Appendix N – Driveway Entrance Details

Class I Drive – Sidewalk Adjacent to Curb ……...….101

Class I Drive – Sidewalk Not Adjacent to Curb ……...……..102

Class II Drive 103

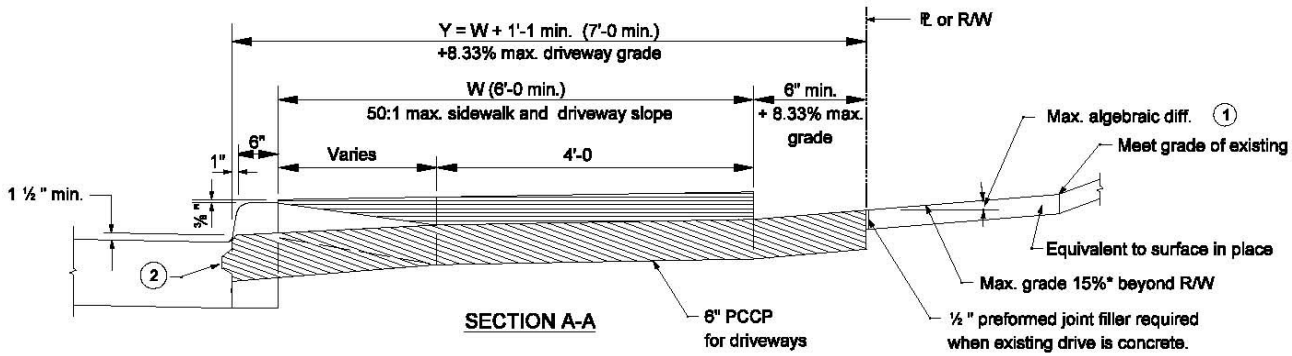
Approach Grades 104

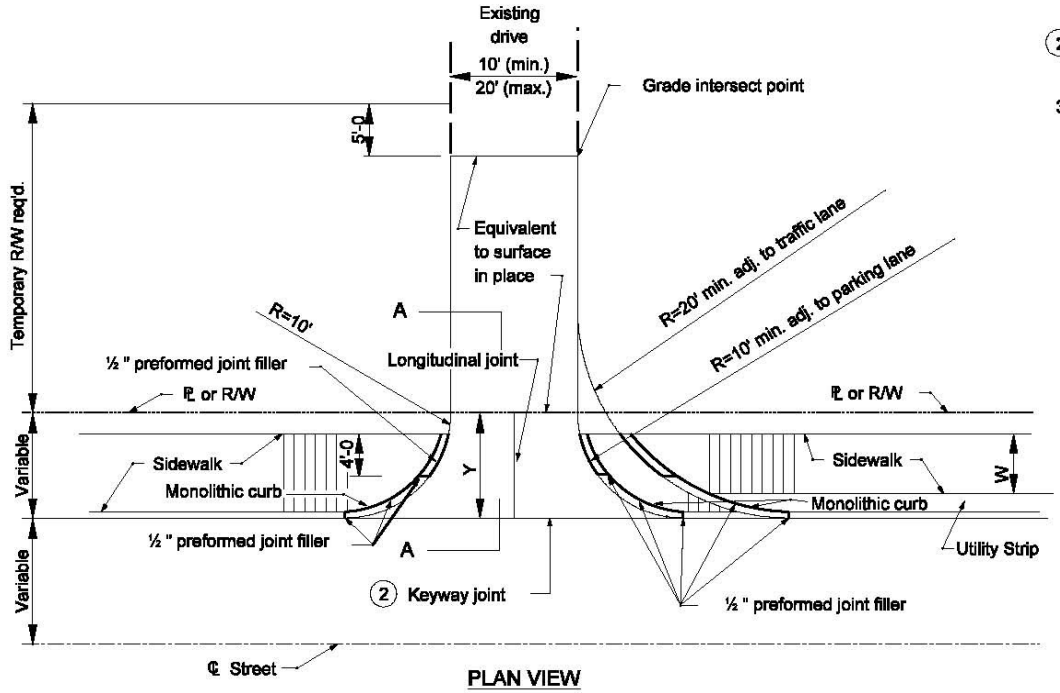
Private Drive Crossovers – Plans 105

Private Drive Crossovers – Cross Sections 106

Commercial Drive Crossovers – Plans 107

Pavement Wedge Limits 108





NOTES:

(1) The maximum algebraic difference in grades shall not exceed 8% for crest vertical curves, nor 12% for sag vertical curves.

(2) See Standard Drawings E 610-DRIV-16 for keyway joint details.

3. See Standard Drawing E 804-SWCR-02 and E804-SWCR-09 for sidewalk curb ramp details.

LEGEND

W = Width of sidewalk

Y = Distance from front face of curb to ℄ or R/W

Curb ramp

Curb ramp view

Concrete pavement

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS I DRIVE SIDEWALK ADJACENT TO CURB

MARCH 2004

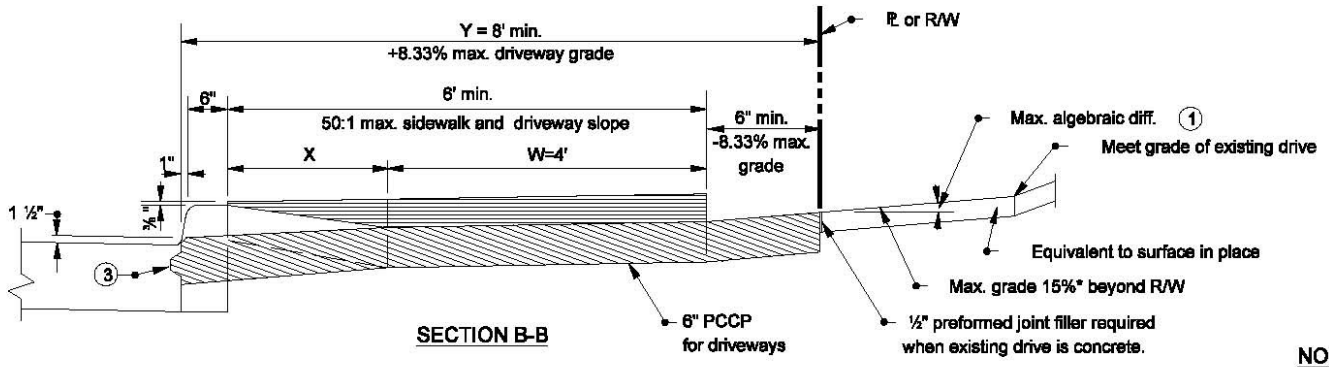
STANDARD DRAWING NO. E 610-DRIV-01

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

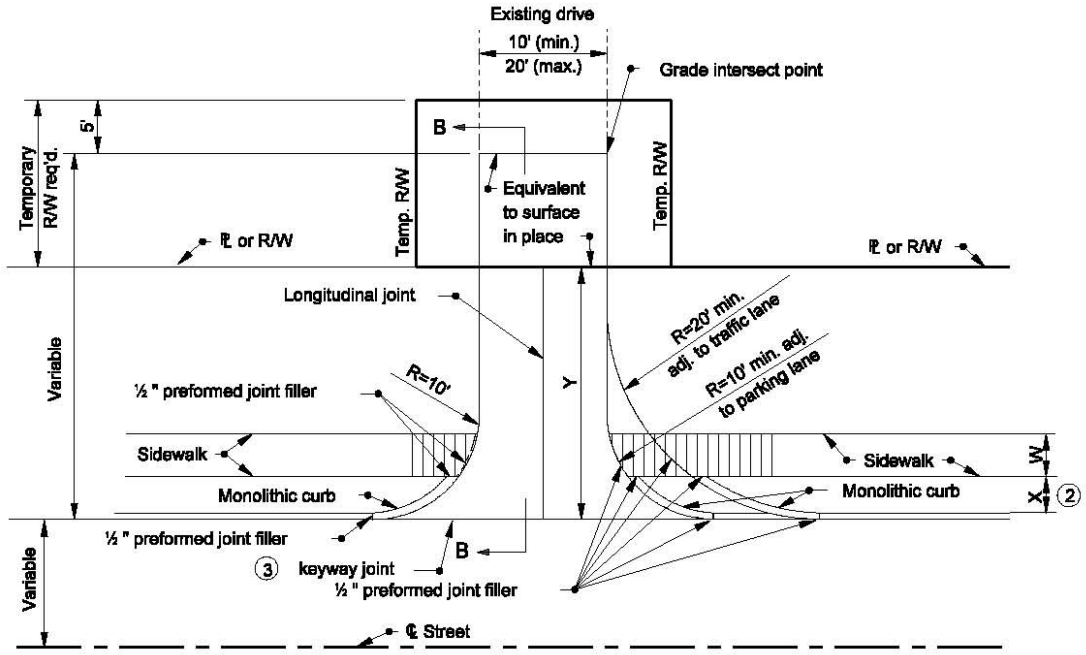
DESIGN STANDARDS ENGINEER

/s/ Richard L.VanCleave 3-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K.Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE



SECTION B-B



PLAN VIEW

X = 2' TO LESS THAN 6' FROM FACE OF CURB

NOTES :

① The maximum algebraic difference in grades shall not exceed 8% for crest vertical curves, nor 12% for sag vertical curves.

② The limits for X are based on a 6" curb height. For other curb heights, the limits for X shall be adjusted.

③ See Standard Drawing E 610-DRIV-16 for keyway joint details.

4 See Standard Drawings E 804-SWCR-02 AND E 804-SWCR-09 for sidewalk curb ramp details

LEGEND

W = Width of sidewalk

X = Distance between back face of curb and sidewalk

Y = Distance from front face of curb to ℄ or R/W

Curb ramp

Curb ramp view.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS I DRIVE
SIDEWALK NOT ADJACENT TO CURB

MARCH 2005

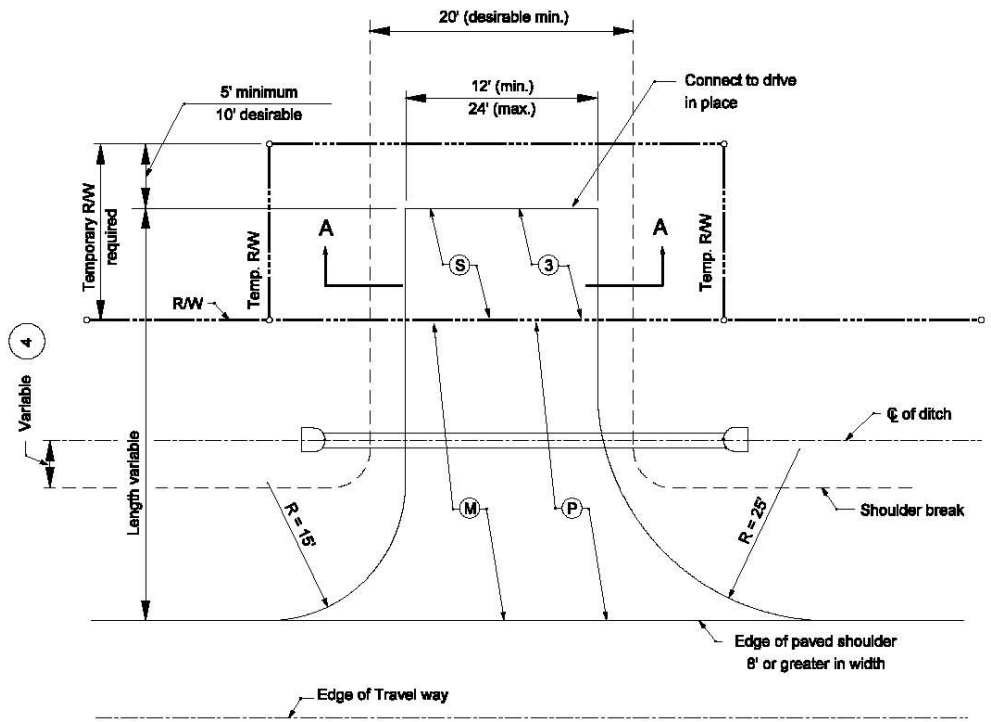
STANDARD DRAWING NO. E 610-DRIV-02

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

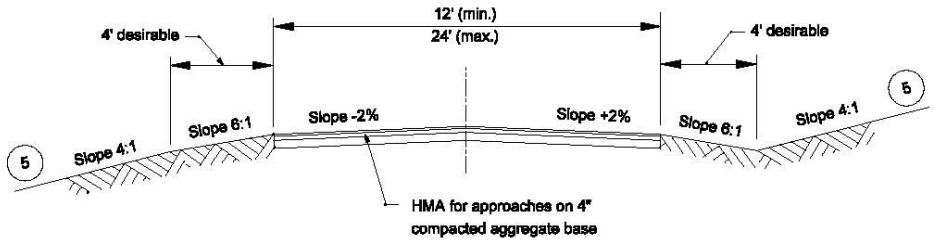
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-05
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-05
CHIEF HIGHWAY ENGINEER DATE



PLAN VIEW



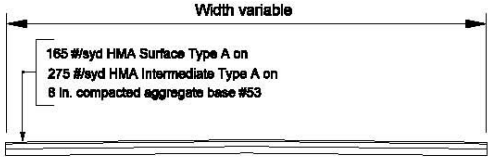
CROSS SECTION A-A

NOTES :

1. The driveway detailed on this sheet shall be used when the mainline shoulder is paved and 8' or greater in width.
2. See Standard Drawing E 610-DRIV-07 for General Notes.
3. See Standard Drawing E 610-DRIV-07 for approach grades with paved shoulder.

LEGEND

- (M) Limits of HMA for approaches
- (P) Limits of compacted aggregate base
- (S) Equivalent to surface in place



HMA FOR APPROACHES

TYPICAL SECTION

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS II DRIVE

MARCH 2004

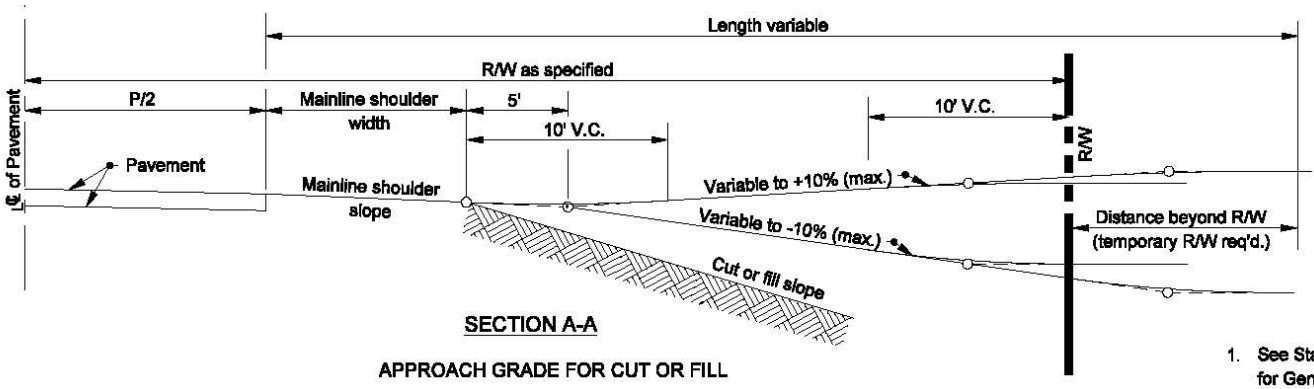
STANDARD DRAWING NO. E 610-DRIV-05

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE

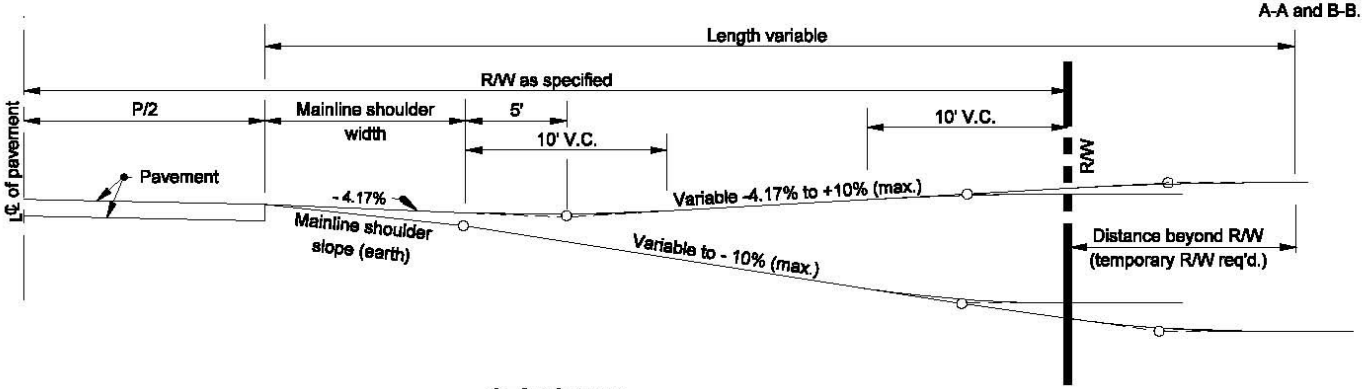


SECTION A-A

APPROACH GRADE FOR CUT OR FILL
TO BE USED WITH PAVED OR COMPACTED AGGREGATE SHOULDERS

NOTES :

1. See Standard Drawing E 610-DRIV-07 for General Notes.
2. See Standard Drawings E 610-DRIV-04, -09 and -11 for location of Sections A-A and B-B.



SECTION B-B

APPROACH GRADE FOR CUT OR FILL
TO BE USED WITH EARTH SHOULDERS

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS II, IV, & V DRIVES APPROACH GRADES

MARCH 2005

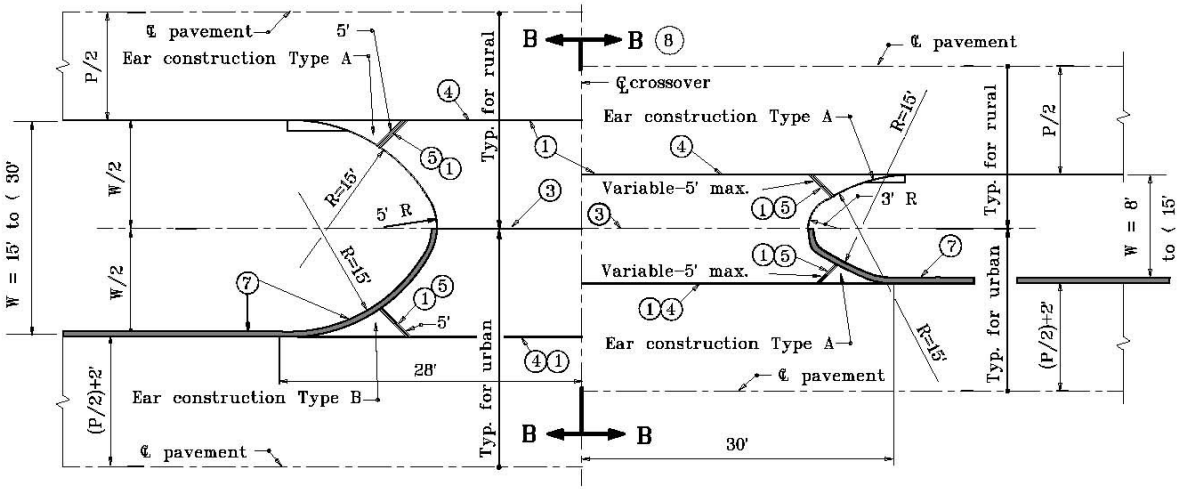
STANDARD DRAWING NO. E 610-DRIV-06

RICHARD L. VANCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

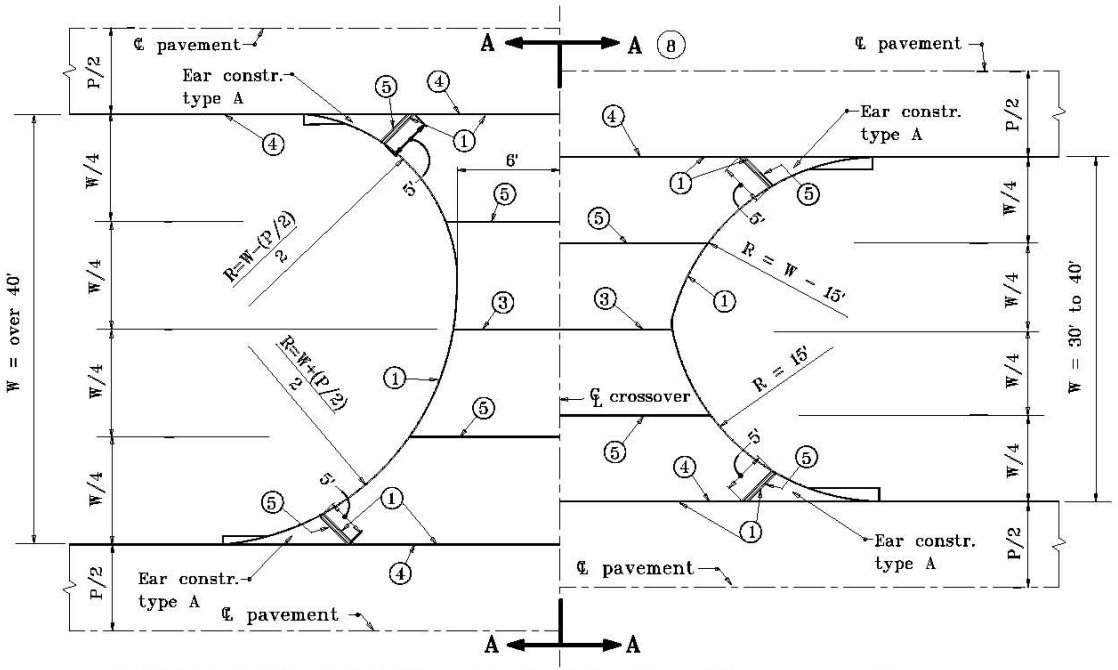
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — DESIGN STANDARDS ENGINEER — 3-01-05 DATE

/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 3-01-05 DATE



PRIVATE DRIVE CROSSOVER PLAN FOR W = 8' to less than 30'



PRIVATE DRIVE CROSSOVER PLAN FOR W = 30' to over 40'

NOTES :

(1) Thickened edge

2. See Standard Drawings:
E 605–ERCN–01 for TYPE "A" ear construction
E 605–ERCN–02 for TYPE "B" ear construction
E 610–DRIV–17 for sections A–A and B–B

(3) Contraction joint type D–1, see Standard Drawing E 503–CCPJ–01 for details.

(4) Keyway construction joint, see Standard Drawing E 610–DRIV–16 for details.

(5) 1" preformed joint filler

6. Private drive crossover shall be constructed of a flexible section unless otherwise directed by the engineer.

(7) Intergral concrete curb, see Standard Drawing E 605–CCIN–01 for details.

(8) For cross sections A–A and B–B see Standard Drawing E 610–DRIV–18.

INDIANA DEPARTMENT OF TRANSPORTATION

PRIVATE DRIVE CROSSOVERS PLANS

JANUARY 2000

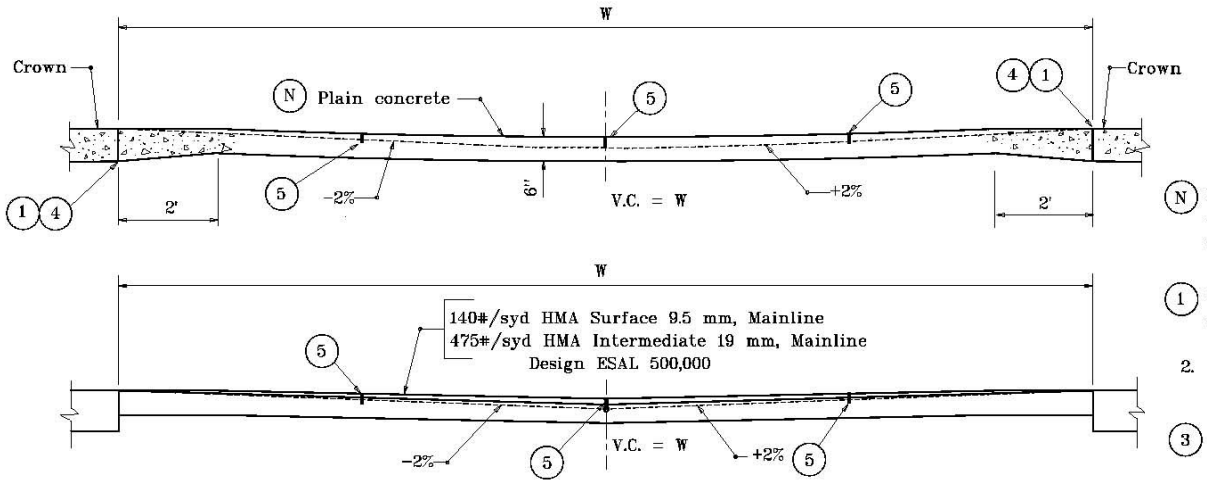
STANDARD DRAWING NO. **E 610–DRIV–17**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

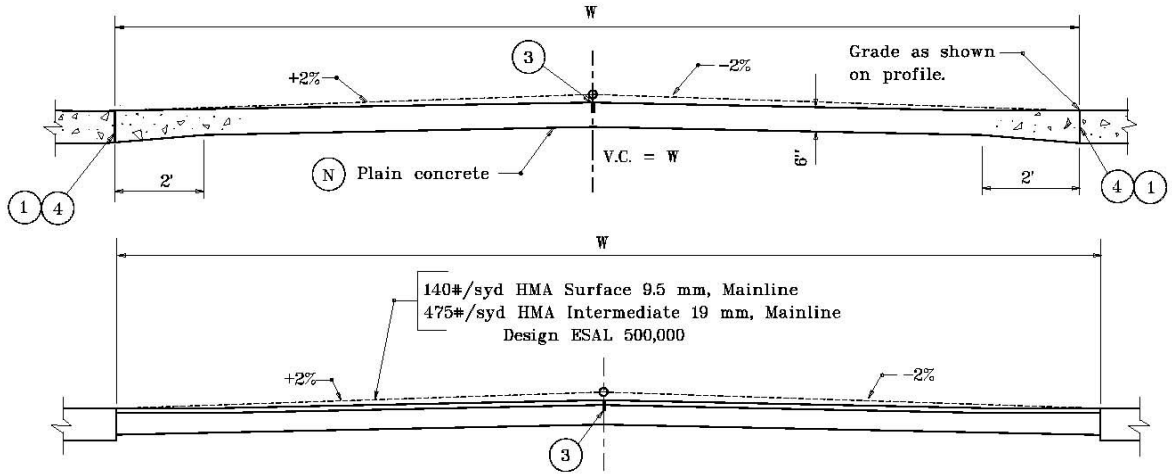
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1-03-00
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER DATE



SECTION A–A
TO BE USED WITH CROWN PAVEMENTS.



SECTION B–B
TO BE USED WITH 3 in. TILTED PAVEMENTS

NOTES :

(N) Private drive crossover shall be constructed of a flexible pavement unless otherwise directed by the Engineer.

(1) Thickened edge to the mainline thickness or 8" min. for plain concrete crossovers.

2. For location of cross sections see Standard Drawing E 610–DRIV–17.

(3) Contraction joint type D–1, see Standard Drawing E 501–CCPJ–06 for details.

(4) Keyway construction joint, see Standard Drawing E 610–DRIV–16 for details.

(5) 1" preformed joint filler

INDIANA DEPARTMENT OF TRANSPORTATION

PRIVATE DRIVE CROSSOVERS
CROSS SECTIONS
JANUARY 2000

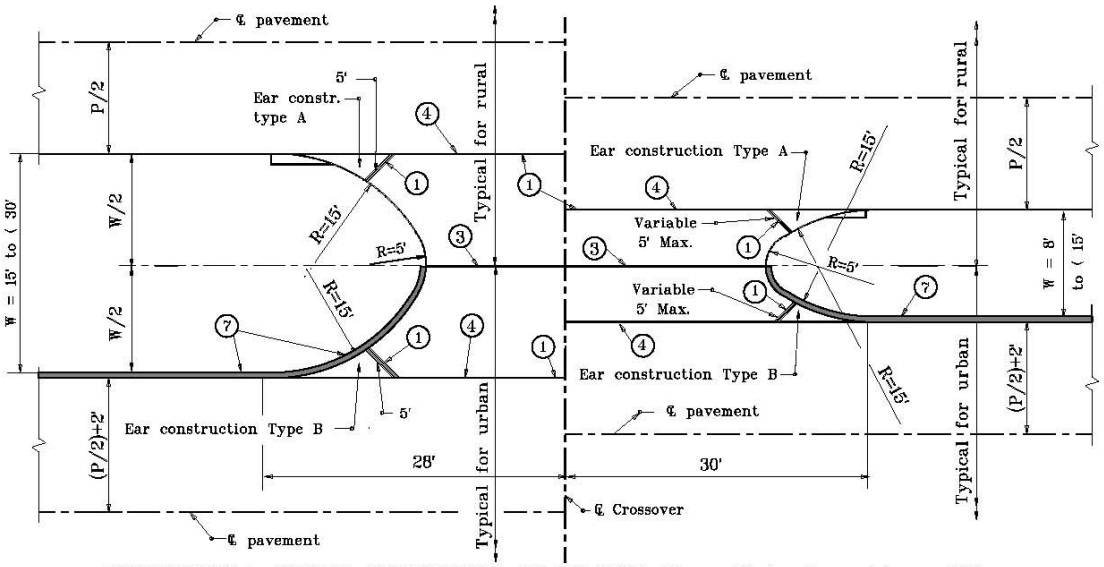
STANDARD DRAWING NO. **E 610–DRIV–18**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

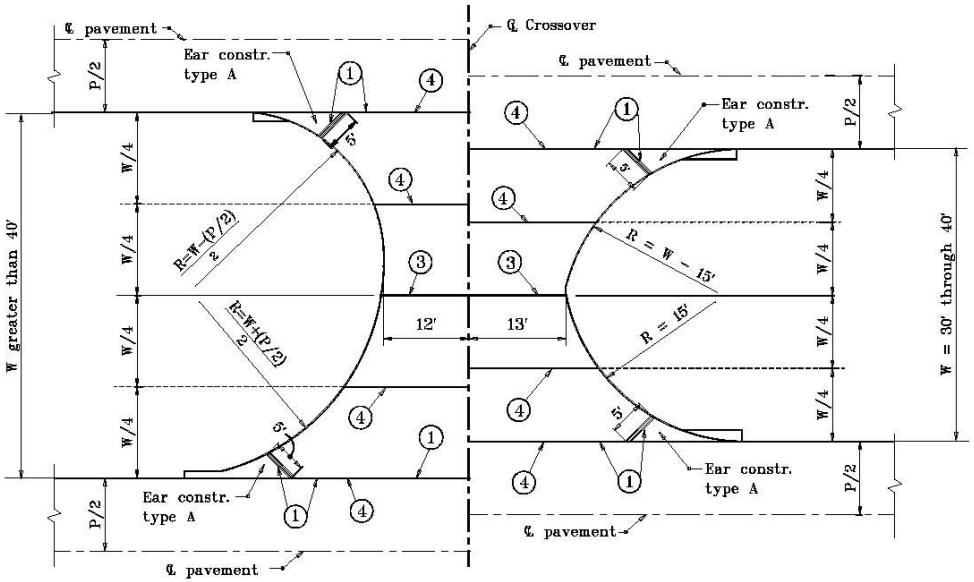
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1–03–00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 1–03–00
CHIEF HIGHWAY ENGINEER — DATE



COMMERCIAL DRIVE CROSSOVER PLAN FOR W = 8' to less than 30'



COMMERCIAL DRIVE CROSSOVER PLAN FOR W = 30' to over 40'

NOTES :

1. Thickened edge
2. See Standard Drawings :
   E 605-ERCN-01 for TYPE "A" ear construction
   E 605-ERCN-02 for TYPE "B" ear construction
3. Contraction joint type D-1, see Standard Drawing E 503-CCPJ-01 for details.
4. Keyway construction joint – see Drawing E 610-DRIV-16 for details.
6. Grade and cross section for commercial drive crossover shall be the same as for private drive crossover, except that the HMA Intermediate 19 mm, Mainline shall be 660#/syd.
   For cross sections see Standard Drawing E 610-DRIV-18.
7. Integral concrete curb, see Standard Drawing E 605-CCIN-01 for details.
8. Commercial drive crossover shall be consrtucted of a flexible section unless otherwise directed by the Engineer.

INDIANA DEPARTMENT OF TRANSPORTATION

COMMERCIAL DRIVE CROSSOVERS PLANS

JANUARY 2000

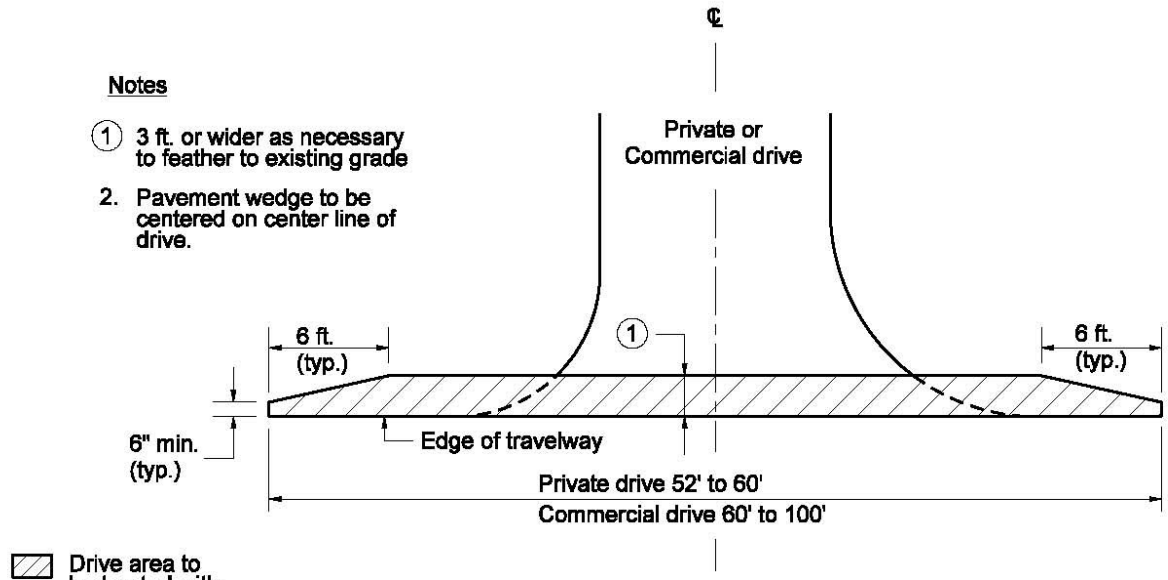
STANDARD DRAWING NO. **E 610-DRIV-19**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1-03-00
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER DATE



PRIVATE OR COMMERCIAL DRIVE

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT WEDGE LIMITS

MARCH 2004

STANDARD DRAWING NO. E 610-DRIV-21

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE