WEST FORK WHITE RIVER
STR. & APPRS. (FAYETTEVILLE) (S)
WASHINGTON COUNTY
ROUTE 16 SECTION 3
F.A.P. STPF-9142(28)
JOB 040569

NOT TO SCALE

STA. 337+00.00
BEGIN JOB 040569
LOG MILE 4.38

STA. 363+00.00
END JOB 040569

GROSS LENGTH OF PROJECT
2600.00 FEET OR 0.492 MILES

NET LENGTH OF ROADWAY
2095.80 FEET OR 0.397 MILES

NET LENGTH OF BRIDGES
504.20 FEET OR 0.295 MILES

NET LENGTH OF PROJECT
2600.00 FEET OR 0.492 MILES

DESIGN TRAFFIC DATA

2023 ADT: 13,000
2023 BAH: 4,980
DIRECTIONAL DISTRIBUTION: 565
TRUCKS: 81
DESIGN SPEED: 45 MPH

ACKNOWLEDGEMENT

APPROVED

DEPUTY DIRECTOR
AND CHIEF ENGINEER
NOTCH AND WIDENING - SUPERELEVATION

NOTES:

4 LANE CURB & GUTTER - NOTCH AND WIDENING

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED FROM THE EXISTING PAVEMENT TO BE REMOVED shall be carefully removed in a manner that will not damage the subbase. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE shall be removed at the Contractor's expense.

THE FINAL 2'-0" SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAYED. CONDITIONAL JUNTS SHALL BE AT LANE EDGES.

REFER TO PLAN SHEETS FOR GEOMARK LOCATIONS.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OF CURB AND GUTTER THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS UTILIZED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED FROM THE EXISTING PAVEMENT TO BE REMOVED shall be carefully removed in a manner that will not damage the subbase. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE shall be removed at the Contractor's expense.

REFER TO CROSSES FOR SECTION FOR DETAIL FROM THE NORMAL SLOPES NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSES SHALL BE WITHIN PLUS OR MINUS ONE INCH OF OF THE PLAN THICKNESS SHOWN IN 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 TOLERANCES INDICATED.

AGGREGATE FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE HELD HARMLESS OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

THE FINAL 2'-0" SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAYED. CONDITIONAL JUNTS SHALL BE AT LANE EDGES.

REFER TO PLAN SHEETS FOR GEOMARK LOCATIONS.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OF CURB AND GUTTER THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS UTILIZED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED FROM THE EXISTING PAVEMENT TO BE REMOVED shall be carefully removed in a manner that will not damage the subbase. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE shall be removed at the Contractor's expense.

TYPICAL SECTIONS OF IMPROVEMENT
4 LANE CURB & GUTTER - FULL DEPTH

FULL DEPTH - SUPERELEVATION

NOTES:
- Refer to cross sections for deviation from the normal slopes. No changes shall be made from the planned slopes without the approval of the engineer.
- The thickness of aggregate base course shall be maintained plus or minus one inch of the average thickness. The finished thickness shall be within plus or minus one inch of the planned thickness. Any depth deviation will be made for material placed in excess of the tolerance indicated.
- The final 2" of surface course is to be placed after all other courses have been laid. Longitudinal joints shall be at lane lines.
- Refer to plan sheets for sidewalk locations. Prior to and during placement of pavement in front of the curb on curb and gutter, the contractor shall be responsible for protecting all utilities. The methods used shall be approved by the engineer. Payment for the work will be considered in the price bid for the various contract items.
- 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 to the pavement that is to remain shall be repaired at the contractor's expense.
DETAIL OF TURNOUTS

ASPHALT STREETS

NOTE: THE TYPICAL SECTION FOR THE CITY STREET CONSTRUCTIONS ON THE CURB & GUTTER SECTION SHALL MATCH THE PROPOSED WIDENING SECTION SHOWN FOR THE MAIN LANES, UNLESS OTHERWISE NOTED ON THE PLANS. ALL CITY STREET WORK WILL BE J.O. WIDE.

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

DETAIL FOR TRANSITIONS

EXISTING ASPHALT PAVEMENT

COLD MILL EXISTING ASPHALT PAVEMENT

PROPOSED OVERLAY

100' TRANSITION

DETAIIL OF TEMPORARY WIDENING

VYR. WIDTH ACDA SURFACE COURSE FT)
220 LBS./PER SQ. YD.

VYR. WIDTH ACDA Binder Course FT)
1,000 LBS./PER SQ. YD. & TACK COAT
2'' THICK

22'' STAGE 2 TRAFFIC

EXISTING LANES

AGGREGATE BASE COURSE
CLASS 71, 9'' COMP. DEPTH
VYR. TONS PER STA.

SPECIAL DETAILS
TEMPORARY EROSION CONTROL GENERAL NOTES

DROP INLET SILT FENCE IS ESTIMATED AT 25 LIN FT. PER DROP INLET.

ROCK DITCH CHECKS TYPE E-6 ARE ESTIMATED AT 5 CU. YD. PER DITCH CHECK.

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THESE PLANS ARE ESTIMATED AND SHOWN TO PROVIDE PROTECTION IF AND WHERE SOIL DISTURBING ACTIVITY OCCURS EFFECTIVELY. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LEGEND

E-6 ROCK DITCH CHECKS
E-7 DROP INLET SILT FENCE
E-9 SILT FENCE
E-10 SEGMENT BASIN

TYPICAL DEVICE PLACEMENT AT DROP INLETS

TEMPORARY EROSION CONTROL QUANTITIES (STAGE I):
ROCK DITCH CHECKS (E-6) - 60 * 50 C.U.YDS.
SILT FENCE (E-7) - 275 LIN FT.
SEDIMENT REMOVAL AND DISPOSAL - 10 C.U.YDS.

REVISIONS

DATE
REVISION

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TEMPORARY EROSION CONTROL DETAILS
(STAGE I)
TEMPORARY EROSION CONTROL DETAILS
(STAGE II)

SILT FENCE (E III) - 275 LIN. FT.

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END JOB 040569
RETAIN TEMPORARY EROSION CONTROL ITEMS FROM STAGE 1 IF AND WHERE DIRECTED BY THE ENGINEER.

TEMPORARY EROSION CONTROL QUANTITIES (STAGE 2):
- ROCK DITCH CHECKS (E 6) = 25 CUB. YDS.
- DROP INLET SILT FENCE (E 7) = 175
- SILT FENCE (E 10) = 845 LIN. FT.
- SEDIMENT BASIN (E 14) = 400 CUB. YDS.
- DELETERIORATION OF SEDIMENT BASIN = 400 CUB. YDS.
- SEDIMENT REMOVAL AND DISPOSAL = 450 CUB. YDS.

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BEGIN JOB 040569
LOG MILE 4.38
TEMPORARY EROSION CONTROL QUANTITIES (STAGE 3):
ROCK DITCH CHECKS (E 6) - 55 CU.YDS.
DROP INLET SILT FENCE (E 7) - 350
SILO FENCE (E 8) - 530 LIN. FT.
SEDIMENT REMOVAL AND DISPOSAL - 35 CU.YDS.

STA. 337+00.00
BEGIN JOB 040569
LOG MILE 4.38

REVISIONS

DATE

REVISION
RETAIL EROSION CONTROL
ITEMS FROM STAGE 1R AND WHERE DIRECTED
BY THE ENGINEER.

**LEGEND**
- Rock Ditch Checks
- Drop inlet Silt Fence
- Silt Fence
- Sediment Baffle

**Revisions**

**Temporary Erosion Control Details (Stage 3)**

STA 363+00.00
END JOB 040569
RETAIN TEMPORARY EROSION CONTROL ITEMS FROM STAGE IF AND WHERE DIRECTED BY THE ENGINEER.

TEMPORARY EROSION CONTROL QUANTITIES (STAGE 4):
DROP INLET SILT FENCE (0.73 - 50')
SEDIMENT REMOVAL AND DISPOSAL • 5 CU.YDS.

STA. 337+00.00
BEGIN JOB 040569
LOG MILE 4.38

REVISIONS

DATE
REVISION

[Diagram of erosion control details]
MAINTENANCE OF TRAFFIC STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES.
CONSTRUCT TEMPORARY WIDENING ON RT. STA. 340+50 - STA. 360+00.
DELINATE TRAFFIC USING VERTICAL PANELS (40" SPACING) ON THE RT. OF THE EXISTING LAINES.
ALL COUNTY ROADS, CITY STREET INTERSECTIONS AND DRIVEWAYS ON THE RT. OF THE EXISTING LAINES
ARE TO BE DELINATED USING TRAFFIC DRUMS (16 EACH).
R4-1 SIGNS ARE TO BE PLACED THROUGH THE WORK ZONES AT 1/2 MI. INTERVALS.
W2-0-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL COUNTY ROAD AND CITY STREET INTERSECTIONS
THROUGH THE WORK ZONE.

MAINTENANCE OF TRAFFIC QUANTITIES (STAGE 1):
SIGNS 1 SIGNS 50 EA.
TROUS. 1 DRUMS 48 EA.
VERTICAL PANELS 44 EA.

STAGE 1 - TEMPORARY WIDENING

STA. 337+00.00
BEGIN JOB 040569
LOG MILE 4.38

MAINTENANCE OF TRAFFIC DETAILS
(STAGE 0)
MAINTENANCE OF TRAFFIC DETAILS
(STAGE II)
MAINTENANCE OF TRAFFIC STAGE 3

SHIFT TRAFFIC TO THE LEFT ON TO NEW LANE AND BRIDGE CONSTRUCTED DURING STAGE 2.

CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON RT. AND LT. EDGE LINES AND DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.

CONSTRUCT WIDENING ON RIGHT AS SHOWN ON PLANS.

DELINEATE TRAFFIC USING VERTICAL PANELS (40' SPACING) ON THE SIDE BEING WIDENED.

ALL COUNTY ROADS, CITY STREET INTERSECTIONS, AND DRIVEWAYS ARE TO BE DELINEATED AS SHOWN ON PLANS USING TRAFFIC DRUMS (5 EACH).

R4-1 SIGNS ARE TO BE PLACED THROUGH THE WORK ZONE AT 1/2 MI. INTERVALS.

W20-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL COUNTY ROAD AND CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.

MAINTENANCE OF TRAFFIC QUANTITIES (STAGE 3):
- SIGNS: 306, 50 FT.
- TRAFFIC DRUMS: 135 EACH.
- VERTICAL PANELS: 32 EACH.
- BARRIERS: 2, 1,220 LIN. FT.
- BARRIERS: 2, 2,500 LIN. FT.
- BARRIERS: 2, 2,800 LIN. FT.
- BARRIERS: 2, 2,900 LIN. FT.
- BARRIERS: 2, 3,100 LIN. FT.
- REMOVABLE CONSTR. BARR. 4,000 LIN. FT.

STA. 337+00.00
BEGIN JOB 040569
LOG MILE 4.38
MAINTENANCE OF TRAFFIC STAGE 4

SHIFT TRAFFIC TO THE RT. AND INTO THE PORTION OF ROADWAY AND BRIDGE CONSTRUCTED DURING STAGE 3.

CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON RT. AT LT. EDGE LINES AND DOUBLE YELLOW CENTER LINE FOR THE ENTIRE PROJECT.

CONSTRUCT WALK AND CURB ON LEFT AS SHOWN ON PLAN.

DELINATE TRAFFIC USING VERTICAL PANELS (140") SPACING ON THE LEFT.

ALL COUNTY ROADS, CITY STREET INTERSECTIONS AND DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINATED USING TRAFFIC DRUMS AT EACH.

R4-1 SIGNS ARE TO BE PLACED THROUGH THE WORK ZONES AT 1/2 MI. INTERVALS.

R2O-I (AHEAD) SIGNS ARE TO BE PLACED AT ALL COUNTY ROAD AND CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.

MAINTENANCE OF TRAFFIC QUANTITIES (STAGE 4):

- 3000' x 6750' FT.
- TRAFFIC DRUMS = 180 EACH
- REMOVABLE CONCRETE BARRIER WALL = 40 LIN. FT.
- CONSTRUCTION POINT, MIN. = 2000 L.I.N. FT.
- REMOVABLE CONCRETE BARRIER WALL = 3000 L.I.N. FT.

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LOG MILE 4.38

END ROAD WORK
48" X 24"

ROAD WORK AREA
48" X 28"

ROAD WORK AREA
48" X 30"

ROAD WORK AREA
48" X 30"

END ROAD WORK
48" X 24"

ROAD WORK AREA
48" X 48"

ROAD WORK AREA
48" X 48"

ROAD WORK AREA
48" X 48"

TRAFFIC DRUMS (140") C.C. T
NOTE: WARY, 16 WILL BE STRAIGHT FOR TWO LANES OF TRAFFIC.

STA. 337+00.00
BEGIN JOB 040569.
LOG MILE 4.38

PERMANENT PAVEMENT MARKING QUANTITIES:
THERMOPLASTIC PAVEMENT MARKINGS 4" WHITE • 5400 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS 4" YELLOW • 5000 LIN. FT.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW, 4" • 1010 LIN. FT.
RAISED PAVEMENT MARKERS (TYPE III) (WHITE/YELLOW) • 74 EACH

PERMANENT PAVEMENT MARKING DETAILS
NOTE: LANE WILL BE STRIPED FOR TWO LANES OF TRAFFIC.

PERMANENT PAVEMENT MARKING DETAILS

END JOB 040569
### Advance Warning Signs and Devices

<table>
<thead>
<tr>
<th>Sign Number</th>
<th>Description</th>
<th>Width (ft)</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Total Signs Required</th>
<th>Vertical Panels</th>
<th>Traffic Domes</th>
<th>Barriers (Type II)</th>
<th>Reallocating Precast Concrete Barrier</th>
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### Construction Pavement Markings and Permanent Pavement Markings

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<th>Stage 3</th>
<th>Stage 4</th>
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<th>Construction Pavement Markings</th>
<th>Removal of Construction Pavement Markings</th>
<th>Removable Construction Pavement Markings</th>
<th>Raised Pavement Markers</th>
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### Erosion Control

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### Quantities

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Note: This is a high traffic volume road as defined in Section 634.05, Standard Specifications for Highway Construction, 2013 Edition.
### Soil Log

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</tr>
<tr>
<td>330-00</td>
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### Removal and Disposal of Items

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>CURB AND GUTTER</th>
<th>SIDEWALK</th>
<th>SIGN FOUNDATIONS</th>
<th>GUARDRAIL</th>
<th>CONCRETE DRAW</th>
<th>BUILDINGS</th>
<th>BRIQUETS</th>
<th>BRIDGE</th>
<th>WALL</th>
<th>WILDFIRE</th>
<th>SEPTEK SYSTEM</th>
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<tbody>
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<td>336-00</td>
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### Bench Marks

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Note: Shown for information only. Bench marks shall be furnished and placed by State forces.

### Clearing and Grubbing

<table>
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<td>345-00</td>
<td>330-05</td>
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### ACHM Patching of Existing Roadway

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Note: Quantity is estimated. See Section 5A of the Std. Specs.

### Removal and Disposal of Fences

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### Mailboxes

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### Erosion Control Matting

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### Asphalting Concrete Patching for Maintenance of Traffic

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Note: Quantity is estimated. See Section 104.41 of the Std. Specs.

### 4" Pipe Underdrain

<table>
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Note: Quantity is estimated. See Section 104.03 of the Std. Specs.

Underdrains shall be specified on the proposed drop inlet and where directed by the engineer. Payment for this to be included in the unit price bid for 4" pipe underdrain.
### CONCRETE ITEMS

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>COMB. CORR. &amp; QTR. WIRE (FY. AGE 1Yr)</th>
<th>CONCRETE WORKS</th>
<th>WHEELCHAIR RAMP (TYPE 3)</th>
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<tbody>
<tr>
<td>333+50</td>
<td>333+50</td>
<td>L.T. OF MAIN LANES</td>
<td>410</td>
<td>2.3</td>
<td>6.3</td>
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<tr>
<td>340+40</td>
<td>340+40</td>
<td>L.T. OF MAIN LANES</td>
<td>465</td>
<td>1.0</td>
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<td>345+40</td>
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<td>L.T. OF MAIN LANES</td>
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**TOTALS:** 4,243.0

### FENCING

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<th>ROLLING FENCE (TYPE C)</th>
<th>POST (PER 100)</th>
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<tr>
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**TOTALS:** 118.0

### COLD MILLING ASPHALT PAVEMENT

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<td>340+00</td>
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**TOTAL:** 482.0

### SELECTION OF PIPE BEDDING

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**TOTALS:** 6000

### DRIVEWAYS & TURNOUTS

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<th>STATION</th>
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<th>WIDTH</th>
<th>MODIFIED CURB</th>
<th>PORTLAND CEMENT CONCRETE</th>
<th>ACME SURFACE COURSE (CFS)</th>
<th>ACME SURFACE COURSE (CFS)</th>
<th>ASHARE BASE COURSE (CLASS 7)</th>
<th>SIDE DRAINS</th>
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### STANDARD DRAWINGS

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**TOTALS:** 445.75

### SELECTED PIPE BEDDING

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**TOTALS:** 6000

### SCHEDULE OF ESTIMATES

- ACHME SURFACE COURSE (CFS): 54.1% ASPHALT; 4.8% ADJOURNEE; 3.5% ASPHALT BINDER
- MAXIMUM NUMBER OF CONCRETE = 115 FOR PC21G-22

*QUANTITY ESTIMATED: SEE SECTION 1A.28 OF THE STD. SPC.

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGH PERFORMANCE GRIZZLey SURFACE COURSE FOR 12SS2554 AND MINOR SIDESTREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

**NOTE:** FOR C21 PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

**NOTE:** FOR C21 PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
### Structures

<table>
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<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
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<td>3370+00</td>
<td>CONCT PIPE STUB-INLET W.F.E.S. ONLY</td>
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<td>3370+30</td>
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<td>3370+70</td>
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<td>3370+90</td>
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<tr>
<td>3370+200</td>
<td>CONCT. DI. 64&quot; W.F.E.S. PIPE OUTLET</td>
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<tr>
<td>3370+210</td>
<td>CONCT. DI. 64&quot; W.F.E.S. PIPE OUTLET</td>
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<tr>
<td>3370+220</td>
<td>CONCT. DI. 64&quot; W.F.E.S. PIPE OUTLET</td>
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<td>3370+230</td>
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<td>3370+250</td>
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### Base and Surfacing

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<td>3370-300</td>
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### Additional Information

- **Base of Concrete:**
  - AC-650 SURFACE COURSE (10")
  - 94% MIN. AGG.
  - 3% ASPHALT BINDER

- **Base of Concrete:**
  - AC-660 SURFACE COURSE (10")
  - 94% MIN. AGG.
  - 4% ASPHALT BINDER

- **Base of Concrete:**
  - AC-700 SURFACE COURSE (10")
  - 94% MIN. AGG.
  - 4% ASPHALT BINDER

**Number of Drums:** 205 FOR PI 79-22
### SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 040569

<table>
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<tr>
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<th>UNIT</th>
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<th>QUANTITY</th>
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<td>REMOVAL OF EXISTING BRIDGE STRUCTURES (SITE NO. 3)</td>
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<td>802</td>
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<td>802</td>
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<td>STEEL</td>
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<td>803</td>
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<td>PRECAST</td>
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<td>806</td>
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<td>PERFORATED BRIDGE PIPE</td>
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<td>TRANSITIONAL APPROACH RAILING</td>
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**Notes:**
- These Steel Plates are required to have approved driving points.
- These Plate numbers are to be considered secondary to the Item "Steeling Stuff 2 x 5 x 5000".

### Schedule of Bridge Quantities

**West Fork of White River**

**Route:** 6

**Location:** ARKANSAS STATE HIGHWAY COMMISSION

**BRIAN BREDLING**

**DEPARTMENT SUPERVISOR**

**CONSULTING ENGINEER**

**DRAWING:** 07256

**SCALE:** NONE

**SHEET:** NO. 07256

**DRAWING NO. 52289**

---

**SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 040569**

**West Fork of White River**

**Str. & Approaches, (Fayetteville) (S)**

**Washington County**

**ROUTE H**

**Arkansas State Highway Commission**

**Little Rock, Ark.**

**Date:** 5-31-02

**Scale:** NONE

**Drawing No.:** 07256

**Sheet:** NO. 52289
## CENTERLINE CONSTRUCTION SECTION 1

<table>
<thead>
<tr>
<th>POINT NO.</th>
<th>TYPE</th>
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## CENTERLINE CONSTRUCTION SECTION 2

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

**USE CAP + 1.0 FOR STAKEOUT FOR THIS PROJECT.**

**A PROJECT CAP OF 0.99991613 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.**

**GRID COORDINATES ARE STATED UNDER FILE NAME 8040565g1.CTL.**

**REFERENCE POINTS ARE TO BE USED FOR LABELING THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.**

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

**BASE 0 BEARINGS ARKANSAS STATE PLANE GRID BEARINGS - E1000001193 X 0.001 NORTHEAST DETERMINED FROM GPS CONTROL POINTS @ 1.1 THRU 4.6 BASED ON GPS PTS. 7200597A - 720058A OR CL Pts. 1-7 THRU 1-13 BASED ON GPS PTS. 7200595A - 720057A.**

**CONVERGENCE ANGLE:**
- **6/21/54 - 24G - 06/24/58 - 3.03 - 04/05 - 3**

**GRID AZ MATH:**
- **ASTRONOMICAL AZ MATH - CONVERGENCE AZ MATH.**
STA. 350+45 CONSTRUCT DROP INLET (H=8'-0") ON LT.
WITH 8' EXTENSION
36"X144 PIPE OUTLET TO STA. 358-90 LT.
D.I. TYPE MD = 5' DIA.
D.I. TYPE C = 4'X4'

STA. 360-03 IN PLACE 18"X20" R.C.PIPE CULVERT
LT. SIDE DRAIN REMOVE

STA. 350-97 CONSTRUCT APPROACH ON LT. = 45 CU.YDS.

STA. 363+00 CONSTRUCT DROP INLET (H=8'-0") ON LT.
18"X9" R.C.STUB-IN W/F.E.S.
36"X250 PIPE OUTLET TO STA. 360+45 LT.
D.I. TYPE MD = 5' DIA.
D.I. TYPE C = 4'X4'

STA. 362+81 IN PLACE 18"X20" C.M.PIPE CULVERT
RT. SIDE DRAIN REMOVE

STA. 362+92 CONSTRUCT APPROACH = 50 CY. YDS.

STA. 363+00 CONSTRUCT DROP INLET (H=9'3") ON RT.
WITH 6' EXTENSION
24"X34" R.C.PIPE OUTLET TO LT.
D.I. TYPE MD = 4' DIA.
D.I. TYPE C = 4'X4'

STA. 363+00 CONSTRUCT DROP INLET (H=9'3") ON RT.
18"X9" R.C.STUB-IN W/F.E.S.
36"X250 PIPE OUTLET TO CLASS IV (TYPE 3 BEDDING) TO LT.
D.I. TYPE MD = 4' DIA.
D.I. TYPE C = 4'X4'

FOR R.C.PIPE CULVERT (CLASS III) INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M.PIPE AND PLASTIC PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
**GENERAL NOTES**

All concrete shall be Class "C" and be poured in the dry. All exposed corners to be chiseled. All unless otherwise noted.

All reinforcing steel shall conform to A615 and A516. B is for B730 T600 and 0 for 730-T.

Structural steel in end beams shall be A615 T600 and 0 for A615 T600. Use 13. For additional information, see layout.
GENERAL NOTES

All concrete shall be loose (9") and be poured in the dry. All exposed corners to be chiselled (9") unless otherwise noted.

All reinforcing steel shall conform to AASHTO M186 or M85.5 or 95.

Structural steel in end bents shall be AASHTO A36 or 50W and shall be polished for use as "Structural Steel in Beam Spans (M305-G-55)"

If vertical bars are drilled into caps, the reinforcing bars shall be properly spaced to avoid damage.

No portion of the bottom shall be poured until the beams are in place. Refer to "Specifications Guide" for location of end bents as noted. For additional information, see shop.

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DIMENSIONS ARE OUT TO OUT OF BARS.
TYPICAL ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, see Sheet No 30206.

GENERAL NOTES

All concrete shall be Class "F" with a minimum 28 day compressive strength of f'_c = 3000 psi. Concretes shall be poured in the dry and all exposed corners to be chiselled. "R" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M52 or WES, Grade 60 (Tensile strength = 60000 psi).

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or shear metal sleeves.

For additional information, see Layout.
TYPICAL ANCHOR BOLT LAYOUT

Typical Anchor Bolt Layout
Not to Scale
For Details of Electroplated Bearings, See Dwg No. 52604.

GENERAL NOTES
All concrete shall be Class "C" with a minimum 28 day compressive
strength of 4000 psi. Concrete shall be poured in the dry
and all exposed corners to be chamfered 5/8" unless otherwise noted.

All reinforcing shall conform to details W3 or W3L, Grade 60
(min. yield strength 60,000 psi)

Reinforcing bars in top of cap shall be properly placed to avoid
interference with anchor bolts or shear metal sleeves.

For additional information, see Layout.

SECTION E-E
1'-6" x 1'-6"

E Beam
E Anchor Bolt
E Anchor Bolt
E Anchor Bolt
E Anchor Bolt
E Cap & E Bearing
E Cap & E Bearing
E Cap & E Bearing
E Cap & E Bearing

BENDING DIAGRAMS

F602 (2.5x2.5) (Top)
TYPICAL ANCHOR BOLT LAYOUT

For details of Elastomeric Bearing assembly, see Shop No. 52268.

SECTION E-E

HP 2 x 53 (figs)

GENERAL NOTES

All concrete shall be Class "B" with a minimum 30 day compressive strength of f'c = 3200 psi. Concrete shall be placed in the dry and all exposed corners to be chamfered 8" unless otherwise noted.

All reinforcing steel shall conform to ASTM A615 and ASTM A706 60,60 and 90,000 psi.

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.
TYPICAL ANCHOR BOLT LAYOUT

All rebar shall be Grade 40 with a minimum 28 day compressive strength of Fc = 500 psi. Concrete shall be poured in the dry and all rebar corners to be chamfered 45° unless otherwise noted.

For additional information see Layout.
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

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Note: Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

BEAM ELEVATION

No Scale

*At the contractor's option, field splices may be provided at this location. Payment will be at the contractor's expense.
**If the optional field splice is used, eliminate the shear connectors in this region.

SHEAR CONNECTOR DETAIL

No Scale

FLANGE SPlice

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**TABLE OF DEAD LOAD DEFLECTIONS (INCHES)**

**DEAD LOAD DEFLECTIONS DIAGRAM**

**WEB SPICE**

All splice plates shall be ASTM A570 Gr. 50.

**FLANGE SPICE**

For splice plate details, see sheet 1-1 of 0.

**FIELD SPICE NO. 1 DETAILS**

Scale 1" = 1'-0"

**FIELD SPICE NO. 2 DETAILS**

Scale 1" = 1'-0"

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**SHEAR CONNECTOR DETAIL**

No Scale

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**SHOWN ON SHEETS**

- All splice plates shall be ASTM A570 Gr. 50.
- Field splice connections are included. Negative sign (-) indicates point above center for Dead Load Deflection cut.


MATERIAL AND STRENGTH

- Reinforcing Steel: ASTM A615B 140/140, 60/60
- Structural Steel: ASTM A572Gr. 50, 60
- Steel Plate: ASTM A572Gr. 50, 60

CONCRETE

Concrete shall be poured in the dry and all exposed concrete to be. chipped, or otherwise noted. All concrete shall be Class SAE with a minimum 28-day compressive strength Fc = 4,000 psi. The superstructure details shown are for use when the bridge is to be designed and erected per the NDDOT Standard Specifications for Highway Bridge Construction.

Concrete that is to be poured shall be placed, consolidating, and stripped off for the entire span before any concrete has dropped its slump. This may require the use of a vibrating rod. Concrete shall be poured in accordance with subsection 6.07.04, Bridge Deck Construction Surface Finish. Sillblock shall be given a Class 6, Bropped Finish. Movement of the vibrating machine across the concrete shall be an even finish. The surface shall be left smooth and flat, and shall be finished within 12 hours after finishing the pour. Surfacing concrete must be placed at least 1/2" thick to full but not greater than 1/2" from the finished surface of the slab and it is required that the slab be kept free from loose material, dirt, and other contaminants. The surface shall be cured for at least 72 hours, and it is required that the slab be kept free from the use of a deicer during this period. The finishing details shall be consistent with the NDDOT Standard Specifications for Highway Bridge Construction.

REINFORCEMENT

All reinforcing steel shall conform to ASTM A615B 140/140. The reinforcing steel is to be acceptable to the Engineer, and it is required that the reinforcing steel be checked for its capacity to carry the stress derived from the finite element analysis. The Engineer shall be consulted to determine if any adjustments or corrections of the reinforcing steel shall not be used for drainage, but will be considered subsidiary to the free-draining reinforced concrete structure.
PLAN OF TRANSITIONAL APPROACH RAILING

Note: Railings on each side of roadway are opposite hand to each other.

ELEVATION OF TRANSITIONAL APPROACH RAILING

FOR INFORMATION ONLY
SCHEDULE OF QUANTITIES PER RAIL UNIT

Details of Transitional Approach Railing

ARKANSAS STATE HIGHWAY COMMISSION

NOTE: ALL SCALES ARE TO SCALE OF Drawing NO. 0256

DRAWING NO. 0256

DESIGNER: J. A. COX

DATE: MARCH 1973

CIVIL ENGINEER:

BIDDER: C. W. FOUTS

DRAWING: 0256

CHECKED: J. A. COX

SPECIAL INSTRUCTIONS:

1. Dimensions are not to scale.

2. Rail & Railing:
   - 5/16" to 1/2" flange
   - 2 1/2" top & back
   - 1 1/2" bottom

3. Rail:
   - 1 1/2" top & back
   - 1 1/2" bottom

4. Sections A - A
   - View A - A
   - Section B - B
   - Section C - C

5. Additional Notes:
   - General Notes
   - Bending Diagram
   - Bar List - One Transitional Rail

6. Bar List:
   - Work
   - No.
   - Type
   - Length
   - A
   - B
   - Pin
   - Stuff
   - Bending Diagram

7. Details of Transitional Approach Railing

8. Pictorial of Transitional Approach Railing

9. Bridge No. 07256

10. Drawing No. 52926
CONCRETE COMBINATION CURB AND GUTTER

DETAIL OF GUTTER SLOPE
Gutter shall be constructed on 2% slope away from roadway, regardless of roadway slope.

LONGITUDINAL SECTION
ELEVATION

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB

CONCRETE CURB

DETAILS OF MODIFIED CURB

NOTE: USE MODIFIED CURB AS SPECIFIED ON SHEET 1.
COMPOSITION OF MODIFIED CURB WILL BE CONSIDERED IN THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.
**PLAN VIEW**

**ISOMETRIC VIEW**

**EXTENSION TYPICAL SECTIONS**

1. CONCRETE - 6'' PCC CONCRETE DRIVEWAY
2. ASPHALT - 2'' ADH SURFACE COURSE, 0/2'' 4'' ADH BASE COURSE OR 4'' ADH BASE COURSE 0/1/2''
3. ASPHALT - 2'' ADH SURFACE COURSE 0/2''
4. AGGREGATE - 6'' AGGREGATE BASE COURSE

The type of extension shall be as shown in the plans. The contractor, with the approval of the engineer, shall substitute a lower numbered type of extension in lieu of the type specified in the plans but at no additional cost to the department.

**DRIVEWAY EXTENSION DETAILS**

**DRIVEWAY VERTICAL ALIGNMENT DETAILS**

*NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.*

**SECTION A-A**

**SECTION B-B**

CURBED ISLANDS FOR CHANNELIZATION

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1
### R.C. Curtain Wall Details

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**Channel Curtain Wall**

- **Single R.C.P.**
- **Double R.C.P.**

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**Notes:**
- All reinforcing steel in 4 bars at 8" O.C.
- All reinforcing steel in 4 bars at 8" O.C.
- All reinforcing steel in 4 bars at 8" O.C.
- All reinforcing steel in 4 bars at 8" O.C.

### Solid Sodding

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</table>

### Flared End Section

- **Construction Area:** See Note
- **Pipe Size of R.C. Curtain Wall:**
- **H 402 (Single R.C.P.):**
- **H 403 (Double R.C.P.):**
- **Notes for Design:**

**Concrete Method:**
- Cast in place or precast curtain wall may be used.
- Payment for curtain wall shall be deducted to be included in the unit price bid by the curtain wall contractor.
- Reinforcing steel and concrete work shall be included by the curtain wall contractor.
- All reinforcing bars and reinforcement necessary for installation shall be approved by the engineer.
<table>
<thead>
<tr>
<th>Pipe Diameter (inches)</th>
<th>Minimum Height</th>
<th>Maximum Height</th>
<th>Metal Thickness (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1/2</td>
<td>1.50</td>
<td>1.56</td>
<td>0.060</td>
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<td>1</td>
<td>2.25</td>
<td>2.41</td>
<td>0.075</td>
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<tr>
<td>1 1/2</td>
<td>3.00</td>
<td>3.16</td>
<td>0.095</td>
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<td>2</td>
<td>4.00</td>
<td>4.16</td>
<td>0.125</td>
</tr>
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<td>5.00</td>
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<td>0.205</td>
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<tr>
<td>8</td>
<td>10.00</td>
<td>10.16</td>
<td>0.250</td>
</tr>
</tbody>
</table>

**CONSTRUCTION SEQUENCE**

1. Placing structural bedding material to grade, do not compact.
2. Install pipe to design elevation, allow for adequate structural bedding.
3. Place structural bedding outside the middle third of the pipe.
4. Compact structural bedding by working from side to side until the fill is 24 inches on the shoulder, 18 inches on the side, and 12 inches in the middle. Wherever less, use a 6-inch lift.

**NOTES**

- Structural backfill and structural bedding material will not be graded separately, but compensation will be considered in the price bid per linear foot of metal pipe.

**INSTALLATION MATERIAL REQUIREMENTS FOR**

<table>
<thead>
<tr>
<th>Type</th>
<th>Structural Bedding</th>
<th>Structural Backfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aggregate Base (cubic yards)</td>
<td>Aggregate Base (cubic yards)</td>
</tr>
<tr>
<td>2</td>
<td>Selected Materials (cubic yards)</td>
<td>Selected Materials (cubic yards)</td>
</tr>
</tbody>
</table>

**EMBANKMENT AND TRENCH INSTALLATIONS**

1. Structural backfill and structural bedding material shall be compacted to the minimum density according to the type of core material used.
2. Installation type 2 or 3 may be used for corrugated steel or aluminum pipe utilized.
3. Installation type 3 shall be used for corrugated steel or aluminum pipe with 26 gauge Y stud or 32 gauge Y stud.
4. Installation type 3 or 2 may be used for corrugated steel or aluminum pipe with 32 gauge Y stud.

**GENERAL NOTES**

- All pipe shall be supported during construction by a cover sufficient to prevent damage by the earth or water.
- When installing corrugated steel pipe, the outside diameter of the pipe plus 24 inches shall be the maximum design load for the structural bedding.
- Multiple pipe culverts should be installed with a minimum clearance of 24 inches between the outside diameter of any pipe to the adjacent pipe for minimum clearance for earth fill.
- The minimum design load for the structural bedding material shall be the minimum width for practical installation conditions.
- When the existing material is not suitable for the pipe, the additional material shall be the minimum width for practical installation conditions.

**METAL PIPE CULVERT FILL HEIGHTS & BEDDING**

- For minimum cover values, the fill shall include a minimum 12" of backfill and 12" of structural bedding material.
- The fill height for each type of installation shall be specified for a given diameter, a pipe of the same diameter with a 24" or 32" fill height condition equal to or greater than the fill height condition for the specified grade and compensation.

**ARKANSAS STATE HIGHWAY COMMISSION**

**STANDARD DRAWING PCM-1**
MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>TRENCH WIDTH (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;F&quot; (0-0) &quot;F&quot; &quot;F&quot; (0-0)</td>
</tr>
<tr>
<td>0' - 1' 1'-2' 2'-3' 3'-4'</td>
</tr>
<tr>
<td>20'' 30'' 36'' 42''</td>
</tr>
</tbody>
</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>MINIMUM COVER (IN.)</th>
<th>MINIMUM COVER (IN.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6'' W/H 20''</td>
<td>10'' W/H 20''</td>
</tr>
<tr>
<td>7'' W/H 20''</td>
<td>11'' W/H 20''</td>
</tr>
<tr>
<td>8'' W/H 20''</td>
<td>12'' W/H 20''</td>
</tr>
</tbody>
</table>

GENERAL NOTES
1. PIPE SHALL CONFORM TO ASABE/AMSE TYPE II INSTALLATION SHALL CONFORM TO JOB SPECIFICATION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASABE/AMSE PIPE SPECIFICATIONS, FIFTH EDITION.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE MARGIN TO ENSURE PROPER PIPE LOCATION AND COMPACTING OF SOIL Material.
4. PIPE IS REQUIRED TO BE PLACED AS DIRECTED BY THE ENGINEER AT THE END OF THE CULVERT TO PREVENT LOSSES OF STRUCTURAL BEDDING MATERIAL.
5. WHEN DIRECTED, A MARGINAL SUITABLE MARGIN MATERIAL SHALL BE ENSURE ADEQUATE TRENCH WIDTH FOR THE TRENCH AND PIPE FOUNDATION.
6. WHEN DIRECTED, THE EXCAVATION MATERIAL SHALL BE TRENCH LENGTH FOR THE TRENCH AND PIPE FOUNDATION.
7. THE MARGINAL EXCAVATION MATERIAL SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER.
8. THE TRENCH MARGIN MATERIAL SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER.

CONSTRUCTION SEQUENCE
1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE, NO COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING MATERIAL AS DIRECTED.
4. THE STRUCTURAL CASTING MATERIAL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 1' OF THE APPROPRIATE MARGINAL MATERIAL.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WASHING, OR OTHER APPROVED METHODS IN ORDER TO HELP MAINenance GRADE AND ALIGNMENT.

LEGEND
- FILL HEIGHT "H"
- OUTSIDE DIAMETER OF PIPE "W" (H) 6" MINIMUM MARKING "M" LEAST MARKING "M" UNEQUIPPED SOIL

DESIGNED BY ENGINEER

ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT
(HIGH DENSITY POLYETHYLENE)

AR014

STANDARD DRAWING PCP-1
MAXIMUM FILL HEIGHT 
BASED ON STRUCTURAL BACKFILL

TYPE 2

<table>
<thead>
<tr>
<th>DIA</th>
<th>HEIGHT</th>
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<tbody>
<tr>
<td>32&quot;</td>
<td>42.7&quot;</td>
</tr>
<tr>
<td>48&quot;</td>
<td>43.0&quot;</td>
</tr>
<tr>
<td>60&quot;</td>
<td>42.7&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**
- DIA 32" (35" Diameter) minimum cover: 1.65 H shall be increased by 0.5 H of the amount of the bar size.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>PIPE</th>
<th>TRENCH WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>30&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
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</tr>
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<td>24&quot;</td>
<td>54&quot;</td>
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<td>30&quot;</td>
<td>66&quot;</td>
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MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>DIA</th>
<th>COVER REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
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<td>52.5&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>65.5&quot;</td>
</tr>
</tbody>
</table>

MULTIPLE INSTALLATION OF PVC PIPES

<table>
<thead>
<tr>
<th>DIA</th>
<th>CENTER TO CENTER DISPLACEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
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</tr>
<tr>
<td>6&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>9&quot;</td>
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</tbody>
</table>

GENERAL NOTES

1. PVC pipe shall conform to ASTM F924, Class D1893. Installation shall conform to job specific provision.


3. The minimum cover shall be the minimum cover plus a sufficient width to ensure working room to properly and safely place and compact backfill material.

4. Mudhills material should be placed as directed by the Engineer at the ends of the culvert to prevent loss of structural bedding when pervious material is used for structural bedding and/or backfill.

5. When directed by the Engineer, unstable material that is encounterd at the bottom of the excavated trench shall be placed as structural bedding. Unstable material shall be excavated and replaced with selected fill material. Structural bedding shall be placed in the sides of the excavation and backfilled to prevent settlement of the sides.

6. When the existing material excavated for the pipe trench is determined by the Engineer to be unacceptable, the excavation shall be backfilled with a material which is considered acceptable as structural bedding. Backfill material shall be placed as directed by the Engineer and the final grade elevation shall be used to establish the pipe area. Material from the excavation will be used to backfill the pipe area. Material located on the structural bedding shall be backfilled.

7. Pipe installation may require the use of temporary means to maintain uniform grade and alignment.

8. PVC pipes of diameters other than shown will not be allowed.

9. Joints for PVC pipes shall meet the requirements for soil tightness as specified in AASHTO Section 26.54 and SDL 2012 "Asphalt and Concrete Construction Specifications." Joints shall be installed in accordance with manufacturers recommendations.

TYPE 2 EMBANKMENT AND TRENCH INSTALLATION

1. Structural backfill shall be placed in lifts not exceeding 1.5 feet of maximum density according to the type of material used.

CONSTRUCTION SEQUENCE

1. Place structural bedding material to grade, do not compact.

2. Install pipe to grade.

3. Compact structural bedding outside the middle third of the pipe.

4. The structural backfill shall be placed and compacted in lifts not exceeding 1.5 feet of maximum density. These lifts shall be in two lifts of evenly and simultaneously to the elevations of the original cover.

5. Pipe installation may require the use of temporary means to maintain uniform grade and alignment.

LEGEND

H = FILL HEIGHT (FT)
D2 = OUTSIDE DIAMETER OF PIPE
W2 = MAXIMUM
W1 = MINIMUM

= Structural backfill material
= Unconsolidated soil

ARKANSAS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT
(PVC F924)
STANDARD DRAWING PCP-2

12-11-11
REVISION
DATE FILED
CONCRETE PAVEMENT

APPHALT PAVEMENT

BROKEN LINE STRIPING

SOLID LINE STRIPING ON CONCRETE PAVEMENT

SOLID LINE STRIPING ON ASPHALT PAVEMENT

GENERAL NOTES:

1. All lines shall have a width of 4 inches.
2. The thickness and rate of paint application shall be as specified in Section 78 of the standard specifications.
3. This drawing shall be used in conjunction with the latest revised edition of the Manual on Uniform Traffic Control Devices.
4. This drawing shall be used in conjunction with the latest revised edition of the Manual on Uniform Traffic Control Devices.

SOLID LINE STRIPING ON ASPHALT PAVEMENT

ASPHALT PAVEMENT

CONCRETE PAVEMENT

CROSSWALK AND STOPBAR DETAILS

2" STOPBAR DETAIL STOPBAR 4" FROM CROSSWALK

12" CROSSWALK STRIPES 6" X 12" PLACED 4" O.C. OFFSET 3 FT. FROM LANE EDGE

NOTES:

1. All lines shall have a width of 4 inches.
2. The thickness and rate of paint application shall be as specified in Section 78 of the standard specifications.
3. The drawing shall be used in conjunction with the latest revised edition of the Manual on Uniform Traffic Control Devices.
4. Raised pavement markers shall be centered between skip lanes on 40-feet spacing unless otherwise shown on the plans.

2" FOR ASPHALT OR CONCRETE PAVEMENT

6" FOR BITUMINOUS SURFACE TREATMENT

Pavement edge line marking

NOTE:

The red line of the type I Mark shall face the required traffic movement.

Detail of standard raised pavement markers

Arkansas State Highway Commission

Pavement Marking Details

Standard Drawing PM-1
NOTE: GRANULAR BASE TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. UNDERDRAIN COVER SHALL BE TYPICAL CONCRETE CAST AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. GRANULAR MATERIAL SHALL BE ADDED WITH GEOTEXTILE FABRIC 14' FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

PLAN VIEW

SIDE VIEW

UNDERDRAIN OUTLET PROTECTORS

Pavement Edge

FLOW

4" PIPE UNDERDRAIN

4" PIPE UNDERDRAIN

FLOW

GLUED CONNECTION (TYPICAL)

GLUED CONNECTION (TYPICAL)

FIP 056-44 ''4'' PLASTIC OR
FIP 056-44 ''4'' AC/DR 4'' PLASTIC COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

FIP 056-44 ''4'' PLASTIC OR
FIP 056-44 ''4'' AC/DR 4'' PLASTIC COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

NOTE: LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250 INTERVALS ON GRADES. THE PSO DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAILS OF PIPE UNDERDRAIN LATERALS

WHEN PLACED ALONG PAVEMENT EDGE

NOTES:

1. PIPE BENDS ON LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D3018 THE LATEST REVISION FOR SCHEDULE 40 PIPE.

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1
### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>Lg (ft)</th>
<th>Minimum S' Ress</th>
<th></th>
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<tbody>
<tr>
<td>0</td>
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<td>625</td>
<td>775</td>
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<tr>
<td>100</td>
<td>650</td>
<td>800</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**APPENDIX**

- **Lg**: Normal crown
- **H**: Normal crown, SUPERELEVATION AT NORMAL CROWN SLOPE
- **S**: Rate of super-elevation (ft per ft)
- **L**: Length of super-elevation transition (ft)
- **D**: Distance from beginning of super-elevation transition to any point (ft)
- **W**: Width of pavement (ft)

**GENERAL NOTES**

1. On pavement with two-way traffic, the super-elevation shall be revolved on the inside pavement edge unless otherwise noted on the plans.
2. Super-elevation values shown on the plans are based on the inside edge of the pavement.
3. Lengths for L are to be provided in multiples of 25 ft. or 50 ft.
4. Pavement wider than 2 lanes shall have additional transition lengths as follows:

### STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

**NOTE**: Maintain normal crown on inside until super-elevation exceeds 2°.

**SUPERELEVATION FORMULA**

\[
\text{S} = \frac{L}{R} 
\]

**SUPERELEVATION**

OUTSIDE SUBGRADE EDGE

OUTSIDE PAVEMENT EDGE

INWARD SUPER-ELEVATION

INWARD SUBGRADE SUPER-ELEVATION

OUTSIDE SUBGRADE EDGE

INWARD SUBGRADE EDGE

CONTROL POINT

PAVELD EDGE

### ARKANSAS STATE HIGHWAY COMMISSION

**TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC**

**STANDARD DRAWING 5E-2**

FILE: STAKELDON
4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (See Barrier Stabilization Detail - Bridge Decks Std. DRKG TC-4)

** Offset Distance for Two Way Traffic Only

<table>
<thead>
<tr>
<th>Speed</th>
<th>Offset Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>15</td>
</tr>
<tr>
<td>60</td>
<td>20</td>
</tr>
</tbody>
</table>

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

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."

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION -
TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERMANENT CONTROLS (I.E., SILT FENCES, DIVERSION DITCHES, SEDIMENT BANDING, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION

EXCAVATION

EXISTING GROUND

INTERCEPTOR OR DIVERSION DITCH

EXISTING GROUND

PHASE 1 EXCAVATION

PHASE 2 EXCAVATION

FINAL PHASE EXCAVATION

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 EROSION CONTROLLED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 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, STABILIZE DITCHES, CONSTRUCT TEMPORARY DITCH DRAGS FOR DRAINAGE, SEDIMENT BANDING, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

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

PHASE 1 EMBANKMENT

PHASE 2 EMBANKMENT

PHASE 3 EMBANKMENT

SIDE DITCH STABILIZED AS REQUIRED

EXISTING GROUND

GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EROSION CONTROLLED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. CONSTRUCT DIVERSION DITCHES, DITCH DRAGS, SEQUENCE BASEING, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS RELEVANT.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY PROTECTED FOR A PERIOD OF MORE THAN 30 DAYS.
4. PLACE PHASE 3 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY PROTECTED FOR A PERIOD OF MORE THAN 30 DAYS.
5. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SIDE DRAGS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3