~ NOTES ~

ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS INDICATED ON THIS DRAWING.

4' HIGH FENCE SHALL HAVE 4' FABRIC HEIGHT. 6' HIGH FENCE SHALL HAVE 6' FABRIC HEIGHT.

ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.

POST CAPS AND SOCKET TYPE BRACE END CONNECTIONS SHALL BE GALVA-NIZED PRESSUED STEEL, CAST IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO EXCLUDE MOISTURE FROM INSIDE POSTS AND RAILS.

NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.

INDISCRIMINATE MIXING OF POSTS WILL NOT BE PERMITTED.

TENSION WIRE COMPLYING WITH ASTM A 824 SHALL BE SUBSTITUTED FOR THE TOP RAIL WHEN THE FENCE IS TO BE INSTALLED IN THE PATH OF AN ERRANT VEHICLE.
CONSTRUCTION REQUIREMENT:

ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS SHOWN ON THIS DRAWING.
A, 1/4" NPS OR A 1/4" X 15/64" ROLL FORMED SECTION, BOTTOM RAIL SHALL BE REQUIRED AROUND
ALL UTILITY INSTALLATIONS AND AT OTHER LOCATIONS DESIGNATED BY THE ENGINEER.

MATERIALS:

8' HIGH FENCE SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH FENCE SHALL HAVE 8' FABRIC HEIGHT.
10' HIGH FENCE SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH FENCE SHALL HAVE 10' FABRIC HEIGHT.
12' HIGH FENCE SHALL HAVE 11' FABRIC HEIGHT.

ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.

POST CAPS AND SOCKET TYPE BRACE END CONNECTIONS SHALL BE GALVANIZED PRESSSED STEEL, CAST
IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO
EXCLUDE MOISTURE FROM INSIDE THE POSTS AND RAILS.

NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.

LEGEND / (ALTERNATES)

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<tr>
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<tbody>
<tr>
<td>1  2½'' NPS END POST</td>
<td>3/16'' X 3/16'' END POST</td>
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<tr>
<td>2  2'' NPS LINE POST</td>
<td>2¼'' H-COL. LINE POST</td>
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<tr>
<td>3  ¾'' DIA. TRUSS ROD AND TIGHTNER</td>
<td>¾'' DIA. TRUSS ROD AND TIGHTNER</td>
</tr>
<tr>
<td>4  BARBED WIRE ARMS</td>
<td>BARBED WIRE ARMS</td>
</tr>
<tr>
<td>5  1/4'' NPS TOP RAIL &amp; BRACE</td>
<td>1/4'' X 15/64'' TOP RAIL &amp; BRACE</td>
</tr>
<tr>
<td>6  BARBED WIRE</td>
<td>BARBED WIRE</td>
</tr>
<tr>
<td>7  FLAT TENSION BAR</td>
<td>NOT REQUIRED</td>
</tr>
<tr>
<td>8  BRACE BAND AND TENSION BAND</td>
<td>NOT REQUIRED</td>
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</tbody>
</table>

KENTUCKY DEPARTMENT OF HIGHWAYS

CHAIN LINK FENCE
8' TO 12' HIGH

STANDARD DRAWING NO. RFC-002-04

11-21-07

END POST
BASIS OF PAYMENT

The contract unit price for woven wire gates shall be:

1. Feet wide single vehicular woven wire gate
2. Feet wide pedestrian woven wire gate

Construction Requirements

Fabric tie wires shall be spaced 1'-0" on centers.

The contractor is not to order gates until their necessity and location have been certified by the engineer.

Materials

Woven-wire fabric used in the gates shall either be aluminum-coated steel No. 1047-6-9 or zinc-coated steel No. 1047-6-9.

NPS = nominal pipe size - ASTM F1083 and F1043 (heavy industrial fence) shall govern.

Gates shall have heavy pressed steel corners securely riveted or shall be machine notched and electrically welded so as to be rigid and watertight. All welded joints shall be cleaned and painted with two (2) coats of aluminum paint.

General

1. 6' to 13' width for single gate
2. 4' to 6' width for double gate.
VEHICULAR GATE (4' AND 6' HIGH FENCE)

NOTES

ALL POST SHALL BE SET IN CONCRETE TO THE DIMENSIONS AS INDICATED ON THIS DRAWING.

VEHICULAR AND PEDESTRIAN GATES SHALL HAVE HEAVY Pressed steel CORNERS SECURELY RIVETED OR SHALL BE MACHINE NOTCHED, AND ELECTRICALLY WELDED SO AS TO BE RIGID AND WATER TIGHT; AND EQUIPPED WITH PADLOCKING DEVICE AND GROUND STOP.

ALL WELDED JOINTS SHALL BE CLEANED AND PAINTED WITH TWO (2) COATS OF ALUMINUM PAINT.

4' HIGH GATES SHALL HAVE 4' FABRIC HEIGHT. 6' HIGH GATES SHALL HAVE 6' FABRIC HEIGHT.
8' HIGH GATES SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH GATES SHALL HAVE 8' FABRIC HEIGHT.
10' HIGH GATES SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH GATES SHALL HAVE 10' FABRIC HEIGHT.
12' HIGH GATES SHALL HAVE 11' FABRIC HEIGHT.

BARBED WIRE IS REQUIRED ON 8' TO 12' HIGH GATES. SEE DETAIL "A" AND "B" FOR INSTALLATION.

THE CONTRACTOR IS NOT TO ORDER GATES UNTIL THEIR NECESSITY AND LOCATION HAVE BEEN CERTIFIED BY THE ENGINEER.

NPS = NOMINAL PIPE SIZE - ASTM F1083 AND ASTM F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.

ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.

6' TO 13' WIDTH FOR SINGLE GATE OR 12' TO 26' WIDTH FOR DOUBLE GATE.

4' TO 6' WIDTH.

THE CONTRACT UNIT PRICE FOR CHAIN LINK GATES SHALL BE:

11 FEET WIDE SINGLE VEHICULAR CHAIN LINK GATE 13 HIGH.
12 FEET WIDE DOUBLE VEHICULAR CHAIN LINK GATE 13 HIGH.
13 FEET WIDE PEDESTRIAN CHAIN LINK GATE 13 HIGH.

AS SHOWN ON PLANS.
NOTES

THE CONTRACT UNIT PRICE SHALL BE: WATER GATE TYPE 1 OR WATER GATE TYPE 2.

THIS ILLUSTRATION DEPICTS WATER GATE TYPE 1 USING WOVEN WIRE FABRIC. CHAIN LINK FENCE MAY BE USED AS TYPE 2.

FABRIC TIE WIREs SHALL BE SPACED 1'-0" ON CENTERS. THE CONTRACTOR IS NOT TO ORDER GATES OF ANY TYPE UNTIL THEIR NECESSITY AND LOCATION ARE CERTIFIED BY THE ENGINEER.

ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.

WOVEN-WIRE FABRIC USED ON WATER GATE TYPE 1 SHALL BE EITHER ALUMINUM-COATED STEEL NO. 1047-6-9 OR ZINC COATED STEEL NO. 1047-6-9.

WATER GATES SHALL HAVE HEAVY PRESSED STEEL CORNERS SECURELY RIVETED OR SHALL BE MACHINE NOTCHED AND ELECTRICALLY WELDED SO AS TO BE RIGID AND WATER TIGHT. ALL WELDED JOINTS SHALL BE CLEANED AND PAINTED WITH TWO (2) COATS OF ALUMINUM PAINT.

NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.

"'' STRAP METAL
1/2'' x 1/2'' BOLT (2 REQD.)

1'' STEEL CABLE
2 3/4''

PIPE 1/4'' NPS

1'' STEEL CABLE

1/4'' NPS PIPE SLEEVE

8'-0"

ABUTMENT CONNECTORS

4'-0''x2'-3''x3'-0'' CONC. ANCHOR
1 CU. YD. CLASS "B" CONC.
NOTES

1. PAY ITEM AND UNIT TO BID: WATER GATE TYPE 3, EACH (2 OR MORE SECTIONS PER CULVERT OPENING EQUALS ONE WATER GATE TYPE 3)
   a. INCLUDES LABOR, MATERIALS, INSTALLATION, AND NECESSARY INCIDENTALS.

2. COMMERCIAL GRADE ALUMINUM
   a. SHEETING - 0.090” THICK, MILL FINISH.
   b. ANGLES - 2” x 2” x 16” @ 1.60 LBS./LIN. FT.
   c. BRACING - 1/2” x 1/2” x 1/8” SQUARE TUBING @ 0.826 LB./LIN. FT.

3. EYEBOLT “A” - GALVANIZED, WELDLESS, 1/2” DIA., 6” SHANK, 1” EYE I.D., 3” THREAD.
4. EYEBOLT “B” - GALVANIZED, WELDLESS, 1/2” DIA., 1/2” SHANK, 1” EYE I.D., 1” THREAD.
5. U-BOLTS - CADMIUM PLATED STEEL, 3” BETWEEN LEGS, 4/5” INSIDE LENGTH, 5” OUTSIDE LENGTH, 2/3” THREAD, 1/2” DIA.
6. HEX FULL NUTS AND JAM NUTS - 3/4” DIA., 13 THREADS/IN., FINISHED, DOUBLE CHAMFERED.
7. STEEL WASHER - 7/4” I.D., 2 3/4” O.D.
8. EXPANSION ANCHORS - 6000 LBS. MINIMUM HOLDING POWER.
9. WELD ANGLE AND BRACE CONNECTIONS FULLY ON ALL EXPOSED SIDES.
10. WELD SHEETING ON BOTH SIDES TO ANGLES AND BRACING AS SHOWN.
11. CULVERT OPENINGS GREATER THAN 10’ IN WIDTH - USE MINIMUM OF 2 EQUAL WIDTH U-BOLTS - CADMIUM PLATED STEEL, 3” BETWEEN LEGS, 4 5/16” INSIDE LENGTH, 5” OUTSIDE LENGTH, 2/3” THREAD, 1/2” DIA.
12. USE OF ONE CONTINUOUS ALUMINUM SHEET IS DESIRABLE; HOWEVER IF MORE THAN ONE SHEET IS USED AND THE SEAMS DO NOT FIT THE MINIMUM REQUIRED BRACING DIAGRAM, ADDITIONAL SYMMETRICALLY PLACED BRACING SHALL BE REQUIRED. NO SEAMS SHALL BE VISIBLE FROM THE BRACING SIDE OF THE GATE.

MINIMUM HOR. AND VER. BRACING SYSTEMS FOR VARIOUS WIDTH CULVERT OPENINGS.
ONE (1) ADDITIONAL HOR. BRACE REQUIRED FOR CULVERT OVER 10’ IN HEIGHT.

WATER GATE LOCATION IN CULVERTS AT 90°
WATER GATE LOCATION IN SKEWED CULVERTS

HENRY COUNTY DEPARTMENT OF HIGHWAYS

STANDARD DRAWING NO RFG-011-05

KENTUCKY DEPARTMENT OF HIGHWAYS

WATER GATE TYPE 3
TYPICAL PULL POST INSTALLATIONS
PULL POSTS SHALL BE USED AT SHARP BREAKS IN VERTICAL ALIGNMENT AND APPROXIMATELY 500' ON CENTERS.

TYPICAL FENCE INSTALLATION FOR BOX CULVERT USED AS CATTLE CROSSING

NOTE: ALL MATERIAL FOR ABUTMENT CONNECTION SHALL BE GALVANIZED.

ABUTMENT CONNECTION SHALL BE NOT LESS THAN 6' NOR MORE THAN 1'-6' FROM FACE TO BACKWALL

ABUTMENT CONNECTION

NOTE: ALL MATERIAL FOR ABUTMENT CONNECTION SHALL BE GALVANIZED.

FENCING DETAIL 1, 2 OR 3

NOTE: ALL MATERIAL FOR ABUTMENT CONNECTION SHALL BE GALVANIZED.
RIGHT-OF-WAY FENCE

MATERIALS:
WOVEN-WIRE FABRIC SHALL BE EITHER ALUMINUM-COATED STEEL NO. 1047-6-9 OR ZINC-COATED STEEL NO. 1047-6-9.
ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.
NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.
1. ROLL FORM POST AT 1.40 LBS. PER FOOT
   - OR -
   ROLL FORM POST AT 1.33 LBS. PER FOOT (SEE DETAIL)
2. NOT REQUIRED FOR ROLL FORM POST.

ROLL FORM POST
CLIP
FABRIC
PLAN VIEW OF CLIP INSTALLED IN ROLL FORM POST

WELDED

ALTERNATE METHODS OF SECURING VERTICAL STAY WIRE TO THE HORIZONTAL WIRE OF THE FABRIC.
DETAIL "A"

PLAN VIEW OF ROLL FORM POST
ISOMETRIC EXPLODED VIEW OF ROLL FORM POST AND CLIPS
CLIPS SHALL BE SPRING STEEL ALUMINUM - FINISHED

NOTES

CORNER OR INTERMEDIATE PULL POST 2½" NPS
BRACE 1¼" NPS
LINE POST
CLIPS OR FABRIC TIES ON ALL LINE POST AS SHOWN
CAP
SEE DETAIL "A"
LINE POST
CLASS "B" CONCRETE OR BETTER (TYP.)
10'-0"
12'-0"
2'-0"
3'-0"
4'-0"
5'-0"
6'-0"
7'-0"
8'-0"
9'-0"
10'-0"
11'-0"
12'-0"
13'-0"
14'-0"
15'-0"
16'-0"
NOTES

1. On intermediate pull post assemblies, brace wires shall be required for both directions.

2. Woven-wire fabric shall be either aluminum-coated steel No. 1047-6-9 or zinc-coated steel No. 1047-6-9.

Woven-Wire Fabric Type 2

See Detail "A" for alternate methods of securing vertical stay wire to the horizontal wire of the fabric.

Detail "B"
### Curve Widening for Spiral Transition Curves

(Widening divided equally on each side)

Note: If directed spiral transition curves shall be widened on inside only.

#### Full Superelevation

- Maximum widened outside edge
- Maximum widened inside edge

#### Normal Centerline

- Normal inside edge
- Normal outside edge

#### Spiral Transition

- Full superelevation
- Inside edge
- Outside edge

#### Normal Roadway

- Normal inside edge
- Normal outside edge

#### Tangent Runout

- $L = \frac{C}{e}$

#### Transition

- This distance to be such that superelevation on outside equals crown of roadway.

### Curve Widening for Simple Curves

(Widened on inside only)

#### Normal Centerline

- Normal inside edge
- Normal outside edge

#### Straight Line Transition

- Full superelevation
- Inside edge
- Outside edge

#### Normal Roadway

- Normal inside edge
- Normal outside edge

#### Tangent Runout

- $L = \frac{C}{e}$

#### Transition

- This distance to be such that superelevation on outside equals crown of roadway.

(Spiral Curves)

- $\frac{2}{3}L = \frac{C}{e}$

### Curve Widening in Feet for Two-Lane Pavements

<table>
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<th>PVMT. WIDTH</th>
<th>24 FEET</th>
<th>22 FEET</th>
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<tr>
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<tr>
<td>225'</td>
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1. Width of pavement on tangent
2. 3-Lane Pavements: Multiply above values by 1.5.
3. 4-Lane Pavements: Multiply above values by 2.
4. For intermediate design speeds, use the next higher design speed value.
5. When required on construction, curves shall be super-elevated by revolving section around inside or outside edge as directed. Short vertical curves to be inserted at "O" and "A" where directed on construction.
6. When semitailer volumes are significant refer to the AASHTO "A Policy ON Geometric Design of Highways and Streets".

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**Kentucky Department of Highways**

Standard Drawing No. RGS-001-06

~ Sections ~

- Normal Crown
- Section A-A
- Section B-B
- Section C-C
- Section D-D

Outside edge of pavement

C grade

Centerline

Inside edge of pavement

Tangent runout

Normal roadway crown

Flat

Normal centerline

Full superelevation

Note: Minimum widening = 2'-0"
NOTES

1. SPECIAL CARE MUST BE EXERCISED IN THE DRAINING OF DITCH SUMPS INDUCED BY THE SUPERELEVATION.
2. L = MINIMUM LENGTH OF RUNOFF.
3. FOR HINGE POINT ROUNDING BETWEEN SUPERABLE AND NON-SUPERABLE SHOULDER SEE RGX-001
TYPICAL SECTION SHOWING ROUNding OF SLOPES

AB = 1/2 AC

DETAIL FOR ROUNding OF SLOPES

BRIDGE APPROACH FOR USE IN CONJUNCTION WITH ASPHALT CONCRETE PAVEMENT

P = NORMAL PAVEMENT WIDTH
B = BRIDGE ROADWAY

NORMAL PAVEMENT SHALL BE TRANSITIONED TO MEET BRIDGE ROADWAY AS INDICATED ABOVE.

SINGLE BRIDGE

TWIN BRIDGES

EARTH DIKE IN DEPRESSED MEDIAN AT THE END OF TWIN BRIDGES

PLAN VIEW

PROFILE OF EARTH DIKE

PAVEMENT AND SHOULDER DIKE CROWN ROUNDED

ROUNDING FROM EXTENDED CROSS SLOPE IN ORDER TO AVOID PEAK AT CENTER.

IN A HORIZONTAL CURVE, ROUNding SHOULD BE USED AT HINGE POINT BETWEEN SUPERABLE AND NON-SUPERABLE SHOULDERS.
THE RETAINING WALL DEPICTED ON THIS DRAWING SHALL BE USED WHEN THE HEIGHT (H DIMENSION) OF THE WALL IS 12'-0" OR LESS PROVIDED THE FILL COMPLIES WITH THE FOLLOWING CONDITIONS:

CASE I - WALL BACKFILL SLOPES DOWN, IS LEVEL, OR SLOPES UP FROM WALL AT 20:1 OR FLATTER. THIS LOW SLOPE ALLOWS FOR BACKFILLS WHICH WOULD BE LEVEL EXCEPT FOR THE SLOPE REQUIRED TO FACILITATE PROPER DRAINAGE.

CASE II - BACKFILL SLOPES UP STEEPER THAN 20:1 BUT NOT STEEPER THAN 4:1.

CASE III - BACKFILL SLOPES UP STEEPER THAN 4:1 BUT NOT STEEPER THAN 2:1. WHEN H DIMENSION IS GREATER THAN 8' (HEIGHT OF EXPOSED FACE GREATER THAN 6') INCREASE THE EMBEDMENT DEPTH TO 1/4H, 1.

SPECIAL DESIGNS SHALL BE REQUIRED WHEN THE FOLLOWING CONDITIONS EXIST:

A. WALL HEIGHT IS GREATER THAN 12'-0''

B. WALL IS SURCHARGED WITH DEAD LOAD FILL SLOPES STEEPER THAN 2:1.

C. WALL IS SURCHARGED WITH A LIVE LOAD WITHIN THE LIMITS OF A 1:1 SLOPE EXTENDING FROM THE BASE OF THE WALL.

AREAS AND VOLUMES HAVE BEEN COMPUTED WITHOUT DEDUCTING FOR BEVELED EDGES OR PIPE DRAINS. WHEN A RETAINING WALL VARIES IN HEIGHT, THE PRISMOIDAL FORMULA SHALL BE USED IN COMPUTING VOLUMES.

1. MINIMUM EMBEDMENT VALUE FOR FIRM EARTH IS 2'-0''.

CASE III REQUIRES AN EMBEDMENT OF 1/4H FOR A WALL OVER 8' (SEE CASE III ABOVE).

2. BATTER: CASE I, AND CASE II

   H = 3'-0'' TO LESS THAN 5'-0'' (VERTICAL)

   H = 5'-0'' TO LESS THAN 10'-0'' (12 : 1)

   H = 10'-0'' TO 12'-0'' (6 : 1)

CASE III

   H = 3'-0'' TO LESS THAN 5'-0'' (12 : 1)

   H = 5'-0'' TO 12'-0'' (6 : 1)

3. FABRIC WRAPPED DRAINS AND 4" PIPE FOR WEEPHOLES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR GRAVITY TYPE RETAINING WALLS.

PAY ITEM PAY UNIT

CONCRETE, CLASS B CU. YD.

STRUCTURE EXCAVATION CU. YD.

GRANULAR EMBANKMENT (WHEN REQUIRED) CU. YD.
NOTES

1. TYPES OF TEMPORARY BRIDGES AND PAVEMENT CROSSOVERS, OTHER THAN THE I-BEAM BRIDGE SHOWN HERE, WILL BE ACCEPTABLE UPON APPROVAL BY THE DEPARTMENT.

2. UNLESS OTHERWISE SPECIFIED THE STRUCTURE SHALL BE DESIGNED FOR AN H-10 LOADING.

3. STRUCTURE TO REMAIN THE PROPERTY OF THE CONTRACTOR.

12'-0"

26'-0"

3" MINIMUM PLANK FLOOR

5/8" BOLTS AT 2'-0" O.C.

1'-0"

24'-0" CLEAR SPAN

ELEVATION VIEW

24'-0" CLEAR SPAN

2'-0" O.C. (TYPICAL)

SEE DETAIL "A"

6" X 6" TIMBER WHEEL GUARD

TYPICAL SECTION

4" X 6" TIMBER

10"

1/2" RIVET OR BOLT

3/4" BOLT

DETAIL "A"

STANDARD DRAWING NO. RGX-003-02

TEMPORARY BRIDGE OR PAVEMENT CROSSOVER

KENTUCKY DEPARTMENT OF HIGHWAYS

12-1-99
2. Type IA markers shall be mounted flush in existing pavement, drainage boxes, etc. Drill a 1\(\frac{1}{4}\)" diameter hole and epoxy (commercial grade) into existing concrete.
3. Witness post shall be buried 1'-6" to 2'-0" in ground.
4. When rock is encountered length may be reduced.
5. Set all R/W Monuments flush with ground or adjoining surface.
6. The land surveyor in charge of monumentation is encouraged to place a witness post for the right-of-way monuments where practical and feasible. If possible, a minimum of three witness posts per project should be placed.
TYPICAL EMBANKMENT FOUNDATION BENCHES

1. This treatment for embankment foundation benches as indicated on this sheet, shall be accepted as guides for highway design. However, all the conditions that will be encountered cannot be shown, so the designer must give considerable thought to the locations and dimensions of these benches.

2. Definite design information cannot be established as to size of these benches, due to the irregularities and the different rates of incline of the existing cross section, however, it is generally believed that a 6' to 12' rise and a 20' to 35' horizontal run is fairly typical with a 15' horizontal run being the minimum.

3. When the incline of the cross section is 15 percent or greater these embankment foundation benches shall be constructed in the original slope as the embankment is constructed in compacted layers or lifts.

4. When embankment foundation benches are shown on the cross section, the volume shall be computed as roadway excavation or embankment in place as applicable and shown in the sheet totals and brought forward to be included in the total earthwork with this note "(a) total includes "x" number of cubic yards from embankment foundation benches."

5. The excavation from these benches will not be shown in the distribution of quantities but they will definitely be a pay quantity by virtue of the fact they are included in the total of roadway excavation quantities.

6. No quantities will be allowed for the refilling of these benches, since supposedly, the material that was excavated will be processed and placed back in these benches.

7. If the cross section is an earth one, that is if no rock is shown, then the foundation benches shall be indicated on the cross section and constructed as shown by the drawing and the volume of excavation becomes a pay item as roadway excavation or embankment in place as applicable, in other words, support benching of earth sections shall be given same treatment as rock or near rock section.

8. Should it be evident, at the time of construction, that the engineer finds and so directs that embankment foundation benching is necessary and it is not so indicated on the design cross sections the basis of payment shall be as herein before stated.

9. Roadway excavation or embankment in place as applicable

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This page contains a diagram illustrating the typical embankment foundation benches with labels for various elements such as finished road, fill slope, ground line, rock, and foundation benches. The diagram is intended to visually represent the described conditions and treatment for highway design.
NOTES

ADDITIONAL PIPE SHALL BE FURNISHED IN 5'-3" SECTIONS (DUE TO COMMERCIAL PIPE LENGTHS OF 21'-0") THREADED ON BOTH ENDS, PAID FOR PER LINEAR FOOT AND SHALL MEET THE REQUIREMENTS OF SECTION 810.05.03 OF THE CURRENT STANDARD SPECIFICATIONS.

PIPE SIZES ARE GIVEN IN NOMINAL DIAMETERS.
DIRECTOR DIVISION OF DESIGN

DATE SUBMITTED: 12-2-02
DATE APPROVED: 12-2-02

STEP DETAIL FOR 1:1 SLOPE
SECTION A-A 2:1 SLOPE

UNIT DRAWING NO. RGX-020-12

KENTUCKY DEPARTMENT OF HIGHWAYS

NOTE:
BID ITEM AND UNIT TO BID:
CLASS "A" CONCRETE FOR STEPS (CUBIC YARDS)

MATERIAL REQUIREMENTS:
(A) MAT REINFORCEMENT
   NO. 4 REINFORCEMENT BARS, LONGITUDINAL BARS 6" O.C. AND
   TRANSVERSE BARS 12" O.C. MIN. GRADE 40; OR
   WELDED WIRE FABRIC - 6"x6 - 8x8 58 LBS./100 SQ. FT.
(B) NO. 4 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.
(C) NO. 3 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.

GENERAL:
(A) ROUND ALL EXPOSED EDGES AND CORNERS 1/4" R.
(B) MAT REINFORCEMENT IN BOTTOM OF THE STEPS SHALL BE
   WIRE FABRIC OR BAR MAT REINFORCEMENT (2).
(C) HANDRAIL SHALL BE REQUIRED WITH THREE OR MORE STEPS.
(D) REINFORCING STEEL SHALL BE PLACED SO NOT TO INTERFERENCE
   WITH HANDRAIL POSTS.

NOTE:
ADDITIONAL HOLE REQUIRED FOR HANDRAIL TYPE A-2 OR A-4

TABLE OF QUANTITIES

<table>
<thead>
<tr>
<th>SLOPE</th>
<th>LOCATION</th>
<th>ADDITIONAL NO. 4 BAR REINF. (LBS.)</th>
<th>MAT REINFORCEMENT</th>
<th>CU. YDS. CLASS &quot;A&quot; CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4' WIDTH</td>
<td>4' WIDTH</td>
<td>4' WIDTH</td>
</tr>
<tr>
<td>2:1</td>
<td>BOTTOM LANDING</td>
<td>23,547</td>
<td>3,340</td>
<td>11,776</td>
</tr>
<tr>
<td></td>
<td>INTERMEDIATE STEP</td>
<td>10,855</td>
<td>1,336</td>
<td>5,991</td>
</tr>
<tr>
<td></td>
<td>TOP LANDING</td>
<td>22,483</td>
<td>3,340</td>
<td>9,504</td>
</tr>
<tr>
<td>1 1/2:1</td>
<td>BOTTOM LANDING</td>
<td>23,603</td>
<td>3,340</td>
<td>12,602</td>
</tr>
<tr>
<td></td>
<td>INTERMEDIATE STEP</td>
<td>10,271</td>
<td>1,336</td>
<td>5,268</td>
</tr>
<tr>
<td></td>
<td>TOP LANDING</td>
<td>22,545</td>
<td>3,340</td>
<td>9,710</td>
</tr>
</tbody>
</table>

(1) APPROXIMATE QUANTITY TO ADD FOR EACH ADDITIONAL FOOT OF WIDTH OVER 4'-0".
### Handrail Type Description Table

<table>
<thead>
<tr>
<th>Type</th>
<th>Height Req'd</th>
<th>Fence Req'd</th>
<th>Max. Post Spacing</th>
<th>No. of Rails</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2'-10''</td>
<td>No</td>
<td>4'-0'' O.C.</td>
<td>2</td>
</tr>
<tr>
<td>A-1</td>
<td>3'-6''</td>
<td>No</td>
<td>4'-0'' O.C.</td>
<td>2</td>
</tr>
<tr>
<td>A-2</td>
<td>3'-6''</td>
<td>Yes</td>
<td>4'-0'' O.C.</td>
<td>2</td>
</tr>
<tr>
<td>A-3</td>
<td>3'-6''</td>
<td>No</td>
<td>4'-0'' O.C.</td>
<td>3</td>
</tr>
<tr>
<td>A-4</td>
<td>3'-6''</td>
<td>Yes</td>
<td>4'-0'' O.C.</td>
<td>3</td>
</tr>
</tbody>
</table>

**Notes:**
- Handrail shall be constructed of 1/2" Schedule 40 Aluminum Pipe in accordance with ASTM B221 Alloy 6063-T52 for rail and ASTM B210 Alloy 6063-T832 for posts.
- Anchor post in formed holes (see detail "A").
- For installation procedures of the chain link fence as applicable see curr. std. dwg. RFC-001.
- Handrail shall be required with three or more steps. Handrail is optional with less than three steps.
- The top of the retaining wall or curb shall be a min. of 6" above the adjoining sidewalk, a distance of 1'-0" min. shall be parallel to the step runner.
- All internal connections shall be made with an epoxy adhesive (recommended by the manufacturer), stainless steel machine screws with lock washers, and threaded tubular rivets in order to provide a smooth installation. Expansion joints shall be provided approx. 20'-0" O.C.
- Sidewalk slabs shall be thickened to 8"x8"x8" at post locations.

---

**Section of Handrail Type A-1**

- 1 1/2" dia. rail (typ)
- 1 1/2" dia. post (typ)
- 4'-0" O.C. maximum
- Retaining wall

**Section of Handrail Type A-2**

- 1 1/2" dia. rail (typ)
- 1 1/2" dia. post (typ)
- 3'-6"
- See detail "A"

**Section of Handrail Type A-3**

- 1 1/2" dia. rail (typ)
- Post bracket
- 1 1/2" dia. post (typ)
- 1 1/2" dia. wall bracket
- Retaining wall

**Section of Handrail Type A-4**

- 1 1/2" dia. chain link fence
- 1 1/2" dia. post bracket
- 1 1/2" dia. post (typ)
- Chain link fence

---

**Handrail Type A-1, A-2, A-3, A-4**
1. Landings will provide a level area (less than 2% grade or cross slope) at approximate street elevation. A 4 foot square level landing is the required minimum.

2. All sidewalk ramps require detectable warnings.

3. Any driveway 24' or greater requires ADA sidewalk treatments with detectable warnings which will be incidental to the entrance construction.

4. Detectable warnings shall be incidental to sidewalk construction.

5. Pavers shall be concrete with a minimum thickness of 2".

6. Pavers shall be a color homogenous throughout the paver, that color shall contrast visually with the adjoining surfaces, either light-on-dark or dark-on-light. The department will allow either yellow or red as colors.

7. Pavers to be set in mortar.

8. Detectable warning surface begins at back of curb.

NOTES

TYPICAL DETECTABLE WARNING INSTALLATION

SQUARE PATTERN (PARALLEL ALIGNMENT)

SQUARE PATTERN (DIAGONAL ALIGNMENT)

TRIANGULAR PATTERN

SQUARE PATTERN

TRUNCATED DOME PROFILE

TYPICAL PLACEMENT PARALLEL CURB RAMPS

USE WITH CUR. STD. DWGS. RPM-160 AND RPM-170

KENTUCKY DEPARTMENT OF HIGHWAYS

TRUNCATED DOMES

STANDARD DRAWING NO. RGX-040
**NOTES**

**BID ITEMS AND UNITS TO BID:**

a. RETAINING WALL, GABION - CUBIC YARD

b. STRUCTURE EXCAVATION, AS CLASSIFIED - SEE THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

1. THE GABION RETAINING WALL DEPICTED ON THIS DRAWING SHALL BE USED WHEN THE HEIGHT (H DIMENSION) OF THE WALL IS 12'-0" OR LESS AND THE BACKFILL SLOPE IS 2:1 OR LESS.

2. LENGTH OF GABIONS MAY BE 6'-0", 9'-0" OR 12'-0" LONG WITH PARTITIONS 3'-0" ON CENTER.

3. 3'-0" MINIMUM EMBEDMENT.

4. SPECIAL DESIGNS SHALL BE REQUIRED WHEN THE FOLLOWING CONDITIONS EXIST:
   a. WALL HEIGHT IS GREATER THAN 12'-0".
   b. WALL IS SURCHARGED WITH DEAD LOAD FILL SLOPES STEEPER THAN 2:1.
   c. WALL IS SURCHARGED WITH A LIVE LOAD WITHIN THE LIMITS OF A 1:1 SLOPE EXTENDING FROM THE BASE OF THE WALL.

**FRONT FACE 6:1 BATTER**

**FRONT FACE STEPPED**

**GABION BASKET ISOMETRIC**

**SPECIAL DESIGNS REQUIRED**

---

**KENTUCKY DEPARTMENT OF HIGHWAYS**

**GABION RETAINING WALLS**

**STANDARD DRAWING NO. RGX-050-01**

**DRAWN BY:**

**CHECKED BY:**

**APPROVED:**

**DATE:** 12-1-99
~NOTES~

1. BREAKAWAY SIGN SUPPORT SYSTEM FOR TYPE C BEAM SHALL BE SELECTED FROM THE KENTUCKY DEPARTMENT OF HIGHWAYS APPROVED LIST FOR BREAKAWAY SIGN SUPPORT SYSTEMS OR AN APPROVED EQUAL. ACCEPTABLE ALTERNATE BREAKAWAY SIGN SUPPORT SYSTEMS SHALL BE APPROVED BY THE DIVISION OF HIGHWAY DESIGN AND FHWA PRIOR TO INSTALLATION.

2. SELECTION OF THE PROPER BRACKET NUMBER SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

3. ALL HARDWARE ITEMS SUPPLIED ARE AMERICAN STANDARD SIZES AND SHALL BE GALVANIZED AND CONFORM TO ASTM A153 OR ASTM B695.

4. FASTENERS EXCEPT FOR SPECIAL BOLT AND COUPLINGS, ARE INSTALLED WITH LOCKWASHERS, AND DO NOT HAVE SPECIFIC TORQUE REQUIREMENTS. FASTENERS SHALL BE SECURED AS TIGHT AS POSSIBLE WITH CONVENTIONAL WRENCHES, UNLESS NOTED OTHERWISE.

5. SQUARE UP AND LEVEL INDIVIDUAL COMPONENTS, PARTICULARLY ANCHORS TO MINIMIZE THE NEED FOR SHIMMING BETWEEN THE COUPLINGS AND ANCHORS.

6. NO MORE THAN TWO SHIMS SHALL BE PLACED UNDER ANY ONE COUPLING. NO MORE THAN THREE SHIMS UNDERNEATH ANY PAIR OF COUPLINGS.

7. THE CONTRACTOR SHALL FURNISH TWO (2) COMPLETE SETS OF SHOP PLANS FOR APPROVAL BY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO INSTALLATION.

8. THE HINGE SHOULD BE AT LEAST 7'-0" ABOVE THE GROUND.

9. A SINGLE POST IF 7"-0" OR MORE FROM ANOTHER POST, SHALL HAVE A WEIGHT LESS THAN 45 LB./FT. TOTAL WEIGHT BELOW THE HINGE, BUT ABOVE THE SHEAR PLATE OF THE BREAKAWAY BASE, SHOULD NOT EXCEED 600 LB.

10. FOR TWO POSTS SPACED LESS THAN 7'-0" APART, EACH POST SHOULD HAVE A WEIGHT LESS THAN 18 LB./FT.

11. COUPLINGS SHALL NOT BE USED IN SIGN STRUCTURES WITH THREE SUPPORTS OR MORE IF POSTS ARE CLOSER THAN 7'-0" APART.

12. REFER TO DETAIL SHEET "FOOTING DETAILS FOR TYPE C BEAM" FOR FOOTER DETAILS.

---

**BRACKET SELECTION TABLE**

<table>
<thead>
<tr>
<th>POST SIZE</th>
<th>BRACKET NO. 1</th>
<th>BRACKET NO. 2</th>
<th>BRACKET NO. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN. &quot;L&quot;</td>
<td>MAX. &quot;L&quot;</td>
<td>MIN. &quot;L&quot;</td>
</tr>
<tr>
<td>6&quot;</td>
<td>12'-0&quot;</td>
<td>29'-0&quot;</td>
<td>9'-0&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>14'-0&quot;</td>
<td>29'-0&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>16'-0&quot;</td>
<td>29'-0&quot;</td>
<td>11'-0&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>18'-0&quot;</td>
<td>29'-0&quot;</td>
<td>13'-0&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>19'-0&quot;</td>
<td>29'-0&quot;</td>
<td>14'-0&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>21'-0&quot;</td>
<td>29'-0&quot;</td>
<td>15'-0&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>23'-0&quot;</td>
<td>29'-0&quot;</td>
<td>16'-0&quot;</td>
</tr>
<tr>
<td>21&quot;</td>
<td>25'-0&quot;</td>
<td>29'-0&quot;</td>
<td>18'-0&quot;</td>
</tr>
</tbody>
</table>
FOOTING DETAILS

The concrete is placed and cured.

- **NOTES** -

1. Enter footing selection table with required post size and find required footing values as shown in details.
2. The anchor shall be 304 stainless steel with 1053 steel rod and coil.
3. Form top 1'-0" of the footing.
4. Use class "A" concrete in all footings.
5. Actual dimensions "A" & "B" should be obtained from the manufacturer or measured from the assembled brackets prior to placement of anchors.
6. To insure proper spacing and alignment of anchors, it is recommended that all anchors be held in place by a rigid template while the concrete is placed and cured.
7. Footing projections above ground line shall be minimized. The maximum permissible footing projection shall be 4" on the lower slope side. Where necessary, the shaded area of the footing shall be removed and reinforcement shall be bent to fit.
8. The top of the footing shall not project more than 4" above any 5'-0" chord aligned perpendicularly to the edge of the roadway between a point on the ground surface on one side of the support to a point on the ground surface on the other side of the support.

---

**FOOTING SELECTION TABLE**

<table>
<thead>
<tr>
<th>POST SIZE</th>
<th>L₁ DIA.</th>
<th>D₁ DEPTH</th>
<th>STEEL QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>W6</td>
<td>2'-0&quot;</td>
<td>5'-0&quot;</td>
<td>#4 5</td>
</tr>
<tr>
<td>W8</td>
<td>2'-6&quot;</td>
<td>7'-0&quot;</td>
<td>#4 8</td>
</tr>
<tr>
<td>W₁₀</td>
<td>3'-0&quot;</td>
<td>8'-0&quot;</td>
<td>#4 8</td>
</tr>
<tr>
<td>W₁₂</td>
<td>3'-6&quot;</td>
<td>9'-0&quot;</td>
<td>#4 9</td>
</tr>
<tr>
<td>W₁₄</td>
<td>3'-6&quot;</td>
<td>9'-0&quot;</td>
<td>#4 9</td>
</tr>
<tr>
<td>W₁₆</td>
<td>3'-6&quot;</td>
<td>9'-0&quot;</td>
<td>#4 9</td>
</tr>
<tr>
<td>W₁₈</td>
<td>3'-6&quot;</td>
<td>9'-0&quot;</td>
<td>#4 9</td>
</tr>
<tr>
<td>W₂₁</td>
<td>3'-6&quot;</td>
<td>9'-0&quot;</td>
<td>#4 9</td>
</tr>
</tbody>
</table>

**CONC. REINF.**

- **STATE HIGHWAY ENGINEER**
- **DATE**
- **DIRECTOR DIVISION OF DESIGN**
- **STANDARD DRAWING NO.**
- **KENTUCKY DEPARTMENT OF HIGHWAYS**
- **FOOTING DETAILS FOR TYPE C BEAM**

**RGX-061**

- **SUBMITTED**
- **APPROVED**

**11-21-07**

---

**~ ANCHOR PICTORIAL VIEW ~**

**~ SIDE VIEW ~**

**~ TOP VIEW ~**

**~ PLAN VIEW ~**

**~ TOP OF FOOTING ~**

**~ GROUND LINE ~**

**~ EQUALLY SPACED ~**

**8 - NO. 5 BARS**

**1'-3" MIN.**

**8-NO. 5 BARS**

**EQUALLY SPACED**

**3" COVER**

**F₁ BARS**

**4" COVER**

**F₁ BARS**

**1" - 8 N.C. (0.5 OVERSIZE)**

**X 1/8" MIN. THREAD DEPTH**

**1" - 8 N.C. (0.5 OVERSIZE)**

**~ SIDE VIEW ~**

**~ ANCHOR PICTORIAL VIEW ~**

---
SURE THE POINT OF THE PLATE IS FACING ONCOMING TRAFFIC. (THIS SERVES TO HOLE WITH THE BASE PLUMB AND SQUARED UP WITH THE ROADWAY, MAKING STABILIZE THE BASE WHILE POURING THE CONCRETE AS WELL AS TO ALLOW FOR PLACE 1 EACH TEFLON COATED WASHER SHIM ON EACH OF THE 3 NOTCHED POINTS, WITH THE OPEN SIDE FACING TOWARDS THE CENTER OF THE TRIANGLE. PLACE TOP POST RECIEVER SO THAT THE SIGN POST IS IN CORRECT POSITION FOR SIGN VISIBILITY, ON TO THE BASE AND WASHER SHIMS. POINT OF THE TRIANGLE. PUSH EACH TEFLON COATED WASHER SHIM AGAINST THE 3"

NOTE: ON MULTI-LEG INSTALLATIONS, BE SURE THAT ALL ANCHORS ARE SQUARED AND LINED UP WITH EACH OTHER.

HEAD UNTIL IT TWIST OFF.

PLACE 1 EACH " WASHER ONTO TORQUE FREE BOLT AND PLACE IN EACH NOTCHED NOTE: SECONDARY HEAD WILL TWIST OFF AT DESIRED TORQUE LEVEL TO MEET FEDERAL COMPLIANCE.

FULLY TIGHTEN, THEN LOOSEN, ALL THREE TORQUE FREE BOLTS USING THE LARGER 3/4" HEX HEAD. COMPLETE BY TIGHTENING EACH BOLT USING THE SMALLER 3/8" HEX HEAD UNTIL IT TWIST OFF.

NOTE: SECONDARY HEAD WILL TWIST OFF AT DESIRED TORQUE LEVEL TO MEET FEDERAL COMPLIANCE.

INSERT SIGN SUPPORT INTO THE TUBULAR PORTION OF THE TOP POST RECIEVER AND SECURE WITH 3 EACH 1/2"-13 GRADE 8 SERRATED LARGE FLANGE NUT.

NOTE: WHERE HIGHER WINDLOAD IS DESIRED, INSERT THE NEXT SIZE SMALLER SQUARE POST INSIDE BOTTOM OF MAIN UPRIGHT POST.

NOTE: ON MULTI-LEG INSTALLATIONS, BE SURE THAT ALL ANCHORS ARE SQUARED AND LINEd UP WITH EACH OTHER.

MATERIALS: TUBE RECEIVER - 3" X 3" X 7 GA. ASTM A500 ASTM A500 GRADE B TUBE PLATE - ASTM A572 GRADE 50 TOP POST RECIEVER / FOR 2 1/2" SQUARE POST 2 1/4" X 12 GA. MAYBE INSERTED INTO 2 1/2" X 12 GA. FOR ADDITIONAL WINDLOAD

BOTTOM BASE CONCRETE STUB 2 MATERIALS: TUBE - 3" X 3" X 7 GA. ASTM A500 GRADE B TUBE PLATE - ASTM A572 GRADE 50

KENTUCKY DEPARTMENT OF HIGHWAYS TYPE D BREAKAWAY SIGN SUPPORT STANDARD DRAWING NO. RGX-065

DATE SUBMITTED DATE APPROVED DIRECTOR DIVISION OF DESIGN
NOTES:
The purpose of this drawing and current standard drawing RGX-105 is to define the limits of the four materials shown.
For simplicity purposes, an end-bent on a zero degree skew is shown. The same principles would apply for more varied structures.

1. Slope protection required when and as noted on the bridge plans.
2. Granular or rock embankment required when and as noted on the roadway plans.
3. Granular pile core required with granular or rock embankment. Cohesive pile core required with drilled shafts and pre-drilled piles.
4. Structure granular backfill required at all times.
5. 8" perforated underdrain pipe. For headwall construction see current std. dwg RDP-010.
CONSTRUCTION SEQUENCE "A"

1. CONSTRUCT EMBANKMENT TO SLOPES A, B, F, AND G SUCH THAT NO UNCOMPACTED OR LOOSE MATERIAL SHALL REMAIN.
2. EXCAVATE FOR END-BENT TO C, D, E, AND F.
3. INSTALL PILES (OR OTHER FOUNDATION).
4. PLACE 2" MORTAR BED OR ANY CLASS CONCRETE.
5. CONSTRUCT CONCRETE END-BENTS.
6. INSTALL 4" PERFORATED UNDERDRAIN PIPE AND BACKFILL.
7. BACKFILL TO C, D, E, F, G, Z, AND J.

CONSTRUCTION SEQUENCE "B"

1. CONSTRUCT EMBANKMENT TO TEMPORARY SLOPE.
2. EXCAVATE FOR END-BENT TO C, D, E, AND F.
3. INSTALL PILES (OR OTHER FOUNDATION).
4. PLACE 2" MORTAR BED OR ANY CLASS CONCRETE.
5. CONSTRUCT CONCRETE END-BENTS.
6. INSTALL 4" PERFORATED UNDERDRAIN PIPE AND BACKFILL.
7. BACKFILL TO FINISHED GRADE.

NOTES

1. Construction sequence "B" is a permitted alternate only when granular or rock embankment is required.
2. 2" mortar bed or any class concrete.
3. 4" perforated underdrain pipe wrapped with geotextile fabric for draining the excavated trench and structure granular backfill.
4. Acceptable alternate for temporary slope (construction sequence "B").
5. Shaded portions and represent limits of non-erodible granular embankment.
6. SLOPES ARE EQUAL.
7. H = EMBANKMENT HEIGHT MEASURED FROM SUBGRADE ELEVATION AT POINT Z TO THE LOWEST ELEVATION AT THE TOE OF THE SLOPE.
8. LIMITS OF EMBANKMENT CONSTRUCTION (2H OR 50' MAX.) REQUIRING 2' MAX LIFT THICKNESS.
9. SEE CURRENT SPECIAL PROVISION NO. 69 FOR CONSTRUCTION AND MATERIAL REQUIREMENTS, METHOD OF MEASUREMENT AND BASIS OF PAYMENT.
10. STRUCTURE GRANULAR BACKFILL PLACED AS A COMPLETE SEPARATE OPERATION AFTER CONSTRUCTION OF ALL OTHER EMBANKMENT.
11. NO INDIVIDUAL FRAGMENTS LARGER THAN 4 INCHES IN ANY DIMENSION PERMITTED WITHIN 3'-0" OF THE STRUCTURE.
12. PLACE GEOTEXTILE FABRIC, TYPE IV PRIOR TO PLACING STRUCTURE GRANULAR BACKFILL (WITH SOIL EMBANKMENT ONLY) AND AGGREGATE BASE COURSE (WITH ALL EMBANKMENT MATERIALS).
NOTES

THE ITEMS BELOW SHALL BE INCLUDED IN THE GENERAL, PAVING, AND DRAINAGE SUMMARIES AS APPLICABLE:
1. EARTHWORK - EXCAVATION OR BORROW.
2. PAVING - SAME AS MAINLINE SHOULDER DESIGN.
3. DRAINAGE ALTERNATE "A" - USE WHEN MEDIAN OPENING CAN BE LOCATED NEAR PROPOSED OR EXISTING DRAINAGE. MODIFY EXISTING INLET AND OUTLET IF NECESSARY.
4. DRAINAGE ALTERNATE "B" - USE WHEN ALTERNATE "A" IS NOT POSSIBLE, ESPECIALLY TO PREVENT TUNNELING OR CUTTING EXISTING MAINLINE PAVEMENT. ESTABLISH FLOW LINE AT CORRESPONDING MEDIAN DITCH ELEVATION AND WRAP SLOPES TO FIT BOXES.
5. 4% MINIMUM
6. 12:1 SLOPES OR FLATTER
7. PAVEMENT CROSS SLOPE = 2%
1. The unit bid per square yard shall be: Standard Barrier Median Type 2, 3, 4, or 5.
   \( \star = 1 \text{ or } 2 \text{ or } 3 \text{ or } 4 \text{ or } 5 \).
2. See plans for constant or variable width dimensions.
3. Slope to conform to side slopes.
4. All barrier medians shall be constructed of class "A" concrete.

NOTE: ISOMETRIC VIEW (NOSE)
NOTES

1. THE UNIT BID PER SQUARE YARD SHALL BE:
   MOUNTABLE MEDIAN TYPE
   ★ = 1 OR 1A OR 2 OR 2A OR 3 OR 3A OR 4 OR 5,
   (THE LETTER "A" DENOTES LIP CURB, NO. 3)

2. SEE PLANS FOR CONSTANT OR VARIABLE WIDTH
   DIMENSIONS.

3. DEPTH OF CONCRETE SHALL BE SHOWN ELSEWHERE
   ON THE PLANS, (MIN. OF 6"").
NOTES

1. THE BID ITEM PER SQUARE YARD BETWEEN POINTS A— — AND ——B SHALL BE "MOUNTABLE MEDIAN TYPE 6A".
2. THE VARIABLE LENGTH MOUNTABLE MEDIAN BETWEEN POINTS A— — AND ——B SHALL MEET THE CURRENT REQUIREMENTS OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. CURB AND GUTTER TERMINATES AT POINT C— (SEE PLANS).
4. CROSS SLOPE OF 2% ON TANGENTS AND PARALLEL PAVEMENT CROSS SLOPE ON SUPERELEVATED SECTIONS.
NOTES

1. THE BID ITEM PER SQUARE YARD BETWEEN POINTS A — — — AND — — — (B) SHALL
BE "MOUNTABLE MEDIAN TYPE 7A".

2. THE VARIABLE LENGTH MOUNTABLE MEDIAN BETWEEN POINTS A — — — AND — — — (B)
SHALL MEET THE CURRENT REQUIREMENTS OF STANDARD SPECIFICATIONS FOR ROAD
AND BRIDGE CONSTRUCTION.

3. LIP INTEGRAL CURB TERMINATES AT POINT C — — — (SEE PLANS).

4. CROSS SLOPE OF 2% ON TANGENTS AND PARALLEL PAVEMENT CROSS SLOPE
ON SUPERELEVATED SECTIONS.

5. 1/2" PREMOLDED EXPANSION JOINT MATERIAL.

6. TRANSVERSE JOINTS IN THE MOUNTABLE MEDIAN
BETWEEN POINTS A — — — AND — — — (B)
SHALL BE CONSTRUCTED AND SEALED IN THE
SAME MANNER AS THE JOINTS IN THE ADJOINING
CONCRETE PAVEMENT.
STANDARD CURB & GUTTER

- 1/2" R
- 1"
- 2'-0"
- PVMT.
- SLOPE

ENTRANCE CURB

~ NOTES ~
ALL INTEGRAL CURBS SHOWING REINFORCING STEEL SHALL BE CAST SEPARATELY FROM
THE PAVEMENT AND THE REINFORCEMENT SHALL CONSIST SOLELY OF NO. 4 BARS AS
DETAILED ON THIS DRAWING. ON CONSTRUCTION CARE SHOULD BE TAKEN SO THAT
NO REINFORCEMENT BARS ARE CLOSER THAN 3" TO THE CENTER OF THE SAWED TRANSVERSE JOINT.

- 1
- 2
THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB
AS DETAILED IN EITHER 1 OR 2. IF 2 IS CHOSEN A LONGITUDINAL CONSTRUCTION
JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED
MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL.

BARRIER CURB & GUTTER

- 1/2" R
- 1"
- 6 1/2"
- - 1/2"
- 2'-0"
- PVMT.
- SLOPE

LIP CURB & GUTTER

- 3"
- 9"
- 2'-0"
- PVMT.
- SLOPE

STANDARD INTEGRAL CURB

- 1/2" R
- 1"
- 6 1/2"
- - 1/2"
- 4"
- 9"
- PVMT.
- SLOPE
- CONC. PVMT.
- 1" MIN.

BARRIER INTEGRAL CURB

- 2"
- 2"
- 4"
- R
- 1"
- R
- SLOPE

LIP INTEGRAL CURB

- 3"
- PVMT.
- SLOPE
- CONC. PVMT.
- 1" MIN.

STANDARD HEADER CURB

- 1/2" R
- 1"
- 6"
- 2'-0"
- PVMT.
- SLOPE

ENTRANCE CURB

~ NOTES ~
ALL INTEGRAL CURBS SHOWING REINFORCING STEEL SHALL BE CAST SEPARATELY FROM
THE PAVEMENT AND THE REINFORCEMENT SHALL CONSIST SOLELY OF NO. 4 BARS AS
DETAILED ON THIS DRAWING. ON CONSTRUCTION CARE SHOULD BE TAKEN SO THAT
NO REINFORCEMENT BARS ARE CLOSER THAN 3" TO THE CENTER OF THE SAWED TRANSVERSE JOINT.

- 1
- 2
THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB
AS DETAILED IN EITHER 1 OR 2. IF 2 IS CHOSEN A LONGITUDINAL CONSTRUCTION
JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED
MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL.

ISLAND CURB & GUTTER

- 1/2" R
- 1"
- 7"
- 2'-0"
- PVMT.
- SLOPE

VAR. ASPH. BASE

ISLAND HEADER CURB TYPE 1

- 1/2" R
- 1"
- 7"
- 2'-0"
- PVMT.
- SLOPE

VAR. ASPH. SURFACE

ISLAND HEADER CURB TYPE 2

- 1/2" R
- 1"
- 7"
- 2'-0"
- PVMT.
- SLOPE

VAR. ASPH. BASE

VALLEY GUTTER

- 5'-0"
- 3"
- 8"

GUARDRAIL POST

ASPHALT WEDGE CURB

- 4"
- 3"
- 1/4"
- 2"
~ APPROACHES AND ENTRANCES ~
ROAD APPROACH ILLUSTRATION IS FOR MAINLINE ROAD, ADT 400 OR GREATER. PAVED SHOULDER PORTION SHOWN SHALL ONLY BE APPLICABLE WHERE THE MAINLINE SPECIFIES STABILIZED OR PAVED SHOULDERS. IF THE MAINLINE SHOULDER IS PAVED, THIS SHOULDER PORTION SHALL ALSO BE PAVED.
WHEN THE MAINLINE ADT IS UNDER 400, USE A 25' RADIUS WITH NO DECELERATION WIDTH PROVIDED.
THE PAVEMENT ON ENTRANCES AND APPROACHES THAT IS DISTURBED DURING NEW CONSTRUCTION OPERATIONS SHALL BE REPLACED WITH A PAVEMENT EQUIVALENT TO THE EXISTING PAVEMENT, REGARDLESS OF THE SURFACE MATERIAL USED ELSEWHERE. THE PAVEMENT DESIGN SHALL BE AS SHOWN ON THE PLANS OR AS APPROVED BY THE ENGINEER.
The Radii on County or Secondary Roads Shall Not Be Less Than 25' Measured to the Inside Edge of the Surface. Each Additional Foot of Surface Width Will Require an Additional Foot of Pipe.
Pipe illustration is based on the use of 15' pipe. Larger sizes may be installed with appropriate modifications, pipes smaller than 15' diameter are not to be used except in special cases, when specifically authorized.
In cut section, sight distance shall be provided on entrances and approaches by daylighting the cut from the points where the radii begins, to points not less than 100' on each of the intersecting roadway.
If feasible, all approaches and entrances shall intersect shoulder line at right angles. If not at right angles, pipe length shall be increased to provide accurate radius.
Minimum paved areas for entrances and approaches. These paved areas may be extended to touchdown or tie-down point provided the existing is paved.

~ MAIL BOX TURNOUT ~
All the 2'-0" wide flexible pavement for the length as shown, or as determined by the engineer, shall be applied to all mail box turnouts. The pavement design shall be as shown on the plans or as approved by the engineer.
For stabilized shoulders, this area shall receive the same treatment as that for adjoining stabilized shoulders. For earth shoulders this area shall receive 3' to 5' of compacted dense graded aggregate base, bank gravel, or traffic bound base.
High speed equals 50 miles per hour or greater. Low speed equals less than 50 miles per hour.
Add 2'-0" for each additional mail box.
KENTUCKY DEPARTMENT OF HIGHWAYS

STATE HIGHWAY ENGINEER

DATE

DIRECTOR DIVISION OF DESIGN

SUBMITTED

APPROVED

STANDARD DRAWING NO.

CONCRETE TERMINAL

SECTION TYPE 1

RPM-115-04

GUTTER

7"

PREMOULDED EXPANSION JOINT MATERIAL

(FULL DEPTH)

ALIGN WITH STD. CURB LINE

ALIGN WITH STD. CURB LINE

7"

PREMOULDED EXPANSION JOINT MATERIAL

(FULL DEPTH)

STD. CURB & GUTTER

VARIABLE

2'-0"

6" CURB

PLAN VIEW

SECTION C-C

NOTES

THE CONTRACT UNIT PRICE BID EACH FOR CONCRETE TERMINAL SECTION TYPE 1 SHALL INCLUDE ALL MATERIAL, LABOR, TOOLS, ETC. NECESSARY TO COMPLETE THE WORK IN PLACE, AND SHALL RECEIVE A WOOD FLOAT FINISH.

1. 8" WHEN USED WITH FLEXIBLE PAVEMENT AND PAVEMENT THICKNESS WITH RIGID PAVEMENT.

SECTION A-A

SECTION B-B

DETAIL "A"

KENTUCKY DEPARTMENT OF HIGHWAYS

CONCRETE TERMINAL

SECTION TYPE 1

STANDARD DRAWING NO RPM-115-04

12-1-99

D.G.A. BASE

CLASS "A" CONCRETE

1

SECTION A-A

8'-0"

4'-0"

2'-0"

2% 2%

SEE DETAIL "A"

D.G.A. BASE

SECTION B-B

VARIABLE

CLASS "A" CONCRETE

1

6" 1/2" R

2% 2%

4'-0"

2'-0"

2'-0"

2'-0"

D.G.A. BASE

DETAIL "A"

1/2" R
**ISLAND CURB**

**CAPPED WITH 2'' ASPHALT CONCRETE SURFACE.**

**AREA IN ISLAND FILLED WITH COMPACTED EARTH,**

**BASE STONE**

**LARGE (1000 SQ. FT. AND ABOVE)**

**ISLAND INTEGRAL CURB**

**AREA IN ISLAND FILLED WITH COMPACTED EARTH,**

**7'' BASE STONE AND ASPHALT SEAL COAT.**

---

**NOTES**

1. **CONCRETE ISLAND SHALL BE PAID FOR ON A SQ. YD. BASIS AND SHALL INCLUDE ALL CLASS "A" CONCRETE, STEEL REINFORCEMENT AND LABOR NECESSARY FOR A COMPLETE INSTALLATION. FINISHING AND CURING SHALL BE THE SAME AS REQUIRED FOR CONCRETE SIDEWALK.**
2. **THE AREA IN THE LARGE RAISED ISLANDS SHALL BE GRADED AND SURFACED SO AS NOT TO OBSTRUCT SIGHT DISTANCE.**
3. **SEE SURFACING SCHEDULE FOR BASE STONE AND SURFACING OF ISLANDS IN EXCESS OF 1000 SQ. FT.**
4. **PAVED AREA SHALL BE SLOPED SO AS TO OBTAIN PROPER DRAINAGE AS DIRECTED BY THE ENGINEER ON CONSTRUCTION.**
5. **WHEN THE GRADES DO NOT PERMIT THE ISLAND SURFACE TO DRAIN, THEY SHALL BE CROWNED AS SHOWN WITH A MAXIMUM CROSS SLOPE OF 4%.**
6. **DIMENSIONS AND RADIi SHOWN ARE TYPICAL FOR BOTH SIDES OF ISLAND.**
NOTES

THE UNIT PRICE BID PER LINEAR FOOT FOR "PRECAST VEHICLE STOP" SHALL INCLUDE ALL CLASS "A" CONCRETE, STEEL REINFORCEMENT, STEEL DOWELS, LABOR AND ALL INCIDENTALS NECESSARY FOR A COMPLETE INSTALLATION.

1. THE PLANS SHALL SPECIFY THE LENGTHS OF THE INDEPENDENT UNITS. 2'-0", 4'-0", 6'-0" AND 8'-0" ARE STANDARD LENGTHS. 3'-0", 5'-0" AND 7'-0" LENGTHS MAY BE USED WHEN REQUIRED.

2. NO. 5 BARS - 1'-6" MIN. LENGTH. FILL VOID WITH BUTYL RUBBER CAULKING (COMMERCIAL GRADE) OR OTHER APPROVED MATERIAL.

3. NO. 3 DEFORMED BARS (OR LARGER) 3 REQUIRED.

THE MINIMUM REQUIREMENT FOR REINFORCING STEEL SHALL BE GRADE 40.

THE UNIT WEIGHS APPROXIMATELY 38 POUNDS PER FOOT.

OTHER TYPES OF STOPS MAY BE PERMITTED IF APPROVED IN WRITING BY THE ENGINEER.

SEE DETAIL "A"
1. **BID ITEMS: RUMBLE STRIPS TYPE**
   - 1 OR 2
   - **DELINEATOR POSTS**
   - **DELINEATORS WHITE**

2. **THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR A TEN (10) STRIP WIDE UNIT SHALL INCLUDE ALL LABOR, FORMING, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.**

3. **THE CONTRACT UNIT PRICE EACH FOR DELINEATOR POSTS AND DELINEATORS WHITE SHALL INCLUDE THE DELINEATOR POST, DELINEATOR UNIT, LABOR AND ALL INCIDENTALS NECESSARY FOR ONE COMPLETE INSTALLATION.**

4. **APPROXIMATE QUANTITIES REQUIRED FOR ONE UNIT TEN (10) STRIPS WIDE X 1'-0" LONG.**
   - 0.01 TON FOR ¼" ASPHALT CONCRETE MIX
   - 0.015 TON FOR ⅜" ASPHALT CONCRETE MIX
   - 0.019 TON FOR ½" ASPHALT CONCRETE MIX
   - 0.075 GAL. OF TACK COAT

5. **RUMBLE STRIP ASPHALT MATERIAL SHALL BE “CL1 ASPHALT SURFACE 0.38E PG64-22”.**

6. **TWO 7'-0" LONG, TYPE I DELINEATOR POSTS SHALL BE INSTALLED AT EACH LOCATION.**

7. **TWO - 3½" DIAMETER TYPE III A SILVER WHITE DELINEATOR UNITS SHALL BE INSTALLED AT THE TOP OF EACH DELINEATOR POST WITH A NO. 10 ALUMINUM OR STAINLESS STEEL SLOTTED ROUND HEAD MACHINE SCREW, WASHER AND VANDAL PROOF NUT.**

8. **THE PAVEMENT SHALL BE CLEANED AND THE STRIPS SHALL BE CONSTRUCTED UNIFORMLY AT RIGHT ANGLES TO THE CENTER LINE OF THE ROADWAY.**

9. **THE TACK COAT SHALL BE APPLIED FULL STRENGTH WITH A LIBERAL COAT.**

10. **SIDE FORMS OR OTHER APPROVED METHODS SHALL BE USED TO ACCOMPLISH THE DESIRED 10 UNIT STRIP SYSTEM. A SUFFICIENT AMOUNT OF ASPHALT MIXTURE SHALL BE PLACED IN THE FORMS AND COMPACTED WITH A LIGHT ROLLER SO AS TO PROVIDE A COMPACTED THICKNESS OF ¼" TO ½" AS APPLICABLE.**

11. **THE DELINEATOR UNIT SHALL BE CONSTRUCTED IN SUCH A MANNER THAT TOP OF THE DELINEATOR UNIT IS 4'-0" ABOVE TOP OF PAVEMENT.**


---

**TABLE: RUMBLE STRIPS**

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<thead>
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<th>TYPE</th>
<th>MPH</th>
<th>H</th>
<th>W</th>
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<tbody>
<tr>
<td>1</td>
<td>0-45</td>
<td>¼&quot;-⅜&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>2</td>
<td>OVER 45</td>
<td>⅜&quot;-½&quot;</td>
<td>24&quot;</td>
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NOTE:

1. **BID ITEM:** RUMBLE STRIPS TYPE 3.
   - The contract unit price per linear foot for a six (6) strip unit shall include all labor, materials and incidental necessary to complete one installation.

2. The grooved rumble strips shall be cut into the cured concrete shoulder as detailed on this drawing.

3. The groove shall be tapered out, so as to provide positive drainage.

4. When the shoulder is used to maintain traffic during construction, the rumble strips shall not be cut until the mainline is opened to traffic.
For Width W and F:
- Residential: Minimum W = 12'-0'', Maximum W = 24'-0'', Minimum F = 2'-6'', Maximum F = 10'-0''
- Commercial: Minimum W = 24'-0'', Maximum W = 36'-0'', F = 10'-0''

When more than 2 lanes are required, 36'-0'' width may be increased to relieve interference between entering and exiting traffic.

Radial returns shall be used on entrances in the following cases:
- On driveways expecting to carry more than 600 trips per day.
- When entrance width is greater than 36'.
- When the highway has a posted or operating speed over 45 mph.
- On a rural section where a flush shoulder exists.
- Where an exclusive right turn lane is used.

1' - 0'' or 2' - 0'' with concrete pavement, 2' - 0'' with flexible pavement

When "L" dimension is greater than 15'-0'' a sawed and sealed joint, 1/4'' deep and 1/4'' wide shall be placed at the center of the "L" dimension. Wide entrances require additional joints, spacing shall not exceed 15'-0'' O.C.

4. Class "A" concrete or jointed plain concrete pavement shall be used in the entrance pavement.

5. The entrance pavement shall receive a broom finish and shall be cured the same as the mainline pavement and/or sidewalk.

6. The contract unit price bid per square yard for "Concrete Ent. Pavement - 8 inch (Code No. 2101)" shall include Class "A" concrete and all incidentals necessary to complete the work. D.G.A. shall be a separate bid item.

7. Use Condition No. 3 when no utility strip is provided, and incorporate features of other designs shown where not in conflict.

8. Providing that ADA guidelines shown in notes 9 and 10 are followed, the engineer may modify the design to better fit existing conditions.

9. 2% cross slope maximum on sidewalk. If conditions warrant, sidewalk may be sloped 2% away from roadway.

10. Sidewalks should be designed with a max. grade of 5%, where a sidewalk runs along a steep roadway, the sidewalk grade may exceed 5% if it follows the grade of the roadway.

11. Any driveway 24' or greater requires ADA sidewalk treatments with detectable warnings which will be incidental to the entrance construction.
1. EXP. JOINT REQUIRED WHEN ABUTTING ANOTHER RIGID STRUCTURE

2. 1'-0'' OR 2'-0'' WITH CONCRETE PAVEMENT, 2'-0'' WITH FLEXIBLE PAVEMENT.

3. WHEN "L" DIMENSION IS GREATER THAN 15'-0'', A SAWED AND SEALED JOINT, 1/2'' DEEP AND 1/4'' WIDE SHALL BE PLACED AT THE CENTER OF THE "L" DIMENSION. WIDE ENTRANCES REQUIRE ADDITIONAL JOINTS, SPACING SHALL NOT EXCEED 15'-0'' O.C.

4. CLASS "A" CONCRETE OR JOINTED PLAIN CONCRETE PAVEMENT SHALL BE USED IN THE ENTRANCE PAVEMENT.

5. THE ENTRANCE PAVEMENT SHALL RECEIVE A BROOM FINISH AND SHALL BE CURED THE SAME AS THE MAINLINE PAVEMENT AND/OR SIDEWALK.

6. THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR "CONC. ENT. PAVEMENT-8 INCH (CODE NO. 2101)" SHALL INCLUDE CLASS "A" CONCRETE AND ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK. D.G.A. SHALL BE A SEPARATE BID ITEM.

7. PROVIDING THAT ADA GUIDELINES SHOWN IN NOTE 8 AND 9 ARE FOLLOWED, THE ENGINEER MAY MODIFY THE DESIGN TO BETTER FIT EXISTING CONDITIONS.

8. 2% CROSS SLOPE MAXIMUM ON SIDEWALK.

9. SIDEWALKS SHOULD BE DESIGNED WITH A MAX. GRADE OF 5%, WHERE A SIDEWALK RUNS ALONG A STEEP ROADWAY, THE SIDEWALK GRADE MAY EXCEED 5% IF IT FOLLOWS THE GRADE OF THE ROADWAY.

10. ANY DRIVEWAY 24' OR GREATER REQUIRES ADA SIDEWALK TREATMENTS WITH DETECTABLE WARNINGS WHICH WILL BE INCIDENTAL TO THE ENTRANCE CONSTRUCTION.
NORMAL TREATMENT IN RESIDENTIAL AREA

NO TRAFFIC SIGNAL WITH HEAVY TRAFFIC ON ARTERIAL

SIDEWALK ADJACENT TO CURB

LEGEND
- DETECTABLE WARNINGS
- SIDEWALK
- SIDEWALK RAMPS
- CROSSWALK
- STOP LINE MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYPICAL)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYPICAL)

USE WITH CUR. STD. DWG.S. RGX-040 AND RPM-170

MAY BE USED ONLY WHERE TRAFFIC IS LOW AND WHERE OTHER FEATURES MAKE DETAIL 1 IMPRACTICAL.
Ramps shall be paid per sq. yard of 4" conc. sidewalk and the unit price shall include all materials, forms, curb behind ramp and landing, and incidentals necessary for construction.

The ramp shall be constructed of class "A" concrete. A broom finish or equal non-skid finish is required. Detectable warnings shall be incidental to sidewalk construction.

The normal gutter line shall be maintained through the area of the ramp.

Ramps should be located within marked limits of crosswalks.

Use ramp type 3 when point A to B is less than 20 feet.

Use ramp type 4 when point A to B is 20 feet or more.

1. Curb ramp grade shall not exceed 12:1, cross slope shall not exceed 2%.
2. Curb return required when utility strip is 4 feet or greater. For utility strips less than 4 feet, the area is to be surfaced with sidewalk within the ramp.
3. 1/2" expansion joint at back of curb line and at sidewalk line.
4. No bump permitted. Same slope as ramp and not to exceed 1/8" in height. Ramps shall be constructed so that water will not accumulate on walking surfaces.
5. All sidewalk ramps require detectable warnings.
6. Landings will provide a level area (less than 2% grade or cross slope) at approximate street elevation. A 4 foot square level landing is the required minimum.
1. EXISTING SIDEWALK AND CURB SHALL BE REMOVED TO THE LIMITS AS DESIGNATED BY THE ENGINEER.
2. WHERE EXISTING JOINTS ARE LOCATED MORE THAN 2'-0" FROM THE RAMP LIMITS SHOWN, THE CONTRACTOR SHALL SAW CUT THE SIDEWALK AND CURB PRIOR TO REMOVAL.
3. A MINIMUM AREA FOR SIDEWALK RAMP TYPE 5 IS INDICATED BY \[\text{A}\] AND IS TO BE CALCULATED ON A SQUARE YARD BASIS AND PAID FOR AS "SIDEWALK-4 INCH CONCRETE". A BROOM FINISH OR EQUAL NON-SKID FINISH IS REQUIRED.
4. HANDRAIL TYPE A-I SHALL MEET ALL REQUIREMENTS AND BE PAID FOR IN ACCORDANCE WITH CURRENT STD. DWG. RGX-030.
5. CUT GROOVE TO CONFORM TO THE ADJACENT CURB.
6. EXISTING SIDEWALK.
7. THE LENGTHS SHOWN ARE MINIMUMS. IF ADEQUATE SPACE IS AVAILABLE A MINIMUM SLOPE OF 12:1 IS DESIRABLE.
8. HANDRAIL TYPE A-I MAY BE ELIMINATED PROVIDED ADEQUATE SPACE IS AVAILABLE TO CONSTRUCT 10:1 RAMP SIDE SLOPES AS SHOWN IN SECTION C-C.
9. ALL SIDEWALK RAMPS REQUIRE DETECTABLE WARNINGS.
NOTES

1. THE COST OF CONSTRUCTING RUMBLE STRIPS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR JOINTED PLAIN CONCRETE PAVEMENT.

2. (2) (3) (3a) SEE CUR. STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAILS.

3. AFTER FINAL FINISHING OF THE PAVEMENT, CORRUGATIONS FOR RUMBLE STRIPS SHALL BE FORMED AT THE INTERVALS SHOWN INTO THE PLASTIC CONCRETE.

4. THE CORRUGATIONS SHALL BE ROUNDED RATHER THAN PEAKED, WITH THE TOP FLUSH WITH THE SHOULDER OR MEDIAN SLOPE.

5. THE TROUGH SHALL BE TAILED OUT, SO AS TO PROVIDE POSITIVE DRAINAGE.

6. JOINTED PLAIN CONCRETE SHOULDER OR MEDIAN (UNDOWELLED) IS DETAILED. WHEN JOINTED PLAIN CONCRETE SHOULDER OR MEDIAN (DOWELLED) IS REQUIRED REFER TO CURRENT STANDARD DRAWING RPM-145 FOR DETAIL.
• SINGLE BRIDGE OR TWIN BRIDGES WITH ONE DIRECTION TRAFFIC

• SINGLE BRIDGE WITH TWO DIRECTION TRAFFIC

NOTES

A. NORMAL SPACING OF TRANSVERSE CONTRACTION JOINTS ARE 15'-0" ON CENTER TAKEN ALONG OF PAVEMENT.
B. THIS DISTANCE TO BE EQUALLY DIVIDED WHEN LESS THAN THE SUM OF THE SPACING OF THE NEXT TWO TRANSVERSE CONTRACTION JOINTS EXCEEDS A MAXIMUM OF 15'-0".
C. THIS SLAB REQUIRED ONLY WHEN NEEDED FOR BRIDGE END DRAINAGE.
D. PAVEMENT TRANSITION 25':1', NOT PERMITTED WHEN CONSTRUCTED IN CONJUNCTION WITH P.C.C. SHOULDERS.
E. SHOULDER TRANSITION 100':1'.
F. SEE CURRENT STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAILS.
G. IF WORK IS INTERRUPTED IN EXCESS OF 30 MINUTES, OR AT THE END OF DAYS PAVING, A TRANSVERSE CONSTRUCTION JOINT SHALL BE INSTALLED; HOWEVER, IT SHALL NOT BE PERMITTED WITHIN 5 FEET OF A TRANSVERSE CONTRACTION JOINT.
NOTES

JOINTS

Transverse contraction joints shall be spaced 15'-0" on center and sawed to a minimum depth of one third of the pavement thickness (T/3) or 4" whichever is less. All transverse contraction and transverse expansion joints shall require load transfer assemblies as detailed on the plans or standard drawings. Joint spacing and type, at bridge ends, shall be required as shown on the plans or current standard drawing RPS-O10. Transverse construction joints shall be constructed in accordance with Section 501.03.17.

1 3 See current standard drawing RPS-O10 for joint symbols and details.
NOTES

1. (a) WHEN JOINTED PLAIN CONCRETE PAVEMENT IS SPECIFIED FOR AN ACCELERATION LANE, DECELERATION LANE, AN ADDITIONAL LANE, OR TAPER, AND IS TO BE CONSTRUCTED ADJACENT TO AN EXISTING JOINTED REINFORCED CONCRETE PAVEMENT, THE SPACING OF THE TRANSVERSE CONTRACTION JOINTS IN THE JOINTED PLAIN CONCRETE PAVEMENT SHALL BE AS FOLLOWS:
   (a) WHEN THE SPACING OF THE TRANSVERSE CONTRACTION JOINTS IN THE EXISTING PAVEMENT IS 50 FEET, THE SPACING OF THE TRANSVERSE CONTRACTION JOINTS IN THE JOINTED PLAIN CONCRETE PAVEMENT SHALL BE 16.5' FEET;
   (b) WHEN THE SPACING OF THE TRANSVERSE CONTRACTION JOINTS IN THE EXISTING PAVEMENT IS 25 FEET, THE SPACING OF THE TRANSVERSE CONTRACTION JOINTS IN THE JOINTED PLAIN CONCRETE PAVEMENT SHALL BE 12' FEET.

2. SEE CURRENT STANDARD DRAWING RPS-010 FOR JOINT SYMBOLS AND DETAILS.

3. LONGITUDINAL SAWED JOINTS AT CENTER LINE SHALL BE REQUIRED FOR ALL RAMPS AND LOOPS GREATER THAN 16 FEET IN WIDTH.

4. ALL CONTRACTION JOINTS IN THE RAMP IMMEDIATELY OPPOSITE TO THE MAIN LINE PAVEMENT SHALL BE A CONTINUATION OF THE JOINTS IN THE MAINLINE PAVEMENT.

5. PROPOSED JOINTED PLAIN CONCRETE PAVEMENT.
LONGITUDINAL JOINTS SHALL BE USED WHEN SHOWN ON THE TYPICAL SECTION, AND STANDARD DRAWINGS AND SHALL BE CONSTRUCTED AS SHOWN ON THIS DRAWING. LONGITUDINAL CONSTRUCTION JOINTS BETWEEN ADJOINING SLABS, AND PAVED IN SEPARATE OPERATIONS SHALL USE HOOK-BOLTS OR TIE BARS AND BE CONSTRUCTED AS SHOWN ON THIS DRAWING.

IN LIEU OF THE DEFORMED TIE BARS THE CONTRACTOR SHALL BE PERMITTED TO USE EITHER ALT. 1 OR ALT. 2 HOOK BOLT AS DETAILED.

SLIP-FORM PAVEMENT

4. DEFORMED TIE BARS USED IN TRANSVERSE CONSTRUCTION JOINTS SHALL BE NO CLOSER THAN 6" TO THE PAVEMENT EDGE OR ANY LONGITUDINAL JOINT.

A. NO. 5 DEFORMED TIE BAR 2'-6" LONG PLACED 1'-8" ON CENTER AND PLACED 1'-8" MINIMUM FROM ANY TRANSVERSE JOINT.

B. EXPANSION ANCHOR FOR BOLT SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD ANCHOR, CHICAGO EXPANSION BOLT CO. - SPECIAL FLUSH SELF DRILLING ANCHOR, OR APPROVED TYPE. INSTALLATION SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION. HOOK BOLTS WITH EXPANSION ANCHORS ATTACHED SHALL NOT BE LESS THAN 14" IN LENGTH. HOOK BOLTS WITH EXPANSION ANCHORS SHALL BE SPACED 5'-0" O.C.

CONCRETE PAVEMENT

JOINT SYMBOLS

1. LONGITUDINAL SAWED JOINT
2. LONGITUDINAL SAWED CONSTRUCTION JOINT
3. TRANSVERSE SAWED CONTRACTIONS JOINT
4. TRANSVERSE SAWED CONSTRUCTION JOINT (1'-0" MIN.)
5. TRANSVERSE EXPANSION JOINT
6. LONGITUDINAL SAWED JOINT (WITHOUT TIE BARS)
7. LONGITUDINAL SAWED CONSTRUCTION JOINT (WITHOUT TIE BARS)
8. TRANSVERSE SAWED CONSTRUCTION JOINT (WITHOUT LOAD TRANSFER ASSEMBLY)
9. TRANSVERSE SAWED CONSTRUCTION JOINT (WITHOUT TIE BARS)
10. 1/2" TRANSVERSE EXPANSION JOINT (WITHOUT LOAD TRANSFER ASSEMBLY)
1. DOWEL BAR SIZES

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<tr>
<td>BAR DIAMETER</td>
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<td>1/2&quot;</td>
<td>3/4&quot;</td>
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<tr>
<td>LEG ANGLES +/- 3 DEGREES</td>
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<td>70</td>
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2. EXPANSION ASSEMBLY IS ILLUSTRATED; FOR CONTRACTION ASSEMBLY OMIT 1" EXPANSION JOINT MATERIAL, NO. W-7 CENTER SPACER BARS, NO. W-4.5 FILLER SUPPORT WIRES, FILLER TIE BARS, AND DOWEL BAR SLEEVES.

3. NO. W-1.5 UPPER TIE BARS WELDED TO UPPER SPACER BARS CUT AFTER FIRST CONCRETE PLACEMENT.

4. FOR END LEGS, BEND WIRE AS SHOWN BY PHANTOM LINES IN INTERMEDIATE LEG DETAIL.

5. REFERENCE POINTS SHALL BE REQUIRED ON EACH SIDE OF THE LOAD TRANSFER ASSEMBLY, IN ORDER TO LOCATE THE INTENDED SAWED JOINT AFTER PAVING. ALL SAWING SHALL BE ACCURATELY CONTROLLED TO THE CENTERLINE OF THE LOAD TRANSFER ASSEMBLIES. LONGITUDINAL ORIENTATION OF DOWEL BARS SHALL BE SUCH THAT ALL DOWEL BARS ARE PARALLEL WITH THE CENTERLINE OF EACH PAVING LANE.

6. SEE APPLICABLE CURRENT STD. DWG. RPX-010 OR RPX-020 FOR SEAL DEPTH.

7. 4 1/2" MIN. AND 10 1/2" MAX. FOR VARIABLE SLAB WIDTH, 6" FOR UNIFORM OR STD. SLAB WIDTH. LOCATION AND SPACING SEE APPLICABLE PAVEMENT STANDARD DRAWINGS.

8. WELD EITHER NO. W-7 UPPER SPACER BAR OR LEG SUPPORT TO ALTERNATE ENDS OF DOWEL BARS AS TYPICALLY SHOWN.

9. DOWEL ENDS SHALL NOT VARY MORE THAN 1/4" FROM A STRAIGHT LINE.

10. DOWELS SHALL BE PARALLEL WITH BASE, WITH A TOLERANCE OF 1/4".

11. EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.

12. "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.

NOTE: 2" O.C. (TYP) EXPANSION JOINT MATERIALLY, NO. W-7 CENTER SPACER BARS, NO. W-4.5 FILLER SUPPORT WIRES, FILLER TIE BARS, AND DOWEL BAR SLEEVES.

NOTE: DIMENSION VARIES WITH PAVEMENT THICKNESS (T/2).

NOTE: EXPANSION ASSEMBLY IS ILLUSTRATED; FOR CONTRACTION ASSEMBLY OMIT 1" EXPANSION JOINT MATERIAL, NO. W-7 CENTER SPACER BARS, NO. W-4.5 FILLER SUPPORT WIRES, FILLER TIE BARS, AND DOWEL BAR SLEEVES.

NOTE: REFERENCE POINTS SHALL BE REQUIRED ON EACH SIDE OF THE LOAD TRANSFER ASSEMBLY, IN ORDER TO LOCATE THE INTENDED SAWED JOINT AFTER PAVING. ALL SAWING SHALL BE ACCURATELY CONTROLLED TO THE CENTERLINE OF THE LOAD TRANSFER ASSEMBLIES. LONGITUDINAL ORIENTATION OF DOWEL BARS SHALL BE SUCH THAT ALL DOWEL BARS ARE PARALLEL WITH THE CENTERLINE OF EACH PAVING LANE.

NOTE: SEE APPLICABLE CURRENT STD. DWG. RPX-010 OR RPX-020 FOR SEAL DEPTH.

NOTE: 4 1/2" MIN. AND 10 1/2" MAX. FOR VARIABLE SLAB WIDTH, 6" FOR UNIFORM OR STD. SLAB WIDTH. LOCATION AND SPACING SEE APPLICABLE PAVEMENT STANDARD DRAWINGS.

NOTE: WELD EITHER NO. W-7 UPPER SPACER BAR OR LEG SUPPORT TO ALTERNATE ENDS OF DOWEL BARS AS TYPICALLY SHOWN.

NOTE: DOWEL ENDS SHALL NOT VARY MORE THAN 1/4" FROM A STRAIGHT LINE.

NOTE: DOWELS SHALL BE PARALLEL WITH BASE, WITH A TOLERANCE OF 1/4".

NOTE: EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.

NOTE: "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.

NOTE: DIMENSION VARIES WITH PAVEMENT THICKNESS (T/2).

NOTE: EXPANSION ASSEMBLY IS ILLUSTRATED; FOR CONTRACTION ASSEMBLY OMIT 1" EXPANSION JOINT MATERIAL, NO. W-7 CENTER SPACER BARS, NO. W-4.5 FILLER SUPPORT WIRES, FILLER TIE BARS, AND DOWEL BAR SLEEVES.

NOTE: REFERENCE POINTS SHALL BE REQUIRED ON EACH SIDE OF THE LOAD TRANSFER ASSEMBLY, IN ORDER TO LOCATE THE INTENDED SAWED JOINT AFTER PAVING. ALL SAWING SHALL BE ACCURATELY CONTROLLED TO THE CENTERLINE OF THE LOAD TRANSFER ASSEMBLIES. LONGITUDINAL ORIENTATION OF DOWEL BARS SHALL BE SUCH THAT ALL DOWEL BARS ARE PARALLEL WITH THE CENTERLINE OF EACH PAVING LANE.

NOTE: SEE APPLICABLE CURRENT STD. DWG. RPX-010 OR RPX-020 FOR SEAL DEPTH.

NOTE: 4 1/2" MIN. AND 10 1/2" MAX. FOR VARIABLE SLAB WIDTH, 6" FOR UNIFORM OR STD. SLAB WIDTH. LOCATION AND SPACING SEE APPLICABLE PAVEMENT STANDARD DRAWINGS.

NOTE: WELD EITHER NO. W-7 UPPER SPACER BAR OR LEG SUPPORT TO ALTERNATE ENDS OF DOWEL BARS AS TYPICALLY SHOWN.

NOTE: DOWEL ENDS SHALL NOT VARY MORE THAN 1/4" FROM A STRAIGHT LINE.

NOTE: DOWELS SHALL BE PARALLEL WITH BASE, WITH A TOLERANCE OF 1/4".

NOTE: EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.

NOTE: "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.

NOTE: DIMENSION VARIES WITH PAVEMENT THICKNESS (T/2).

NOTE: EXPANSION ASSEMBLY IS ILLUSTRATED; FOR CONTRACTION ASSEMBLY OMIT 1" EXPANSION JOINT MATERIAL, NO. W-7 CENTER SPACER BARS, NO. W-4.5 FILLER SUPPORT WIRES, FILLER TIE BARS, AND DOWEL BAR SLEEVES.

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NOTE: SEE APPLICABLE CURRENT STD. DWG. RPX-010 OR RPX-020 FOR SEAL DEPTH.

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NOTE: EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.

NOTE: "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.

NOTE: DIMENSION VARIES WITH PAVEMENT THICKNESS (T/2).
NOTES:

AA. On construction, if the contractor elects to begin paving operations for the ramp from a point other than that which is immediately opposite the mainline pavement then this distance shall be equally divided when it becomes greater than 20 feet and less than 40 feet.

BB. This contraction joint in the ramp shall always be opposite the contraction joint in the mainline pavement.

CC. All contraction joints in the ramp immediately opposite the mainline pavement shall be a continuation of the joints in the mainline pavement.

DD. Longitudinal sawed joint shall end at the nearest contraction joint, where the overall width of the ramp is a maximum of 16 feet.

EE. This distance shall be equal to 1/2 the normal ramp section.

FF. Longitudinal sawed joints at centerline shall be required for all ramps and loop widths greater than 16 feet.

GG. This contraction joint shall always be placed opposite the nose of the ramp. The two contraction joints immediately preceding this joint, depending on the direction of paving operations, shall be equally divided. Provided the spacing does not exceed the normal spacing. Should spacing be greater than normal, an extra joint shall be added and the distance equally divided. The joint immediately following the joint that is placed opposite the ramp nose shall be normally spaced.

HH. See current standard drawing RPS-010 for joint symbols and details.

II. Normal spacing of contraction joints indicated on this drawing are to be in accordance with spacing indicated on current standard drawing RPN-015.
NORMAL SPACING OF CONTRACTION JOINTS

SINGLE INTERSECTIONS

NORMAL SPACING OF CONTRACTION JOINTS

ANGLE INTERSECTION

NORMAL SPACING OF CONTRACTION JOINTS

DOUBLE INTERSECTIONS

NORMAL SPACING OF CONTRACTION JOINTS

DECELERATING LANE

NOTES

SEE CURRENT STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAILS. DRAWINGS ON THIS SHEET ARE DETAILED ON THE PREMISE THAT PAVEMENT CONSTRUCTION WILL BE FROM LEFT TO RIGHT. IF PAVEMENT CONSTRUCTION IS IN THE OPPOSITE DIRECTION, TRANSVERSE JOINT SPACING DETAILS SHALL BE REVERSED END FOR END.

AA THIS DISTANCE TO BE EQUALLY DIVIDED WHEN GREATER THAN 20 FEET AND LESS THAN 40 FEET.

NORMAL THREE LANE PAVEMENT
TYPICAL STORAGE LANE, CROSS-OVER SINGLE INTERSECTION, ACCELERATING AND DECELERATING LANE

NOTES:

SEE CURRENT STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAIL.
ALL INTEGRAL CURBS CONSTRUCTED WITH CONCRETE BASE OR PAVEMENT SHALL HAVE JOINTS COINCIDING WITH THE TRANSVERSE JOINTS AND OTHER JOINTS SHOWN ON THIS STANDARD DRAWING. THE JOINTS SHALL BE FILLED WITH 1/2" PREMOLDED EXPANSION JOINT FILLER, CUT TO THE REQUIRED SECTION.

B 1/2" EXPANSION JOINT FILLER.
C NORMAL SPACING OF CONTRACTION JOINTS 18'-0" ON CENTER.
D THIS DISTANCE TO BE EQUALLY DIVIDED WHEN GREATER THAN 20 FEET AND LESS THAN 40 FEET.
E NO CONTRACTION JOINT REQUIRED WHEN DISTANCE LESS THAN NORMAL SPACING OF JOINTS. EQUALLY DIVIDED WHEN DISTANCE IS GREATER THAN 20 FEET AND LESS THAN 40 FEET.
F A LONGITUDINAL SAWED JOINT SHALL BE CONSTRUCTED IN THE CROSS-OVER WHEN THE WIDTH OF CROSS-OVER BECOMES GREATER THAN 16 FEET AND LESS THAN 24 FEET. WHEN WIDTH BECOMES GREATER THAN 24 FEET A LONGITUDINAL SAWED AND LONGITUDINAL CONSTRUCTION JOINT SHALL BE CONSTRUCTED IN THE CROSS-OVER.
G SHOULD THE CROSS-OVER LENGTH BECOME GREATER THAN NORMAL SPACING OF CONTRACTION JOINTS A TRANSVERSE CONTRACTION JOINT SHALL BE PLACED IN THE CROSS-OVER OPPOSITE THE CONTRACTION JOINTS IN THE MAIN LINE.
1. See current standard drawing RPS-010 for joint symbols and details.
2. The installation of longitudinal sawed and construction joints in turnouts shall depend on width of turnout with the rule that 16 feet shall be maximum pour without construction of a longitudinal joint.
3. All integral curbs constructed with concrete base or pavement shall have joints coinciding with the transverse joints and other joints shown on this standard drawing. The joints shall be filled with 1/2" premolded expansion joint filler, cut to required section.
   a. This distance to be equally divided when greater than 20' and less than 40'.
   b. 1/2" expansion joint filler.
   c. This distance to be equally divided when greater than 20' and less than 40'. No transverse joint will be required if distance is less than normal spacing of joints.
   d. Normal spacing of contraction joints.
   e. Equally divide and construct longitudinal sawed joint when width of crossover becomes greater than 16' and less than 24'. When width becomes greater than 24', a longitudinal sawed and longitudinal construction joint shall be constructed in the crossover.
   f. Normal spacing of transverse contraction joints.
   g. See current std. dwg. RPM-150 or RPM-152, as applicable for more detail.

Municipal Type Residential Entrances

Use with current std. dwg. RPS-010

Kentucky Department of Highways

Concrete Pavement Joints Types and Spacing

Typical divided lane with crossover and curb
NOTES

ALL INTEGRAL CURBS CONSTRUCTED WITH CONCRETE BASE OR PAVEMENT SHALL HAVE JOINTS COINCIDING WITH THE TRANSVERSE JOINTS AND OTHER JOINTS SHOWN ON THIS STANDARD DRAWING. THE JOINTS SHALL BE FILLED WITH 1/2" PREMOLDED EXPANSION JOINT FILLER, CUT TO THE REQUIRED SECTION.

SEE CURRENT STANDARD DRAWING RPS-010 FOR JOINT SYMBOLS AND DETAILS.

A  EQUALLY DIVIDE AND CONSTRUCT LONGITUDINAL SAWED JOINT WHEN DISTANCE BECOMES GREATER THAN 16 FEET.

B  1/2" EXPANSION JOINT FILLER.

C  TRANSVERSE CONTRACTION JOINT REQUIRED ONLY WHEN DISTANCE IN EXCESS OF NORMAL SPACING OF CONTRACTION JOINTS.

D  NO CONTRACTION JOINTS REQUIRED BETWEEN THESE TWO CONTRACTION JOINTS WHEN DISTANCE IS LESS THAN NORMAL SPACING OF JOINTS. EQUALLY DIVIDE WHEN DISTANCE IS GREATER THAN 20 FEET AND LESS THAN 40 FEET.

AA THIS DISTANCE TO BE EQUALLY DIVIDED WHEN GREATER THAN 20 FEET AND LESS THAN 40 FEET.

COMMERCIAL ENTRANCE

CEMENT CONCRETE BASE WITH INTEGRAL CURB
NORMAL SPACING OF CONTRACTION JOINTS INDICATED ON THIS DRAWING ARE TO BE IN ACCORDANCE WITH SPACING INDICATED ON CURRENT STANDARD DRAWING RPN-015.

ON CONSTRUCTION IF THE CONTRACTOR ELECTS TO BEGIN PAVING OPERATIONS FOR THE RAMP FROM A POINT OTHER THAN WHICH IS IMMEDIATELY OPPOSITE THE MAINLINE PAVEMENT, THIS DISTANCE SHALL BE EQUALLY DIVIDED WHEN IT BECOMES GREATER THAN 20 FEET AND LESS THAN 40 FEET.

THIS CONTRACTION JOINT IN THE RAMP SHALL ALWAYS BE OPPOSITE THE CONTRACTION JOINT IN THE MAINLINE PAVEMENT.

ALL CONTRACTION JOINTS IN THE RAMP IMMEDIATELY OPPOSITE THE MAINLINE PAVEMENT SHALL BE A CONTINUATION OF THE JOINTS IN THE MAINLINE PAVEMENT.

SEE TYPICAL SECTIONS FOR SPECIFIC TYPE OF LONGITUDINAL JOINT.

SEE CURRENT STANDARD DRAWING RPS-010 FOR JOINT SYMBOL AND DETAIL.
NOTES
1. LONGITUDINAL SAWED JOINT AT CENTER OF RAMP SHALL BE REQUIRED ONLY WHEN RAMP EXCEEDS 16 FEET IN WIDTH.
2. SEE CUR. STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAIL.

INTERCHANGE RAMP DETAIL
ENTRANCE TO MINOR TWO LANE ROAD
NOTES
1. SEE CURRENT STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAIL.
2. LONGITUDINAL SAWED JOINT AT CENTER OF RAMP SHALL BE REQUIRED ONLY WHEN RAMP WIDTH EXCEEDS 16 FEET.
NOTES
1. LONGITUDINAL SAWED JOINT AT CENTER OF RAMP SHALL BE REQUIRED ONLY WHEN RAMP EXCEEDS 16 FEET IN WIDTH.
2. SEE CUR. STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAIL.
NOTES

1. LONGITUDINAL SAWED JOINT AT CENTER OF RAMP SHALL BE REQUIRED ONLY WHEN RAMP EXCEEDS 16 FEET IN WIDTH.
2. SEE CUR. STD. DWG. RPS-010 FOR JOINT SYMBOLS AND DETAIL.

INTERCHANGE RAMP DETAIL
EXIT FROM MINOR FOUR LANE ROAD

USE WITH CUR. STD. DWG. RPS-010

KENTUCKY
DEPARTMENT OF HIGHWAYS
CONCRETE
PAVEMENT JOINTS
TYPES AND SPACING

STANDARD DRAWING NO. RPS-039-05
NOTES:

1. THE MARKING SHALL BE ACCOMPLISHED BY THE USE OF RAISED LETTERS IMPRESSED IN THE CONCRETE. THE SIZE, STYLE, PROPORTION, AND OTHER DETAILS SHALL BE AS INDICATED ON THIS SHEET.

2. STATION NUMBERS AND EQUATIONS SHALL BE SHOWN IN FULL. WHERE AN EQUATION FALLS WITHIN 50 FEET OF A STATION MARKING, THE STATION MARKING SHALL BE ELIMINATED AND THE EQUATION SHOWN IN A STRAIGHT LINE WITH THE + MARK OF THE BACK STATION BEING THE # SURVEY STATION NUMBER.

3. THE PAVEMENT SHALL BE MARKED BEFORE THE CONCRETE HAS TAKEN ITS INITIAL SET, AND ALL DISPLACED AGGREGATE REMOVED SO THAT THE PAVEMENT SURFACE IS LEFT IN A SMOOTH CONDITION WITH LETTERS FULLY AND NEATLY FORMED. THE UNIT PRICE BID PER SQUARE YARD FOR CONCRETE PAVEMENT SHALL INCLUDE PAYMENT IN FULL FOR ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

TWO LANE PAVEMENTS

STATION NUMBERS AND EQUATIONS SHALL BE MARKED ALONG THE RIGHT EDGE OF PAVEMENT IN THE DIRECTION OF SURVEY IN SUCH A POSITION AS TO BE READ RIGHT SIDE UP FROM THE DRIVER’S SEAT OF A CAR TRAVELING ON THE SHOULDER.

MULTI-LANE (4-6 ETC.) DIVIDED PAVEMENTS

STATION NUMBERS AND EQUATIONS SHALL BE MARKED ALONG THE OUTSIDE EDGES OF BOTH LAKES IN SUCH A POSITION AS TO BE READ RIGHT SIDE UP FROM THE DRIVER’S SEAT OF A CAR TRAVELING ON THE SHOULDER OF EACH TWO LANE COMPONENT.

RAMPS

STATION NUMBERS AND EQUATIONS SHALL BE MARKED ON THE RIGHT SIDE OF THE PAVEMENT EDGE IN THE DIRECTION OF THE FLOW OF TRAFFIC SUCH THAT THEY CAN BE READ RIGHT SIDE UP FROM THE DRIVER’S SEAT OF A CAR TRAVELING ON THE RIGHT SHOULDER.
SEE DETAIL "A"

TOP OF PAVEMENT

JOINT SEAL

A

B

C

1/4"

1/4"

3/8" ± 1/16" BEVEL

TOP OF PAVEMENT

DETAIL "A"

TOP OF PAVEMENT

SEE DETAIL "A"

JOINT SEAL 3/16"

UNCOMPRESSED WIDTH

1/2" FOR

(2) & (3)

FOR (1)

JOINT SHAPE FOR
TRANSVERSE SAWED CONTRACTION JOINT

<table>
<thead>
<tr>
<th>JOINT SPACING</th>
<th>DIMENSIONS</th>
<th>SEAL WIDTH UNCOMPRESSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>15'-0&quot;</td>
<td>3/8&quot; 2&quot; 1/8&quot; TO 3/8&quot;</td>
<td>1/16&quot;</td>
</tr>
<tr>
<td>25'-0&quot;</td>
<td>1/2&quot; 2&quot; 1/8&quot; TO 1/2&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>50'-0&quot;</td>
<td>5/8&quot; 2&quot; 1/8&quot; TO 5/8&quot;</td>
<td>1/4&quot;</td>
</tr>
</tbody>
</table>

JOINT SHAPE FOR
TRANSVERSE SAWED EXPANSION JOINT

1/4"

1/4"

1/2" FOR

(2) & (3)

FOR (1)

JOINT SHAPE FOR
TRANSVERSE SAWED CONSTRUCTION JOINT (TIED)

1" EXPANSION FILLER

AND ASSEMBLY

1

JOINT SHAPE FOR
TRANSVERSE SAWED CONSTRUCTION JOINT (TIED)

NOTES

PAYMENT FOR ALL WORK SHALL BE INCIDENTAL TO THE UNIT PRICE
BID PER SQ. YD. OF PAVEMENT.

TOLERANCES ON ALL JOINT WIDTH DIMENSIONS PLUS OR MINUS 1/16".

INSTALLATION OF PREFORMED POLYCHLOROPRENE SEALS (NEOPRENE) SHALL
BE IN ACCORDANCE WITH ARTICLE 501.03.18 OF THE CURRENT STANDARD
SPECIFICATIONS, EXCEPT TRANSVERSE EXPANSION JOINTS SHALL
receive PREFORMED SEALS IN ACCORDANCE WITH THIS DRAWING .

1 THE REMAINING JOINT SHALL BE IN ACCORDANCE WITH CURRENT STD. DWG.
RPS-010 AND RPS-020.

2 ALL LONGITUDINAL AND TRANSVERSE SAWED CONSTRUCTION JOINTS SHALL
BE CUT TO THE DEPTH SHOWN AND SHALL BE SEALED WITH HOT POURED
ELASTIC JOINT SEAL.

3 THESE EDGES SHALL BE BEVELED USING A CUTTING OR GRINDING DEVICE .

4 JOINT DEPTH IS T/3 OR 4" WHICHER IS LESS.

T = PAVEMENT THICKNESS

KENTUCKY
DEPARTMENT OF HIGHWAYS

PREFORMED COMPRESSION JOINT SEAL FOR
CONCRETE PAVEMENT

STANDARD DRAWING NO RPX-010-04

KENTUCKY}

DEPARTMENT OF HIGHWAYS
NOTES:

PAYMENT FOR ALL WORK SHALL BE INCIDENTAL TO THE UNIT PRICE BID PER SQ. YD. OF PAVEMENT.

1. THE REMAINING JOINT SHALL BE IN ACCORDANCE WITH CURRENT STD. DWG. RPS-010 AND RPS-020.

2. ALL LONGITUDINAL AND TRANSVERSE SAWED JOINTS SHALL BE CUT TO THE DEPTH SHOWN AND SHALL BE SEALED WITH HOT POURED ELASTIC JOINT SEAL.

3. THESE EDGES SHALL BE BEVELED USING A CUTTING OR GRINDING DEVICE.

4. $\frac{1}{8}''$ MIN. - $\frac{1}{4}''$ MAX.

5. JOINT DEPTH IS $T/3$ OR 4'' WHICHER IS LESS.
   
   $T$ = PAVEMENT THICKNESS

(1) LONGITUDINAL SAWED JOINT (TIED)

(2) LONGITUDINAL SAWED CONSTRUCTION JOINT (TIED)

(3) TRANSVERSE SAWED CONSTRUCTION JOINT (TIED)

(4) TRANSVERSE SAWED CONTRACTION JOINT

(5) JOINT SEAL AND ASSEMBLY
TOP OF PAVEMENT

SEE DETAIL "A"

1/4" BACK-UP ROD

1/4" TO 1/2"

JOINT SHAPE FOR
TRANSVERSE SAWED CONTRACTION JOINT
(WHEN SLAB LENGTH DOES NOT EXCEED 25'-0"

TOP OF PAVEMENT

SEE DETAIL "A"

1/4" BACK-UP ROD

1/4" TO 3/4"

JOINT SHAPE FOR
TRANSVERSE SAWED CONTRACTION JOINT
(WHEN SLAB LENGTH EXCEEDS 25'-0"

TOP OF PAVEMENT

SEE DETAIL "A"

1/4" BACK-UP ROD

1/4" TO 1/2"

JOINT SHAPE FOR
TRANSVERSE EXPANSION JOINT

(1) LONGITUDINAL SAWED JOINT (TIED)

(2) LONGITUDINAL SAWED CONSTRUCTION JOINT (TIED)

(3) TRANSVERSE SAWED CONSTRUCTION JOINT (TIED)

NOTES:

PAYMENT FOR WORK SHALL BE INCIDENTAL TO THE UNIT PRICE PER SQ. YD. OF PAVEMENT.

1. THE REMAINING JOINT SHALL BE IN ACCORDANCE WITH CURRENT STD. DWGS. RPS-020 AND RPS-010.

2. THESE EDGES SHALL BE BEVELED USING A CUTTING OR GRINDING DEVICE.

3. JOINT DEPTH IS T/3 OR 4" WHICHER IS LESS.
PLAN VIEW OF ONE ACCESSIBLE PARKING SPACE

ACCESSIBLE PARKING SPACE
 ACCESS Aisle

ACCESSIBLE RAMP SEE CUR. STD. DWG. RPM-170 FOR APPLICABLE TYPE

PLAN VIEW OF TWO ACCESSIBLE PARKING SPACES

ACCESSIBLE PARKING SPACE
 ACCESS Aisle

ACCESSIBLE RAMP SEE CUR. STD. DWG. RPM-170 FOR APPLICABLE TYPE

PLAN VIEW OF MULTIPLE ACCESSIBLE PARKING SPACES

ACCESSIBLE PARKING SPACE
 ACCESS Aisle

ACCESSIBLE RAMP SEE CUR. STD. DWG. RPM-170 FOR APPLICABLE TYPE

NOTES

1. INTERNATIONAL SYMBOL OF ACCESSIBILITY.
2. INTERNATIONAL SYMBOL OF ACCESSIBILITY WITH "VAN-ACCESSIBLE" SIGN MOUNTED BELOW.
3. SEE ELSEWHERE IN THE PLANS FOR APPLICABLE ACCESSIBLE SIGNING DETAILS.
4. SEE ELSEWHERE IN THE PLANS FOR STRIPING DETAILS.
NETTING

TERMINAL EDGES

STAPLES (TYP)

MAT LAP

6" SPLICE LAP

4" MAT LAP

安装在桥梁接头

1. 方法和测量以及付款的基础应与肯塔基州标准规格的公路和桥梁建设一致。
2. 黑色塑料网：由由矩形网格塑料制成，至少45"宽，9/16" x 1"网格开口，重不超过2.6磅/1000平方英尺（0.5磅）。其他网可能需要经过工程师批准。
3. 固定钉应U形并由钢线制成，从W1-W1.5或W2号固定钉，视需要而定。
4. 当钉位于道路边缘时，应按平贴的方法安装，所有安装应与道路边缘对齐。
5. 固定钉应与土表表面平贴，沿8'-0"最大间距排列，开始和结束所有安装均应在安装钉的两侧至少两根网。

STAPLES SHALL BE DRIVEN FLUSH WITH SOIL SURFACE AT ALL EDGES AND LAPS IN ALTERNATE ROWS OF 4'-0" AND 8'-0" MAXIMUM SPACING DOWN THE SLOPE AS DEPICTED BELOW. (BEGIN AND END ALL INSTALLATIONS WITH A ROW OF STAPLES ON 4'-0" MAXIMUM SPACING WITH THE STAPLE TOPS TURNED AS FOLLOWS: STAPLES ON 4'-0" SPACING, PARALLEL TO MAT LENGTH. STAPLES SHALL BRIDGE A MINIMUM OF TWO STRANDS OF NETTING AND BE LOCATED WITH AT LEAST TWO STRANDS BETWEEN STAPLE AND ALL EDGES. KEEP NETTING TAUT AND IN CONTACT WITH THE MULCH AT ALL POINTS, BUT DO NOT STRETCH.

黑塑料网：由由矩形网格塑料制成，至少45"宽，9/16" x 1"网格开口，重不超过2.6磅/1000平方英尺（0.5磅）。其他塑料网：由由矩形网格塑料制成，至少45"宽，9/16" x 1"网格开口，重不超过2.6磅/1000平方英尺（0.5磅）。固定钉应U形并由钢线制成，从W1-W1.5或W2号固定钉，视需要而定。

安装在道路边缘

任何8'-0"的区域内，应安装网，以防止侵蚀。

安装在斜坡上

安装在接头

肯塔基州交通部门

标准图纸编号 RRE-002-04

日期：12-1-99
PLANTING AND STAKING DETAILS

STEEL STAKE
- GALVANIZED STEEL WIRE ONE STRAND - NO. 14

STEEL STAKE
- GALVANIZED STEEL WIRE ONE STRAND - NO. 14

RUBBER HOSE ½” I.D. NEW REINFORCED

WIRING DETAIL "A"

PLANTING DETAIL "B" (ALL DOGWOOD TREES)

1. NOTE LARGER HOLE SIZE.
2. DRAINAGE WELL SHALL BE FILLED WITH COARSE UNSIFTED SAND OR GRAVEL, NOT CRUSHED LIMESTONE.
3. BACKFILL SHALL BE STANDARD MIXTURE EXCEPT OMIT FERTILIZER AND ADD TO BACKFILL FOR EACH TREE ONE TABLESPOON 100% IRON CHELATE AND ONE PINT 5-10-10 ACID FERTILIZER PER 1” OF TRUNK CALIPER.
4. DO NOT PLANT DEEPER THAN AS IN NURSERY.

SEE DETAIL "A"

STEEL STAKE
- GALVANIZED STEEL WIRE ONE STRAND - NO. 14

STAKING DETAIL "E"

WIRING DETAIL "D"

SHADE TREES

1¼” THRU 2” CALIPER USE 1 STAKE (OVER 2” TO 3" CAL. USE 2 STAKES)
DISTANCE R = 1/3 HEIGHT OF TREE (MINIMUM).

EVERGREEN TREES
5’ TO 8’ HEIGHT USE 2 STAKES (OVER 8’ HEIGHT USE 3 STAKES)
DISTANCE R = 2/3 HEIGHT OF TREE (MINIMUM).

FLOWERING TREES
6’ TO 8’ HEIGHT USE 1 STAKE (OVER 8’ HEIGHT USE 2 STAKES)
DISTANCE R = 2/3 HEIGHT OF TREE (MINIMUM).

PLANTING DETAIL "C" (ALL TREES)

1. SEE DOGWOOD DETAIL THIS SHEET.
2. SEE SUMMARY SHEET FOR MINIMUM BALL AND HOLE SIZE.
3. NO EXCAVATED SOIL SHALL BE USED AS BACKFILL.
4. EXCESS SOIL TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER.
5. DEPTH OF MULCH TO BE UNIFORM OVER ENTIRE MULCHED AREA.

NOTES

1. PLANTS UNDER THE SIZES OR NOT OF THE TYPES SHOWN ON THIS SHEET SHALL NOT BE STAKED, EXCEPT WHERE OTHERWISE NOTED ON THE PLANS.
2. STEEL STAKES SHALL BE STANDARD STEEL FENCE POSTS, 1¼” IN CROSS SECTION, WITHOUT ANCHOR PLATES, PAINTED GREEN, NON REFLECTORIZED ABOVE GROUND, OF SUFFICIENT LENGTH AS REQUIRED IN STAKING DETAILS THIS SHEET. TYPE OF STAKE MAY BE CHANGED WITH APPROVAL OF ENGINEER.

PLANTING DETAIL "D" (ALL DOGWOOD TREES)

1. NOTE LARGER HOLE SIZE.
2. DRAINAGE WELL SHALL BE FILLED WITH COARSE UNSIFTED SAND OR GRAVEL, NOT CRUSHED LIMESTONE.
3. BACKFILL SHALL BE STANDARD MIXTURE EXCEPT OMIT FERTILIZER AND ADD TO BACKFILL FOR EACH TREE ONE TABLESPOON 100% IRON CHELATE AND ONE PINT 5-10-10 ACID FERTILIZER PER 1” OF TRUNK CALIPER.
4. DO NOT PLANT DEEPER THAN AS IN NURSERY.

SEE DETAIL "D"

- TURNBUCKLE - GALVANIZED OR ALUMINUM WITH LENGTH OPENINGS: 6” - 7” CLOSED 9” - 10” OPEN. MIN. ¾” DIA.

- WOODEN STAKE
- GALVANIZED STEEL WIRE TWO STRANDS - NO. 14

TURNBUCKLE - GALVANIZED OR ALUMINUM WITH LENGTH OPENINGS: 6” - 7” CLOSED 9” - 10” OPEN. MIN. ¾” DIA.

STANDARD DRAWING NO. RRP-001-04

KENTUCKY DEPARTMENT OF HIGHWAYS

PLANTING AND STAKING DETAILS