td>99+60.00</td>
<td>HWY. 74</td>
<td>20</td>
<td>1481.74</td>
</tr>
<tr>
<td>100+60.00</td>
<td>100+60.00</td>
<td>HWY. 74</td>
<td>20</td>
<td>222.22</td>
</tr>
<tr>
<td>108+60.00</td>
<td>108+60.00</td>
<td>HWY. 74</td>
<td>20</td>
<td>222.22</td>
</tr>
<tr>
<td>501+50.00</td>
<td>502+50.00</td>
<td>CR 502</td>
<td>20</td>
<td>222.22</td>
</tr>
</tbody>
</table>

**TOTAL:** 1481.74

**NOTE:** AVERAGE MILLING DEPTH 1".

## ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TON</th>
<th>TACK COAT</th>
<th>GALLON</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER</td>
<td>10</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL:** 20

**NOTE:** QUANTITIES ESTIMATED

**SEE SECTION 104.03 OF THE STD. SPECS.**

## BASE AND SURFACING

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>ACHIM SURFACE COURSE (1/2)</th>
<th>TACK COAT</th>
<th>ACHIM BINDER COURSE (1&quot;)</th>
<th>ACHIM SURFACE COURSE (1/2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(station)</td>
<td>(station)</td>
<td></td>
<td>FEET</td>
<td>SQ. YD.</td>
<td>TON</td>
<td>SQ. YD.</td>
<td>TON</td>
</tr>
</tbody>
</table>

| 39+49.50 | 39+50.00 | TRANSITION - SHOULDER ON LEFT RADIUS TO HWY. 76 | 104.6 | 77.25 | 80.5 |
| 39+50.00 | 39+50.00 | TRANSITION | 20 | 154.00 | 230.9 |
| 50+00.00 | 50+00.00 | TRANSITION | 18 | 114.8 | 114.3 |
| 101+60.00 | 101+60.00 | FULL DEPTH | 20 | 182.75 | 182.8 |
| 102+60.00 | 102+60.00 | NCHITCH AND WIDEN | 240.0 | 228.00 | 595.7 |
| 102+60.00 | 102+60.00 | FULL DEPTH | 300.0 | 300.50 | 308.3 |
| 114+67.50 | 115+13.00 | BRIDGE APPROACH | 20 | 71.00 | 44.5 |
| 115+00.00 | 122+13.00 | BRIDGE APPROACH | 24 | 71.0 | 44.5 |
| 120+00.00 | 120+00.00 | FULL DEPTH | 20 | 370.50 | 692.8 |
| 123+00.00 | 123+00.00 | NCHITCH AND WIDEN | 20 | 228.00 | 410.4 |
| 124+35.00 | 124+35.00 | NCHITCH AND WIDEN - INTERSECTION | 30.0 | 228.00 | 752.4 |
| 124+35.00 | 124+35.00 | NCHITCH AND WIDEN - INTERSECTION | 30.0 | 228.00 | 752.4 |
| 500+20.00 | 501+50.00 | COUNTY ROAD 302 (HUMMINGBIRD ROAD) | 125.0 | 130.0 | 182.3 |

**ENTIRE JOB**

**ADDITIONAL FOR LEVERING**

**ADDITIONAL FOR GUARDRAIL**

**BASE OF ESTIMATE:**
- ACHIM SURFACE COURSE (1/2) = 94.4% MIN. AGGR.
- 5.6% ASPHALT BINDER
- ACHIM BINDER COURSE (1") = 95% MIN. AGGR.
- 5% ASPHALT BINDER

**MAXIMUM NUMBER OF GRAVATIONS = 115 FOR PG 64-22**

## QUANTITIES

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>TON</th>
</tr>
</thead>
<tbody>
<tr>
<td>040024</td>
<td>ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER</td>
<td>25</td>
</tr>
</tbody>
</table>

**TOTAL:** 25

**NOTE:** QUANTITIES ESTIMATED

**SEE SECTION 104.03 OF THE STD. SPECS.**

---

The document contains detailed specifications for various construction projects, including roadwork and cement patching, with specific dimensions, materials, and quantities provided. The tables and sections describe the dimensions, materials, and locations for different portions of the work, ensuring a comprehensive overview of the project requirements.
### SELECTED PIPE BEDDING

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SELECTED PIPE BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TOTAL: 4

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

### STRUCTURES

<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>FLARED END SECTIONS FOR R.C. PIPE CULVERTS</th>
<th>SPAN</th>
<th>HEIGHT</th>
<th>LENGTH</th>
<th>CLASS B CONCRETE ROADWAY</th>
<th>REINF. STEEL ROADWAY (GRADE 60)</th>
<th>UNCL ELEC. FOR STR. ROADWAY</th>
<th>SOLID SODDING</th>
<th>WATER</th>
<th>STD. DWG. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>98+08</td>
<td>EXT END EXISTING R.C. PIPE CULVERT 4.8x4.8</td>
<td>EACH</td>
<td>24'</td>
<td>24'</td>
<td>1</td>
<td>8</td>
<td>0.10</td>
<td>PCC-1, FES-1, FES-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120+76</td>
<td>EXT END EXISTING R.C. PIPE CULVERT 4.8x4.8</td>
<td>EACH</td>
<td>24'</td>
<td>24'</td>
<td>2</td>
<td>10</td>
<td>0.20</td>
<td>PCC-1, FES-1, FES-2</td>
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<td></td>
</tr>
<tr>
<td>124+55</td>
<td>EXT END EXISTING 4.8x4.8x42 R.C. BOX ENS. D. W. 4/4</td>
<td>6</td>
<td>4</td>
<td>2420</td>
<td>21</td>
<td>0.23</td>
<td>R-1000, L-1000, R-1000, L-1000</td>
<td>R-1000, L-1000, R-1000, L-1000, R-1000, L-1000</td>
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</table>

TOTALS: 4 3 80.82 2420 21 42 0.83

### GUARDRAIL

<table>
<thead>
<tr>
<th>STATION</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
<th>GUARDRAIL (TYPE A)</th>
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</thead>
</table>

### APPROACH GUTTERS

<table>
<thead>
<tr>
<th>STATION</th>
<th>APPROACH GUTTER (TYPE B)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
<th>REINFORCING STEEL RDWY. (GR 60)</th>
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</thead>
</table>

TOTALS: 27.00 2360

NOTE: APPROACH GUTTER WIDTH (W) = 6 FT.
**SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 040024**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>205</th>
<th>801</th>
<th>802</th>
<th>803</th>
<th>804</th>
<th>805</th>
<th>806</th>
<th>807</th>
<th>808</th>
<th>812</th>
<th>816</th>
<th>818</th>
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</thead>
<tbody>
<tr>
<td>UNIT OF MEASURE</td>
<td>LUMP SUM</td>
<td>CUB. YD.</td>
<td>CUB. FT.</td>
<td>GAL.</td>
<td>LB.</td>
<td>LB.</td>
<td>LB.</td>
<td>LB.</td>
<td>LB.</td>
<td>LBS.</td>
<td>LBS.</td>
<td>EACH</td>
</tr>
<tr>
<td>ITEM REMOVE</td>
<td>18</td>
<td>39.00</td>
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<td>3.701</td>
<td>109</td>
<td>1,670</td>
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<td>657</td>
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<tr>
<td>ITEM EXCAVATION</td>
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<td>8.111</td>
<td>129</td>
<td>108</td>
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<tr>
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<td>470 CONT. COMP. P-SEAM UNIT</td>
<td>505.50</td>
<td>49.2</td>
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<td>513,990</td>
<td>88</td>
<td>1</td>
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<td>1,080,30</td>
<td>505.50</td>
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<td>771</td>
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<td>517,320</td>
<td>17,276.0</td>
<td>88</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

1. Includes approx. 80 cu. yds. of backfill excavation.

2. These steel pipe are required to be Grade 50 and have special-place tips which will not be paid for directly, but will be considered subsidiary to the item "Steel Piling 12" L531.

**ARLENE SCHUMER**  
DESIGN SECTION SUPERVISOR

**SCHEDULE OF BRIDGE QUANTITIES**  
WHITE RIVER STR. & APPRS. (ELKINS) (S)  
WASHINGTON COUNTY  
ROUTE 74 SEC 2  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
CHANGE No. 1  
DUNN, 7-27, 1962  
REVIEW, 7-13, 1962  
PREPARED, 7-27, 1962  
DRAWN, 7-31, 1962  
DRAWN NO. 07228  
BRIDGE NO. 07228  
DRAWING NO. 52276
### SURVEY CONTROL COORDINATES

**Project Name:** e040024

**Date:** 8/5/2010

**Coordinate System:** ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL.

**Units:** U.S. SURVEY FOOT

<table>
<thead>
<tr>
<th>Point</th>
<th>Northing</th>
<th>Easting</th>
<th>Elev</th>
<th>Feature</th>
<th>Description</th>
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<td>623196.8204</td>
<td>714345.8015</td>
<td>1201.460</td>
<td>CTL</td>
<td>5/8&quot; Rebar with 2&quot; Aluminum Cap</td>
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<tr>
<td>2</td>
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<td>1197.7110</td>
<td>CTL</td>
<td>5/8&quot; Rebar with 2&quot; Aluminum Cap</td>
</tr>
<tr>
<td>5</td>
<td>623050.5925</td>
<td>714863.6305</td>
<td>1197.7110</td>
<td>CTL</td>
<td>5/8&quot; Rebar with 2&quot; Aluminum Cap</td>
</tr>
<tr>
<td>6</td>
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<td>714863.6305</td>
<td>1197.7110</td>
<td>CTL</td>
<td>5/8&quot; Rebar with 2&quot; Aluminum Cap</td>
</tr>
<tr>
<td>7</td>
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<td>714863.6305</td>
<td>1197.7110</td>
<td>CTL</td>
<td>5/8&quot; Rebar with 2&quot; Aluminum Cap</td>
</tr>
</tbody>
</table>

### SURVEY CONTROL DETAILS

**LINE No:** 74

**POINT NO.** | **TYPE** | **STATION** | **NORTHING** | **EASTING** |
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<td>100+00.00</td>
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**C.R. 302 (HUMMINGBIRD ROAD)**

**POINT NO.** | **TYPE** | **STATION** | **NORTHING** | **EASTING** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<td>PC</td>
<td>504+61.63</td>
<td>714159.3452</td>
<td>716526.4004</td>
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</table>

**Note:**
- Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
- Standard markings common to all cap, or as indicated
- Other markings indicated in the point description of the individual point.

**USE CAUTION:** 1.0 FOR STANDOUT FOR THIS PROJECT

A PROJECT CAF OF 0.000068124 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.

THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.

**GRID DISTANCE:** GROUND DISTANCE X CAF.

**GRID COORDINATES ARE STORED UNDER FILE NAME E040024g; CTG.
**

**HORIZONTAL DATUM:** NAD 83 (1997)

**VERTICAL DATUM:** NAV88

**POSITIONAL ACCURACY:** THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

**REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO EMBASS C Control**

**IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.**

**REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL**

**BASIS OF BEARING:**

ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE

**Determined from GPS Control Points**

**CONVERGENCE ANGLE 01-10-28.1 k" LG 04-01-12.6 GRID AZIMUTH - ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.**
PLAN - BENT I

SECTION A-A

NOTES: For Section B-B, Section C-C, & Top Anchor Bent Layout, see Dwg. No. S0029.
For General Notes, see Dwg. No. S0280.

DETAIL 7

SHEET NO. 2 OF 3

DETAILS OF END BENTS

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DATE ISSUED: 07/28/2021
DATE REVISED: 07/28/2021
DATE DRAWN: 07/28/2021

SCALE: AS NOTED

BRIEVE NO. 07228
DRAWING NO. 52279

White River
**Table of Dead Load Deflections - Inches**

Negative sign '−' indicates upward deflection.

<table>
<thead>
<tr>
<th>Span</th>
<th>Point of Deflection</th>
<th>Structural Steel + Plug</th>
<th>Structural Steel + Plug</th>
<th>Structural Steel + Plug</th>
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<tbody>
<tr>
<td></td>
<td>Exterior</td>
<td>Interior</td>
<td>Exterior</td>
<td>Interior</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0.363</td>
<td>0.019</td>
<td>0.346</td>
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<tr>
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<td>0.531</td>
<td>0.026</td>
<td>0.503</td>
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<tr>
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<tr>
<td>5</td>
<td>0.065</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
<tr>
<td>6</td>
<td>0.063</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
<tr>
<td>7</td>
<td>0.063</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
<tr>
<td>8</td>
<td>0.063</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
<tr>
<td>9</td>
<td>0.063</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
<tr>
<td>10</td>
<td>0.063</td>
<td>0.017</td>
<td>0.059</td>
<td>0.017</td>
</tr>
</tbody>
</table>

**Bar List**

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<th>Pin Oil</th>
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<tr>
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<td>96.0</td>
<td>3.5</td>
</tr>
<tr>
<td>573E5</td>
<td>96.0</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Slab Pouring Sequence**

Note: Hours shown with the same number may be placed simultaneously or separately. All hours (11) must be placed before hour 10 can be placed. All hours shall be spaced between the end of a pour and the start of the next pour. Slab finishing work between adjacent pours can be done any time after the entire slab has been placed by the engineer. Any variations to the pouring sequence must be approved by the Engineer.

**Sheet 5 of 6**

**Details of 470'-0" W-Beam Unit**

**Continuous W-BEAM UNIT**

**White River**

**ARKANSAS STATE HIGHWAY COMMISSION**

**Bridge Engineer**

**Drawing No. 5229**

**07/229 SPN DETAILS 5229**
SECTION THRU JOINT AT END BENTS

Note: Section thru joint is taken perpendicular to C.L. Joint.

CHANNEL CONNECTION DETAIL

Note: Channels shall be hand placed under the joint armor. Care shall be taken to ensure that concrete completely fills the area below the top channel flanges in the backwall and in the span.

SECTION B-D

DETAIL OF NEOPRENE STRIP SEAL AT CURB

Note: Dimension "A" equals the width of opening. The width of the curb or parapet is to be drawn for removal or repair of joint.

SECTION B-B

STRIP SEAL JOINT DATA

<table>
<thead>
<tr>
<th>Joint</th>
<th>Movement Rating Group</th>
<th>&quot;A&quot; With Perpendicular to Joint at 24 Hour Average Temperature</th>
<th>&quot;B&quot; With Perpendicular to Joint at 24 Hour Average Temperature</th>
<th>&quot;C&quot; With Perpendicular to Joint at 24 Hour Average Temperature</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>40°F</td>
<td>60°F</td>
<td>80°F</td>
</tr>
<tr>
<td>1</td>
<td>e</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>7</td>
<td>e</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The temperature used to set the joint opening shall be the approximate 24-hour average air temperature during the 24-hour period immediately before the joints are tightened. The Engineer shall establish the temperature, if the temperature of the fills may be necessary.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

EXPANSION DEVICE INSTALLATION AT THE BENTS

The Contractor may elect to install the expansion device using one of the following two orthogonally:

1. The concrete upon your selection to joint shall be placed before the end bent backwall is shaped. After the end bent backwall forms are in place and the beams are erected, the blocked expansion device shall be placed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the backwall concrete. The backwall concrete shall be removed, and the expansion device adjusted for temperature and grade.

2. The backwall shall be poured to the amphiprot to construction joint line for beams are erected. The backwall expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the backwall concrete. The backwall concrete shall be removed, and the expansion device adjusted for temperature and grade.

GENERAL NOTES FOR NEOPRENE STRIP SEAL JOINTS

The expansion device shall provide for the movement orthogonal at the "STRIP SEAL, JOINT" take. The expansion joint shall be capable of handling the backwall surface and parapet area to prevent moisture and other contaminants from descending through the joints.

Details of proposed strip seals assembly shall be submitted to and approved by the Engineer prior to the fabrication of any structural seal on the expansion device. All structural seal shall be APTET-A, Grade 500, except as noted and shall be coded as "Structural Steel In Beam Spans W 200" O 800", Grade 500 sheets not be cut, bent, or exposed surfaces shall be cleaned in accordance with Subsection 9.24.1. Grade 500 sheet in applications shall be cleaned and polished in accordance with Section 9.24.3. Polished sheet in direct contact with a corrosion resistant coating shall be cut or bent and a temporary protective coating applied prior to fabrication of the expansion joint, and the protective coating shall be removed before the expansion joint is placed.

The sheet extensions and neoprene strip seals shall be paid for in accordance with Section 809.
ENERGY DISSIPATORS

TOE WALL DETAIL FOR CONCRETE DITCH PAVING

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURRED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING AND POURRED MONOLITHICALLY.

SOLID SIDES ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 40 FT INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLERS COMPLYING WITH AWWA RIS 604.

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

TWO-WAY TRAFFIC

LEGEND

- THREE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)
EDGE OF TRAVELED WAY

EDGE OF SHOULDER

TRAFFIC

END TERMINAL

GUARD RAIL

5'-6" NORM.

10'-6"

75'-0"

50'-0"

SLOPE AS SHOWN ON TYPICAL SECTION

LIMITS OF WIDENING FOR GUARD RAIL (MATCH SHOULDER SLOPE)

2'-0" MIN.

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6"

EACH SIDE TO SUPPORT GUARD RAIL

NORMAL SHALDR. SURF.

ADD'L. SURFACING

NORMAL

VAR. 5'-6" NORM.

GUARD RAIL (TYPE A)

VAR. 5'-6" NORM.

GUARD RAIL (TYPE A)

SLOPE AS SHOWN ON TYPICAL SECTION

0.04 FT/FT

0.02 FT/FT

SECTION A-A

SECTION B-B

SLOW FLATTER

NORMAL ROADWAY WIDTH

SECTION ON TANGENT

NORMAL ROADWAY WIDTH

SECTION ON CURVE

DETAILS OF WIDENING FOR GUARD RAIL

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

METHOD OF INSTALLATION OF GUARD RAIL

AT FIXED OBSTACLE

SHOULDER PIER PROTECTION

5'-0" VARIABLE

100'-0"

150'-0"

MEAN PIER PROTECTION

5'-0" VARIABLE

100'-0"

150'-0"
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POST
POSTS 1-7

W-BEAM TO THREE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

THREE BEAM RAIL
WITH WOOD OR PLASTIC BLOCKOUTS & WOOD POSTS
POSTS 1-6

THREE BEAM RAIL
WITH WOOD OR PLASTIC BLOCKOUT & WOOD POST
POST 7

W-BEAM TO THREE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:
- RAIL POSTS SHALL BE SEPARATELY TO THE HIGHWAY PROFILE ORAID.
- VERTICALLY IN CROSS SECTION.
- ROAD POSTS & ROAD BLOCKS SHALL BE OTHER ODD NO. (STRUCTURAL OR
- BETTER) 211 (400) FM OR NO. 1350 Y. SOUTHERN FENCE.

ARKANSAS STATE HIGHWAY COMMISSION
GUARD RAIL DETAILS
STANDARD DRAWING GR-10A
MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR VESTING CONTACT IN ACCORDANCE WITH SECTION 631.02 OF THE STANDARD SPECIFICATIONS.

ANTI-TWIST PLATES SHALL BE USED ON ALL POSTS.

A Platform shall be provided on all Steel Posts. The Platform shall be a minimum 1/2" thick and shall be attached to the Posts with 3/4" FLAT HEAD SCREWS to ensure a safe installation.

If requested by the local postmaster, height may vary as directed by the engineer.

The bracket and platform that is shown is for standard size mailboxes. The shelf and platform shall be modified to fit mailboxes of a different size.

The bracket and platform shall be 2" x 4" steel pipe. The shelf shall be 1/2" thick.

Mail boxes support system allows for these shown may be used provided they are on the ARKANSAS QUALIFIED PRODUCERS LIST FOR MAILBOX SUPPORTS.

GENERAL NOTES
MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

MINIMUM COVER FOR CONSTRUCTION LOADS

GENERAL NOTES
1. PIPE SHALL CONFORM TO ASHTO M246, TYPE A INSTALLATION SHALL CONFORM TO JOE SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 102 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-ELEMENT EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASHTO-LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION DATED WITH 2013 REVISION.
3. THE MAXIMUM ALLOWABLE TRENCH BREADTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE WIDTH TO ENSURE WORKING ROOM TO FABRICATE AND EASILY PLACE AND COMPACT FILLING AND OTHER SHELL MATERIAL.
4. MATERIALS SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BENDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BENDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNFITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH IS NOT TO BE DUMPED AT "STRUCTURAL BENDING"
6. PIPE END RECEPTIBLE VALUES ARE DEPENDENT ON THE EFFECT OF OTHER SUPPORTING MATERIALS.
7. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, REINFORCEMENT OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

CONSTRUCTION SEQUENCE
1. PLACE STRUCTURAL BENDING MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BENDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE THE STRUCTURAL BACKFILL, SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN LAYERS, WHERE THE LAYERS WILL BE BREDGED AT EQUALLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, REINFORCEMENT OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

LEGEND
- EXCAVATED TRENCH
- PIPE DIAMETER
- STRUCTURAL BACKFILL
- STRUCTURAL BENDING
- UNDISTURBED SOIL
- AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL, DRAINAGE MATERIALS, OR MATERIAL FROM THE HIGHWAY ELEVATION WILL BE USED TO BACKFILL THE PIPE IF SURFACE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL".
- SELECTED PIPE BACKFILL
- DRAINAGE SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CRUSHED RUBBLE OR PROFILE VALLEY.
- PILOT HOLES OR DRAINAGE MATERIALS, OR MATERIAL FROM THE HIGHWAY ELEVATION WILL BE USED TO BACKFILL THE PIPE IF SURFACE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL".
- HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.

ARIZONA STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
STANDARD DRAWING PCP-1
NOTE:
1. DRAGULAR BACKFILL TO BE SUBSEQUENT TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSEQUENT TO PIPE UNDERDRAIN.
3. DRAGULAR MATERIAL SHALL BE WRAPPED WITH GESTETEXILE FABRIC, LAY FABRIC 6" OR THE WIDTH OF THE TRENCH AT THE TOP.

PLAN VIEW

SIDE VIEW

FRONT VIEW

DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS

NOTE:
- PVC PIPE FOR LATERALS SHALL MEST THE REQUIREMENTS OF ASTM B 117. THE LATEST REVISION FOR SCHEDULE 40 PIPE.

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-I
REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

Concrete shall be Class 5 with a minimum 28 day compressive strength of 3500 psi.

Reinforcing Steel shall be AASHTO M 210 or M 51, Grade 60.

Construction and materials for wingwall & culvert drainage, including keel holes and drainwall material, shall be subsidiary to the bid item, "class 5 concrete."

Membrane waterproofing shall conform to the requirements of section 05 of the standard specifications.

Membrane waterproofing shall be applied to all construction joints in the top slab and the side walls of R.C. box culverts as directed by the engineer. No payment shall be made for this item, but payment will be considered to be included in the various items bid for the R.C. box culvert.

Reinforcing Steel tolerances: The tolerances for reinforcing steel shall meet those listed in Manual of Standard Practice. Published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for trans bars such as Figure 3 on page 7-4 of the manual shall be minus zero to plus 1/4 inch.

Weep holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 6" above the top of the bottom slab.

Weep holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 6" above the top of the wingwall footing.

The requirements shown on this drawing shall supersede the corresponding requirements on all reinforced concrete box culvert standard drawings.

R.C. BOX CULVERT HEADWALL MODIFICATIONS

### Superelevation Table for Two-Way Traffic

<table>
<thead>
<tr>
<th>DEGREE OF CURVE</th>
<th>MINIMUM DESIRABLE</th>
<th>MINIMUM DESIRABLE</th>
<th>MINIMUM DESIRABLE</th>
<th>MINIMUM DESIRABLE</th>
<th>MINIMUM DESIRABLE</th>
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</thead>
<tbody>
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<td>400</td>
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</tbody>
</table>

#### Abbreviations
- NC - Normal Crown
- RC - Reverse Crown Superelevation at Normal Crown Slope
- H - Rate of Superelevation (ft/ft)
- L - Length of Superelevation Transition (ft)
- L/R - Length of Superelevation Transition to Radius (ft)
- W - Width of Superelevation Transition (ft)
- W/P - Width of Superelevation Transition (ft)
- P - Normal Crown (ft)

#### General Notes
1. On pavement with two-way traffic, the superelevation shall be revolved on the inside pavement edge unless otherwise noted in the plans.
2. Superelevation values shown on the cross sections are values for 1-lane to be added to or subtracted from the point of control.
3. Lengths for L may be divided in multiples of 20 ft or 50 ft.
4. Pavements wider than 3 lanes shall have additional transition lengths as follows:
   - 3 lanes or less: 600 ft
   - 4 lanes: 1200 ft
   - 5 lanes or more: 1800 ft

### Standard Method When Superelevation Revolves Around Inner Subgrade Point or Inner pavement Edge

- No horizontal superelevation.
- Maintain normal crown on inside until superelevation exceeds 2°.
- Rate of superelevation shall be computed on straight line method using applicable L/R.

### Standard Method When Superelevation Revolves Around Center Line

- No horizontal superelevation.
- Maintain normal crown on inside until superelevation exceeds 2°.
- Rate of superelevation shall be computed on straight line method using applicable L/R.

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ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2
BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

** Offset Distance for Two Way Traffic Only

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>Offset Distance (ft)</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

If offset distance is not attainable, use the "Barrier Placement With Attenuator" detail shown below.

BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

** Offset Distance for Two Way Traffic Only

SPECIAL END UNIT

** Off. Dist. For Two Way Traffic Only

** Min. 3'-0" from Edge of Travel Lane to Nearest Edge of Attenuator

General Notes
When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual for Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. Place perimeter controls (e.g., silt fences, diversion ditches, sediment basins, etc.)
2. Perform clearing and grubbing operation.

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

NOTE: Number of phases will vary, three phases shown for illustration.

GENERAL NOTE
All cut slopes shall be dressed, prepared, seeded, and mulched as the work progresses. Slopes shall be constructed and stabilized in equal increments not to exceed 20 feet measured vertically.

CONSTRUCTION SEQUENCE
1. Excavate and stabilize interceptor and/or diversion ditches.
2. Perform Phase 1 excavation, place permanent or temporary seeding.
3. Perform Phase 2 excavation, place permanent or temporary seeding.
4. Perform final Phase of excavation, place permanent or temporary seeding, stabilize, terrace, construct silt check diversion ditches, sediment basins, or other erosion control devices as required.

EMBANKMENT

DIVERSION DITCH TO BE IN PLACE UNTIL SLOPE IS COMPLETELY STABILIZED.

FINAL PHASE EMBANKMENT

PHASE 2 EMBANKMENT

PHASE 1 EMBANKMENT

GENERAL NOTE
All embankment slopes shall be dressed, prepared, seeded, and mulched as the work progresses. Slopes shall be constructed and stabilized in equal increments not to exceed 20 feet measured vertically.

CONSTRUCTION SEQUENCE
1. Construct diversion ditches, check diversion basins, silt fences, or other erosion control devices as specified.
2. Place Phase 1 embankment with permanent or temporary seeding.
3. Place Phase 2 embankment with permanent or temporary seeding.
4. Place final Phase of embankment with permanent or temporary seeding.
5. Plant final Phase of embankment with permanent or temporary seeding, place diversion ditches and slope drains and maintain until entire slope is stabilized.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3
### Bar List for Barrel Section 60'0" in Length

#### Dimensions and Quantities

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Span</th>
<th>Length</th>
<th>Section</th>
<th>Class</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>60'0&quot;</td>
<td>60'0&quot;</td>
<td>Barrel</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Reinforcement Details

- **Longitudinal Bars:** 12"Dia. x 1560 lbs
- **Transverse Bars:** 12"Dia. x 1560 lbs
- **Bonding Bars:** 12"Dia. x 1560 lbs

#### Typical Section

- **Left End:**
  - 12"Dia. x 1560 lbs
  - 12"Dia. x 1560 lbs

- **Right End:**
  - 12"Dia. x 1560 lbs
  - 12"Dia. x 1560 lbs

#### General Notes:

- **Concrete:** Class 5, and shall be placed in the day.
- **Steel:** All structural steel shall conform to AISC specification.
- **Grout:** Not required.
- **Expansion Joints:** As per plans.

#### Class 5 Concrete

- **Reinforced Concrete Box Culverts**
- **Accessory Spans**
- **Singles**
- **Standard Drawing No. R-1102Y-0**

**ARKANSAS STATE HIGHWAY COMMISSION**

**DETAILED INSTRUCTION**

**FOR REINFORCED CONCRETE BOX CULVERTS**

**ACCESSORY SPANS**

**SINGLES**

**UNDER 2'-0" COVER**

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*Note: This drawing is to be used in conjunction with Standard Drawing No. R-1102Y-0.*