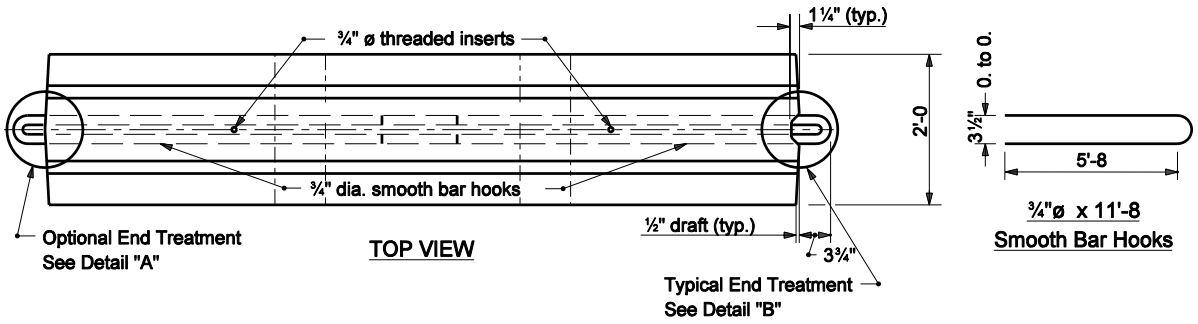
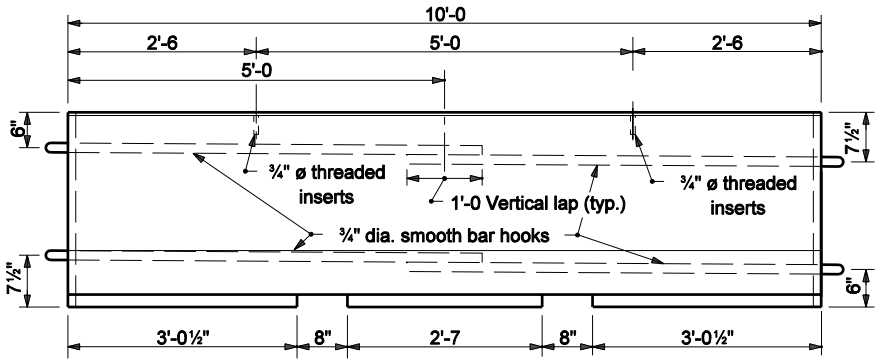
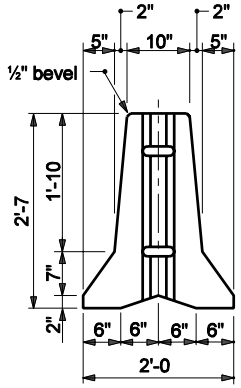


TOP VIEW

¾"ø x 11'-8
Smooth Bar Hooks



FRONT VIEW

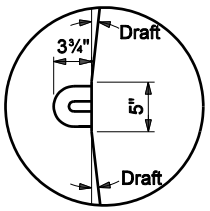


END VIEW

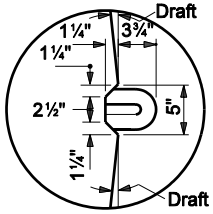
NOTES :

1. The dimensions of the lifting slots are subject to adjustment as necessary to accommodate handling equipment.
2. Maximum barrier taper rate flares for lane closures for legal posted speed are shown in Table No.2.
3. For additional connection details, see Standard Drawing E 801-TCCB-02.

④ Where site conditons prohibit the use of these flare rates then flare rates may range from 10:1 to 6:1



DETAIL "A"



DETAIL "B"

TABLE NO. 2	
CONSTRUCTION ZONE SPEED	④ TAPER FLARE RATE
55 mph	16 : 1
50 mph	14 : 1
45 mph	13 : 1
40 mph	11 : 1
≤ 35 mph	10 : 1

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER DIMENSIONS

SEPTEMBER 2004

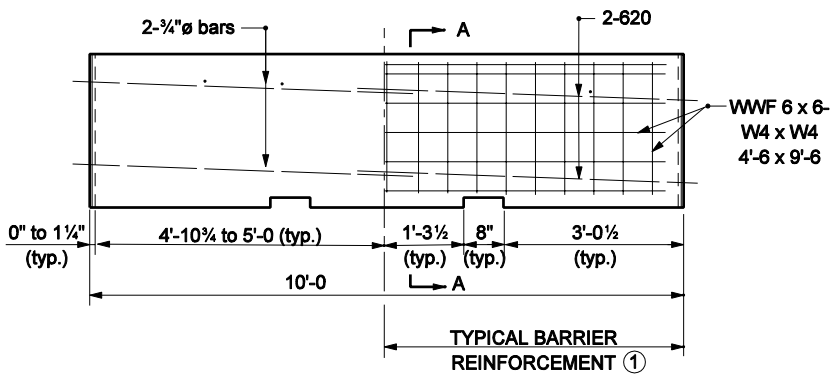
STANDARD DRAWING NO. E 801-TCCB-01

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

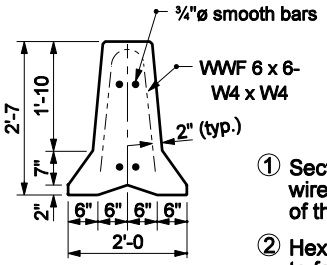
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

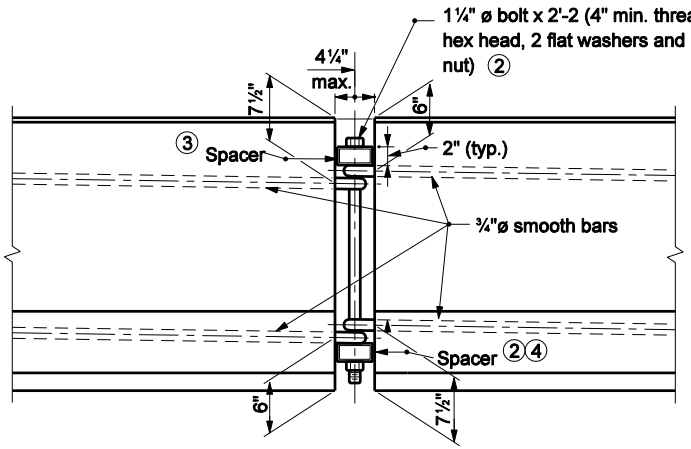
/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



REINFORCEMENT DETAILS

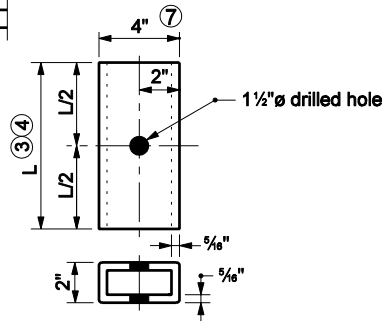


SECTION A-A ①



FRONT VIEW

CONNECTION DETAIL



SPACER DETAIL

NOTES :

① Section A-A shows reinforcement with welded wire fabric. The WWF may be bent to the shape of the wall.

② Hex nut may be tack welded to bottom spacer to facilitate installation and removal. Bolts shall be torqued only to tight condition. Clearance between the spacer and the ends of the barrier shall permit angular deflection at the joints to permit flare rate 11 : 1 or flatter.

③ Top spacer TS 4" x 2" x $\frac{5}{16}$" x 10" long

④ Bottom spacer TS 4" x 2" x $\frac{5}{16}$" x 1'-4 long

5 Where necessary to meet short radius curving alignment, the shorter top spacer (10") may be subsituted for the standard bottom spacer (16").

6 For additional connection details see Standard Drawing E 801-TCCB-01.

⑦ Where very short radius curving alignment is encountered, spacers may be TS 3" x 2" x ¼" x the appropriate length as shown above.

⑧ In lieu of the connection detail shown, the J-J Hook temporary barrier connection of Easi-Set Industries as described in FHWA acceptance letter B-52 of March 26, 1999 may be used.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER DETAILS

MARCH 2005

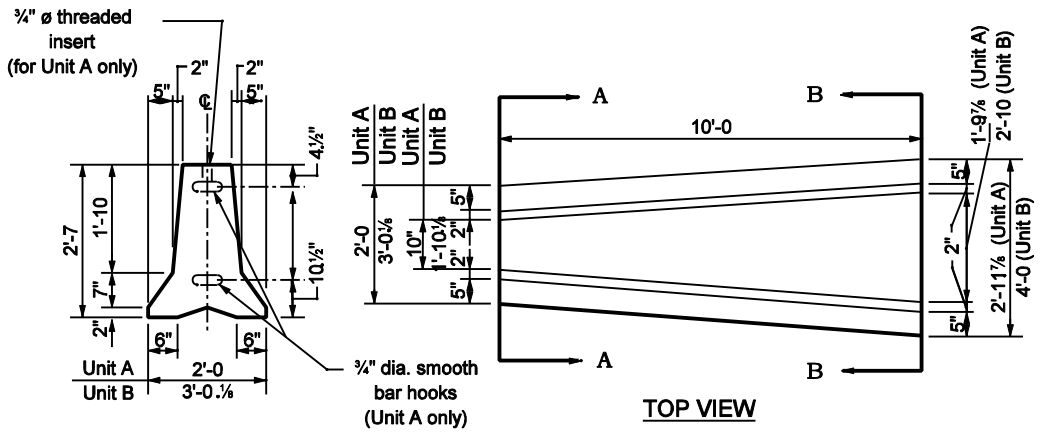
STANDARD DRAWING NO. E 801-TCCB-02

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

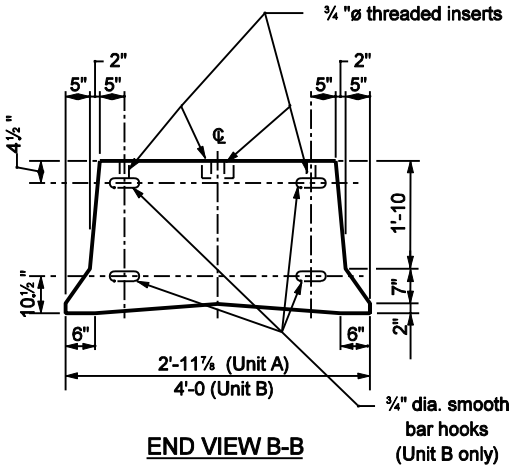
/s/ Richard K. Smutzer 3-01-05
CHIEF HIGHWAY ENGINEER DATE



END VIEW A-A

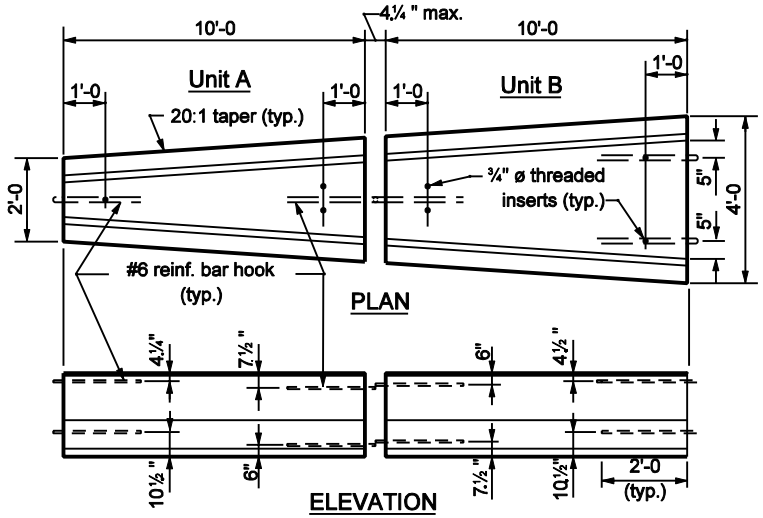
TOP VIEW

Unit A or Unit B



END VIEW B-B

DOUBLE TAPER END SECTION



ELEVATION

DOUBLE TAPER END SECTION ASSEMBLY

(Showing location of inserts and bar hooks)

NOTES :

1. For connection details see Standard Drawing E 801-TCCB-02.
2. For details of barrier anchorage see Standard Drawing E 801-TCCB-04.
3. Extreme ends of the double taper end assembly require a 1¼ " ø bolt x 2'-3½ " (4" min. thread, hex head and hex nut) for connecting to adjacent temporary concrete barriers.
4. For details of connection between Units A and B, see Standard Drawing E 801-TCCB-02.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
DOUBLE TAPER END SECTION

SEPTEMBER 2002

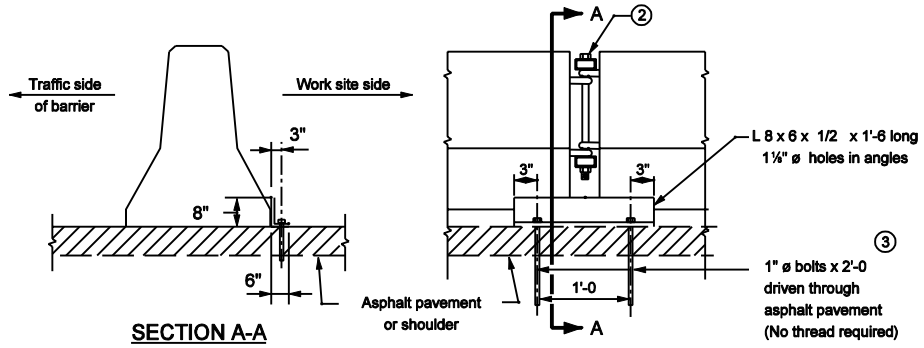
STANDARD DRAWING NO. E 801-TCCB-03

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



SECTION A-A

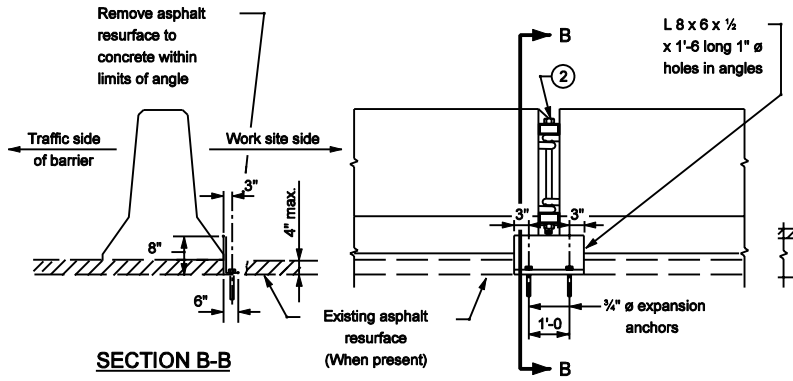
BARRIER ANCHORAGE ON ASPHALT PAVEMENT

NOTES :

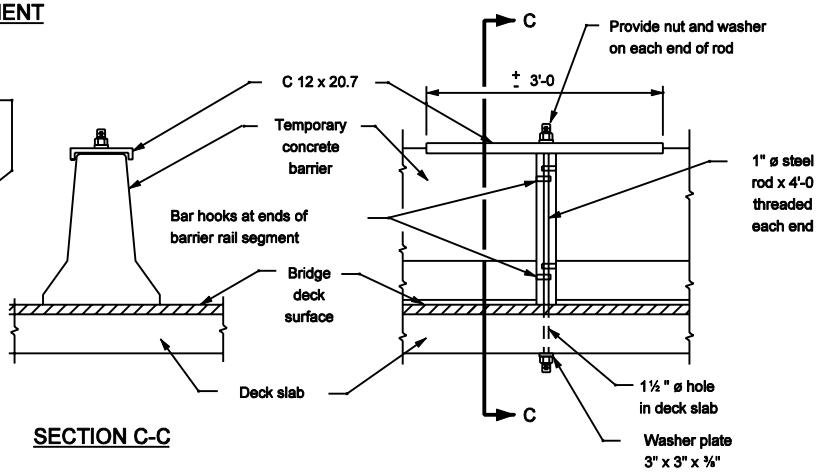
1. Anchorage against lateral movement is required for temporary concrete barrier located on concrete or asphalt pavement or shoulder where it is on or within 60 ft. of a bridge or where it is used on flared alignments. The method of anchoring shall be as shown.

(2) For connection details see Standard Drawing E 801-TCCB-02.

(3) Where barrier is on soil the 1"ø anchor bolts shall be 3'-0 long.



SECTION B-B



SECTION C-C

BRIDGE FLOORS AND CONCRETE PAVEMENT
STANDARD METHOD

BRIDGE FLOOR ONLY
ALTERNATE METHOD

BARRIER ANCHORAGE ON CONCRETE PAVEMENT

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER ANCHORAGE

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCCB-04

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

NOTES

1. See Standard Drawings E801-TCCO-02 and E 801-TCLG-01 for additional general notes and legend.
2. See Standard Drawing E 801-TCCO-02 for Entrance Detail.
3. See Standard Drawing E 801-TCCO-03 for Exit Detail.
4. See Standard Drawing E 801-TCDV-03 for the required length of taper section for channelizing devices for construction zone speed limits less than 55 MPH.

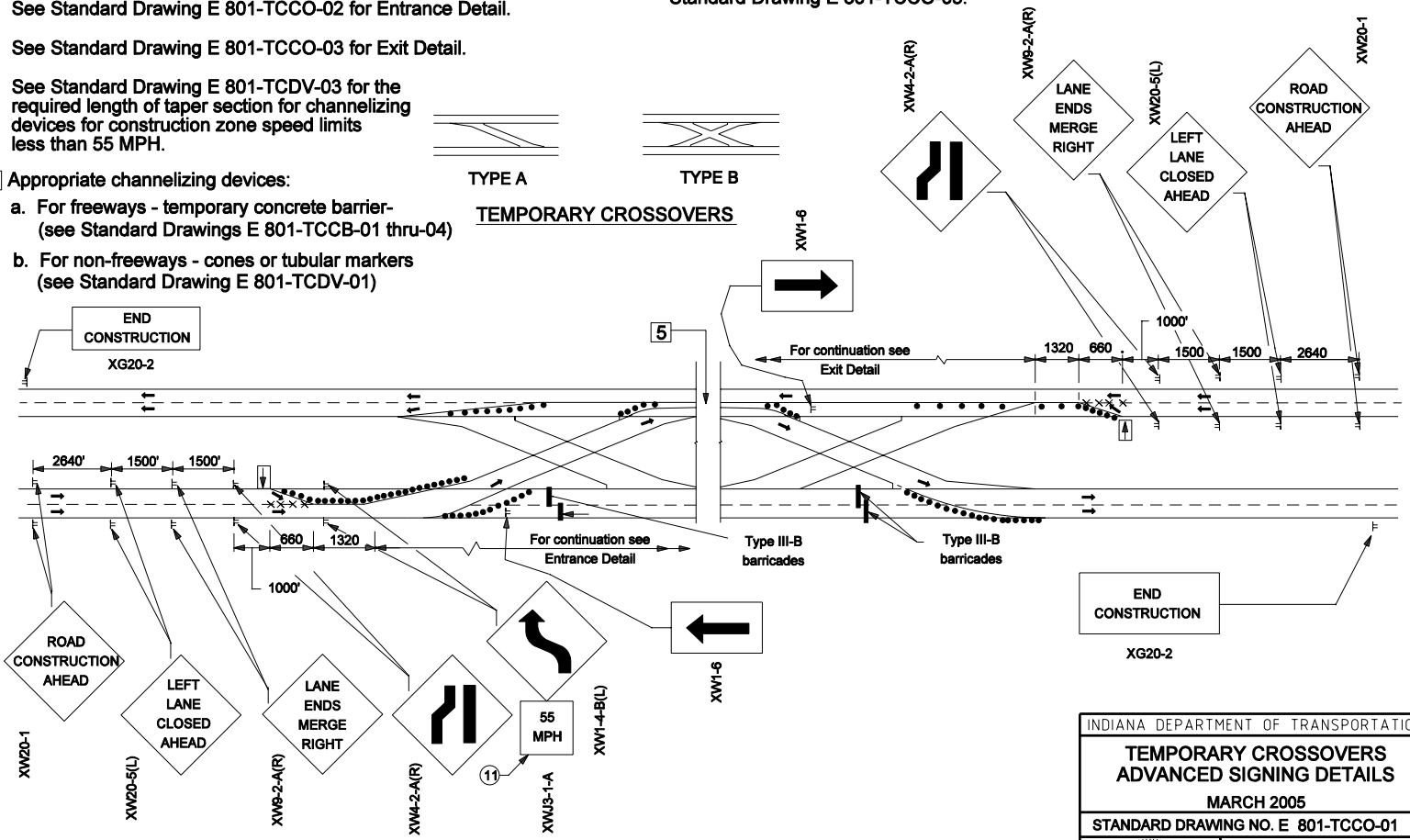
[5] Appropriate channelizing devices:

a. For freeways - temporary concrete barrier- (see Standard Drawings E 801-TCCB-01 thru-04)

b. For non-freeways - cones or tubular markers (see Standard Drawing E 801-TCDV-01)

6. Area of Type A crossovers are shown on Standard Drawing E 801-TCLG-01 and area of Type B crossover is shown on Standard Drawing E 801-TCCO-05.

TEMPORARY CROSSOVERS



ADVANCE AND ENDING SIGNING DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CROSSOVERS ADVANCED SIGNING DETAILS

MARCH 2005

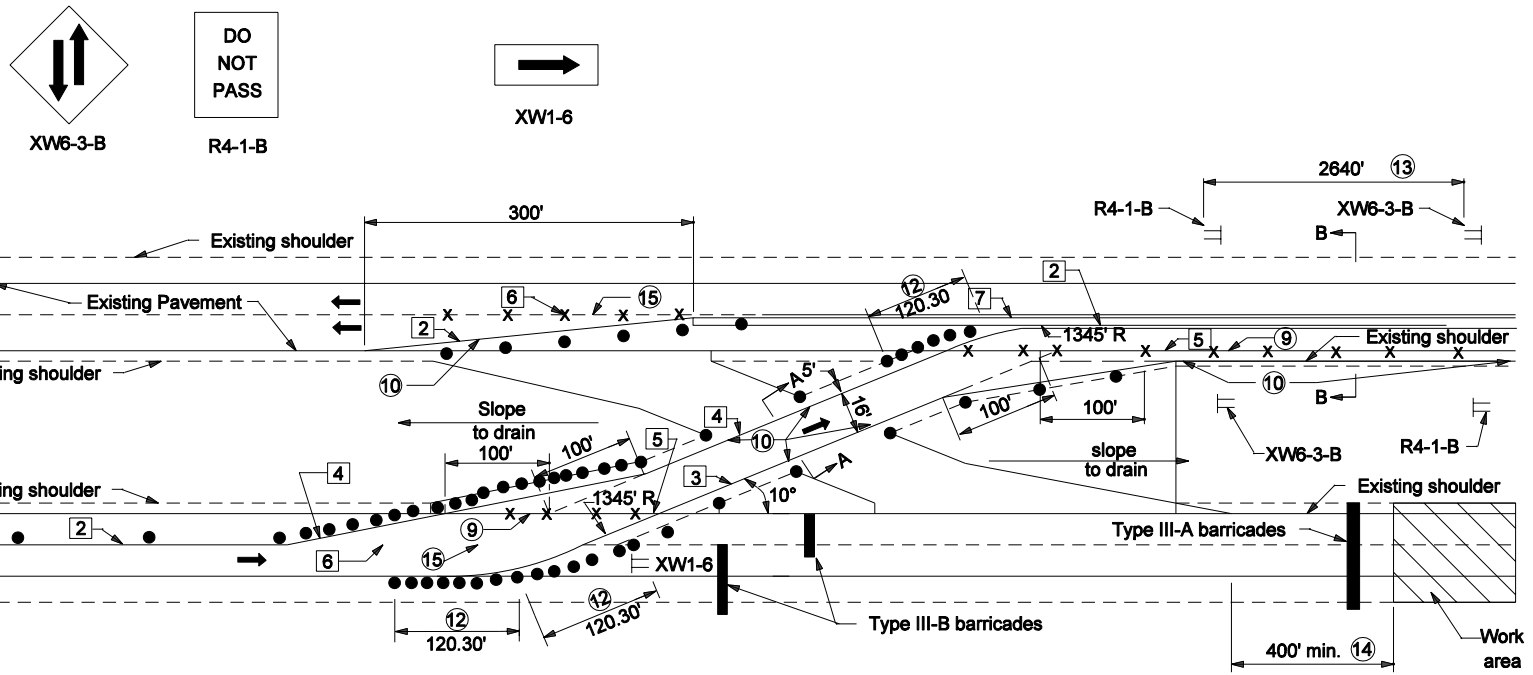
STANDARD DRAWING NO. E 801-TCCO-01

REGISTERED RICHARD L. VANCLEAVE 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



LEGEND

1. Temporary Pavement Marking, White, 4"
2. Temporary Pavement Marking, Yellow, 4"
3. Temporary Pavement Marking, White, 8"
4. Temporary Pavement Marking, Yellow, 8"
5. Line, Soild Yellow, 4", Remove
6. Line, Broken White, 4" Remove
7. Temporary Concrete Barrier - Freeways
   Channelizing Devices - Non-Freeway Multi-lane Divided Roadways.

NOTES:

1. Signs XW6-3-B and R4-1-B shall be used only with temporary channelizing devices.
2. See Standard Drawing E 801-TCCO-07 for Sections, A-A , B-B.
3. See Standard Drawings E 801-TCDV-04 thru E 801-TCDV-07 for barricade and construction sign mounting information.
4. For channelization devices see Standard Drawing E 801-TCDV-01.
5. See Standard Drawing E 801-TCDV-03 for required length of taper section for channelizing devices when construction zone speed limits are less than 55 MPH.
6. See Standard Drawing E 801-TCLG-01 for General Notes and additional Legend Symbols

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CROSSOVERS ENTRANCE DETAIL

MARCH 2006

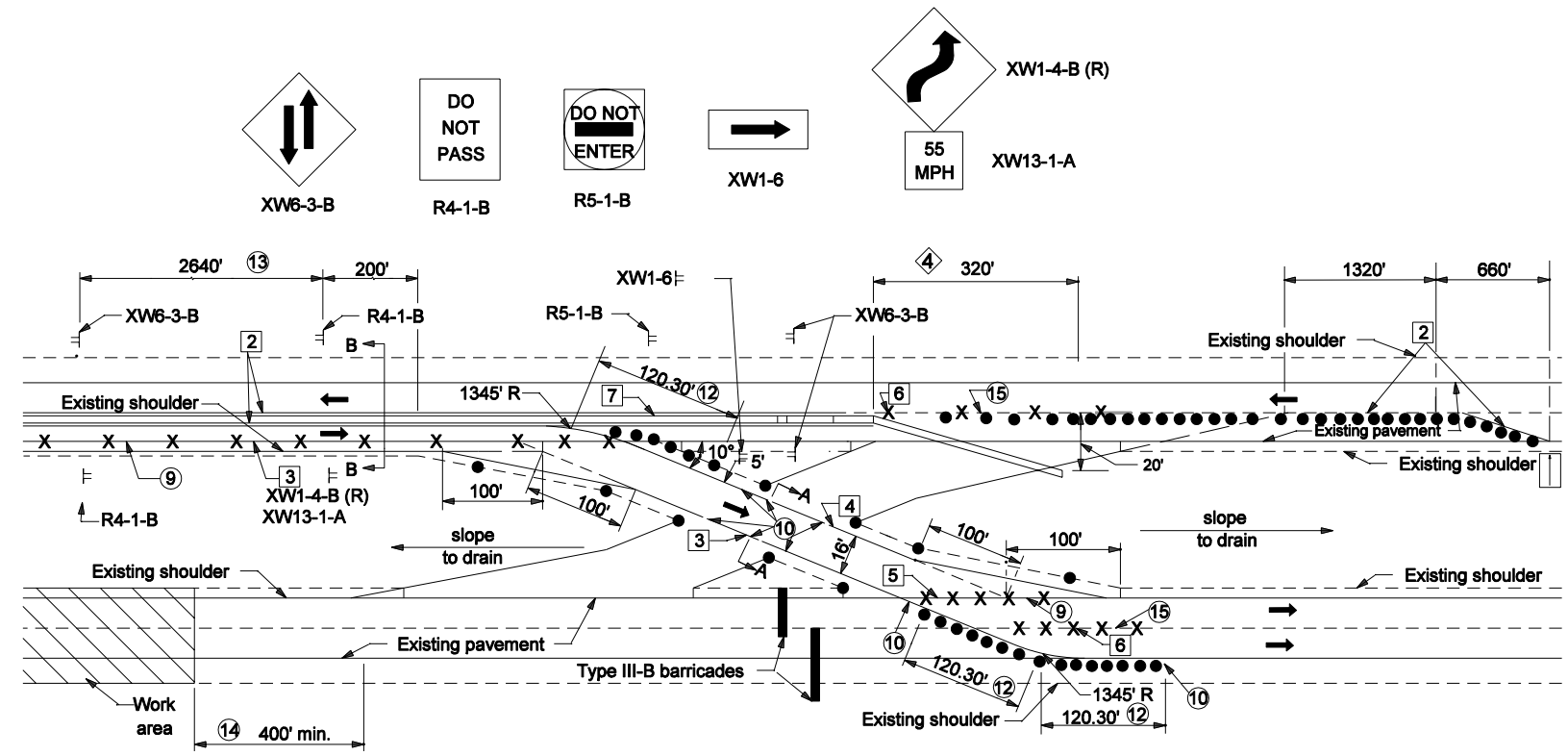
STANDARD DRAWING NO. E 801-TCCO-02

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES

1. Signs XW6-3-B and R4-1-B shall be used only with temporary channelizing devices.
2. See Standard Drawing E 801-TCCO-07 for Sections, A-A, B-B.
3. See Standard Drawing E 801-TCDV-03 for required length of taper section for channelizing devices for construction zone speed limits less than 55 MPH.
4. Taper required when channelizing device is temporary concrete barrier, see Standard Drawing E 801-TCCB-01.
5. See Standard Drawing E 801-TCCO-02 for ☐ Legend.
6. See Standard Drawing E 801-TCLG-01 for General Notes and additional Legend Symbols.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CROSSOVERS EXIT DETAIL

MARCH 2006

STANDARD DRAWING NO. E 801-TCCO-03

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

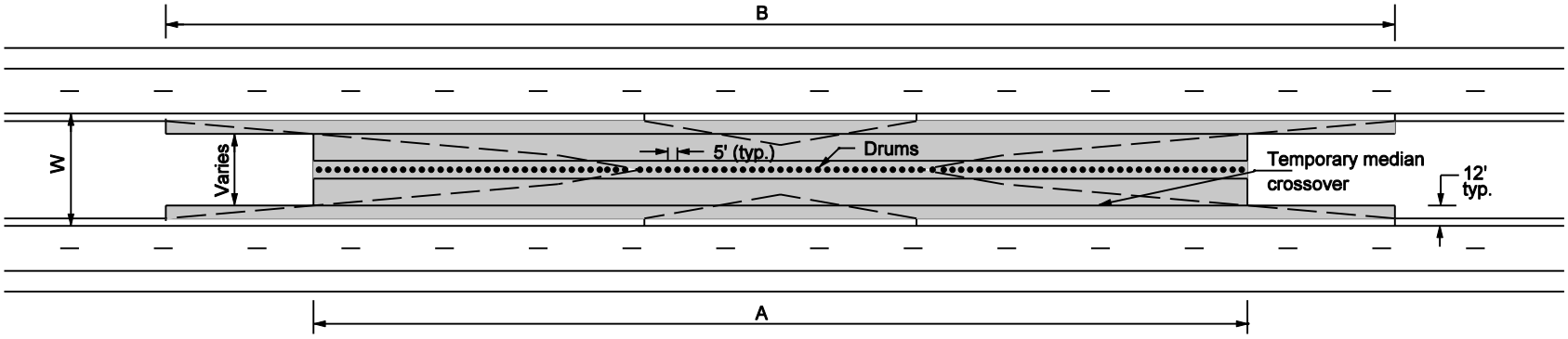
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

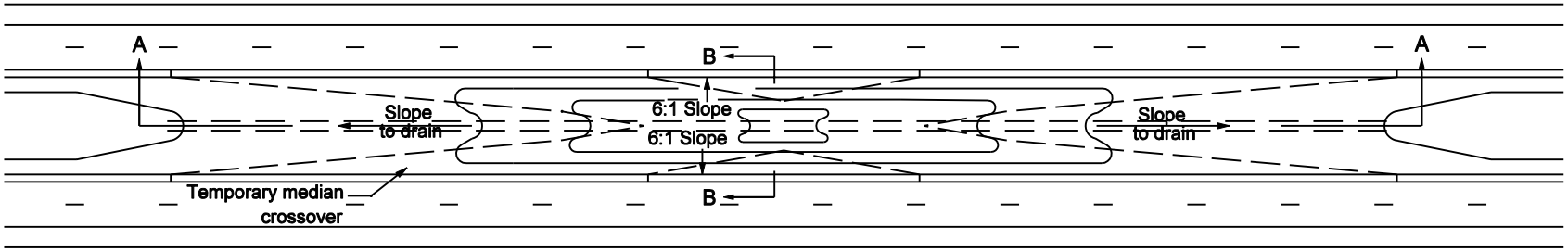
/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE

NOTES

1. See Standard Drawing E 801-TCCO-06 for Sections A-A and B-B.
2. Pave to drain.



PAVING LIMITS AND DRUM CLOSURE



TYPE B CROSS OVER

Median Width W	Dimension A	Dimension B	Area of Paving strips
Feet	Feet	Feet	SQ. Yards
60	564	833	4310
50	505	774	3380
40	449	719	2605
36	427	696	2326
30	390	659	1930
26	371	640	1750

EARTH COVER CLOSURE

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CROSSOVER TYPE B PAVING AND CLOSURE LAYOUT

SEPTEMBER 2003

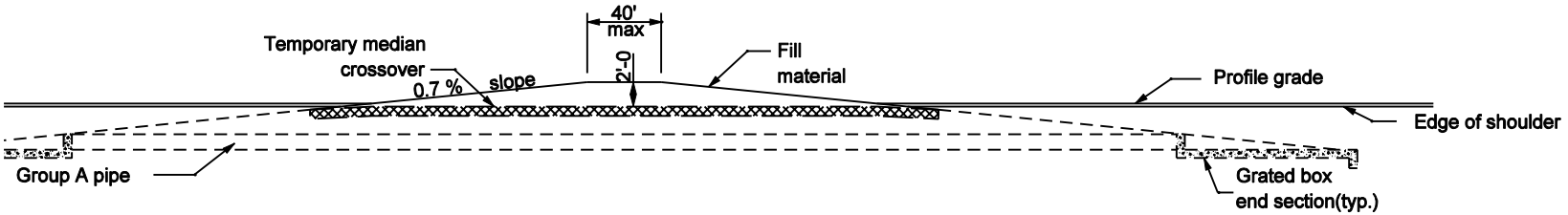
STANDARD DRAWING NO. E 801-TCCO-05

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

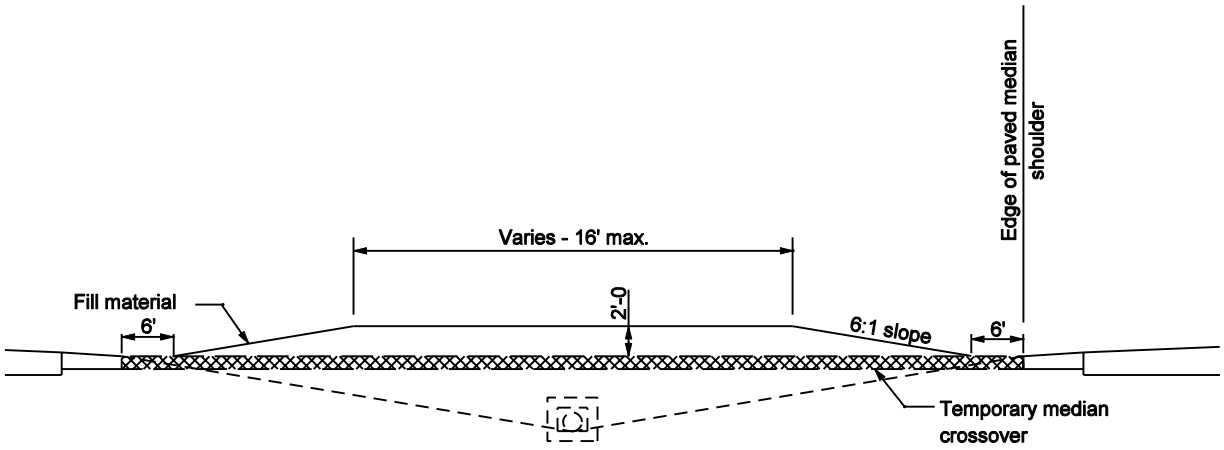
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-02-03
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-02-03
CHIEF HIGHWAY ENGINEER DATE



SECTION A-A



SECTION B-B

NOTES

1. See Standard Drawing E 801-TCCO-05 for temporary crossover paving and closure layout.

INDIANA DEPARTMENT OF TRANSPORTATION

CLOSURE OF TEMPORARY CROSSOVER

SEPTEMBER 2003

STANDARD DRAWING NO. E 801-TCCO-06

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

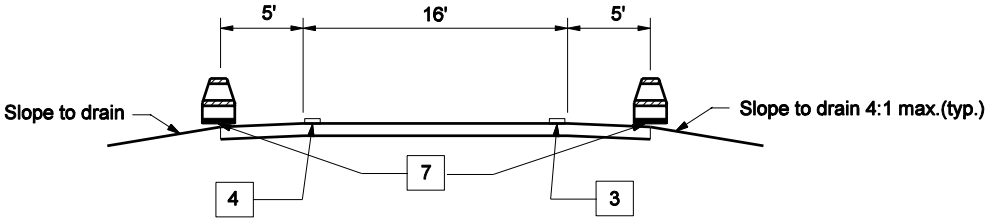
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-02-03
DESIGN STANDARDS ENGINEER DATE

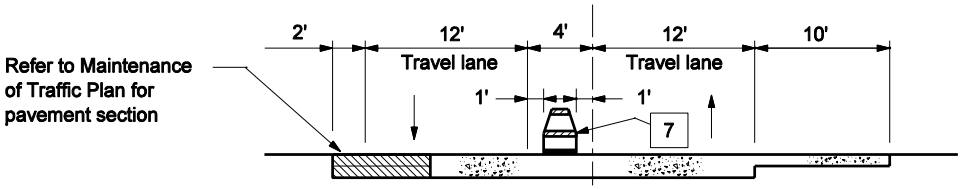
/s/ Richard K. Smutzer 9-02-03
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES:

1. See Standard Drawing E 801-TCCO-02 for Legend

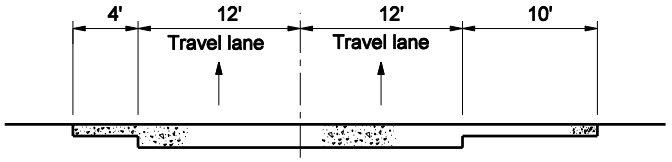


SECTION A-A



TRAFFIC MAINTENANCE SECTION

SECTION B-B



PRE CONSTRUCTION SECTION

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CROSSOVER TYPICAL SECTIONS

MARCH 2006

STANDARD DRAWING NO. E 801-TCCO-07

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

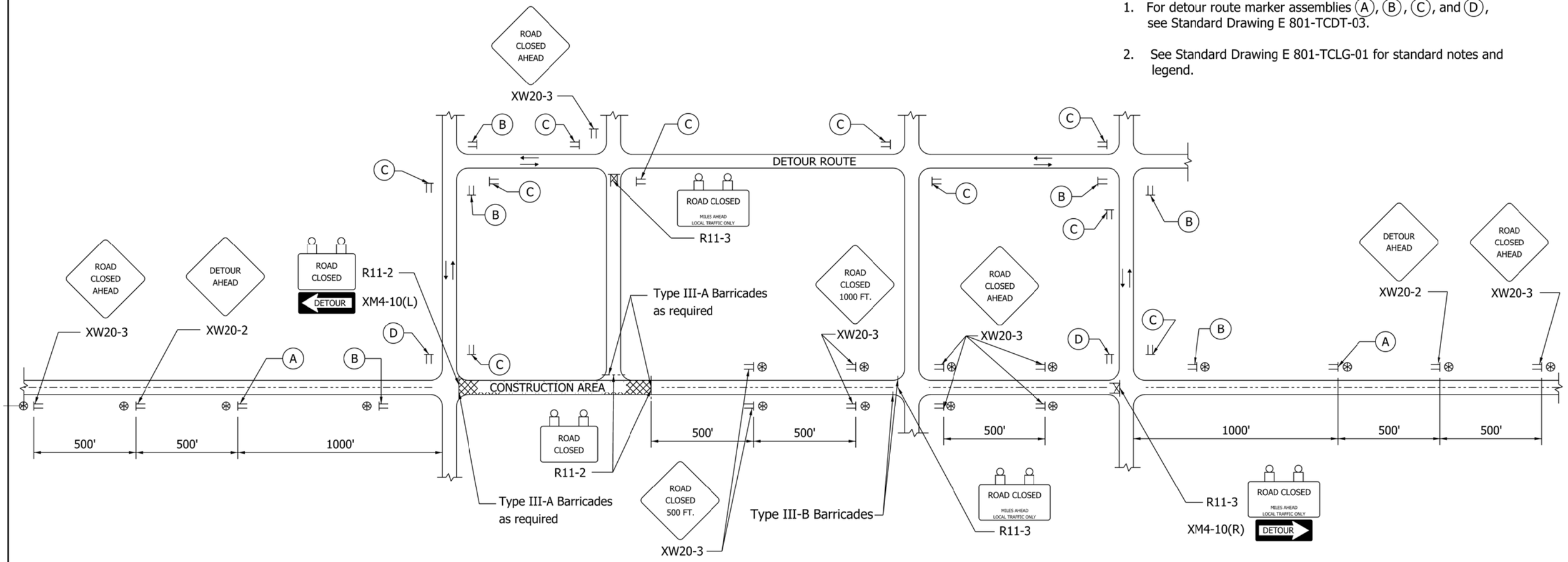
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE

NOTES

1. For detour route marker assemblies (A), (B), (C), and (D), see Standard Drawing E 801-TCDT-03.
2. See Standard Drawing E 801-TCLG-01 for standard notes and legend.



TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR A RURAL DETOUR

INDIANA DEPARTMENT OF TRANSPORTATION

RURAL DETOUR

SEPTEMBER 2011

STANDARD DRAWING NO. E 801-TCDT-01

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

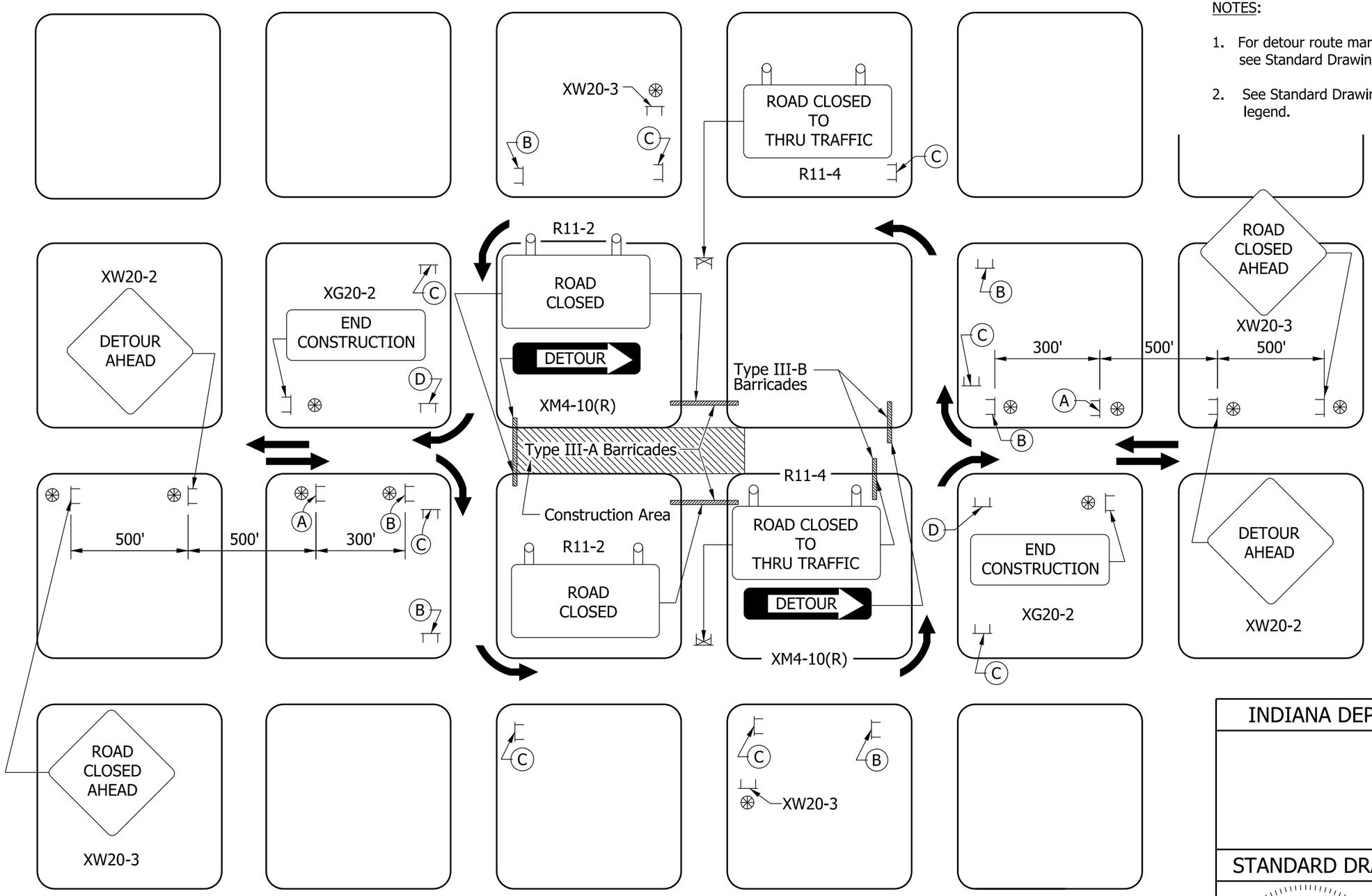
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. For detour route marker assemblies (A), (B), (C), and (D), see Standard Drawing E 801-TCDT-03.
2. See Standard Drawing E 801-TCLG-01 for standard notes and legend.



TYPICAL APPLICATIONS OF TRAFFIC DEVICES FOR AN URBAN DETOUR

INDIANA DEPARTMENT OF TRANSPORTATION

URBAN DETOUR

SEPTEMBER 2011

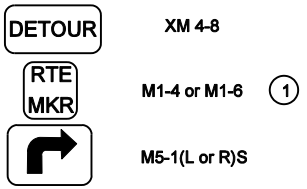
STANDARD DRAWING NO. E 801-TCDT-02

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

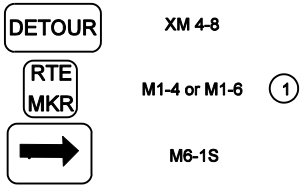
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

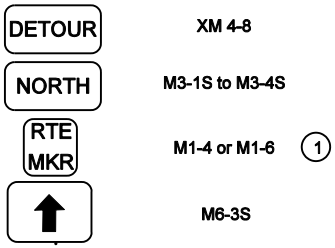
/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE



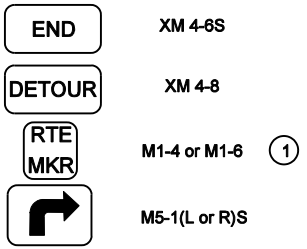
(A) ADVANCE TURN DETOUR ROUTE MARKER ASSEMBLY



(B) DIRECTIONAL DETOUR ROUTE MARKER ASSEMBLY



(C) CONFIRMING DETOUR ROUTE MARKER ASSEMBLY



(D) END DETOUR ROUTE MARKER ASSEMBLY

GENERAL NOTES

(1) For an un-numbered route, a street name sign or county road name or number sign shall be used in lieu of the route marker in detour route marker assembly.

(A) Advance turn detour route marker assemblies shall be located as shown, or after the last cross street prior to the beginning of the detour, as directed.

(B) Directional detour route marker assemblies shall be located 100 ft to 200 ft in advance of all required turns within the detour limits.

(C) Confirming detour route marker assemblies shall be located 200 ft past all major intersections, as directed, and shall be spaced a maximum of 3 mi on a rural detour or 0.5 mi on an urban detour on each leg of such detours. Confirming detour route marker assemblies shall be placed after a required turn when directed.

(D) End detour route marker assemblies shall be located at the point at which traffic is returned to the original route. The advance turn marker (M5-1) shall be included in the assembly when traffic is required to turn to access the original route.

INDIANA DEPARTMENT OF TRANSPORTATION

DETOUR ROUTE MARKER ASSEMBLIES

MARCH 2003

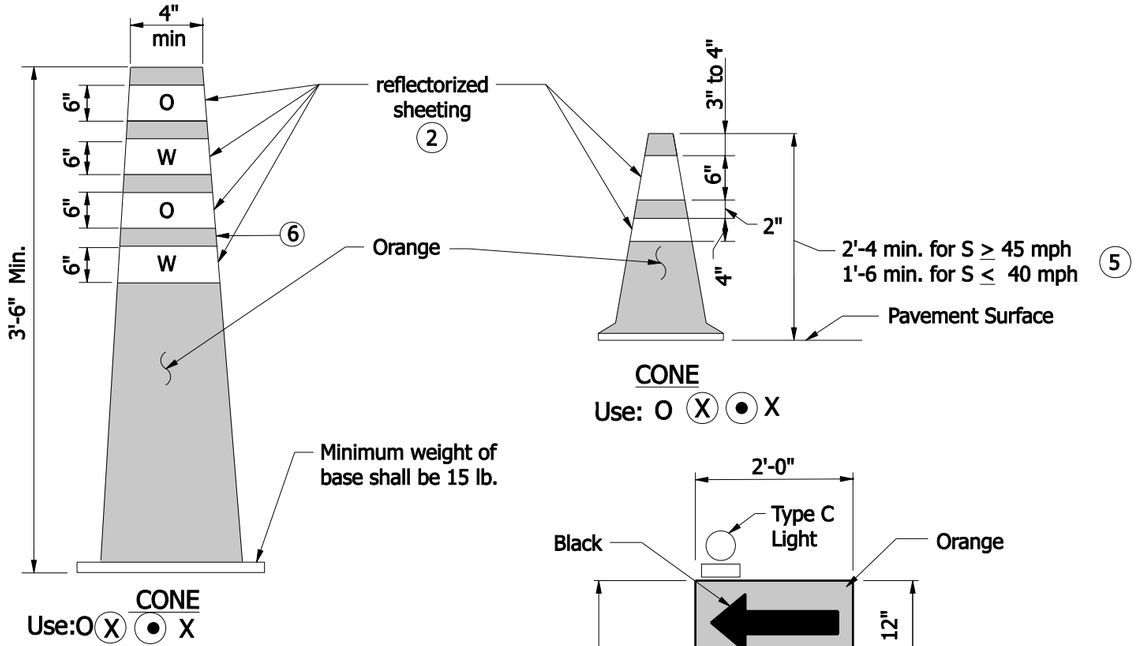
STANDARD DRAWING NO. E 801-TCDT-03

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-03-03
DESIGN STANDARDS ENGINEER DATE

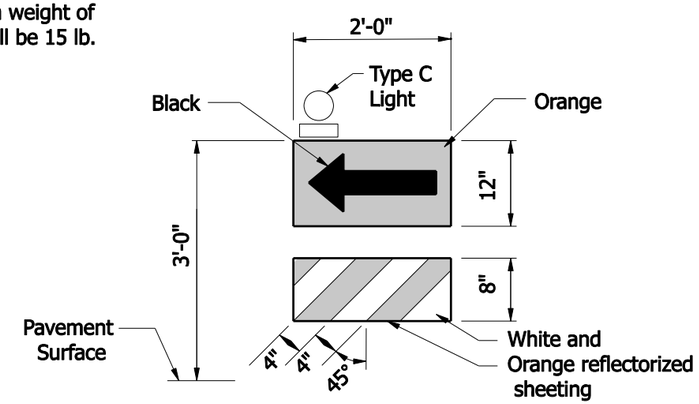
/s/ Richard K. Smutzer 3-03-03
CHIEF HIGHWAY ENGINEER DATE



CONE

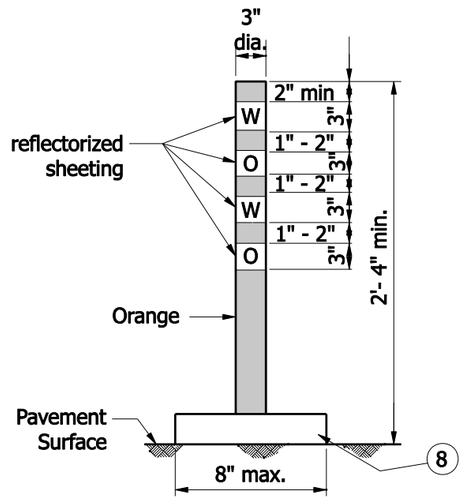
Use: O (X) (•) X

Use:O (X) (•) X



DIRECTION INDICATOR BARRICADE

Use: X



FLEXIBLE TUBULAR MARKER

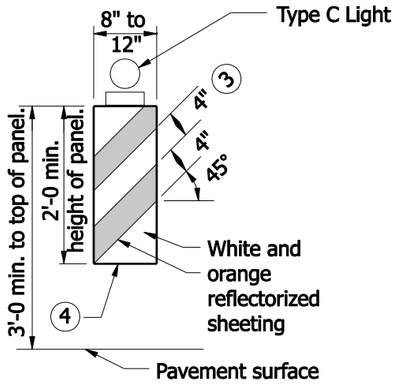
Use: O (X) (•)

GENERAL NOTES

1. For additional notes and legends see Standard Drawing E 801-TCLG-01 or E 801-TCDV-02.
2. A Type C warning light will be required on tapers where there is a reduction in the number of lanes and a flashing arrow sign is used..

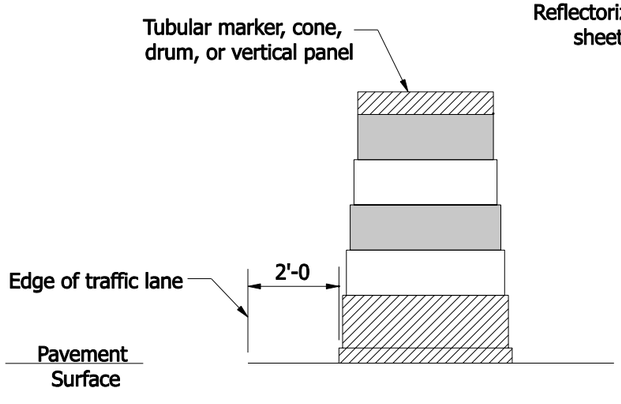
W = White Reflective Sheeting

O = Orange Reflective Sheeting

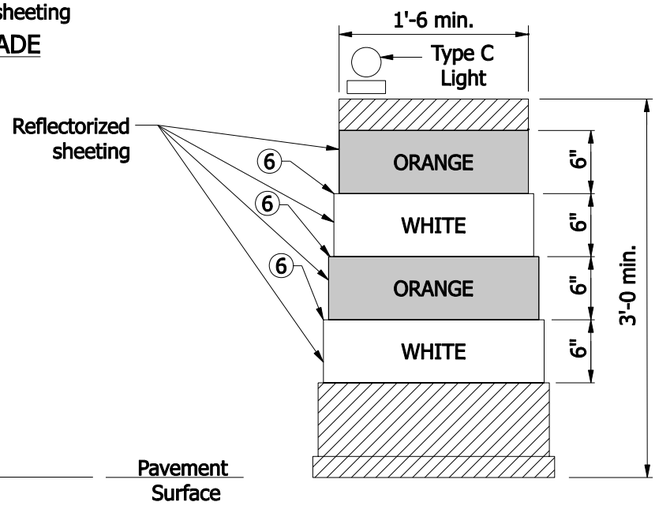


VERTICAL PANEL (9)

Use: O (O) O X



PLACEMENT OF CHANNELIZING DEVICES



DRUM (9)

Use: O X

INDIANA DEPARTMENT OF TRANSPORTATION

CHANNELIZING DEVICES

SEPTEMBER 2007

STANDARD DRAWING NO. E 801-TCDV-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/04/07
DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller 09/04/07
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

1. Unless otherwise specified, channelizing devices shall be spaced as shown on Standard Drawing E 801-TCLG-01.

(2) Reflectorized bands may be omitted from cones for lane closures during daylight hours.

(3) For vertical panels greater than 3 ft in height, the width of the stripes shall be 6 in.

(4) Vertical panels used on an expressway or a freeway shall have a minimum reflective panel area of 270 in^2. Other roadways with a posted speed limit of 50 mph or greater shall also have a minimum reflective panel area of 270 in^2.

(5) Cones shall have a minimum height of 2'-4" when used at night.

(6) The maximum distance between the edges of adjacent reflective sheeting strips shall be 2 in.

7. Panel and direction indicator barricades and supports shall meet NCHRP 350 crash evaluation criteria.

(8) Minimum flexible tubular marker base area shall be 0.3 $ft.^2$

(9) It is not necessary to delineate a drop-off of 3 in. or less adjacent to active travel lanes. Where channellizing devices are used to delineate drop-offs of 3 in. or less adjacent to active travel lanes, at least 33 in. of the device shall be above the adjoining pavement surface. Where channelizing devices are used to delineate a drop-off greater than 3 in. adjacent to active travel lanes, at least 27 in. of the device shall be above the adjoining pavement surface. In no case shall more than 9 in. of the device be below the adjoining pavement surface.

10. The proper orientation in respect to approaching vehicular traffic shall be maintained on vertical panels. Drums are the preferred channelizing device in a tight radius curve.

LEGEND

O - Device may be used in tangent set-ups.

X - Device may be used in taper or transition set-ups.

(X) - Devices may be used in two-way traffic set-ups to divide opposing lanes of traffic.

(●) - Device may be used to divide two or more lanes of traffic in the same direction.

(O) - Device may be used to replace barricades and drums where space is limited.

[O] - Device may be used to delineate edge of pavement drop-off where space is limited.

INDIANA DEPARTMENT OF TRANSPORTATION

CHANNELIZING DEVICES

SEPTEMBER 2009

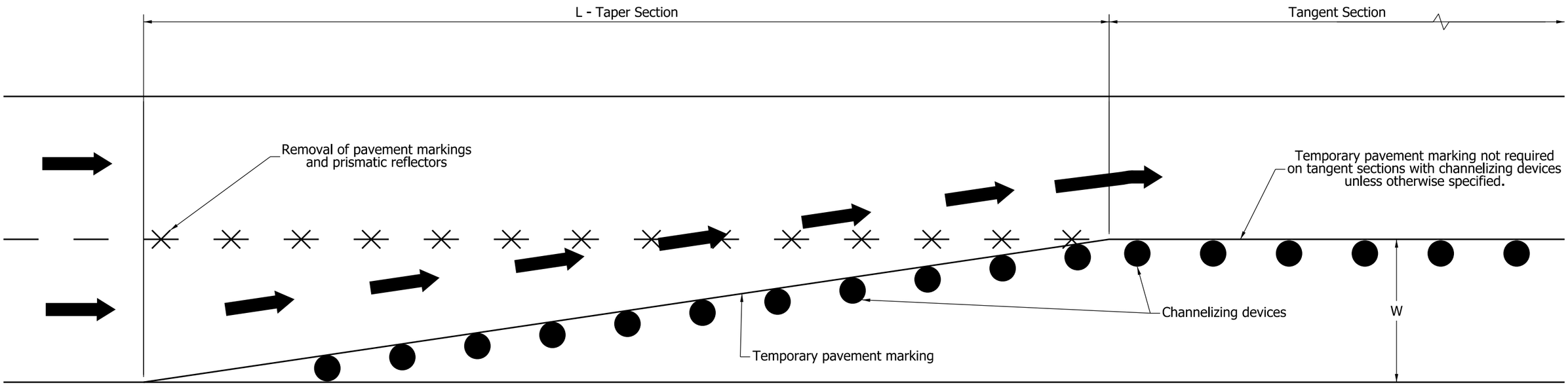
STANDARD DRAWING NO. E 801-TCDV-02

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

DESIGN STANDARDS ENGINEER

/s/ Richard L.VanCleave 09/01/09
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER DATE



LEGEND

L - Minimum length of taper in feet.

S - Posted speed limit prior to the construction zone in mph.

W - Width of offset in feet.

S	L			
MPH	W = 9	W = 10	W = 11	W = 12
20	60	70	70	80
25	90	100	120	130
30	140	150	170	180
35 & 40	180 & 240	200 & 270	220 & 300	250 & 320
45	400	450	500	540
50	450	500	550	600
55	500	550	610	660
65	590	650	720	780

The values of L for speeds of 45 mph or greater are based on the equation $L = W \times S$.
The values for speeds of less than 40 mph or lower are based on the equation $L = W \times S^2/60$.
For both equations, L and W are in feet and S is mph. These equations are taken from the MUTCD. The taper lengths used in the field, may be either the values provided in the table or calculated values from the equations. For offset widths other than those used in the table, the taper lengths shall be calculated based on the equations.

INDIANA DEPARTMENT OF TRANSPORTATION

MERGING OR SHIFTING TAPER

SEPTEMBER 2009

STANDARD DRAWING NO. E 801-TCDV-03

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

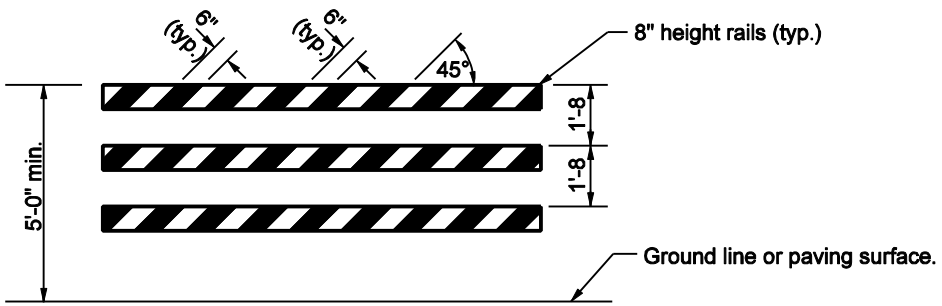
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/09
DESIGN STANDARDS ENGINEER DATE

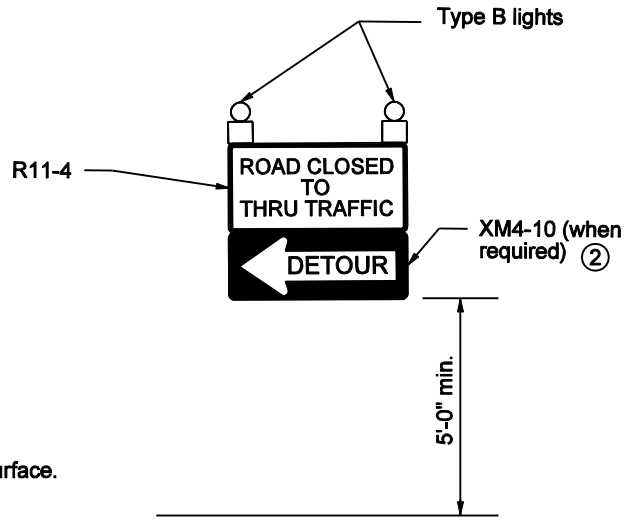
/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER DATE

General Notes

1. Barricades lights, signs, and supports shall meet NCHRP 350 crash evaluation criteria.
2. The Detour Arrow sign shall be used only when a detour route has been signed.



TYPE III BARRICADE



INDIANA DEPARTMENT OF TRANSPORTATION

TYPE III BARRICADE

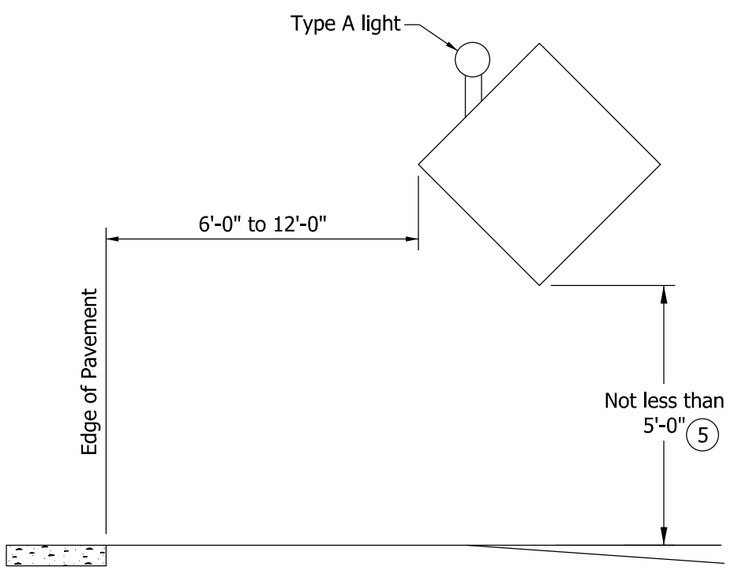
SEPTEMBER 2002

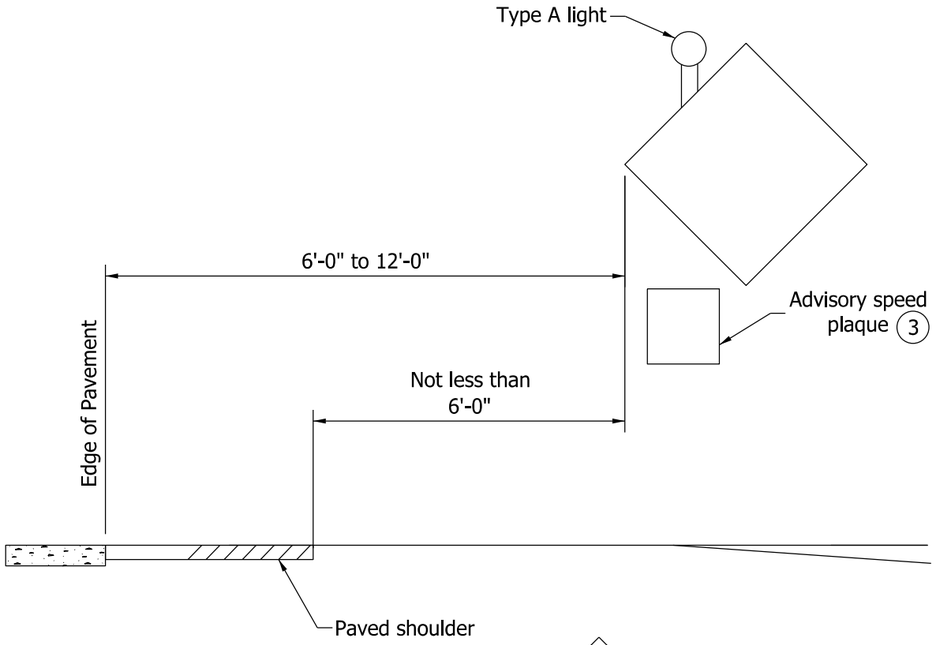
STANDARD DRAWING NO. E 801-TCDV-04

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

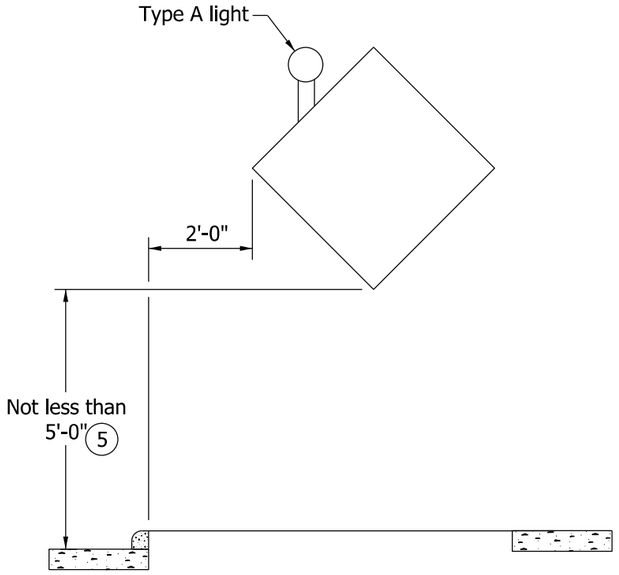
/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

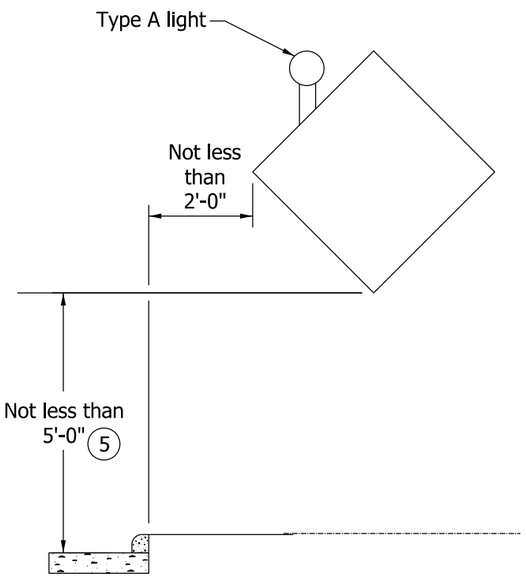
/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



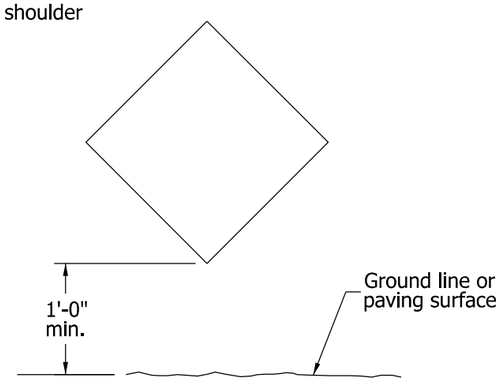


UN-CURBED ROADWAY





CURBED ROADWAY



TEMPORARY MOUNTED CONSTRUCTION SIGN

NOTES:

1. See Standard Drawing E 801-TCSN-11 for additional notes.
2. Signs, lights, and supports shall satisfy NCHRP 350 crash evaluation criteria.
3. An advisory speed plaque, required to be placed with another construction sign, may be mounted on the post closest to the roadway at a height not less than 4 ft above the edge of pavement adjacent to the sign. The bottom of the construction warning sign shall not be lower than the top of the advisory speed plaque.
4. Type A warning light required on all construction signs.
5. In urban area or on Interstate route, mounting height shall not be less than 7 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CONSTRUCTION SIGNS MOUNTING

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCDV-05

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

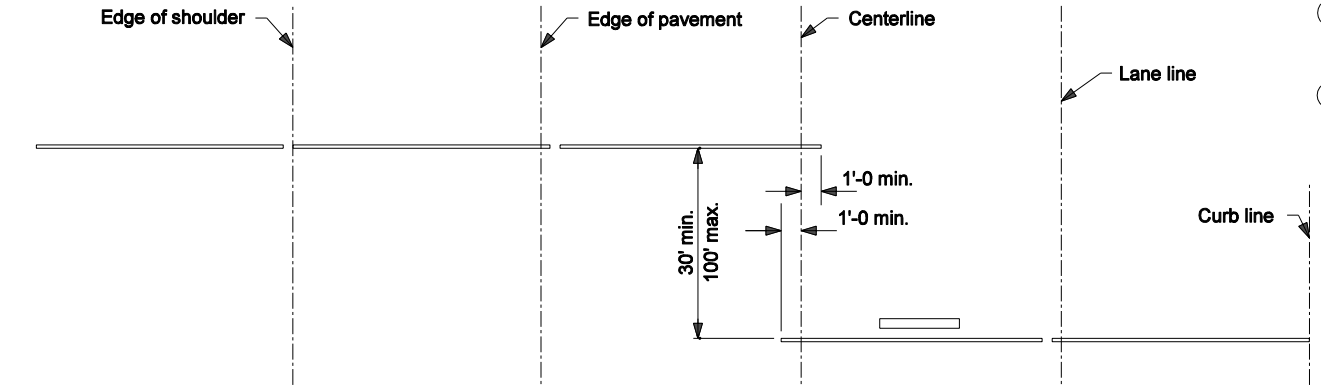
DETAILS PLACED IN THIS FORMAT 09/04/12

/s/ Richard L. VanCleave *09/04/12*

SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller *09/04/12*

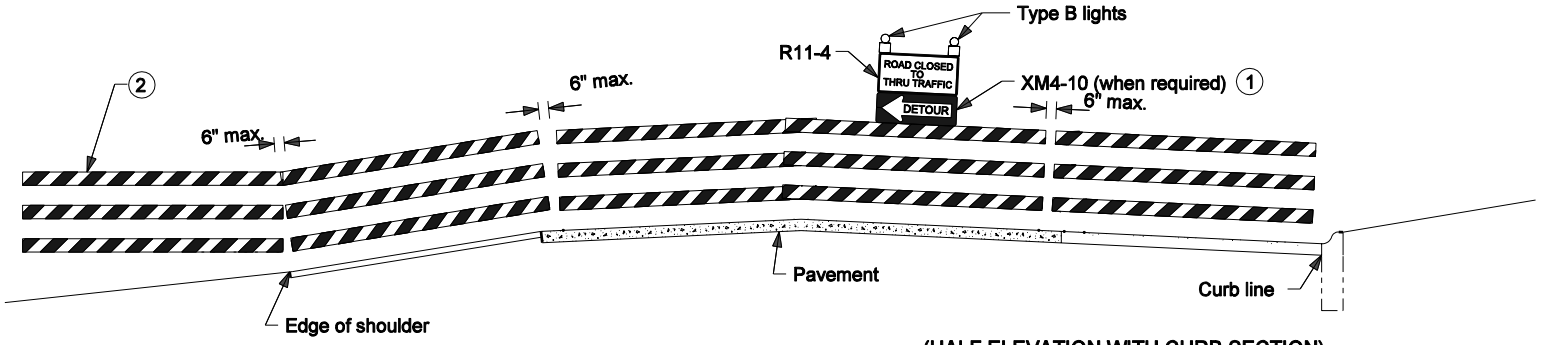
CHIEF ENGINEER DATE



(HALF PLAN WITH SHOULDER SECTION)

PLAN VIEW

(HALF PLAN WITH CURB SECTION)



ELEVATION

(HALF ELEVATION WITH SHOULDER SECTION)

(HALF ELEVATION WITH CURB SECTION)

GENERAL NOTES

1. The Detour Arrow sign shall be used only when a detour route has been signed.
2. Barricades shall be supported on driven posts in areas outside of the pavement or sidewalk, where side slopes are 3 to 1 or flatter.
3. See standard drawing E 801-TCDV-04 for sign use and mounting information.
4. Barricades and supports shall meet NCHRP 350 crash evaluation criteria.
5. See Note 4 on Standard Drawing E 801-TCSN-11 for post depth.

TYPICAL APPLICATIONS OF TYPE III BARRICADES
ROAD CLOSED TO THRU TRAFFIC

INDIANA DEPARTMENT OF TRANSPORTATION

TYPE III BARRICADE TYPICAL APPLICATION

MARCH 2005

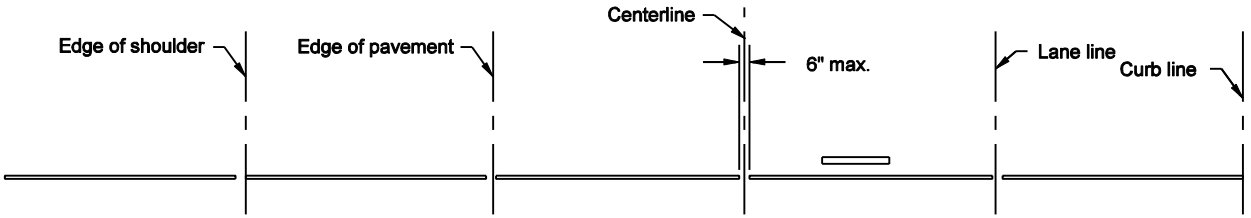
STANDARD DRAWING NO. E 801-TCDV-06

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

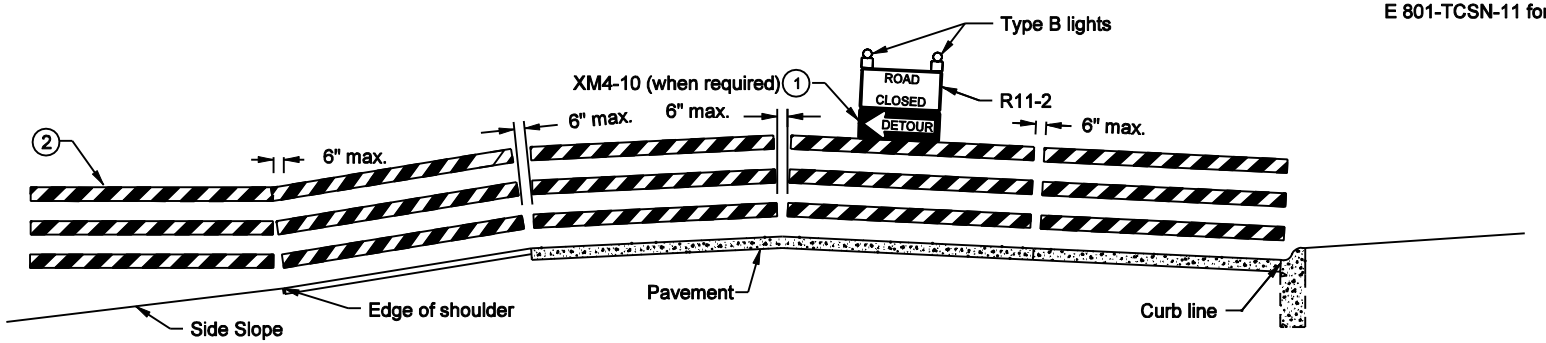
/s/ Richard K. Smutzer 3-01-05
CHIEF HIGHWAY ENGINEER DATE



(HALF PLAN WITH SHOULDER SECTION)

(HALF PLAN WITH CURB SECTION)

PLAN VIEW



(HALF ELEVATION WITH SHOULDER SECTION)

(HALF ELEVATION WITH CURB SECTION)

ELEVATION

TYPICAL APPLICATIONS OF TYPE III BARRICADES
ROAD CLOSED TO ALL TRAFFIC

GENERAL NOTES

1. The Detour Arrow sign shall be used only when a detour route has been signed.
2. Barricades shall be supported on driven posts in areas outside of the pavement or sidewalk, where side slopes are 3 to 1 or flatter.
3. See standard drawing E 801-TCDV-04 for sign use and mounting information.
4. Barricades and supports shall meet NCHRP 350 crash evaluation criteria.
4. See Note 5 on Standard Drawing E 801-TCSN-11 for post depth.

INDIANA DEPARTMENT OF TRANSPORTATION

TYPE III BARRICADE TYPICAL APPLICATIONS

SEPTEMBER 2002

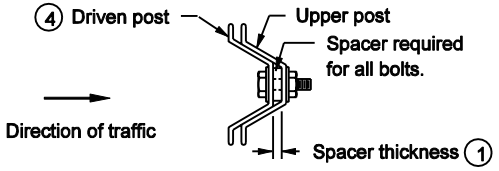
STANDARD DRAWING NO. E 801-TCDV-07

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

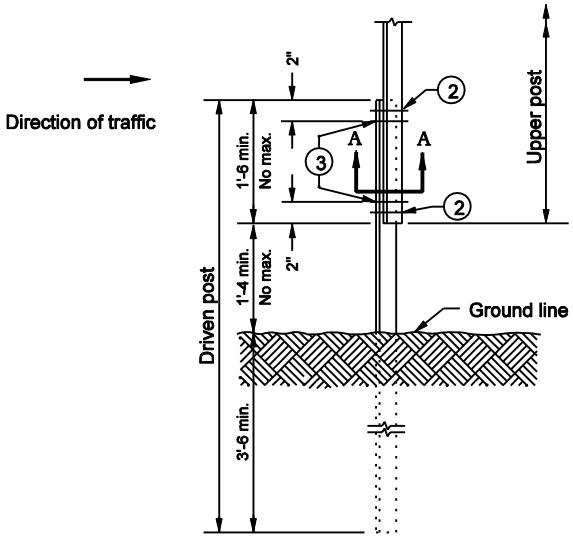
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



SECTION "A-A"



ELEVATION

U CHANNEL STEEL POST SPLICE

GENERAL NOTES

① The spacer thickness shall be 1/16 in.. less than the gap between the posts when positioned in the unbolted configuration.

② The exterior bolt, spacer, washer, and nut shall be installed in a prepunched hole within the first 2 in. of the end of the lapped post section.

③ The interior bolt, spacer, washer, and nut shall be installed in a prepunched hole within the first 2 in. of the exterior bolts. The maximum spacing between the interior bolts shall be 1'-6 . If the length of the post lap is increased such that this 1'-6 maximum is exceeded, then additional interior bolts shall be installed such that the maximum space between adjacent interior bolts does not exceed the 1'-6 limit.

④ The driven post shall always be mounted in front of the upper post with respect to adjacent oncoming traffic, regardless of the direction the sign is facing,

5. The bolts shown shall be 5/16" x 2".

INDIANA DEPARTMENT OF TRANSPORTATION

U CHANNEL STEEL
POST SPLICE DETAIL

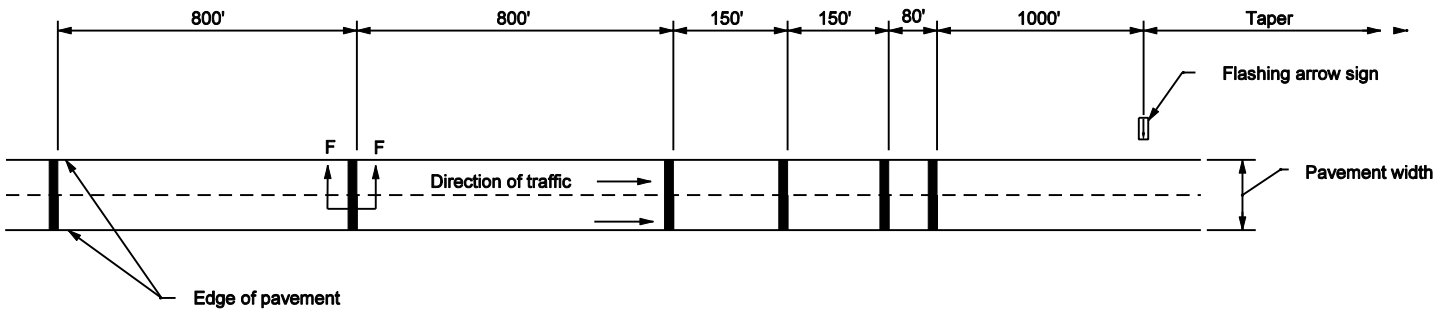
SEPTEMBER 2002

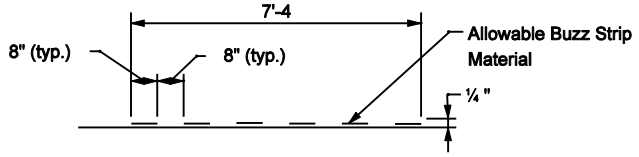
STANDARD DRAWING NO. E 801-TCDV-08

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

/s/ Richard L.VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE





SECTION F-F
(Typ.)

INDIANA DEPARTMENT OF TRANSPORTATION

BUZZ STRIP INSTALLATION

MARCH 2003

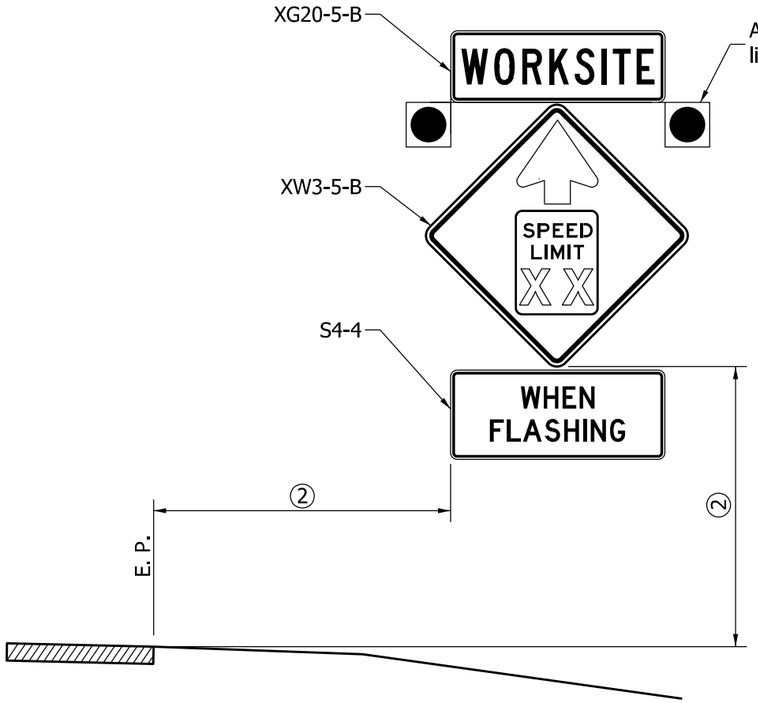
STANDARD DRAWING NO. E 801-TCDV-09

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

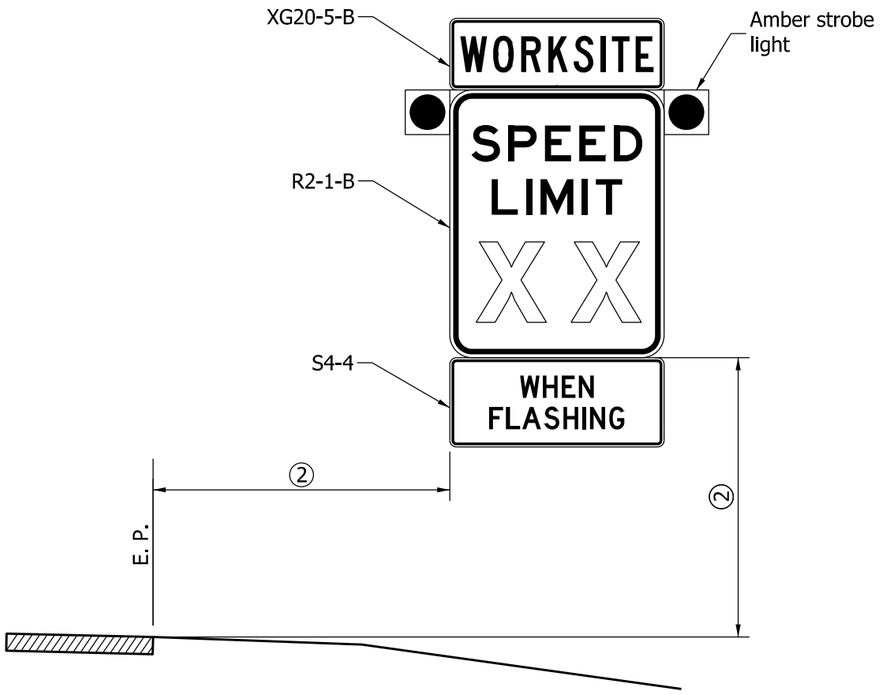
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-03-03
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-03-03
CHIEF HIGHWAY ENGINEER DATE



REDUCED SPEED ADVANCE
WARNING SIGN ASSEMBLY



WORKSITE SPEED LIMIT
SIGN ASSEMBLY

NOTES:

1. If not trailer mounted, signs and supports shall satisfy NCHRP 350 crash evaluation criteria.
2. See Standard Drawing 801-TCDV-05 for lateral and vertical placement.
3. Advance warning sign speed limit shall match that on worksite speed limit sign.
4. The worksite speed limit shall be at least 10 mph below the posted speed limit for the roadway under construction.
5. Sign series shown is for freeway or expressway application.

INDIANA DEPARTMENT OF TRANSPORTATION

WORKSITE SPEED LIMIT SIGN ASSEMBLY
FOR INTERMITTENT USE
(When Workers Present)

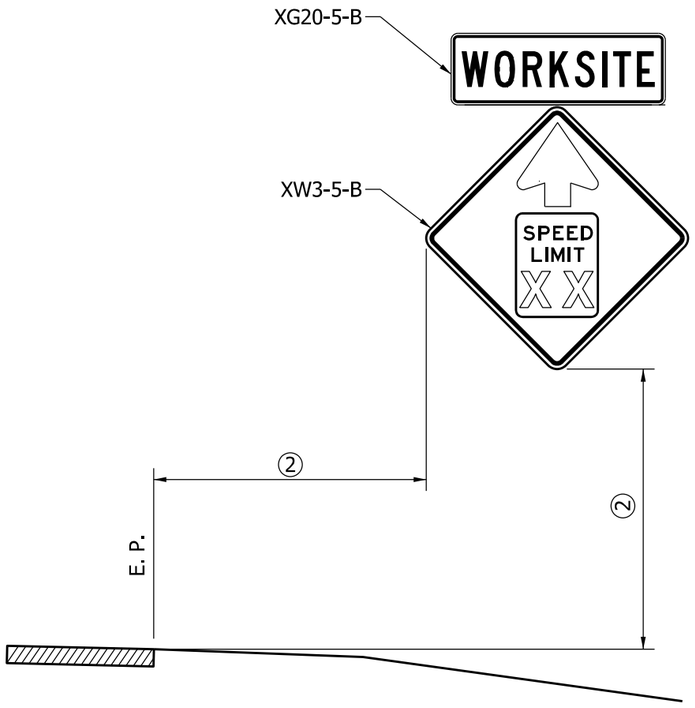
SEPTEMBER 2012

STANDARD DRAWING NO. E 801-TCDV-10

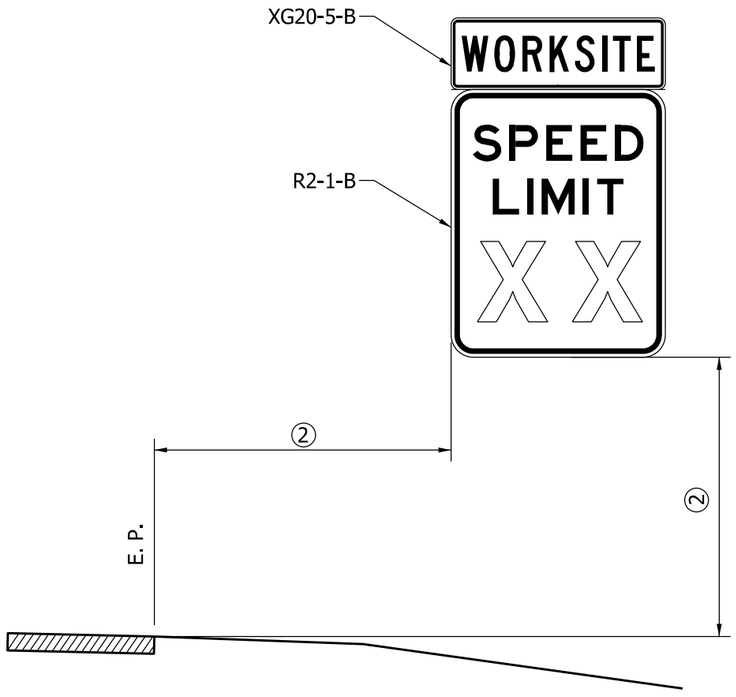
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



REDUCED SPEED ADVANCE
WARNING SIGN ASSEMBLY



WORKSITE SPEED LIMIT
SIGN ASSEMBLY

NOTES:

1. If not trailer mounted, signs and supports shall satisfy NCHRP 350 crash evaluation criteria.
2. See Standard Drawing 801-TCDV-05 for lateral and vertical placement.
3. Advance warning sign speed limit shall match that on worksite speed limit sign.
4. The worksite speed limit shall be at least 10 mph below the posted speed limit for the roadway under construction.
5. Sign series shown is for freeway or expressway application.

INDIANA DEPARTMENT OF TRANSPORTATION

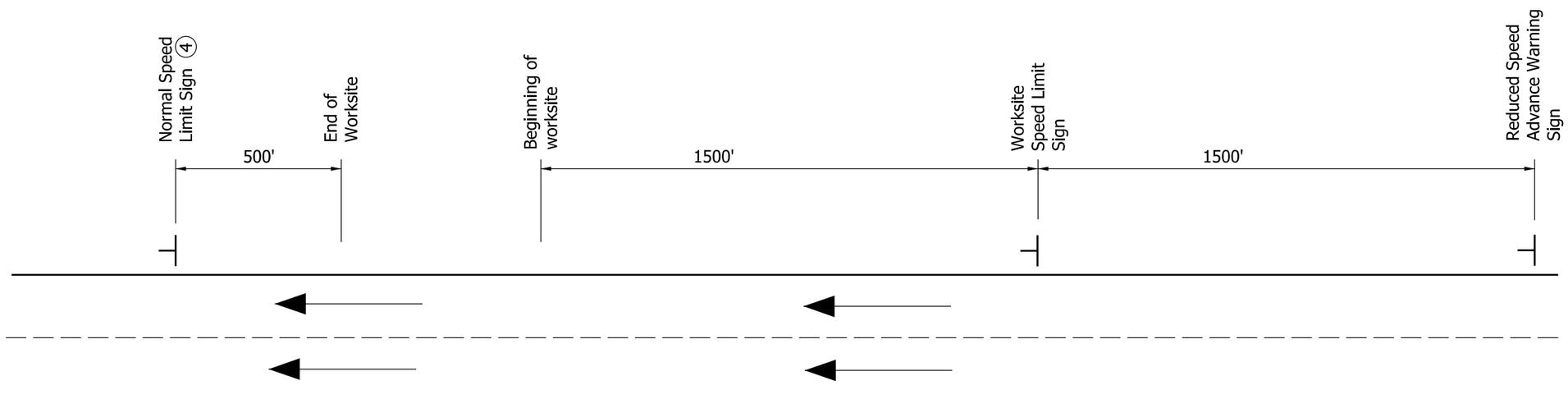
WORKSITE SPEED LIMIT
SIGN ASSEMBLY
(For Continuous Use)
SEPTEMBER 2012

STANDARD DRAWING NO. E 801-TCDV-11

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



NOTES:

1. Worksite speed limit sign assemblies shall be placed on both sides of the roadway only where all travel lanes approaching the construction site are open to traffic traveling in the same direction.

2. Worksite speed limit sign assemblies shall be placed 500 ft beyond each crossroad or the last entrance ramp for each interchange, at 2-mile intervals throughout the worksite, or adjacent to the existing normal speed limit signs.

3. See Standard Drawings E 801-TCDV-10 and -11 for additional notes on assembly requirements.

(4) For a rural Interstate route application, a truck speed limit sign shall be used and placed immediately to the right of the normal speed limit sign.

INDIANA DEPARTMENT OF TRANSPORTATION

WORKSITE SPEED LIMIT SIGN ASSEMBLY LONGITUDINAL PLACEMENT

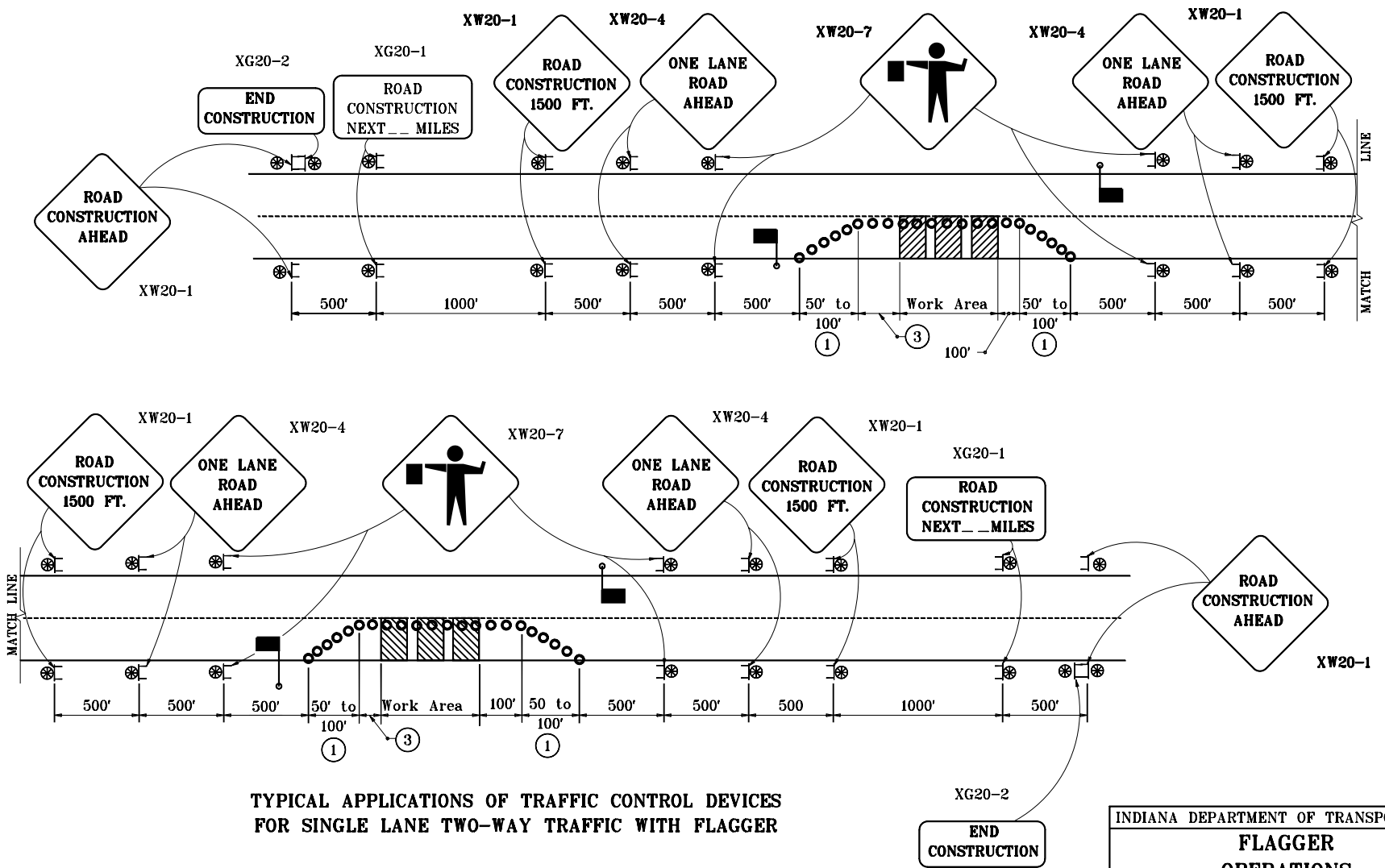
SEPTEMBER 2012

STANDARD DRAWING NO. E 801-TCDV-12

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR SINGLE LANE TWO-WAY TRAFFIC WITH FLAGGER

GENERAL NOTES

(1) Spacing of drums at this location shall be 10 ft for a 50 ft taper or 20 ft for a 100 ft taper.

2. See Standard Drawing E 801-TCLG-01 for standard notes and legend.

(3) Longitudinal buffer length. See Standard Drawing E 801-TCFO-03 for table this dimension.

INDIANA DEPARTMENT OF TRANSPORTATION

FLAGGER OPERATIONS

SEPTEMBER 1997

STANDARD DRAWING NO. **E 801-TCFO-01**

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

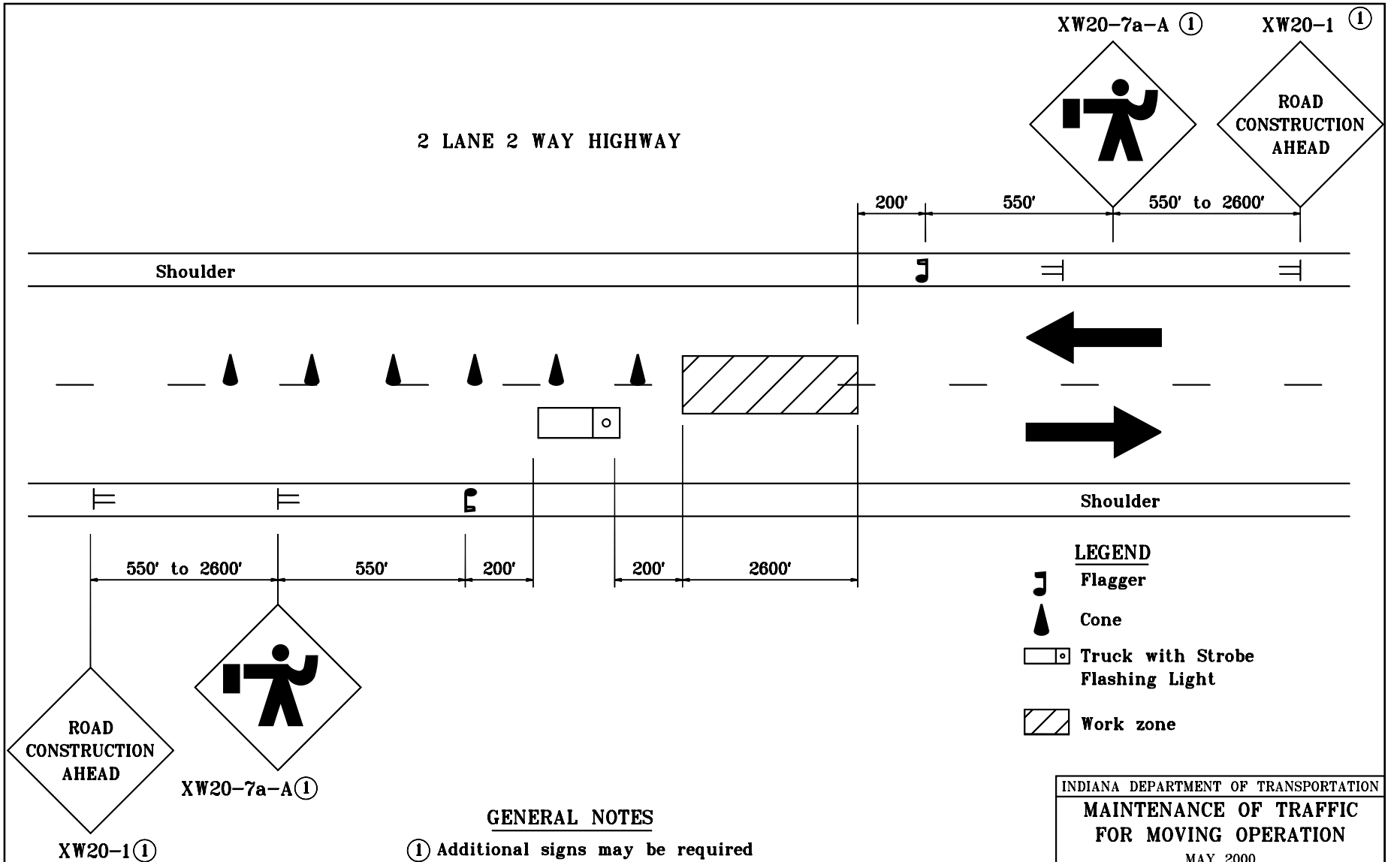
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-97



GENERAL NOTES

(1) Additional signs may be required for the moving operation so as to maintain proper sign spacing.

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC FOR MOVING OPERATION

MAY 2000

STANDARD DRAWING NO. E 801-TCFO-02

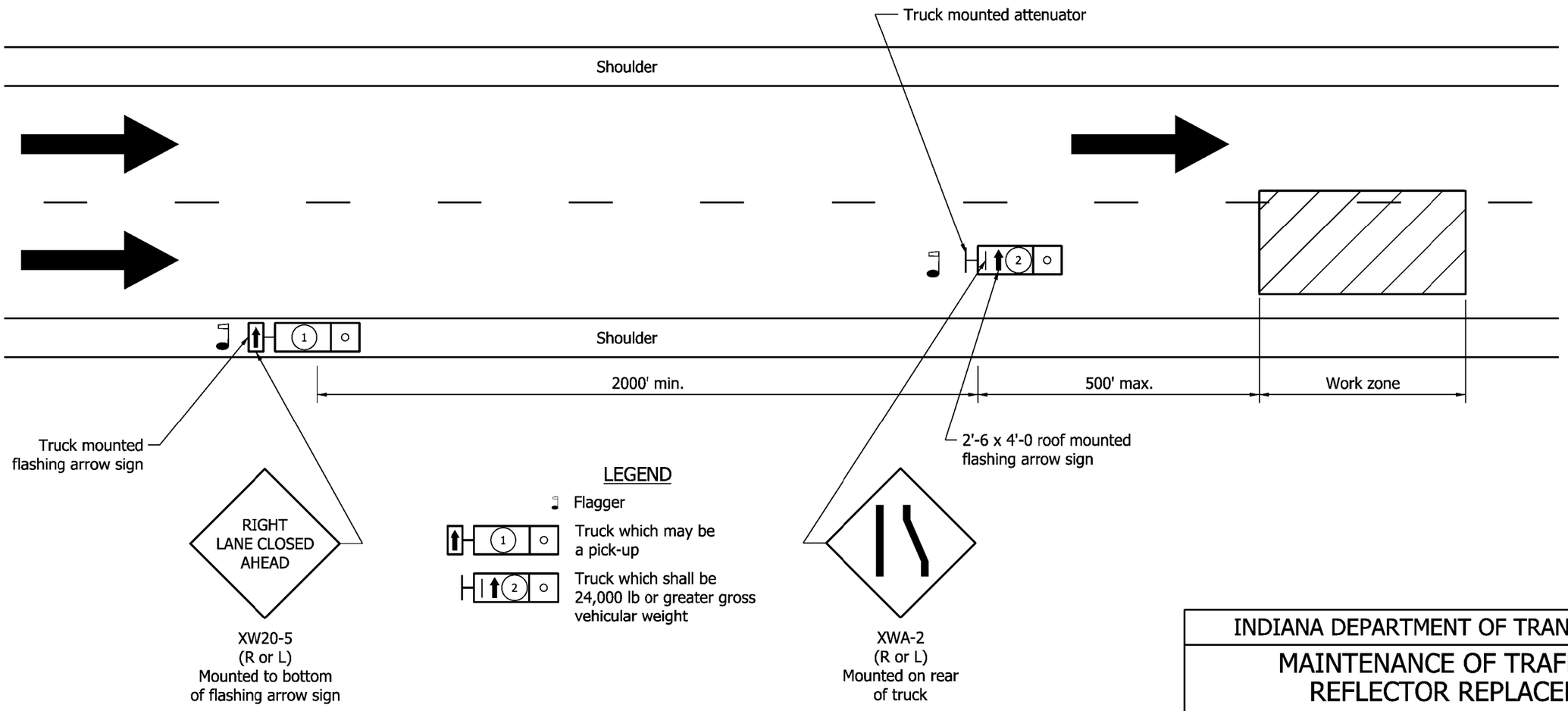
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 5-01-00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 5-01-00
CHIEF HIGHWAY ENGINEER — DATE

MULTI-LANE DIVIDED HIGHWAY



LEGEND

- Flagger
- Truck which may be a pick-up
- Truck which shall be 24,000 lb or greater gross vehicular weight

GENERAL NOTES

1. Flagger shall be used while trucks are stopped.
2. Strobe lights will be require on all vehicles.
3. Distances shown are approximate and may be adjusted as directed.
4. Truck mounted attenuator shall be designed to attenuator impacts by a pickup truck of 4400 lbs. gross vehicular weight at 60 mph.

LONGITUDINAL BUFFER LENGTH SHOWN ON STANDARD DRAWING E 801-TCFO-01

Posted Speed Limit, mph	Length, ft
30 or lower	80
35	115
40	180
45	230
50	280
55	350
60	410
65	500

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC FOR REFLECTOR REPLACEMENT

SEPTEMBER 2009

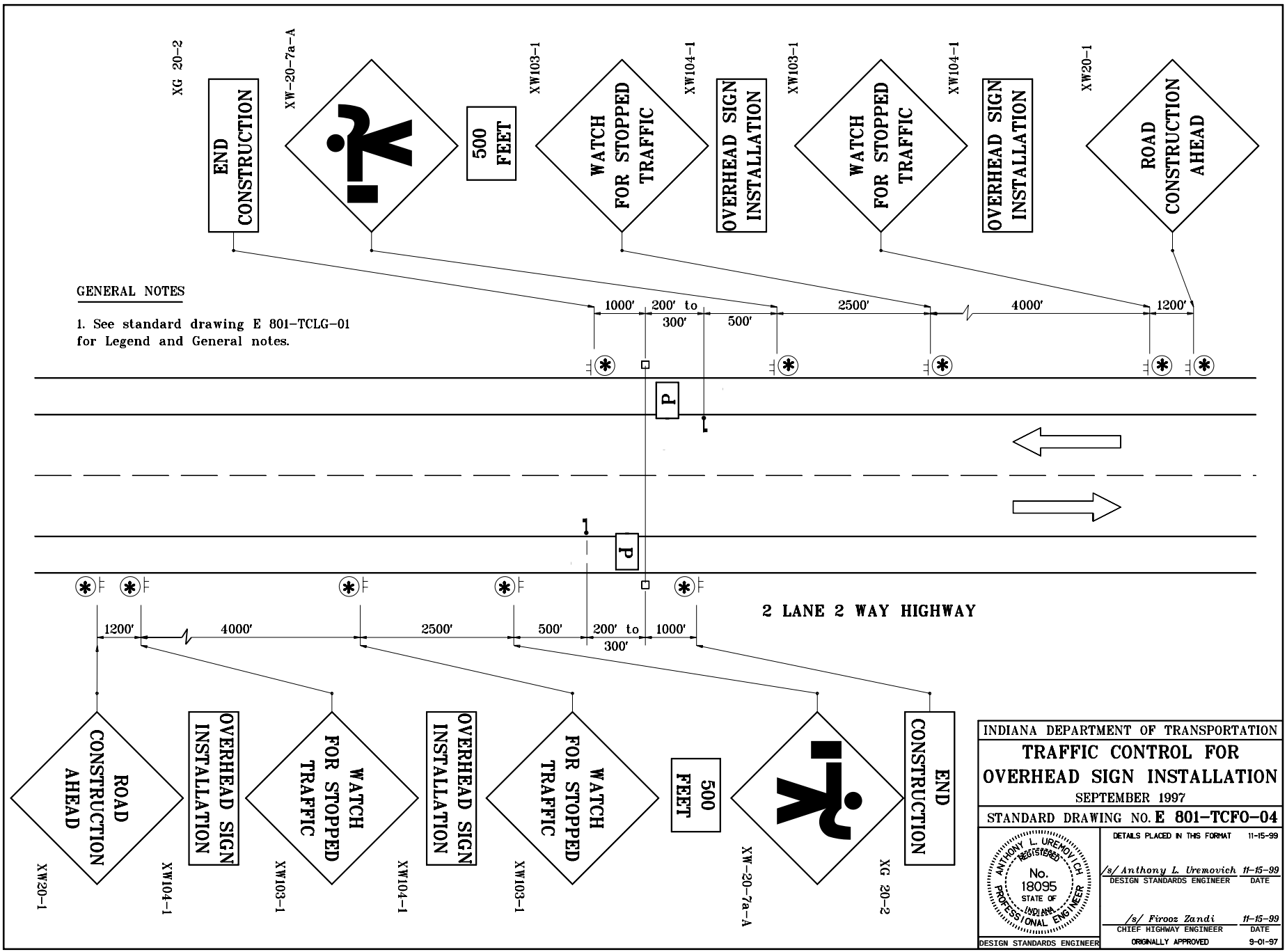
STANDARD DRAWING NO. E 801-TCFO-03

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/09
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER DATE



GENERAL NOTES

1. See standard drawing E 801-TCLG-01 for Legend and General notes.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR OVERHEAD SIGN INSTALLATION

SEPTEMBER 1997

STANDARD DRAWING NO. **E 801-TCFO-04**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

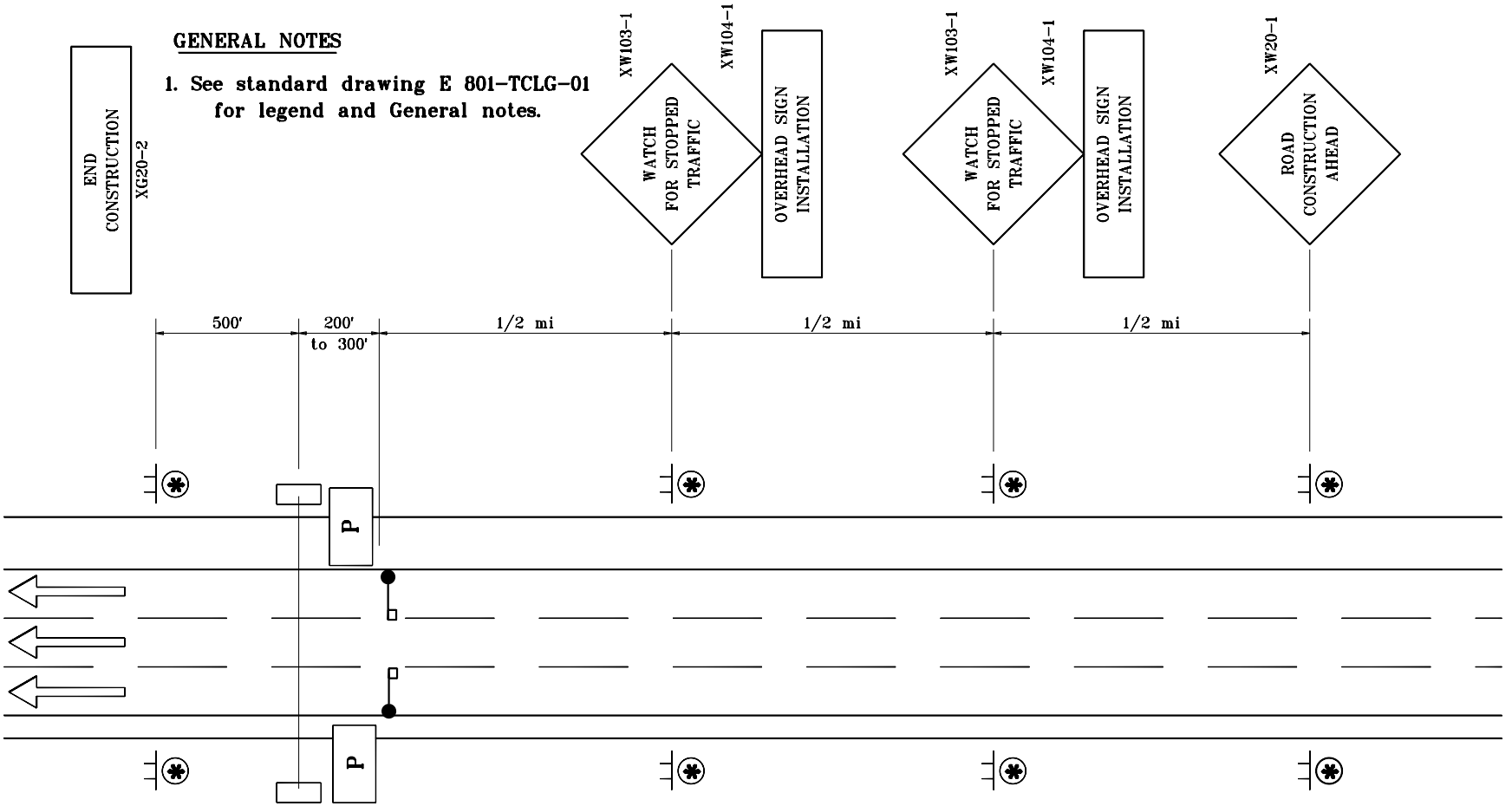
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-97

GENERAL NOTES

1. See standard drawing E 801-TCLG-01 for legend and General notes.



MULTI-LANE DIVIDED HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR OVERHEAD INSTALLATION

SEPTEMBER 1997

STANDARD DRAWING NO. E 801-TCFO-05

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

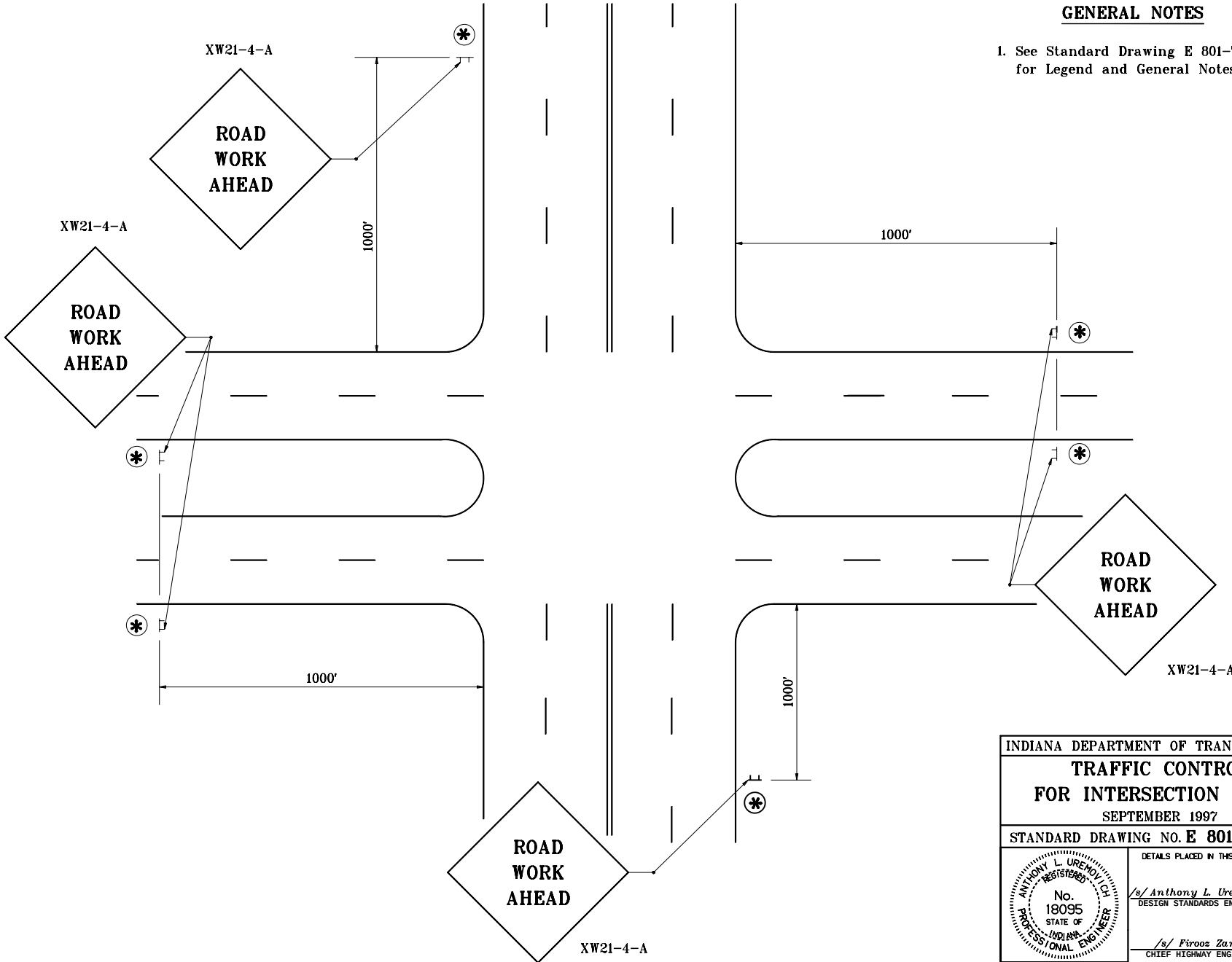
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-97

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR INTERSECTION WORK

SEPTEMBER 1997

STANDARD DRAWING NO. **E 801-TCFO-06**

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

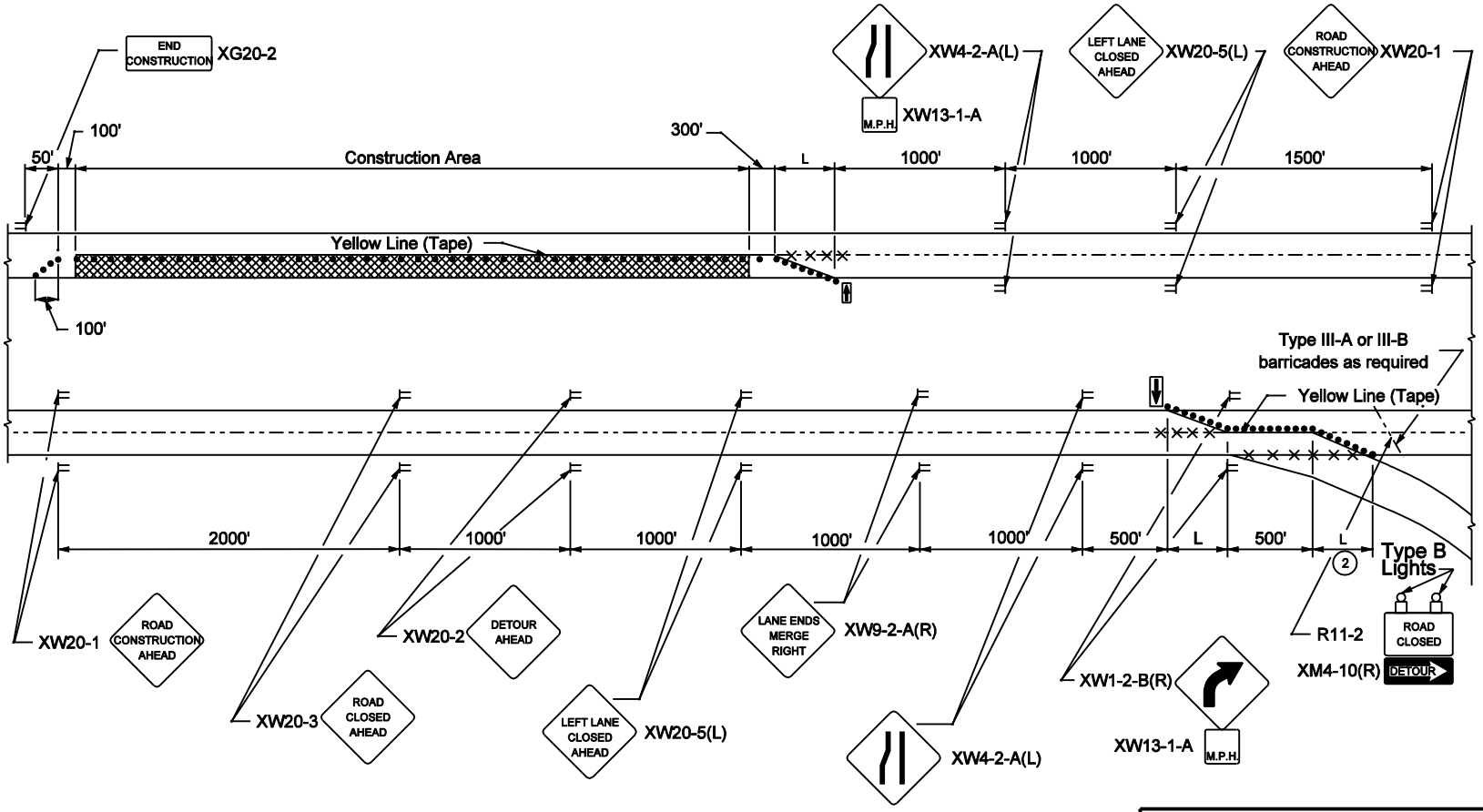
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-02-97



TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON INTERSTATE HIGHWAYS

INDIANA DEPARTMENT OF TRANSPORTATION

LANE CLOSURES
INTERSTATE APPLICATIONS

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCLC-01

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

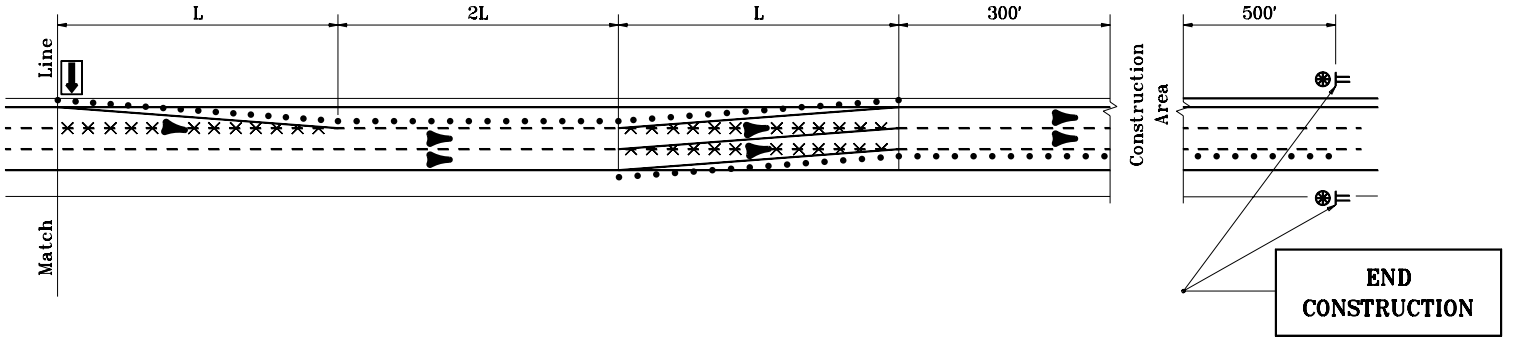
/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

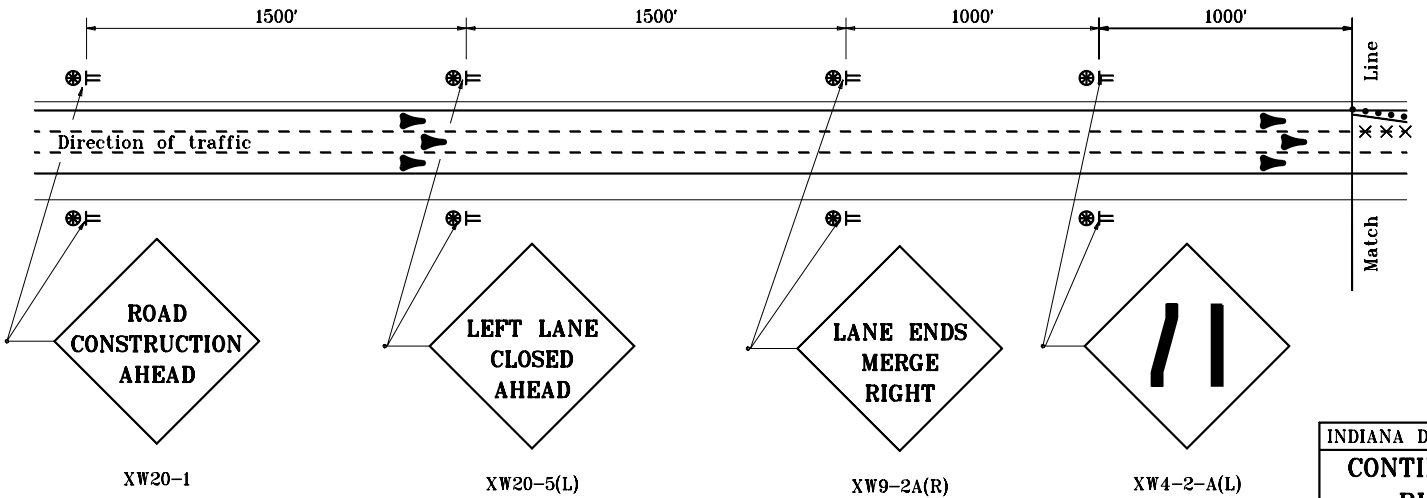
GENERAL NOTES

1 See Standard Drawing E 801-TCLG-01 for standard notes and legend.

(2) Spacing of drums at this location shall be 20 ft.



TYPICAL APPLICATION ON 6 – LANE DIVIDED HIGHWAY WHERE RIGHT LANE IS CLOSED



TYPICAL ADVANCE SIGNING

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for standard notes and legend.

INDIANA DEPARTMENT OF TRANSPORTATION

CONTINOUS LANE CLOSURES RIGHT LANE CLOSED

MAY 1997

STANDARD DRAWING NO. E 801-TCLC-02

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

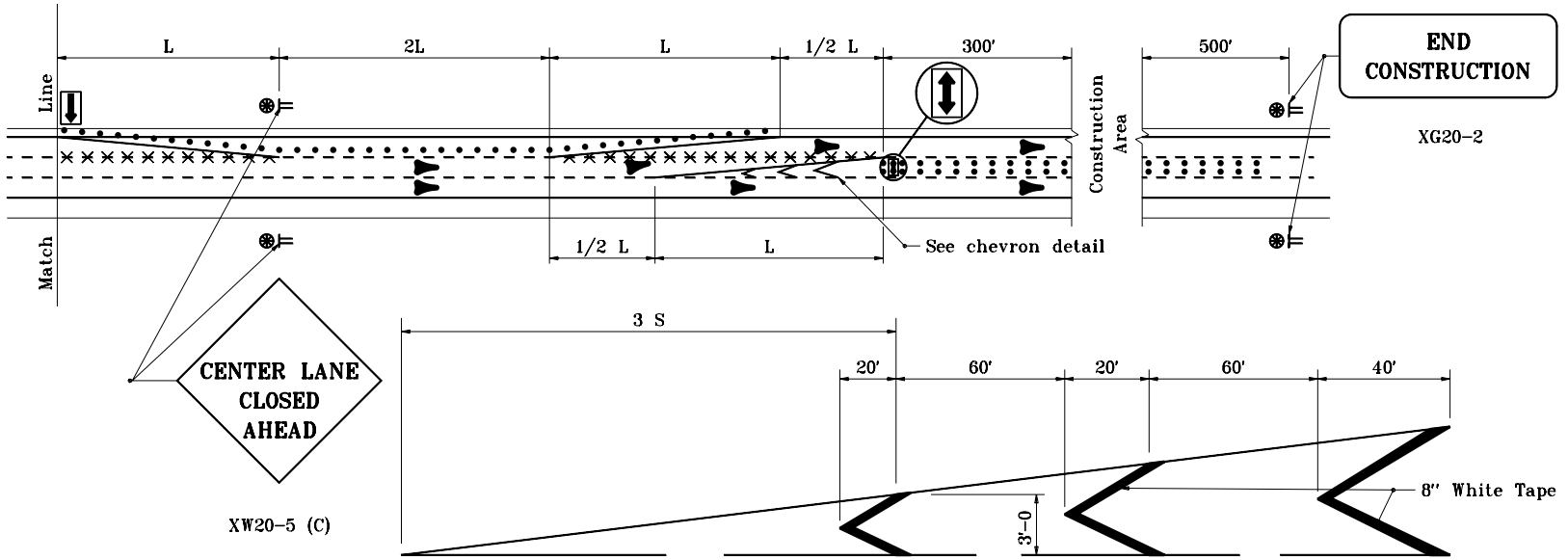
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

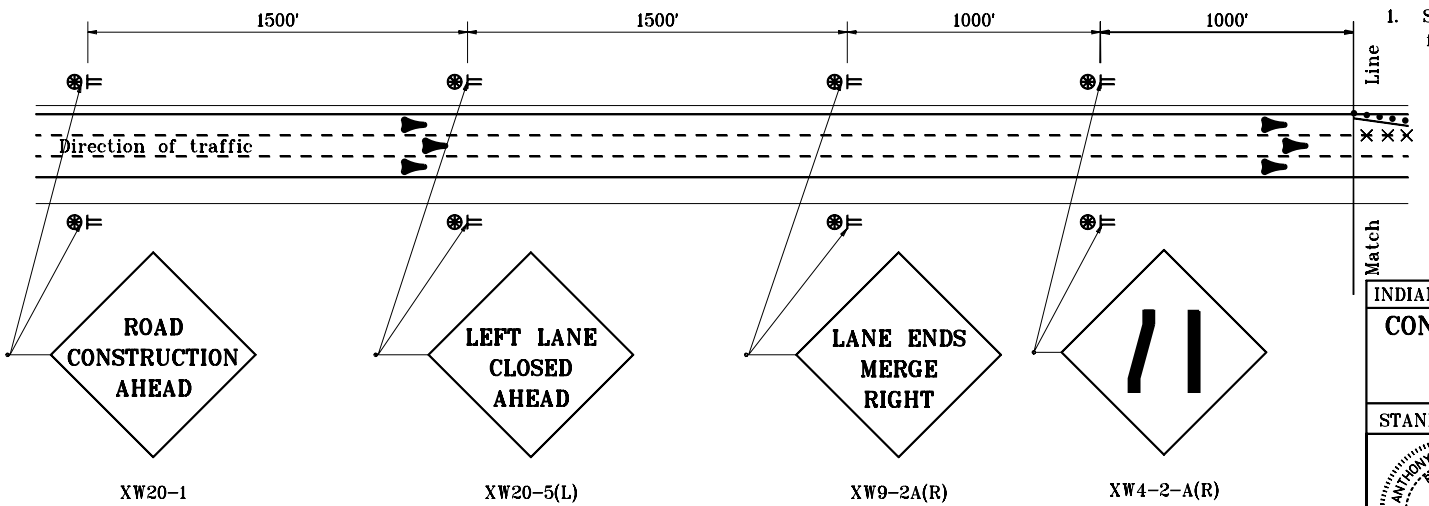
/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 5-01-97



GORE AREA CHEVRONS FOR CENTER LANE CLOSURE

TYPICAL APPLICATION ON 6 – LANE DIVIDED HIGHWAY WHERE CENTER LANE IS CLOSED



TYPICAL ADVANCE SIGNING

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for standard notes and legend.

INDIANA DEPARTMENT OF TRANSPORTATION

CONTINUOUS LANE CLOSURES
CENTER LANE CLOSED

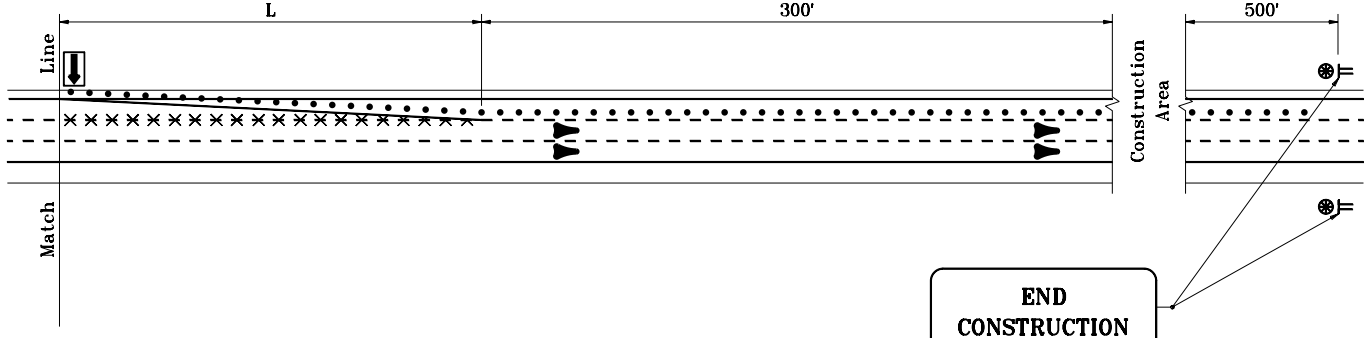
MAY 1997

STANDARD DRAWING NO. **E 801-TCLC-03**

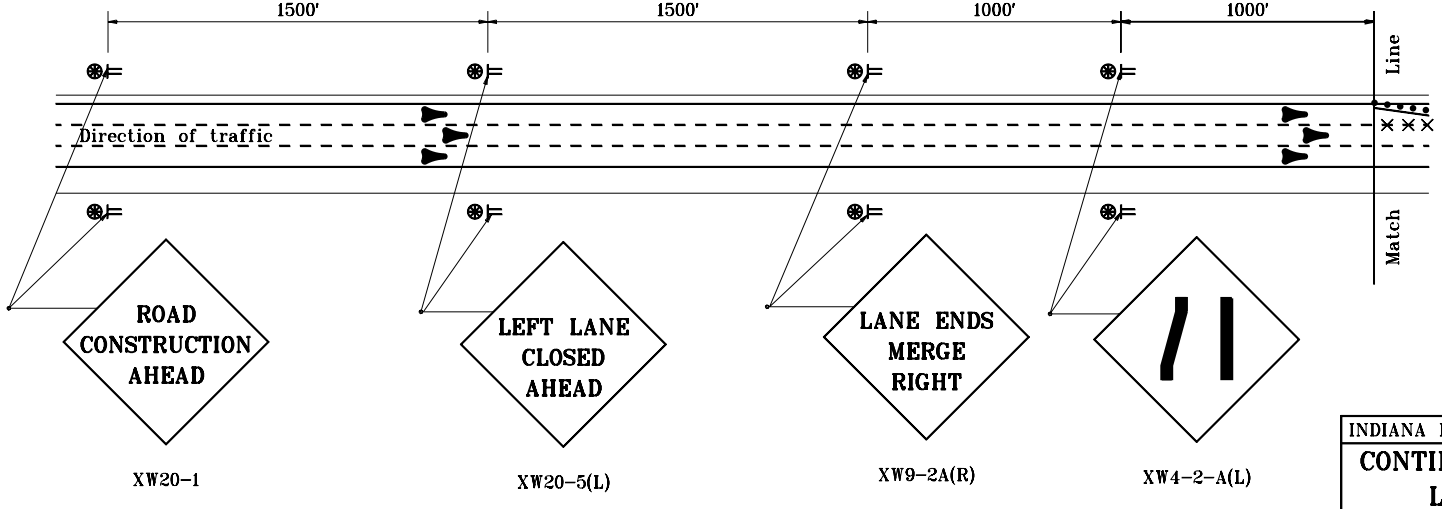
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	5-01-97



TYPICAL APPLICATION ON 6 – LANE DIVIDED HIGHWAY WHERE LEFT LANE IS CLOSED



TYPICAL ADVANCE SIGNING

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for standard notes and legend.

INDIANA DEPARTMENT OF TRANSPORTATION

CONTINUOUS LANE CLOSURES
LEFT LANE CLOSED

JANUARY 2000

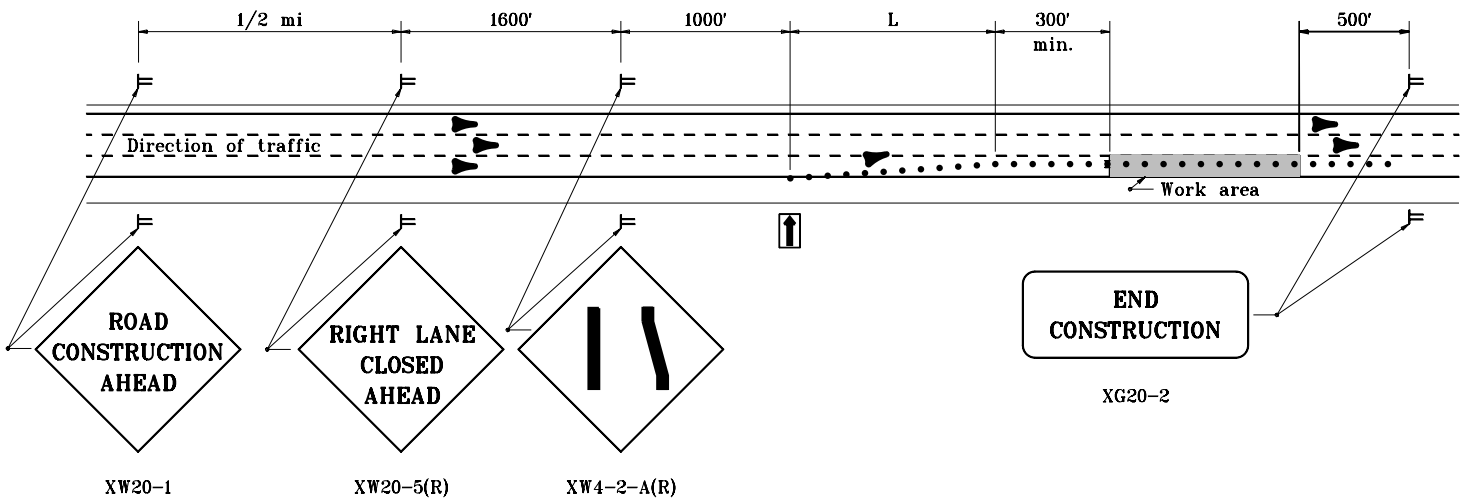
STANDARD DRAWING NO. **E 801-TCLC-04**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 5-01-97
DESIGN STANDARDS ENGINEER DATE

/s/ Donald W. Lucas 5-01-97
CHIEF HIGHWAY ENGINEER DATE



TYPICAL APPLICATION ON 6 – LANE DIVIDED HIGHWAY WHERE RIGHT LANE IS CLOSED

GENERAL NOTES

1. All lanes are to be open after daylight working hours.
2. See Standard Drawiog E 801–TCLG–01 for standard notes and legend.

INDIANA DEPARTMENT OF TRANSPORTATION

DAYLIGHT LANE CLOSURES
RIGHT LANE CLOSED
MAY 1997

STANDARD DRAWING NO. **E 801–TCLC–05**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

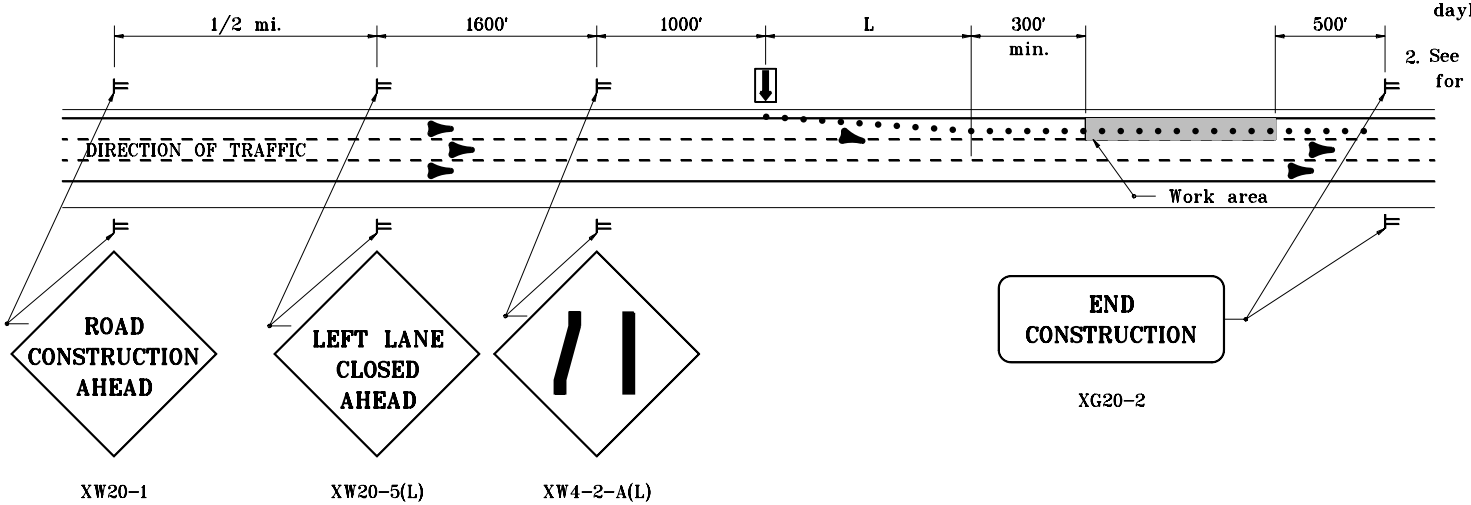
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

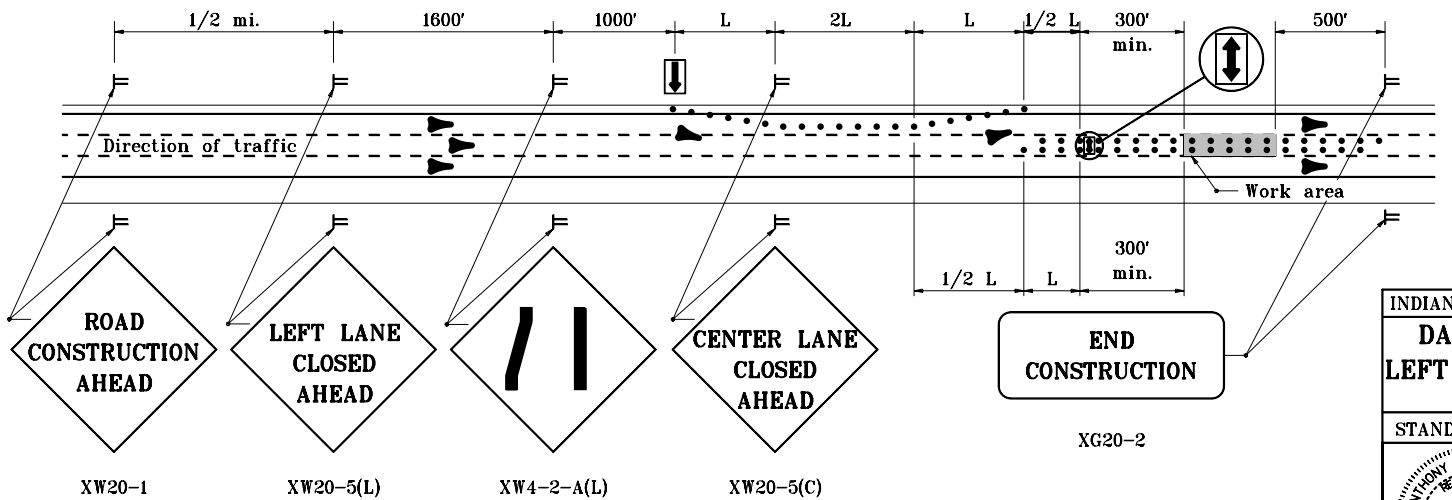
ORIGINALLY APPROVED 5-01-97

GENERAL NOTES

1. All lanes are to be open after daylight working hours.
2. See Standard Drawing E 801-TCLG-01 for standard notes and legend.



TYPICAL APPLICATION ON 6 - LANE DIVIDED HIGHWAY WHERE LEFT LANE IS CLOSED



TYPICAL APPLICATION ON 6 - LANE DIVIDED HIGHWAY WHERE CENTER LANE IS CLOSED

INDIANA DEPARTMENT OF TRANSPORTATION

DAYLIGHT LANE CLOSURES LEFT OR CENTER LANE CLOSED

MAY 1997

STANDARD DRAWING NO. **E 801-TCLC-06**

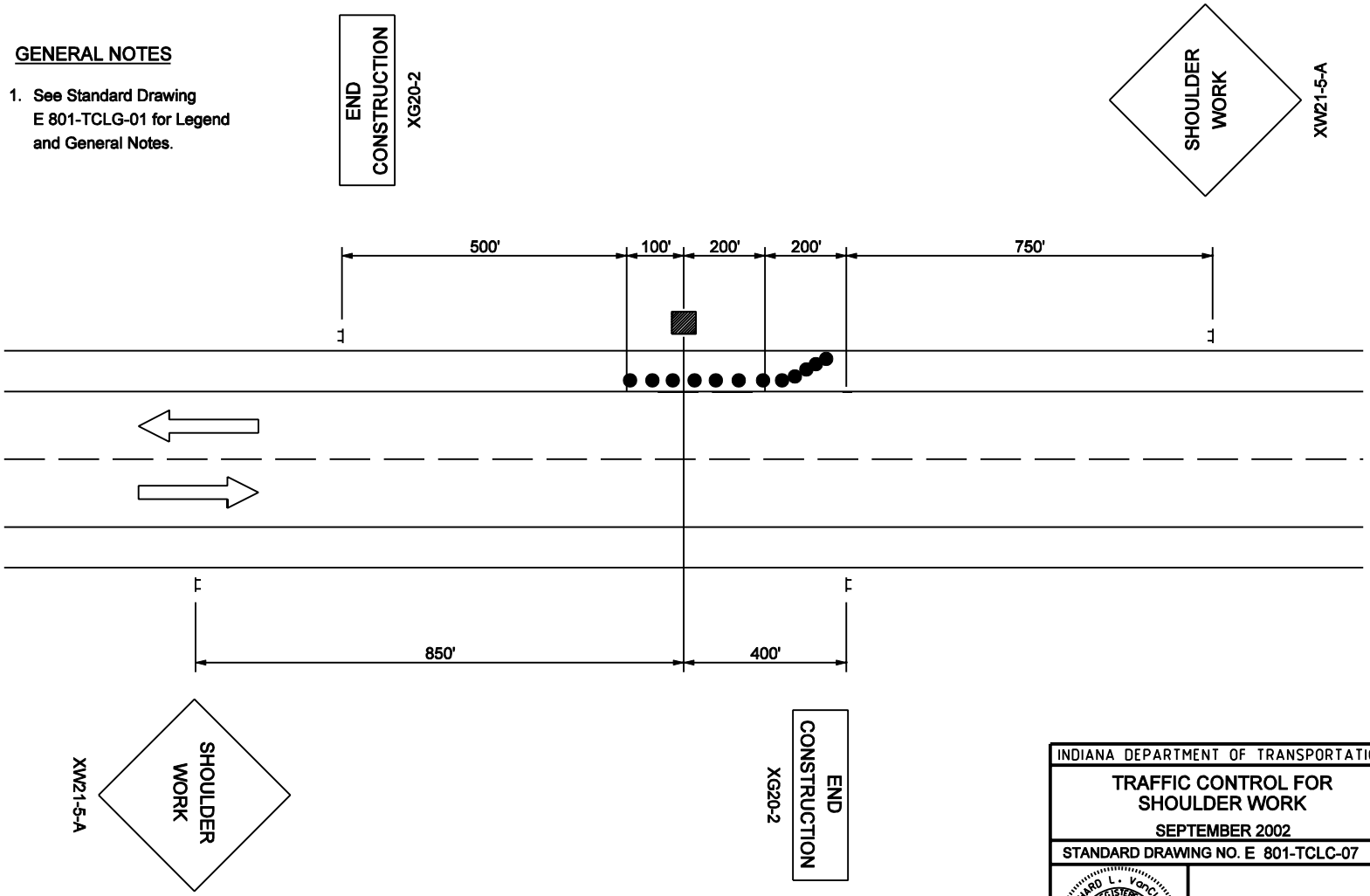
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	5-01-97

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



2 LANE 2 WAY HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SHOULDER WORK

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCLC-07

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

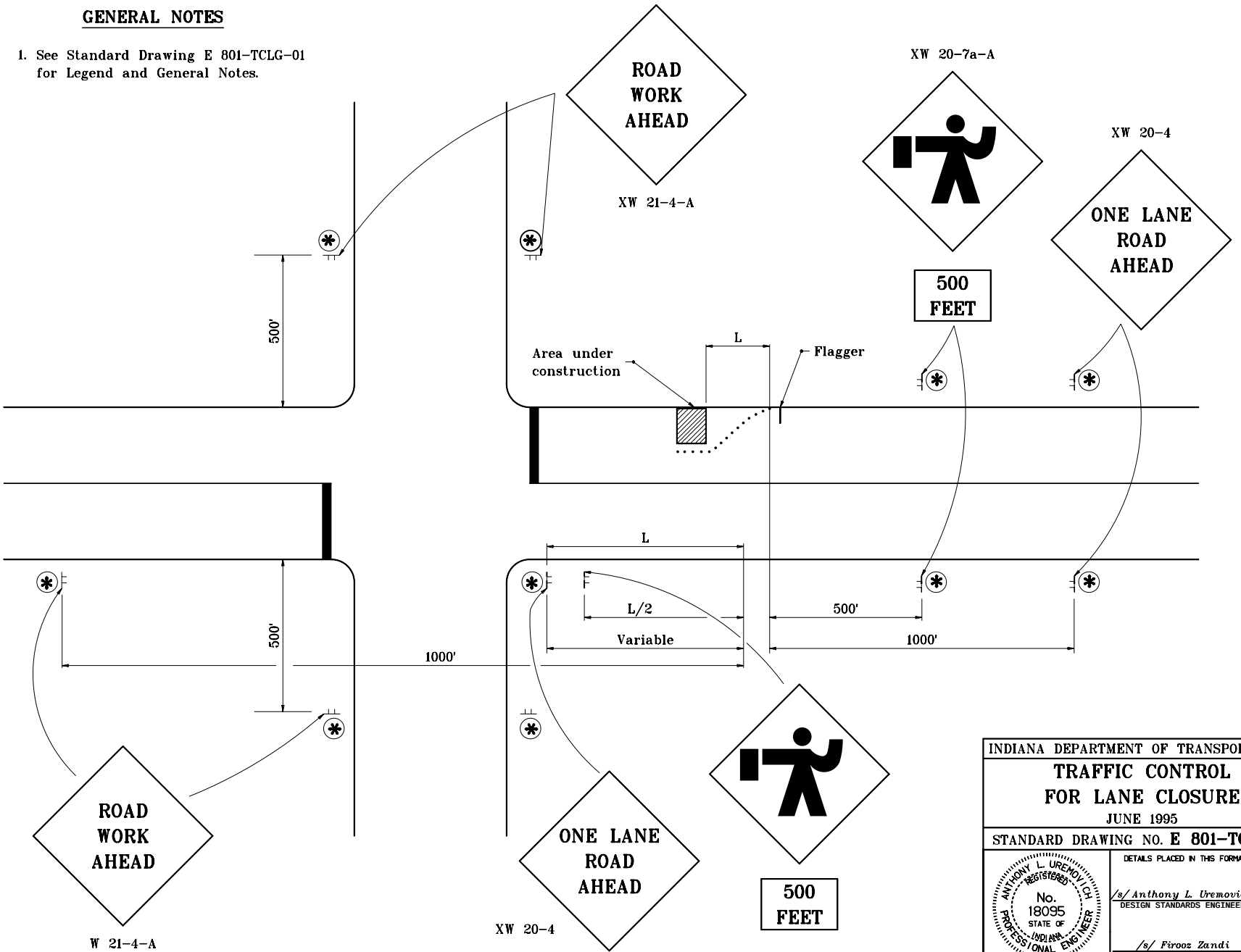
DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave — DESIGN STANDARDS ENGINEER — 9-03-02 DATE

/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 9-03-02 DATE

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR LANE CLOSURE

JUNE 1995

STANDARD DRAWING NO. **E 801-TCLC-08**

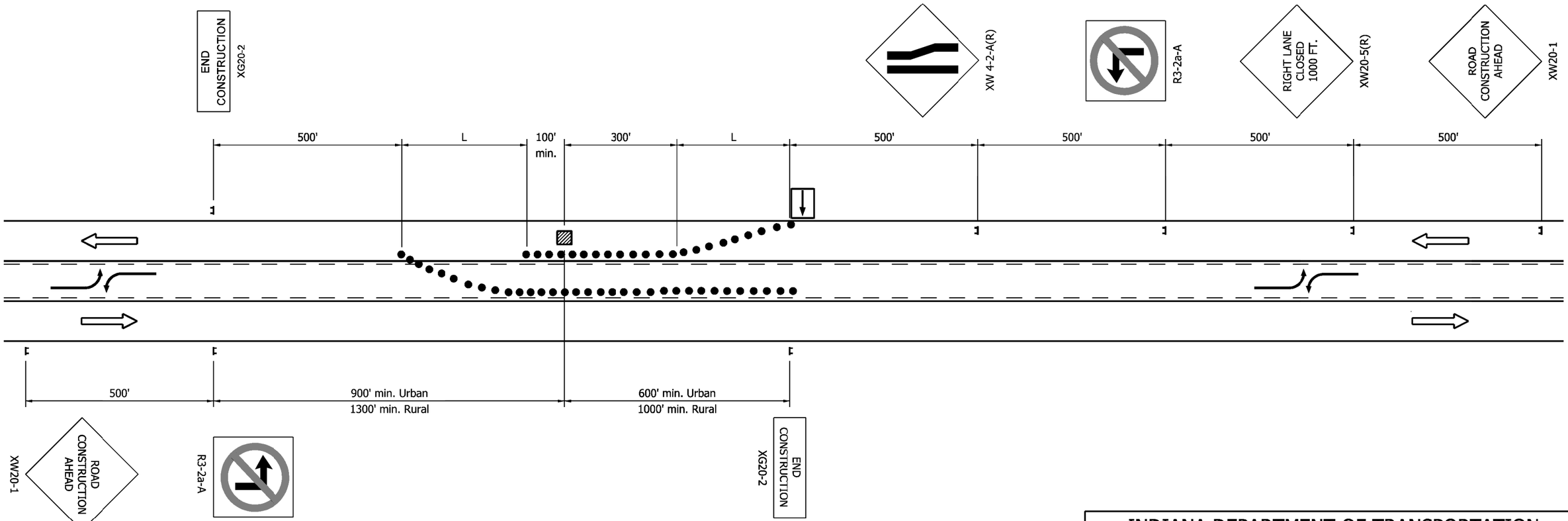
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	7-03-95

NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



WORK ON PAVEMENT (3 LANE SECTION)

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR LANE CLOSURE

SEPTEMBER 2009

STANDARD DRAWING NO. E 801-TCLC-09

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

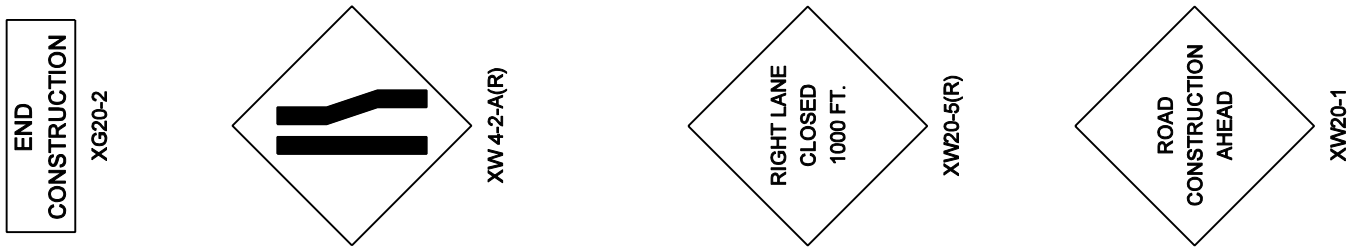
DESIGN STANDARDS ENGINEER

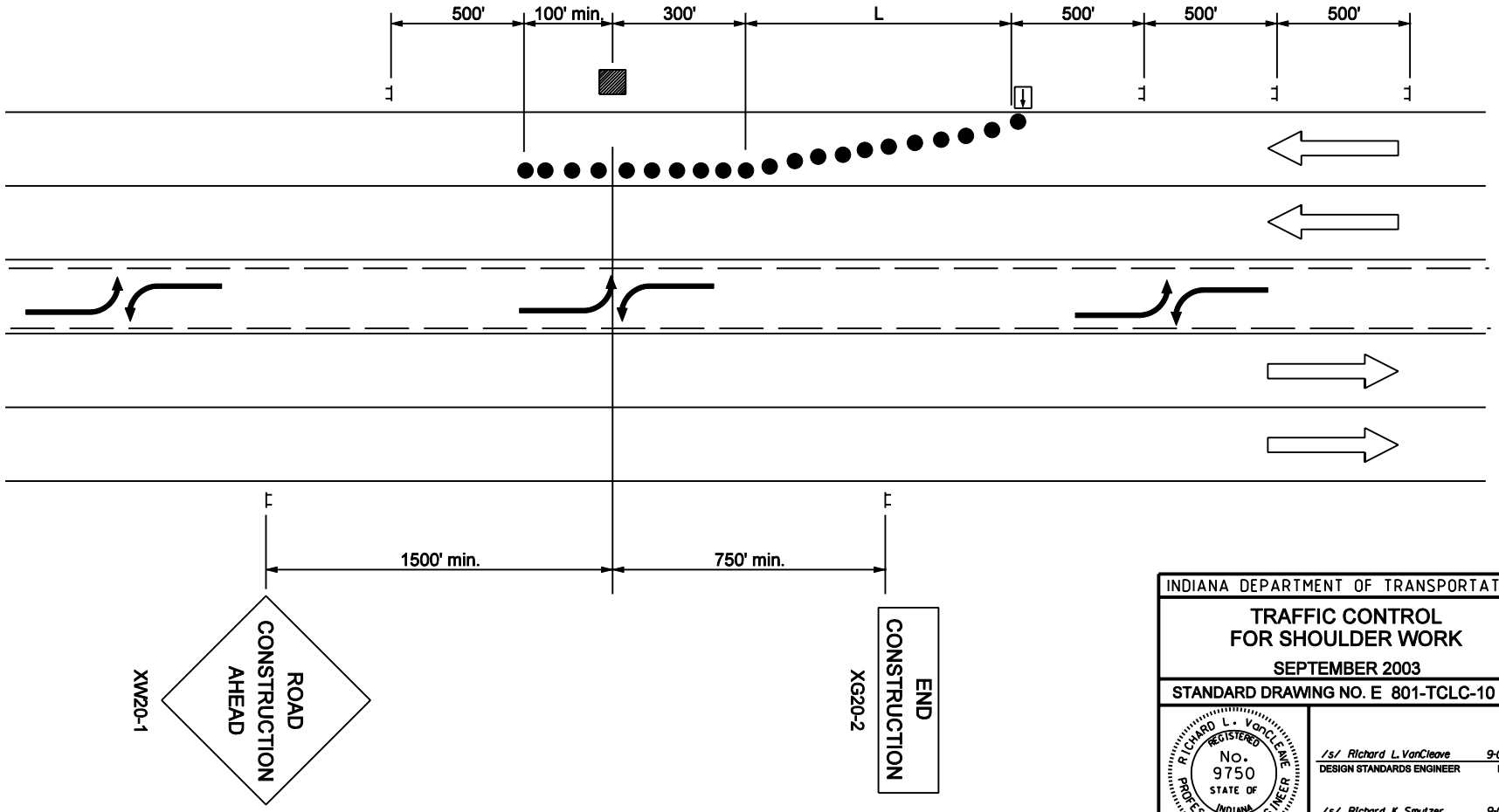
/s/ Richard L. VanCleave 09/01/09
DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

1. See standard drawing E 801-TCLG-01 for legend and General notes.





INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SHOULDER WORK

SEPTEMBER 2003

STANDARD DRAWING NO. E 801-TCLC-10

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

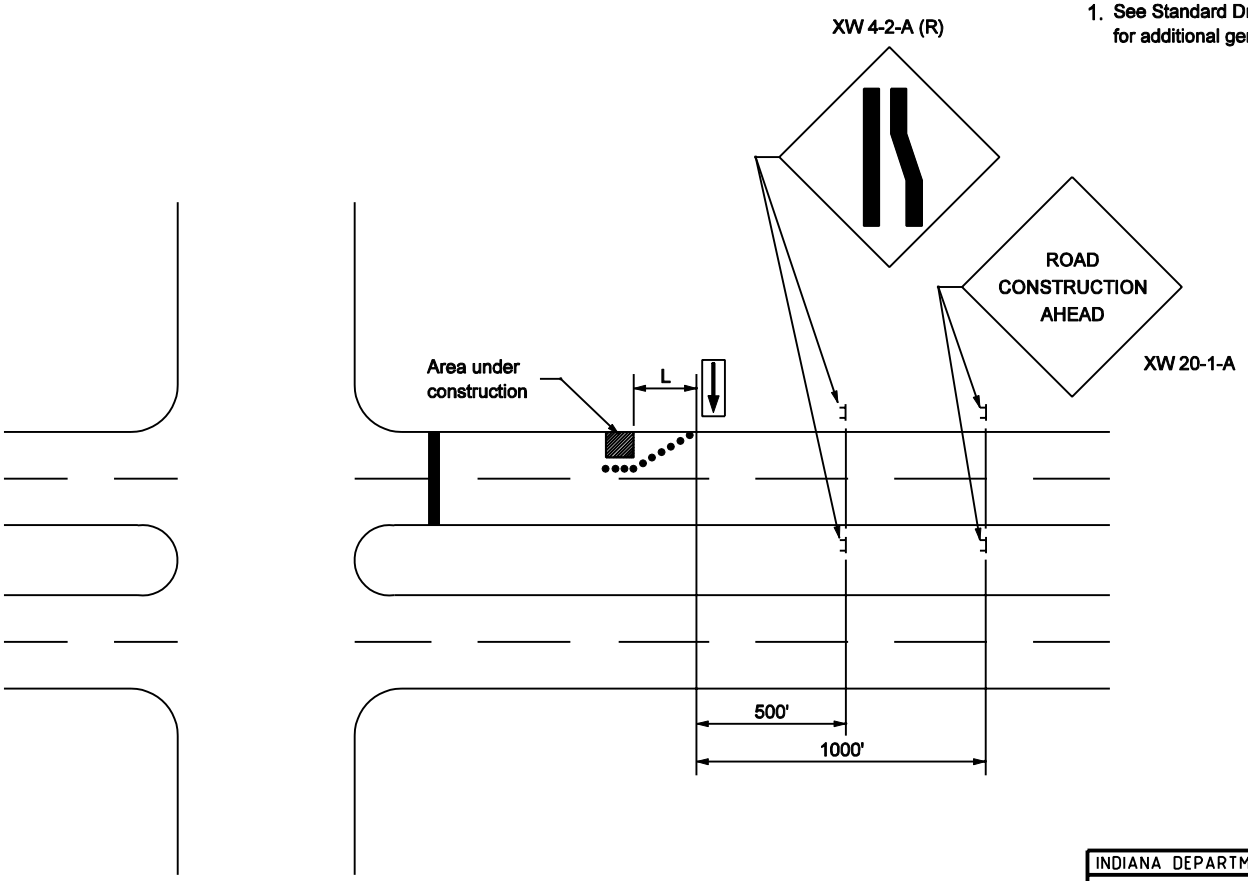
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — DESIGN STANDARDS ENGINEER — 9-02-03 DATE

/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 9-02-03 DATE

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for additional general notes.



INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR LANE CLOSURE

SEPTEMBER 2002

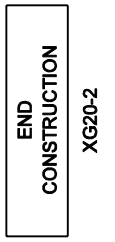
STANDARD DRAWING NO. E 801-TCLC-11

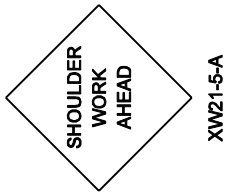
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave — DESIGN STANDARDS ENGINEER — 9-03-02 DATE

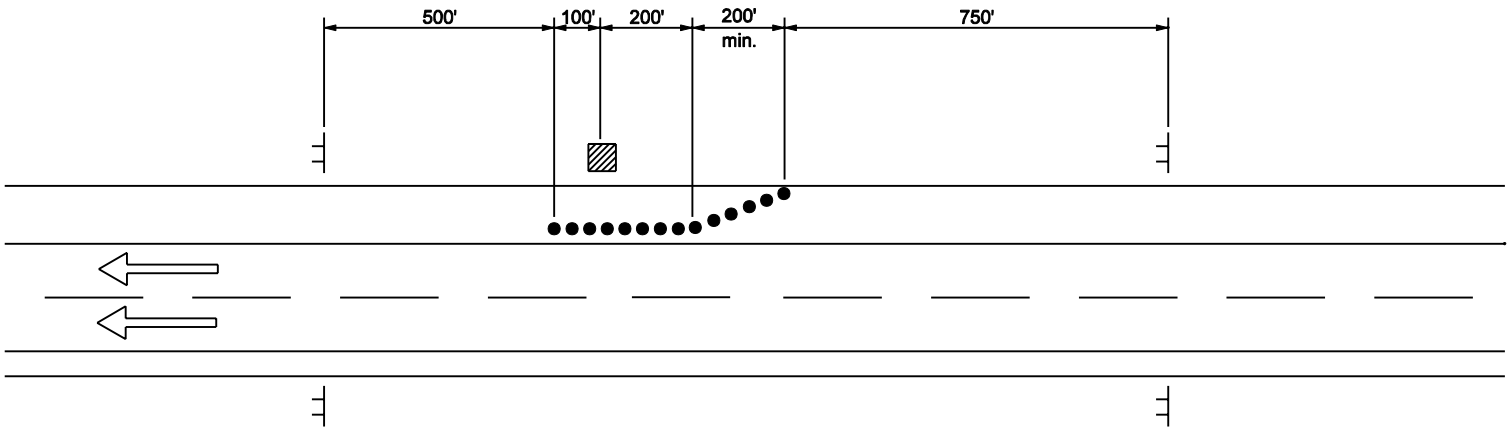
/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 9-03-02 DATE





GENERAL NOTES

1. See standard drawing E 801-TCLG-01 for legend and General Notes.



MULTI-LANE DIVIDED HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR SHOULDER WORK

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCLC-12

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

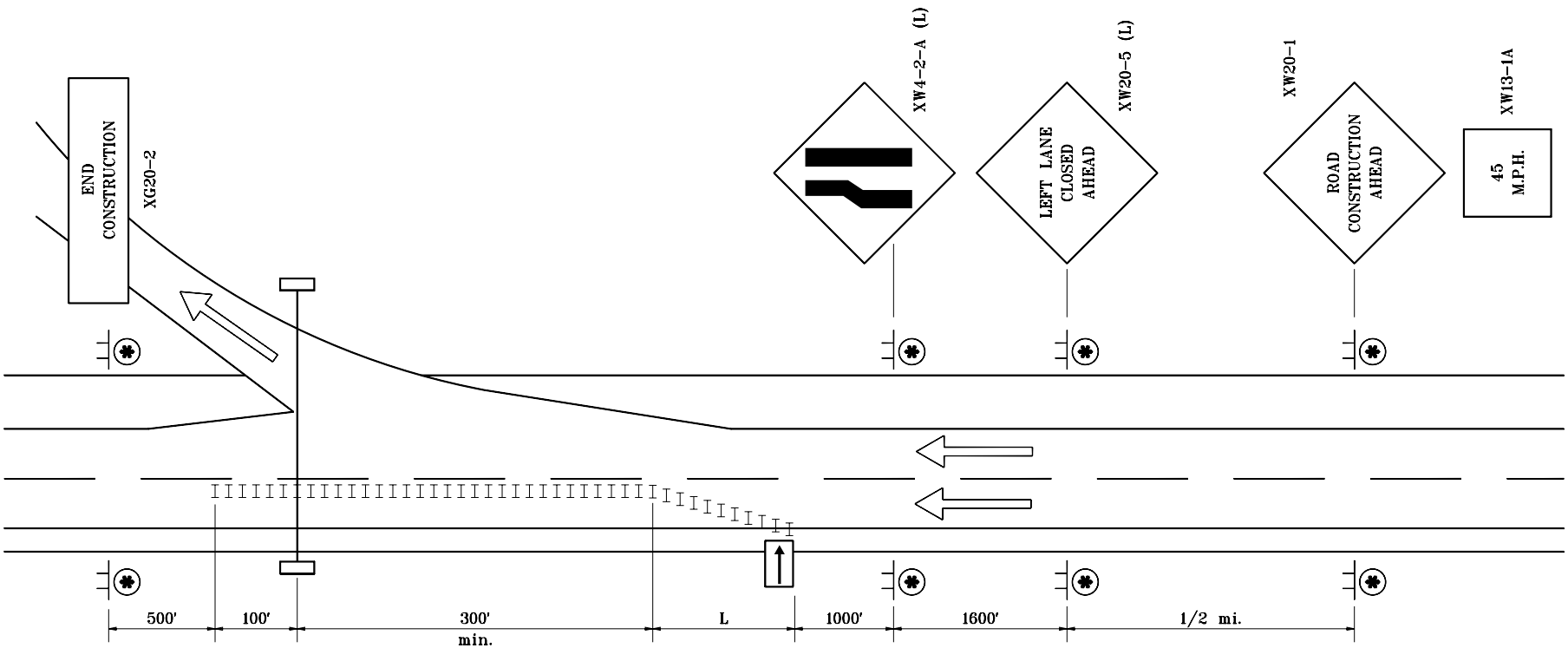
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — DESIGN STANDARDS ENGINEER — 9-03-02 DATE

/s/ Richard K. Smulzer — CHIEF HIGHWAY ENGINEER — 9-03-02 DATE

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



MULTI-LANE DIVIDED HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR OVERHEAD SIGN INSTALLATION

JUNE 1995

STANDARD DRAWING NO. **E 801-TCLC-13**

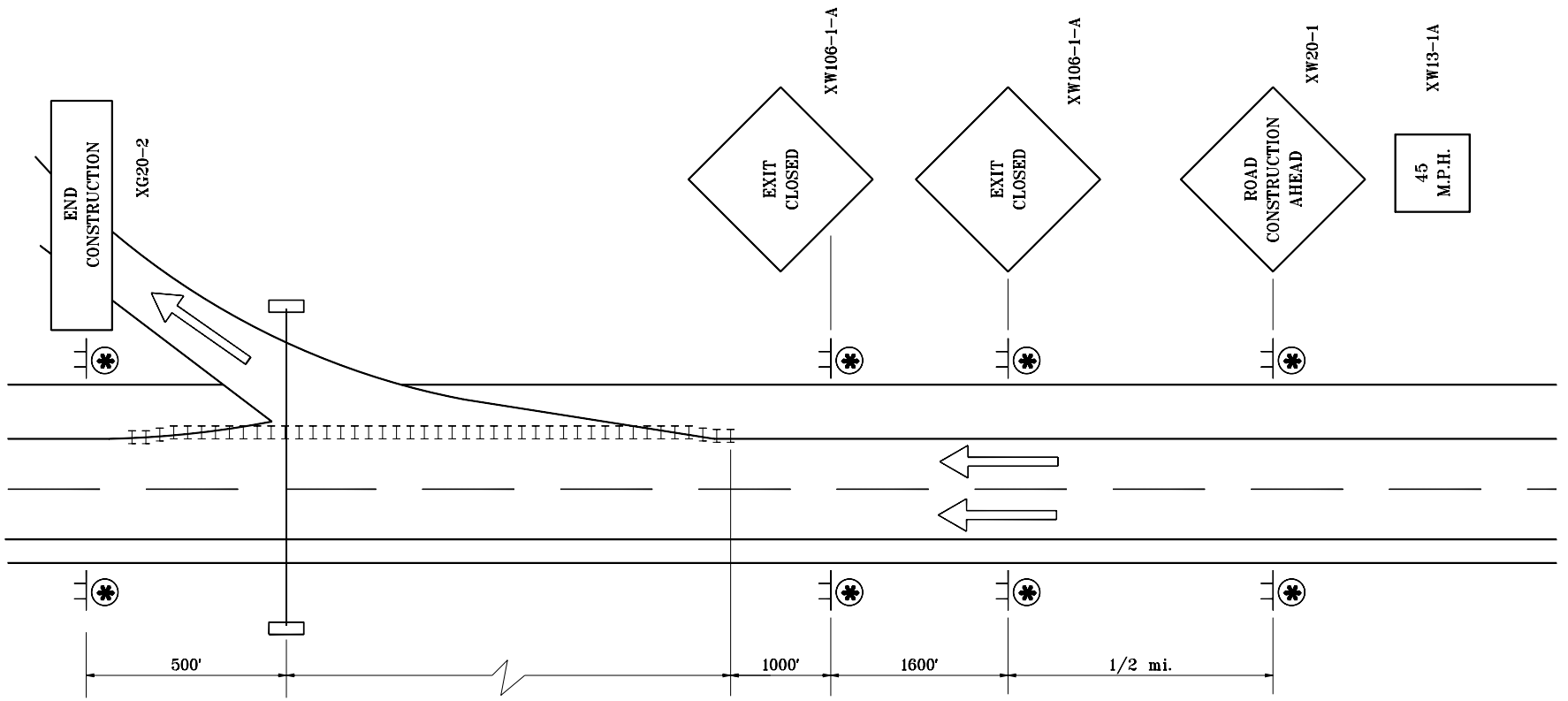
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	7-03-95

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.



MULTI-LANE DIVIDED HIGHWAY, LONG-TERM CLOSURE

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR OVERHEAD SIGN INSTALLATION

JUNE 1995

STANDARD DRAWING NO. **E 801-TCLC-14**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

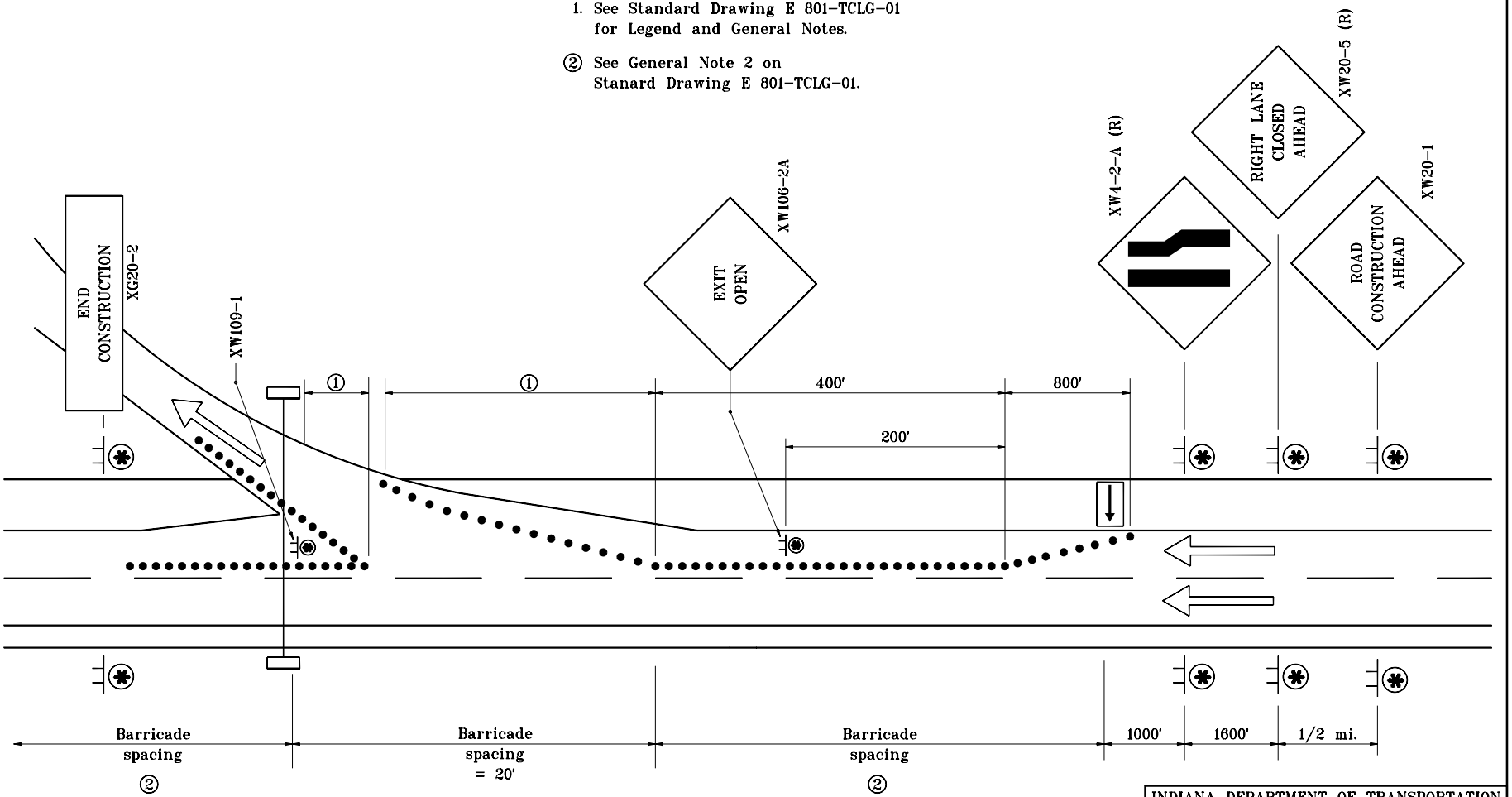
/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 7-03-95

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.

② See General Note 2 on Stanard Drawing E 801-TCLG-01.



MULTI-LANE DIVIDED HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR OVERHEAD SIGN INSTALLATION

MAY 1998

STANDARD DRAWING NO. **E 801-TCLC-15**

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

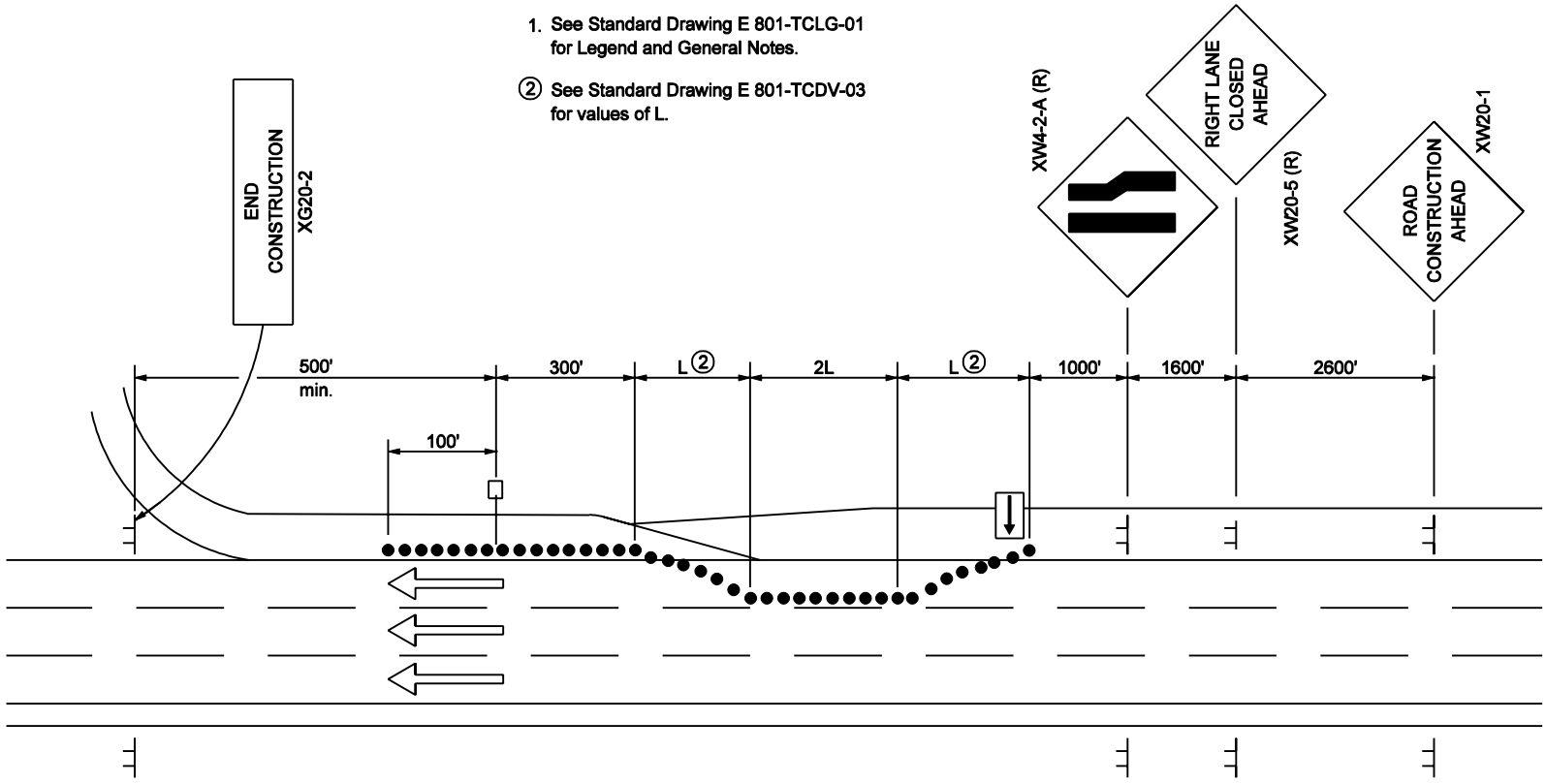
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORGINALLY APPROVED	5-01-98

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.

② See Standard Drawing E 801-TCDV-03 for values of L.



MULTI-LANE DIVIDED HIGHWAY

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR LANE CLOSURE

SEPTEMBER 2002

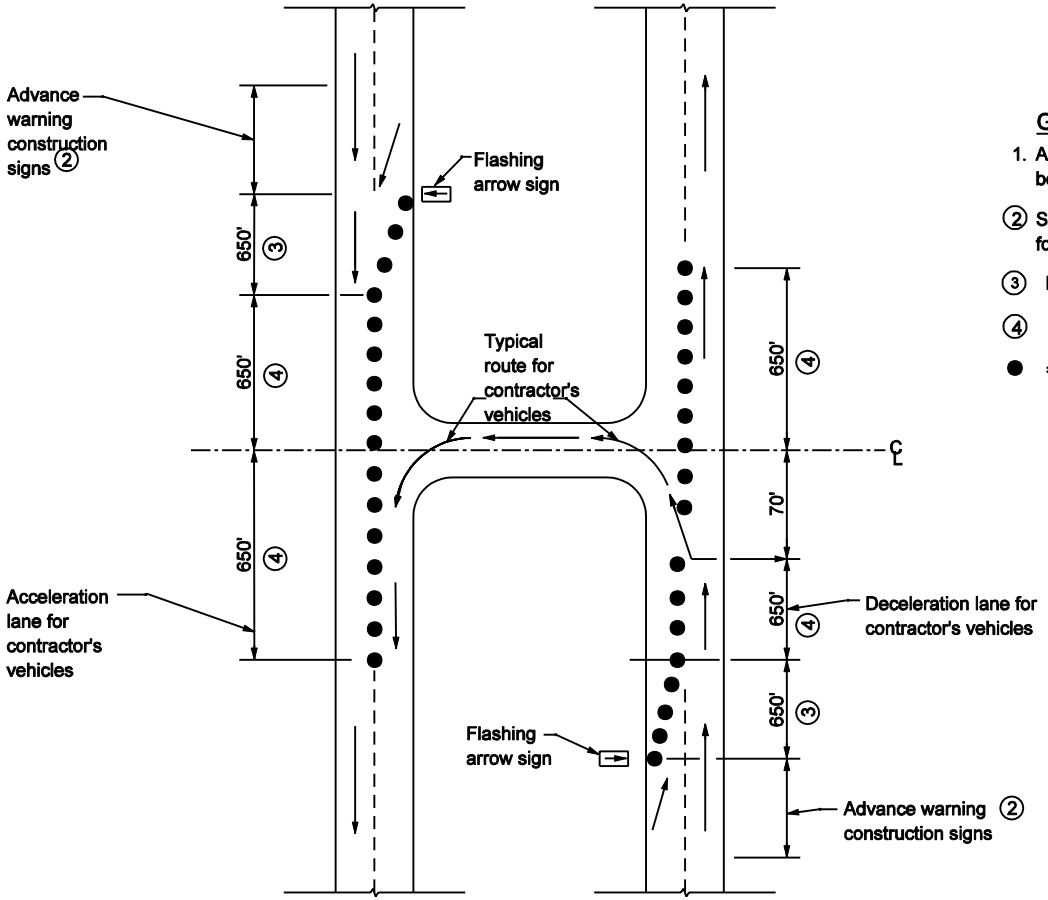
STANDARD DRAWING NO. E 801-TCLC-16

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — DESIGN STANDARDS ENGINEER — 9-03-02 DATE

/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 9-03-02 DATE



GENERAL NOTES

1. All dimensions not shown shall be field determined.

(2) See Standard Drawing E-801-TCLC-11 for placement of construction signs.

(3) Maximum spacing shall be 50 ft..

(4) Maximum spacing shall be 100 ft..

● = Channelizing Device

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY U-TURN FOR CONTRACTOR'S VEHICLES

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCLC-17

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

DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

① Distances shown are typical except minimum distances may be varied based on field conditions.

2. The spacing of channelizing devices on tangents shall be as follows:
   a. Where the posted speed limit is 50 m.p.h. or greater, the spacing shall be 100 ft.
   b. Where the posted speed limit is less than or equal to 45 m.p.h., the spacing shall be 50 ft.
3. The spacing of channelizing devices on tapers shall be numerically equal in feet to the posted speed limit in mph.
4. The flashing arrow sign shall not be placed on a sidewalk. The flashing arrow sign shall be placed at a distance of L/3 from the beginning of the taper.
5. For temporary lane closures during daylight hours, cones or tubular markers may be used in lieu of drums.
6. Temporary pavement markings will not be required for temporary daylight lane closures.
7. Minimum pavement section for 1000 trucks per day or less shall consist of 165 #/syd of HMA Surface, on 330 #/syd of HMA Intermediate, on 935 #/syd of HMA Base, on 8 in subgrade treatment. if the truck count for the crossover is greater than 1000 trucks per day, the required pavement section will be provided elsewhere in the plans.
8. Temporary highway illumination, when specified, shall be as detailed elsewhere in the plans.

⑨ Once the crossovers have been removed, this line shall be re-striped yellow, if the pavement is to again be used for one-way traffic.

⑩ For Temporary Crossover Type B, this line shall be removed when the traffic pattern is switched.

⑪ The advisory speed plate will not be required when the existing posted speed limit is less than 55 mph.

⑫ Spacing of channelizing devices at this location shall be 20 ft.

⑬ The "Two-Way Traffic" (XW6-3B) and "Do Not Pass" (R4-1-B) signs shall alternate every 2640 ft throughout the two-lane two-way operation.

⑭ For a bridge contract, this distance may be adjusted by the Engineer as required. However, it shall be as close to the minimum as possible.

⑮ Once the crossovers have been removed, this line shall be restriped broken white, if the pavement is to again be used for one way traffic.

LEGEND

- Flagger
- Work area
- Flashing arrow sign
- Channelizing device
- P — Police car (optional)
- Construction sign and supports
- W = Width of offset
- Temporary Pavement Marking
- Removal of pavement markings and prismatic reflectors
- Typical Sign Standard (Road Closure Sign Assembly)
- Type III-A or Type III-B Barricades as required
- Double Headed Flashing Arrow Sign
- Direction of Traffic

SURFACE AREA OF ONE TYPE A TEMPORARY CROSSOVER SYS	
MEDIAN WIDTH, ft	TYPE A
60	1208
50	1041
40	880
36	814
30	713
26	648

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL LEGEND AND GENERAL NOTES

MARCH 2006

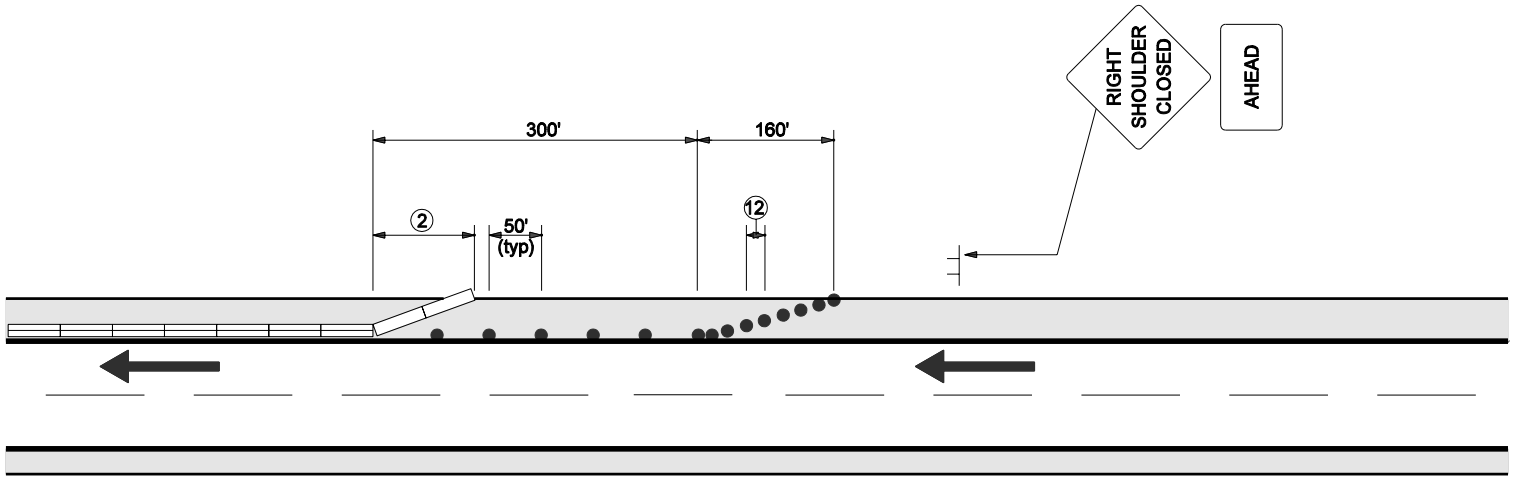
STANDARD DRAWING NO. E 801-TCLG-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES

1. All other applicable traffic control devices shall be utilized where appropriate in addition to those devices shown hereon.

② Flared temporary barrier or approved end treatment-flare rate 12:1 desirable.

3. For general notes see Standard Drawing E-801-TCLG-01.

4. Individual channelizing devices may be temporarily relocated or removed, as necessary, to allow access to the construction site by construction vehicles or access to residences or businesses. Tangent area openings shall not exceed 100 feet. Flare area openings shall not exceed 60 feet.

LEGEND

— Temporary Traffic Barrier

— Drums

— Sign

— Direction of traffic

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SHOULDER CLOSURE

MARCH 2006

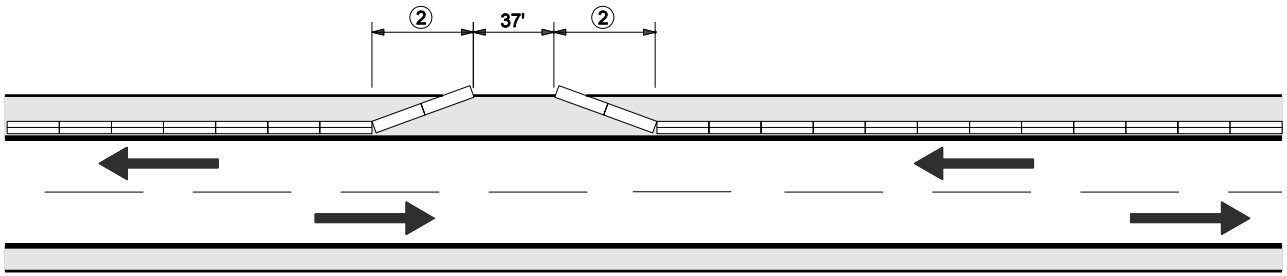
STANDARD DRAWING NO. E 801-TCSC-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES

1. All other applicable traffic control devices shall be utilized where appropriate in addition to those devices shown hereon.

② Flared temporary barrier or approved end treatment-flare rate 12:1 desirable.

3. For general notes see Standard Drawing E-801-TCLG-01.

LEGEND

— Temporary Traffic Barrier

— Direction of traffic

TWO-WAY-UNDIVIDED

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SHOULDER CLOSURE LOCAL ACCESS

MARCH 2006

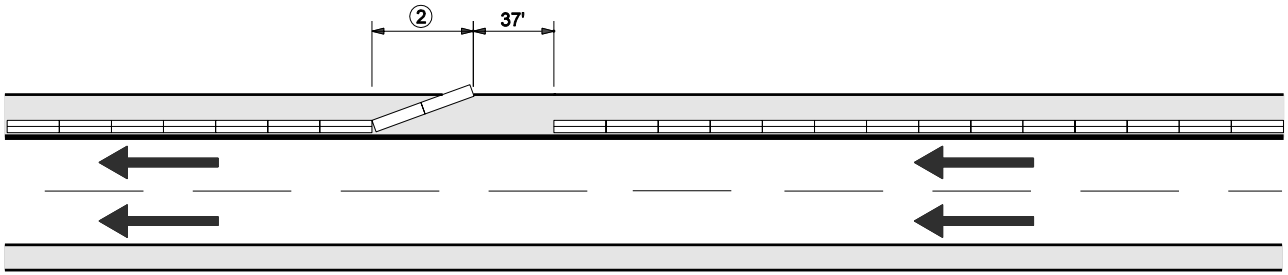
STANDARD DRAWING NO. E 801-TCSC-02

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES

1. All other applicable traffic control devices shall be utilized where appropriate in addition to those devices shown hereon.

② Flared temporary barrier or approved end treatment-flare rate 12:1 desirable.

3. For general notes see Standard Drawing E-801-TCLG-01.

LEGEND

— Temporary Barrier

— Direction of traffic

MULTI-LANE-DIVIDED

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SHOULDER CLOSURE LOCAL ACCESS

MARCH 2006

STANDARD DRAWING NO. E 801-TCSC-03

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

DESIGN STANDARDS ENGINEER

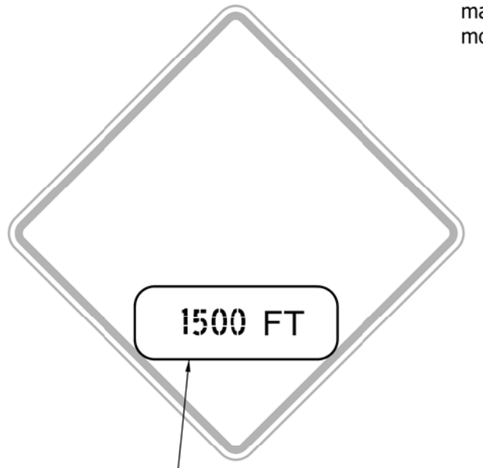
/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE

XW20-1
XW20-1-A (10)

XW20-2 (10)

XW20-3 (10)



W16-2 (3)

NOTES:

1. Sign XW21-3-A shall be placed as directed where road machinery is operating on or across pavement open to traffic.
2. See Standard Drawing E 801-TCSN-11 for additional general notes.

(3) A 28 in. x 10 in. metal plate, covered with federal orange reflective material with black numerals designating predetermined distance, may be attached over the word "AHEAD" to more specifically locate the subject hazard.

XW20-4 (10)

XW21-3-A (10)
(9)

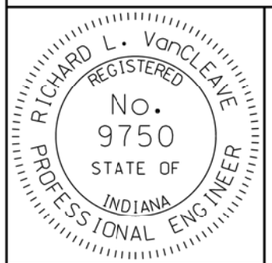
XW21-4-A (10)

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGNS

SEPTEMBER 2010

STANDARD DRAWING NO. E 801-TCSN-01



DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

1. See Standard Drawing E 801-TCSN-11 for additional general notes.

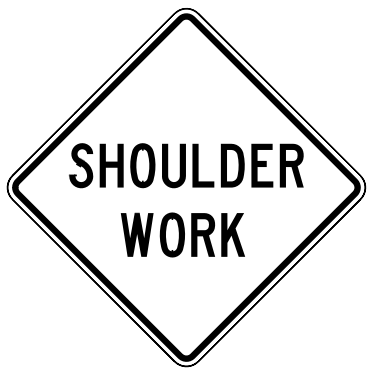
XW21-6-A (9)

XW21-2 (9)
XW21-2-A (1)

XW20-7 (9) (10)

XW21-1 (9)

XW20-5 (R,L, or C) (10)



XW21-5-A

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

SEPTEMBER 1997

STANDARD DRAWING NO. **E 801-TCSN-02**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

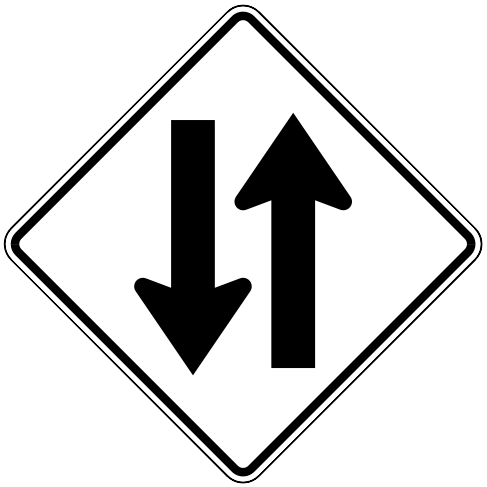
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

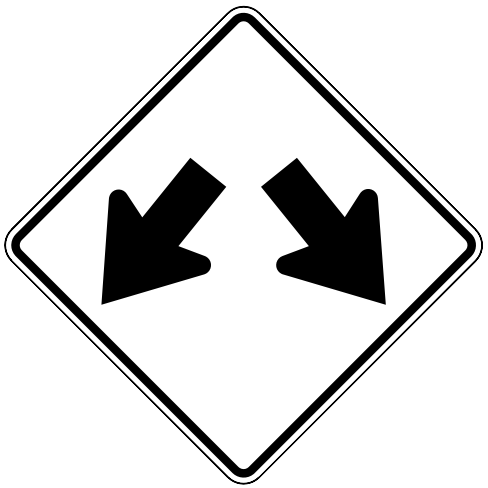
ORIGINALLY APPROVED 9-02-97

GENERAL NOTES

1. See Standard Drawing E 801-TCSN-11 for additional general notes.



XW6-3-B



XW12-1-C

XM4-9 (R or L)
XM4-9-B (R or L)

XM4-10 (R or L)

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

JUNE 1995

STANDARD DRAWING NO. **E 801-TCSN-03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	7-03-95

R2-1
R2-1-B (1)

R3-2a
R3-2c (1)

R11-2

R12-1
R12-1-A (1)

R6-1 (R or L)

R6-2-A (R or L)

R11-3

R5-1-A
R5-1-B (1)

R4-1
R4-1-B (1)

R11-4

NOTES:

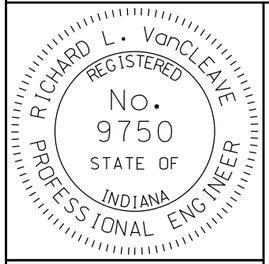
1. Signs R11-2, R11-3, R11-4, R5-1-A and R5-1-B shall be prismatic reflective sheeting background.
2. See Standard Drawing E 801-TCSN-11 for additional general notes.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGNS

SEPTEMBER 2010

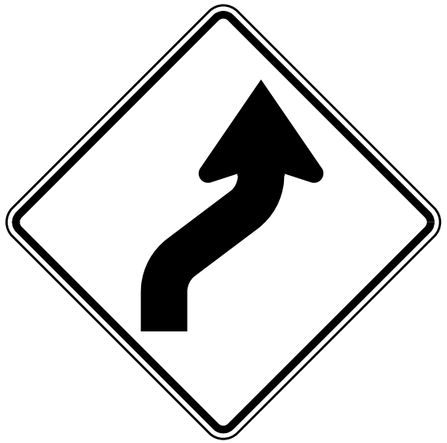
STANDARD DRAWING NO. E 801-TCSN-04



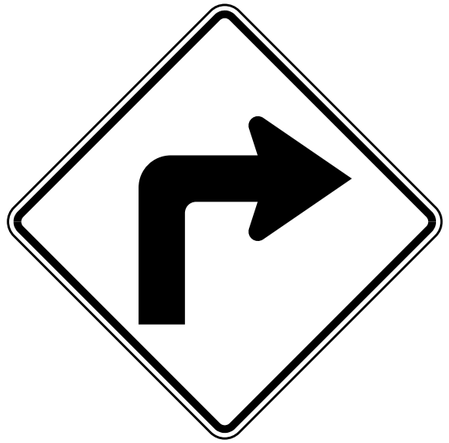
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

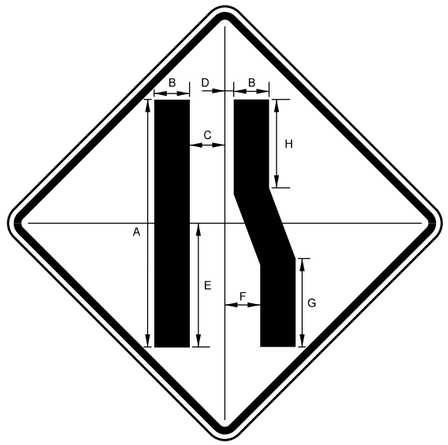
/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



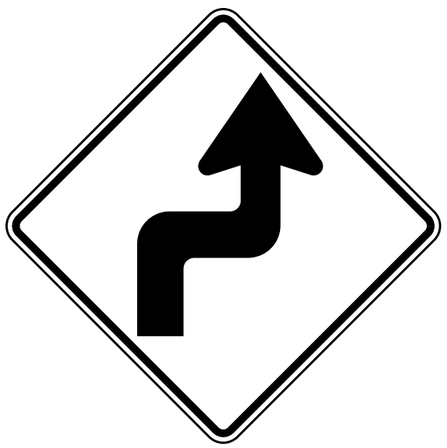
XW1-4-A (R or L)
XW1-4-B (R or L) (1)



XW1-1-A (R or L)
XW1-1-B (R or L) (1)



XW4-2 (R or L)
XW4-2-A (R or L) (1)



XW1-3-A (R or L)
XW1-3-B (R or L) (1)

XW1-2-A (R or L)
XW1-2-B (R or L) (1)

NOTE:

(1) See Standard Drawing E 801-TCSN-11 for additional general notes.

LANE ENDS		
	XW4-2	XW4-2-A
A	28	37
B	4	5 5/16
C	4	5 1/16
D	1	1 3/8
E	14	16 5/8
F	4	5 5/16
G	10	13 5/16
H	10	13 5/16

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGNS

SEPTEMBER 2010

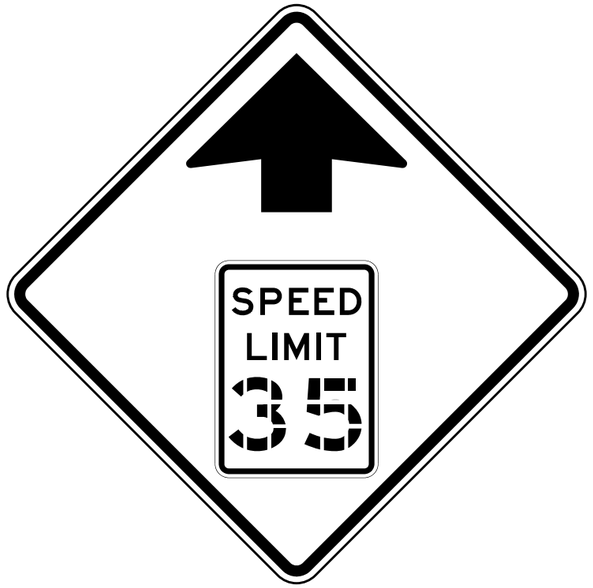
STANDARD DRAWING NO. E 801-TCSN-05

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



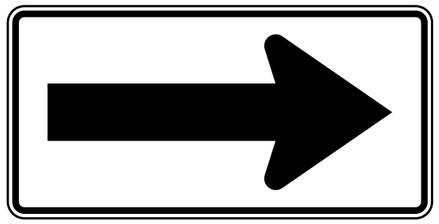
XW3-5

XW3-5a

NOTE:

(1) See Standard Drawing E 801-TCSN-11 for additional general notes.

XW13-1-A
(To be used below a warning sign only.)



XW1-6
XW1-6-A (1)

XW6-2a-A
XW6-2a-B (1)

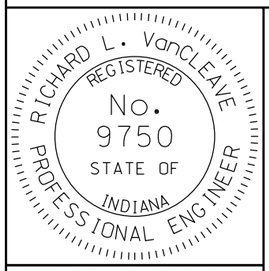
XW8-3-A

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGNS

SEPTEMBER 2011

STANDARD DRAWING NO. E 801-TCSN-06



DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

XW8-2-A
XW8-2-B (1)

XW8-6-A
XW8-6-B (1)

XW9-2-A (R or L)

XW8-1-A
XW8-1-B (1)

XW8-4-A
XW8-4-B (1)

GENERAL NOTES

1. See Standard Drawing E 801-TCSN-11 for additional general notes.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

JUNE 1995

STANDARD DRAWING NO. **E 801-TCSN-07**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 7-03-95

GENERAL NOTES

1. See Standard Drawing E 801-TCSN-11 for additional general notes.

XW105-1-A

XW109-1

XW20-1a

XW106-2-A

XW106-1-A

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

JUNE 1995

STANDARD DRAWING NO. **E 801-TCSN-08**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 7-03-95

NOTE:

(1) See Standrad Drawing E 801-TCSN-11 for additional general notes.

XW9-1-A (R or L)
XW9-1-B (R or L) (1)

XW103-1

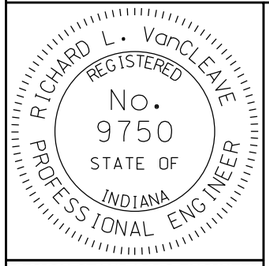
XW104-1
To be used below an
XW103-1 Sign only.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGNS

SEPTEMBER 2010

STANDARD DRAWING NO. E 801-TCSN-09



DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave *09/01/10*
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller *09/01/10*
CHIEF HIGHWAY ENGINEER DATE

XW101-1 (9) (10)
XW101-1-A (1)

XW102-1 (9)
XW102-1-A (1)

XW108-1 (10)
XW108-1-A (1)

GENERAL NOTES

1. See Standard Drawing E 801-TCSN-11 for additional general notes.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

JUNE 1995

STANDARD DRAWING NO. **E 801-TCSN-10**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 7-03-95

GENERAL NOTES:

(1) This sign shall be used on expressways, freeways, and other roadways with design speeds of 50 mph. or more.

2. The minimum vertical and horizontal clearances for construction signs shall be as on Standard Drawing E 801-TCDV-05.

3. The minimum horizontal clearance for construction signs on curbed roadway sections shall be 2'-0" from the face of the curb to the near edge of the sign.

4. The minimum depth for wood or steel posts shall be 4 ft.

5. See Standard Drawing E 801-TCDV-08 for U-Channel Steel Post Splice Detail.

(9) This sign shall be removed, covered, or turned to face away from the roadway during non-working hours.

(10) This sign may be ordered to read "500 FT", "1000 FT", or "1500 FT" in place of the word "Ahead". Such signs may be used in place of, or in conjunction with, the indicated sign.

INDIANA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SIGNS
GENERAL NOTES

SEPTEMBER 2010

STANDARD DRAWING NO. E 801-TCSN-11

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave *09/01/10*
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller *09/01/10*
CHIEF HIGHWAY ENGINEER DATE

SIGN NUMBER	SIGN MESSAGE	POST DESIGN		SIGN SIZE	SIGN COLOR		BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES-LINE 1	LETTER HEIGHT SERIES-LINE 2	LETTER HEIGHT SERIES-LINE 3	WORD OR LINE (1)	PCT. (1)	ARROW SIZE		CORNER RADIUS	NUMBER OF POSTS	
		4 x 4 WOOD	STEEL		BACKGROUND	COPY								HEAD	SHAFT		ONE	TWO
XG20-1	"Road Construction Next ____ Miles"	*	B	60 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	6 - Series C					2 1/4		X
XG20-2	"End Construction"	*	B	60 x 24	Orange	Black	1/2	3/8	6 - Series C	6 - Series C						1 1/2		X
XG20-2a	"End Road Work"	*	B	48 x 18	Orange	Black	1/2	3/8	6 - Series C	6 - Series C						1 1/2		X
XG20-4	"Pilot Car Follow Me"	--	--	36 x 18	Orange	Black	1/2	3/8	5 - Series C	5 - Series C						1 1/2		
XG20-5	(Route number or) "Lane Closed" __ (date)	*	B	48 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	6 - Series C					2 1/4		X
XG20-5-B	"Worksite" plate	--	--	48 x 16	Orange	Black	1/2	3/8	8 - Series C							1 1/2	----	----
XW20-6	"Lane Restrictions On Or After *** ** 2007	*	B	60 x 30	Orange	Black	3/4	1/2	5 - Series C	5 - Series C	4 - Series C					1 7/8		X
XW20-6a	"Lane Restrictions On Or After *** ** 2007	*	B	72 x 36	Orange	Black	7/8	5/8	6 - Series C	6 - Series C	5 - Series C					2 1/4		X
XM4-9 (R or L)	"Detour" (above black arrow)	*	A	30 x 24	Orange	Black	1/2	3/8	5 - Series D			"Detour"		7 x 8	11 x 3 1/2	1 1/2		X
XM4-9-B (R or L)	"Detour" (above black arrow)	*	B	60 x 48	Orange	Black	1 1/4	3/8	10 - Series D			"Detour"		14 3/4 x 16	21 3/4 x 7	3		X
XM4-10 (R or L)	"Detour" (inside orange arrow)	*	B	48 x 18	Black & Orange	Black	----	3/8	6 - Series D					12 x 13 3/8	29 3/4 x 8	1 1/2		X
XW1-1-A (R or L)	(Turn symbol)	*	A	36 x 36	Orange	Black	3/4	1/2						10 5/8 x 12	5 1/4	2 1/4		X
XW1-1-B (R or L)	(Turn symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4						14 1/8 x 16	7	3		X
XW1-2-A (R or L)	(Curve symbol)	*	A	36 x 36	Orange	Black	3/4	1/2						10 5/8 x 12	5 1/4	2 1/4		X
XW1-2-B (R or L)	(Curve symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4						14 1/8 x 16	7	3		X
XW1-3-A (R or L)	(Reverse turn symbol)	*	A	36 x 36	Orange	Black	3/4	1/2						10 5/8 x 12	5 1/4	2 1/4		X
XW1-3-B (R or L)	(Reverse turn symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4						14 1/8 x 16	7	3		X
XW1-4-A (R or L)	(Reverse curve symbol)	*	A	36 x 36	Orange	Black	3/4	1/2						10 5/8 x 12	5 1/4	2 1/4		X
XW1-4-B (R or L)	(Reverse curve symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4						14 1/8 x 16	7	3		X
XW1-6	(Single headed arrow)	*	B	48 x 24	Orange	Black	3/4	3/4						13 1/8 x 15	26 x 6 1/2	1 1/2		X
XW1-6-A	(Single headed arrow)	*	B	60 x 30	Orange	Black	3/4	1/2						16 3/8 x 18	32 1/2 x 8	2 1/4		X
XW4-2 (R or L)	(Lane ends merge ___ symbol)	*	A	36 x 36	Orange	Black	3/4	1/2	See Standard Sheet 3A Detours							2 1/4		X
XW4-2-A (R or L)	(Lane ends merge ___ symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4	See Standard Sheet 3A Detours							1 1/2		X
XW6-2a-A	(Divided highway ends symbol)	*	A	36 x 36	Orange	Black	3/4	1/2	5 - Series D	5 - Series D	5 - Series D					2 1/4		X
XW6-2a-B	(Divided highway ends symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series D	7 - Series D	7 - Series D					3		X
XW3-5-A	Arrow - "Speed Limit ___"	*	A	36 x 36	Orange	Black	7/8	5/8	3 - Series E	3 - Series E	12 - C					2 1/4		X
XW3-5-B	Arrow - "Speed Limit ___"	*	B	48 x 48	Orange	Black	1 1/4	3/4	4 - Series E	4 - Series E	15 C					3		X
XW3-5a-A	"___- MPH - Speed Zone Ahead"	*	A	36 x 36	Orange	Black	7/8	5/8	5 - Series C	5 - Series C	5 - Series C					2 1/2		X
XW3-5a-B	"___- MPH - Speed Zone Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C	7 - Series C					3		X

*Wood post permitted.

NOTES:

(1) Spacing between letters of this word or line shall be reduced by this percentage as shown in the FHWA document, Standard Highway Signs.

2. See Standard Drawing E 801-TCSN-11 for additional general notes.

3. All dimensions are in inches.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DESIGN DETAILS
(Sheet 1 of 2)

SEPTEMBER 2011

STANDARD DRAWING NO. E 801-TCSN-12

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

SIGN NUMBER	SIGN MESSAGE	POST DESIGN		SIGN SIZE	SIGN COLOR		BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES-LINE 1	LETTER HEIGHT SERIES-LINE 2	LETTER HEIGHT SERIES-LINE 3	WORD OR LINE (1)	PCT. (1)	ARROW SIZE		CORNER RADIUS	NUMBER OF POSTS	
		4 x 4 WOOD	STEEL		BACKGROUND	COPY								HEAD	SHAFT		ONE	TWO
XW6-3-B	(Two way traffic symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4						11 5/8 x 13 3/4	23 1/2 x 6	3		X
XW8-1-A	"Bump"	*	A	36 x 36	Orange	Black	3/4	1/2	10 - Series D							2 1/4		X
XW8-1-B	"Bump"	*	B	48 x 48	Orange	Black	1 1/4	3/4	12 - Series D							3		X
XW8-2-A	"Dip"	*	A	36 x 36	Orange	Black	3/4	1/2	10 - Series E							2 1/4		X
XW8-2-B	"Dip"	*	B	48 x 48	Orange	Black	1 1/4	3/4	12 - Series E							3		X
XW8-3-A	"Pavement Ends"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C						2 1/4		X
XW8-4-A	"Soft Shoulder"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C						2 1/4		X
XW8-4-B	"Soft Shoulder"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C						3		X
XW8-6-A	"Truck Crossing"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C						2 1/4		X
XW8-6-B	"Truck Crossing"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C						3		X
XW9-1-A (R or L)	"___ Lane Ends"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series D	6 - Series D	6 - Series D					2 1/4		X
XW9-1-B (R or L)	"___ Lane Ends"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series D	8 - Series D	8 - Series D					3		X
XW9-2-A (R or L)	"Lane Ends Merge ___"	*	B	48 x 48	Orange	Black	1 1/4	3/4	6 - Series C	8 - Series D	8 - Series D					2 1/4		X
XW12-1-C	(Double headed arrow)	*	B	48 x 48	Orange	Black	1 1/4	3/4						12 1/2 x 15	12 x 5 1/4	3		X
XW13-1-A	"___MPH" (Advisory speed plate)	*	A	24 x 24	Orange	Black	1/2	3/8	10 - Series E	4 - Series E						1 1/2	----	----
XW20-1	"Road Construction Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C	7 - Series C	"Construction"	25			3		X
XW20-1-A	"Road Construction Ahead"	*	B	60 x 60	Orange	Black	1 1/2	1	8 - Series C	8 - Series C	8 - Series C	"Construction"	25			95		X
XW20-1a	"Road Repairs Next ___ Miles"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C	6 - Series C					3		X
XW20-2	"Detour Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series D	8 - Series D		"Detour"	25			3		X
XW20-3	"Road Closed Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series D	7 - Series D	7 - Series D					3		X
XW20-4	"One Lane Road Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C	7 - Series C					3		X
XW20-5 (R, C, or L)	"___ Lane Closed Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	6 - Series C	6 - Series C	6 - Series C		2			3		X
XW20-7a-A	(Flagger symbol)	*	B	48 x 48	Orange	Black	1 1/4	3/4								1 1/2		X
XW21-1a	(Workers symbol)	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series D							2 1/4		X
XW21-2	"Fresh Oil"	*	A	30 x 30	Orange	Black	3/4	3/8	6 - Series D	6 - Series D		"Fresh"	2/4			1 7/8	X	
XW21-2-A	"Fresh Oil"	*	A	36 x 36	Orange	Black	3/4	1/2	7 - Series D	7 - Series D		"Fresh"	3/4			2 1/4		X
XW21-3-A	"Road Machinery Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series D	7 - Series D	7 - Series D	"Machinery"	25			3		X
XW21-4-A	"Road Work Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series D	7 - Series D	7 - Series D					3		X
XW21-5-A	"Shoulder Work"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C		"Shoulder"	1			2 1/4		X
XW21-6-A	"Survey Crew"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C						2 1/4		X

*Wood post permitted.

NOTES:

(1) Spacing between letters of this word or line shall be reduced by this percentage as shown in the FHWA document, Standard Highway Signs.

2. See Standard Drawing E 801-TCSN-11 for additional general notes.

3. All dimensions are in inches.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DESIGN DETAILS
(sheet 2 of 2)

SEPTEMBER 2011

STANDARD DRAWING NO. E 801-TCSN-12A

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

SIGN NUMBER	SIGN MESSAGE	POST DESIGN		SIGN SIZE	SIGN COLOR		BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES-LINE 1	LETTER HEIGHT SERIES-LINE 2	LETTER HEIGHT SERIES-LINE 3	LETTER HEIGHT SERIES-LINE 4	ARROW SIZE		CORNER RADIUS	NO. OF POSTS	
		4 x 4 WOOD	STEEL		BACKGROUND	COPY							HEAD	SHAFT		ONE	TWO
XW101-1	"Mowing Crews Ahead"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	6 - Series C				2 1/4		X
XW101-1-A	"Mowing Crews Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C	8 - Series C				3		X
XW102-1	"Mowing Crews Next ___ Miles"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	4 - Series C	4 - Series C			2 1/4		X
XW102-1-A	"Mowing Crews Next ___ Miles"	*	B	48 x 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C	6 - Series C	6 - Series C			3		X
XW103-1	"Watch For Stopped Traffic"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C	7 - Series C				3		X
XW104-1	"Overhead Sign Installation"	*	B	60 x 24	Orange	Black	1/2	3/8	6 - Series C	6 - Series C					1 1/2		X
XW105-1-A	"Right Lane Exit Open"	*	B	48 x 48	Orange	Black	1 1/4	3/4	6 - Series C	6 - Series C					3		X
XW106-1-A	"Exit Closed"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C					3		X
XW106-2-A	"Exit Open"	*	B	48 x 48	Orange	Black	1 1/4	3/4	7 - Series C	7 - Series C					3		X
XW108-1	"Utility Work Ahead"	*	A	36 x 36	Orange	Black	3/4	1/2	6 - Series D	6 - Series D	6 - Series D				2 1/4		X
XW108-1-A	"Utility Work Ahead"	*	B	48 x 48	Orange	Black	1 1/4	3/4	6 - Series C	6 - Series C	6 - Series C				3		X
XW109-1	"Exit" (above black arrow)	*	B	48 x 48	Orange	Black	1 1/4	3/4	12 - Series D						3		X
R2-1	"Speed limit _____"	*	A	24 x 30	White	Black	1/2	3/8	4 - Series E	4 - Series E	10 - Series E				1 1/2	X	
R2-1-B	"Speed limit _____"	*	B	48 x 60	White	Black	1 1/4	3/4	8 - Series E	8 - Series E	16 - Series E				3		X
R3-2-A (R or L)	(No ___ turn symbol)	*	A	30 x 30	White	Black	3/4	3/8							2	X	
R3-2-C (R of L)	(No ___ turn symbol)	*	B	48 x 48	White	Black	1 1/4	3/4							3		X
R4-1	"Do Not Pass"	*	A	24 x 30	White	Black	1/2	3/8	6 - Series D	6 - Series D	5 - Series D				1 7/8	X	
R4-1-B	"Do Not Pass"	*	B	48 x 60	White	Black	1 1/4	3/4	10 - Series D	10 - Series D	10 - Series D				3		X
R5-1-A	"Do Not Enter" (inside symbol)	*	A	36 x 36	Red	White	Radius 17 1/2		5 - Series D	6 x 30 Bar	5 - Series D				2 1/4		X
R5-1-B	"Do Not Enter" (inside symbol)	*	B	48 x 48	Red	White	Radius 23 1/2		6 - Series D	8 x 40 Bar	6 - Series D				3		X
R6-1 (R or L)	"One Way" (inside white arrow)	*	A	36 x 36	Black & White	Black	----	3/8	4 - Series D				7 1/2 x 8 1/2	22 1/4 x 5 1/4	1 1/2		X
R6-2-A (R or L)	"One Way" (above black arrow)	*	A	24 x 30	White	Black	1/2	3/8	6 - Series D	6 - Series D			5 1/4 x 6	8 x 2 1/4	1 1/2	X	
R11-2	"Road Closed"	*	B	48 x 30	White	Black	3/4	3/8	8 - Series D	8 - Series D					1 7/8		X
R11-3	"Road Closed ____ Miles Ahead "Local Traffic Only"	*	B	60 x 30	White	Black	3/4	3/8	6 - Series C	5 - Series C	4 - Series C				1 7/8		X
R11-4	"Road Closed To Thru Traffic"	*	B	60 x 30	White	Black	3/4	3/8	6 - Series C	5 - Series C	6 - Series C				1 7/8		X
R12-1	"Weight Limit ____Tons"	*	A	24 x 30	White	Black	1/2	3/8	4 - Series D	4 - Series D	5 - Series E	5 - Series D			1 1/2	X	
R12-1-A	"Weight Limit ____Tons"	----	B	36 x 48	White	Black	3/4	1/2	6 - Series D	6 - Series D	8 - Series E	10 - Series D			2 1/4		X
S 4-4	"When Flashing" plaque	*	----	48 x 20	White	Black	1/2	3/8	5 - Series D	5 - Series D					1 1/2	----	----
R2-Y12	"End Work Site Speed Limit"	*	A	24 x 36	White	Black	1/2	3/8	4 - Series D	4 - Series D	4 - Series D	4 - Series D			1 1/2	X	
R2-Y12-B	"End Work Site Speed Limit"	*	B	36 x 54	White	Black	1 1/4	3/4	6 - Series D	6 - Series D	6 - Series D	6 - Series D			3		X

* Wood post permitted.

NOTES:

1. See Standard Drawing E 801-TCSN-11 for General Notes.
2. All dimensions are in inches.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DESIGN DETAILS

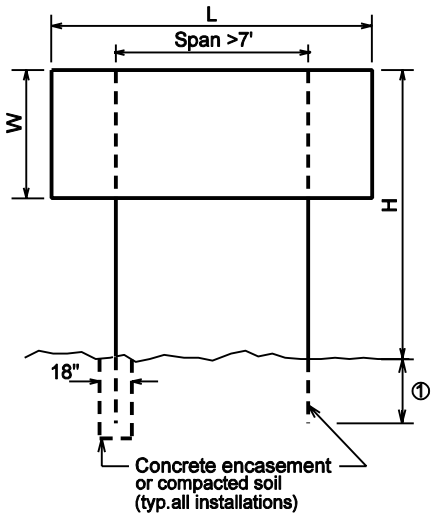
SEPTEMBER 2012

STANDARD DRAWING NO. E 801-TCSN-13

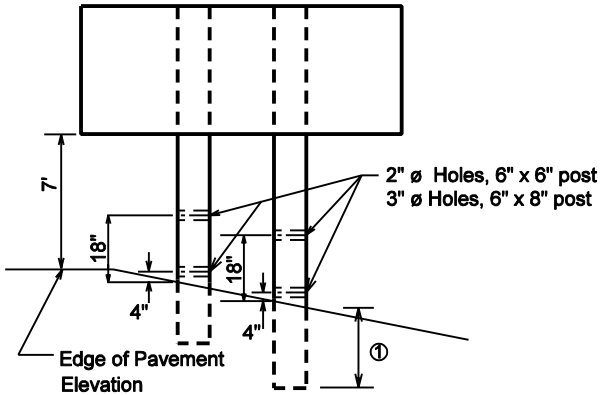
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



2 - Post Installation

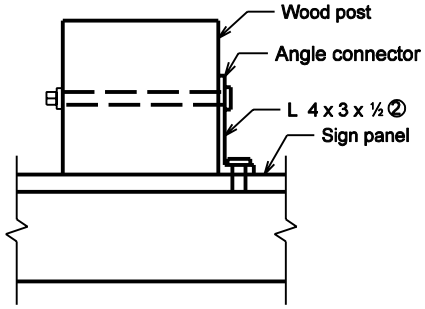


NOTES

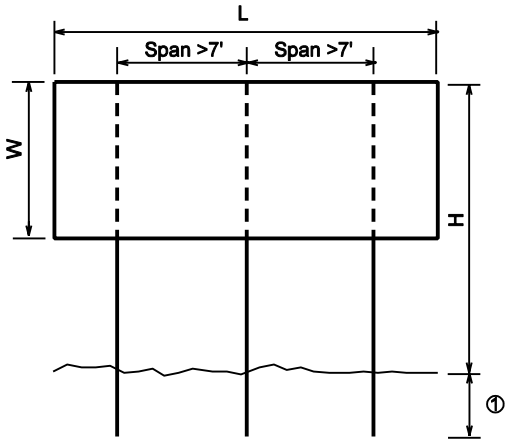
① This dimension is H/10 + 3 feet or a minimum of 5 feet.

② The length of each of these pieces equals W.

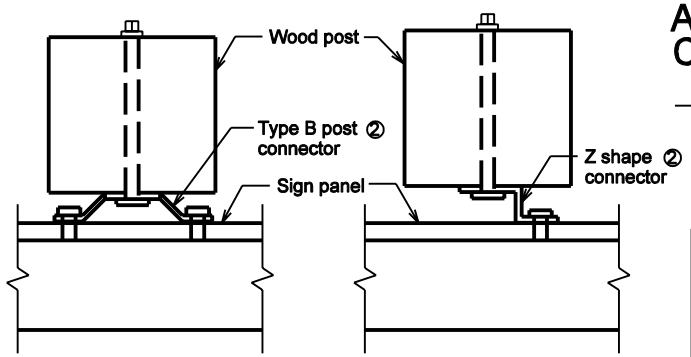
3. See standard drawing E 801-TCSN-15 for post size and number of posts required.



ANGLE SHAPE CONNECTION DETAIL



3 - Post Installation



TYPE B POST CONNECTION DETAIL

Z SHAPE CONNECTION DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY PANEL SIGN BREAK-AWAY POST INSTALLATION

MARCH 2002

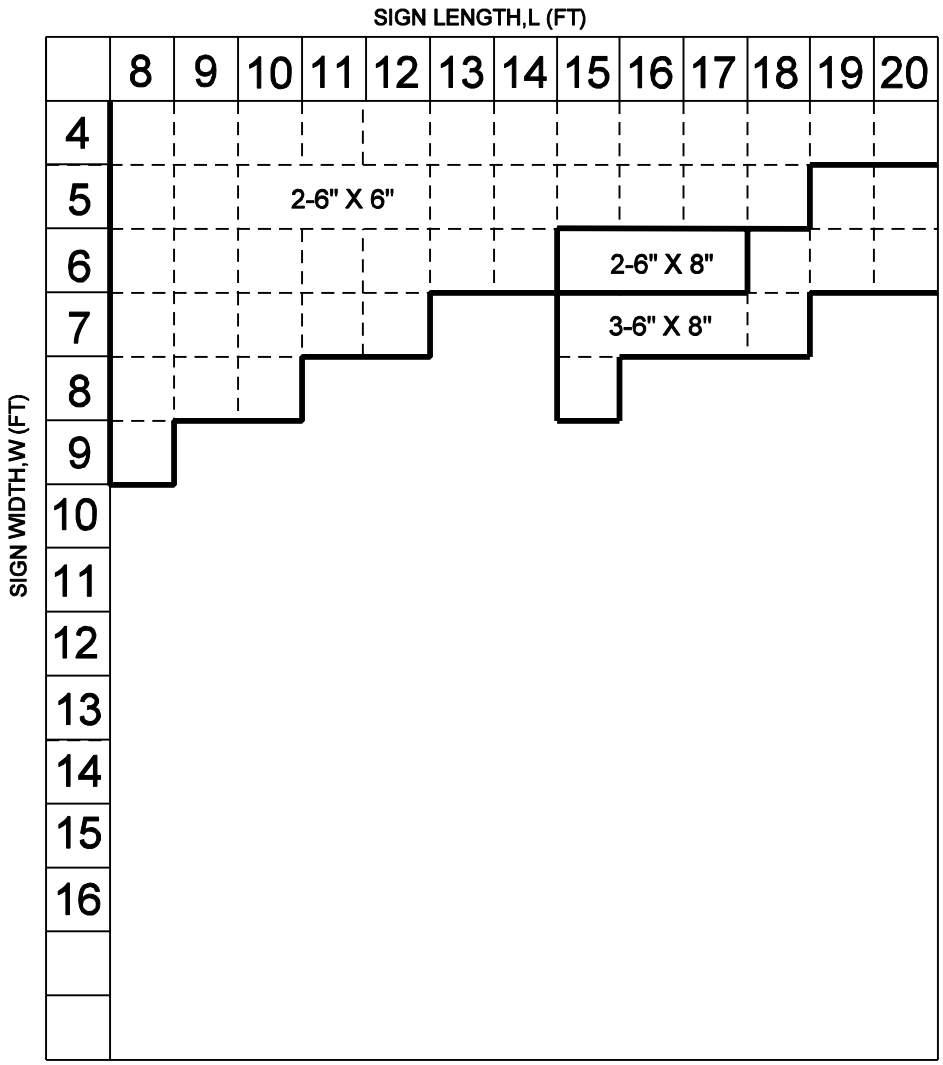
STANDARD DRAWING NO. E 801-TCSN-14

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — DESIGN STANDARDS ENGINEER — 3-01-02 DATE

/s/ Richard K. Smulzer — CHIEF HIGHWAY ENGINEER — 3-01-02 DATE



NOTES:

No more than one post can be located in a 7 foot wide path.

INDIANA DEPARTMENT OF TRANSPORTATION

WOOD POST DESIGN FOR TEMPORARY PANEL SIGNS

MARCH 2002

STANDARD DRAWING NO. E 801-TCSN-15

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

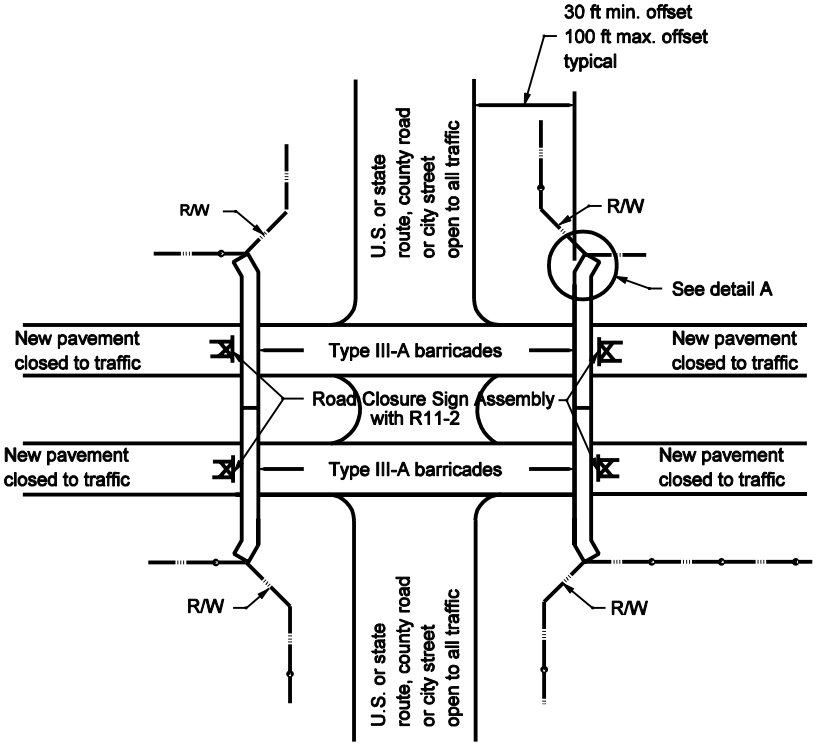
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-02
DESIGN STANDARDS ENGINEER DATE

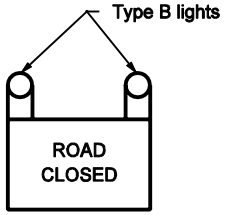
/s/ Richard K. Smutzer 3-01-02
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

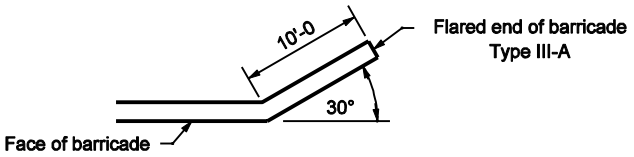
1. See Standard Drawing E 801-TCLG-01 for General Notes and Legend.



TEMPORARY CLOSURE OF BOTH NEW LANES OF PAVEMENT OF A DUAL LANE FACILITY



R 11-2



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CLOSURES

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-01

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

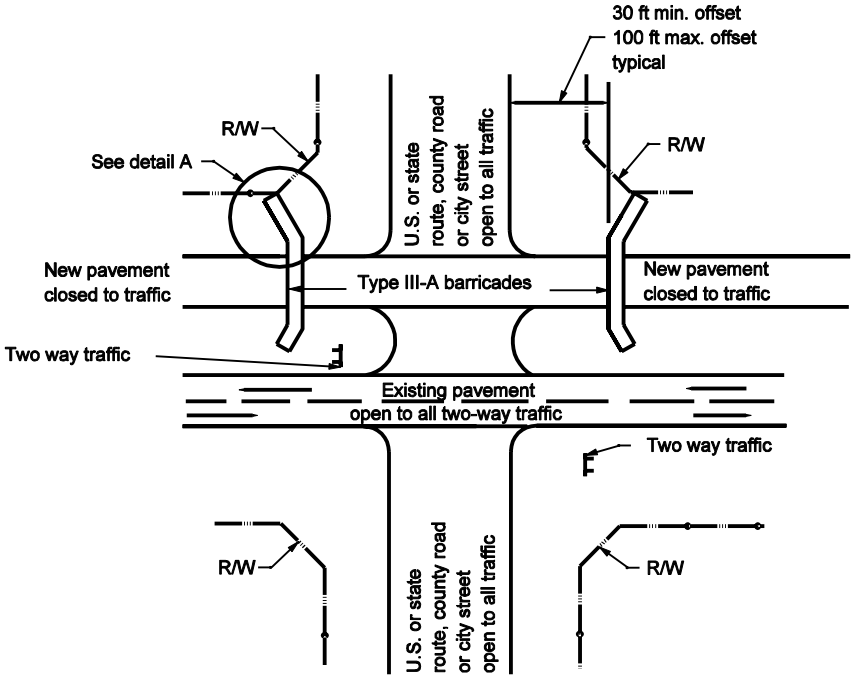
DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

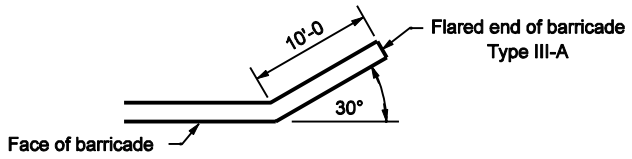
/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

1. See Standard Drawing E 801-TCLG-01 for General Notes and Legend.



TEMPORARY CLOSURE OF ONE NEW LANE OF PAVEMENT OF A DUAL LANE FACILITY



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CLOSURES

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-02

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

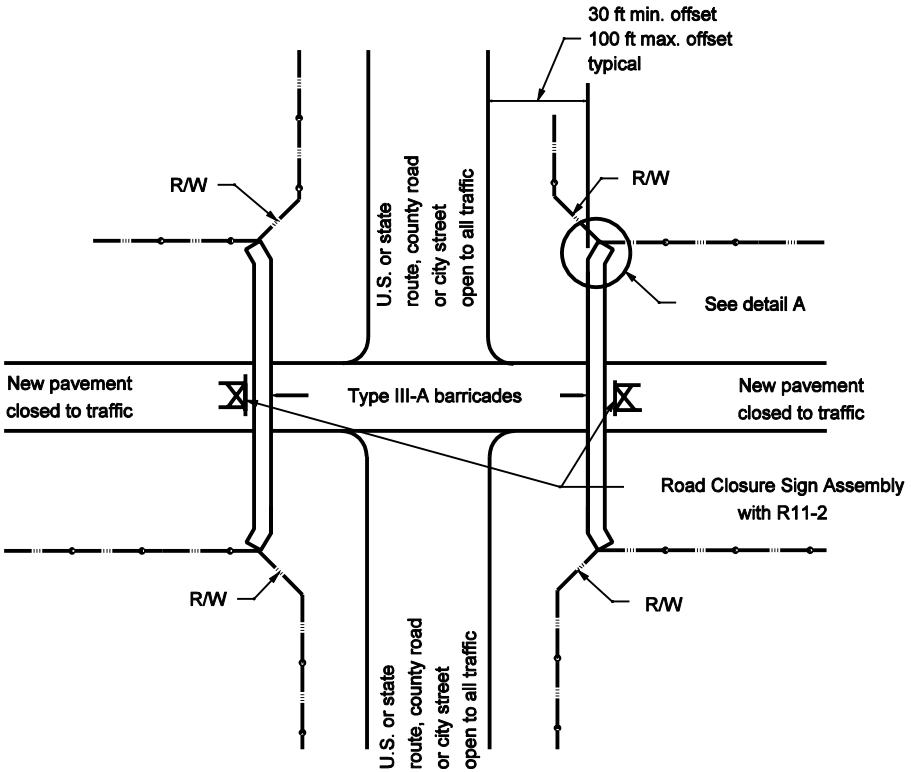
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

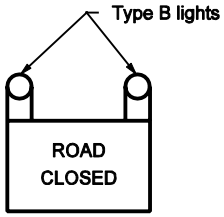
/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

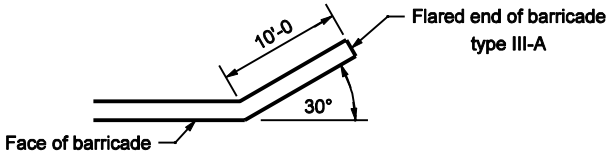
1. See Standard Drawing E 801-TCLG-01 for General Notes and Legend.



TEMPORARY CLOSURE OF NEW PAVEMENT



R 11-2



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CLOSURES

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-03

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

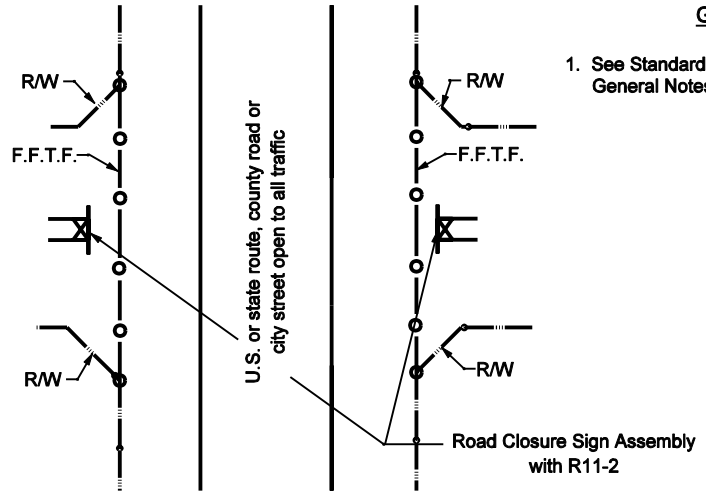
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

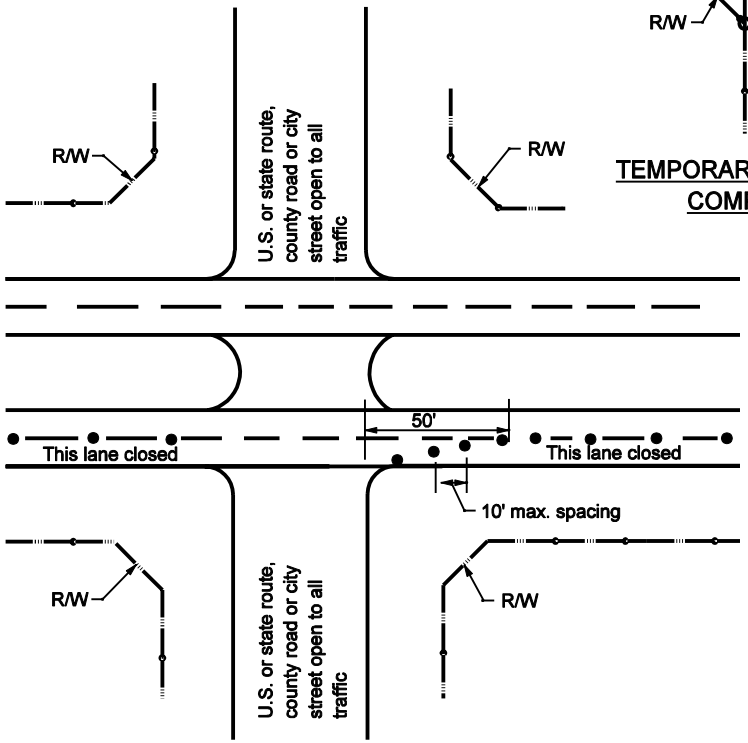
/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

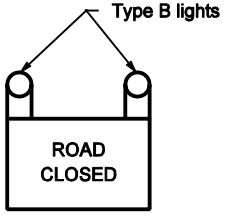
1. See Standard Drawing E 801-TCLG-01 for General Notes and Legend.



TEMPORARY CLOSURE FOR PROJECT FOLLOWING COMPLETION OF GRADING CONTRACT



TEMPORARY CLOSURE OF A SINGLE LANE OF A DUAL LANE FACILITY



R 11-2

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CLOSURES

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-04

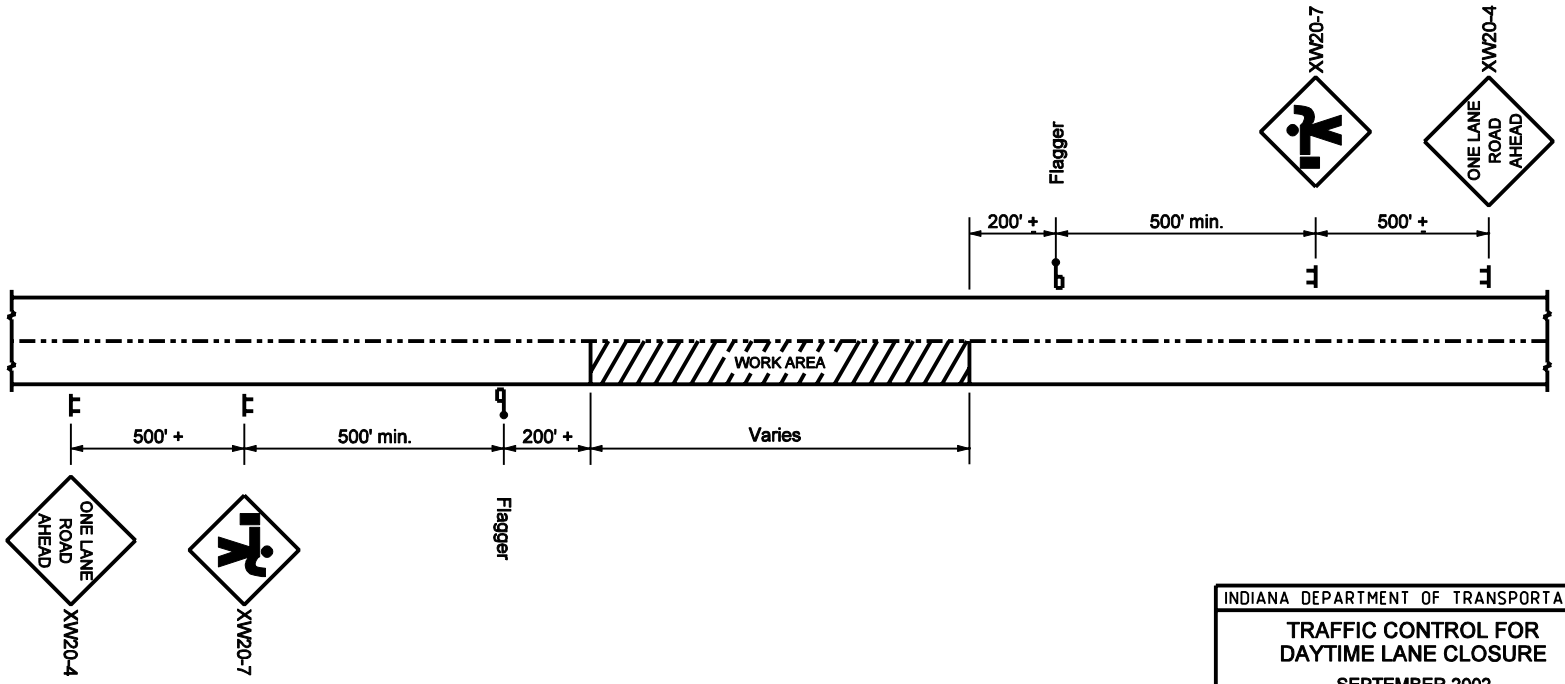
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. See Standard Drawing E 801-TCLG-01 for Legend and General Notes.
2. See Standard Drawing E 801-TCDV-05 for sign mounting.



TWO-LANE ROADWAY, TWO WAY TRAFFIC

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR DAYTIME LANE CLOSURE

SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-05

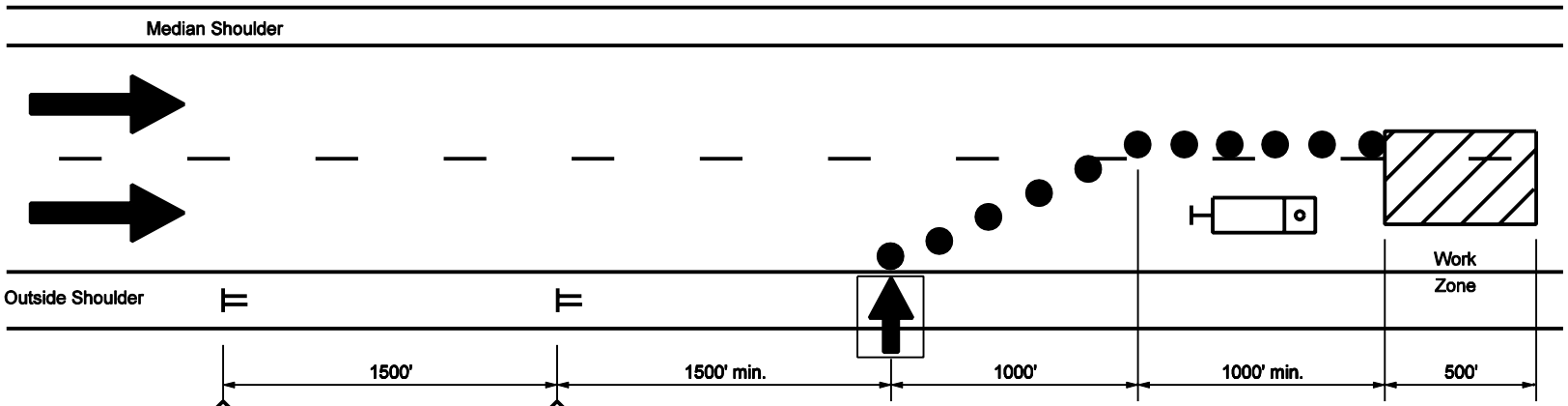
RICHARD L. VANCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

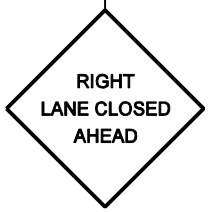
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

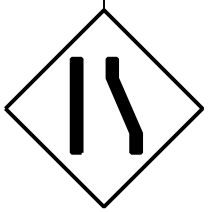
/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

MULTI-LANE DIVIDED HIGHWAY





XW20-5 (R)
(R or L)



XW4-2 (R)
(R or L)

GENERAL NOTES

1. Distances shown are approximate and may be adjusted as directed.
2. Strobe lights will be required on all vehicles.
3. 

XW103-1
Optional sign to be placed when directed.
4. Lane closure length shall be a maximum of 3 mi. as directed by Engineer to meet field conditions.
5. See Standard Drawing E 801-TCDV-01 for channelizing devices.
6. See Standard Drawing E 801-TCDV-05 for sign mounting.

LEGEND


Flashing Arrow Sign


Truck of 24,00 lb gross vehicular weight with truck mounted attenuator

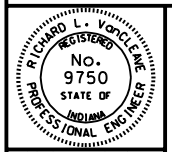
Channelizing device

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENCE OF TRAFFIC FOR RPM CASTING INSTALLATION

SEPTEMBER 2002

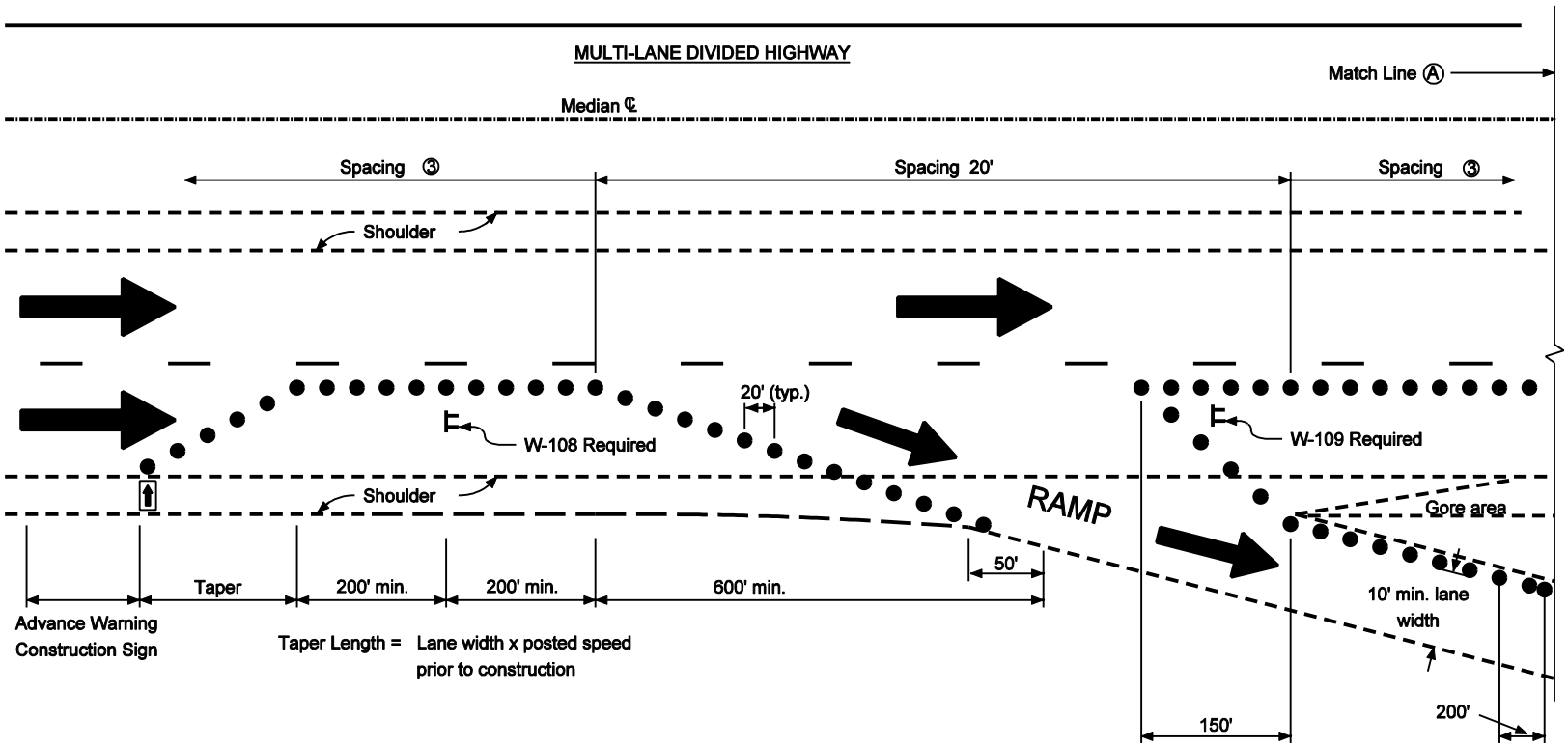
STANDARD DRAWING NO. E 801-TCTC-06



DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



LEGEND

- ● Cones for daytime operations
  Drums for nighttime operations
- ⬅ Flashing arrow sign

TRAFFIC MAINTENANCE PROCEDURE

1. The right lane shall be closed for the full length of the interchange before deceleration lane and/or gore area work begins.
2. Traffic shall be maintained on all exit and entrance ramps.
3. See Standard Drawing E 801-TCLG-01 for cone and drum spacing.
4. Distances shown are approximate and may be adjusted as directed.
5. See Standard Drawing E 801-TCTC-08 for Match Line Ⓐ.

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC FOR RPM CASTING REPLACEMENT

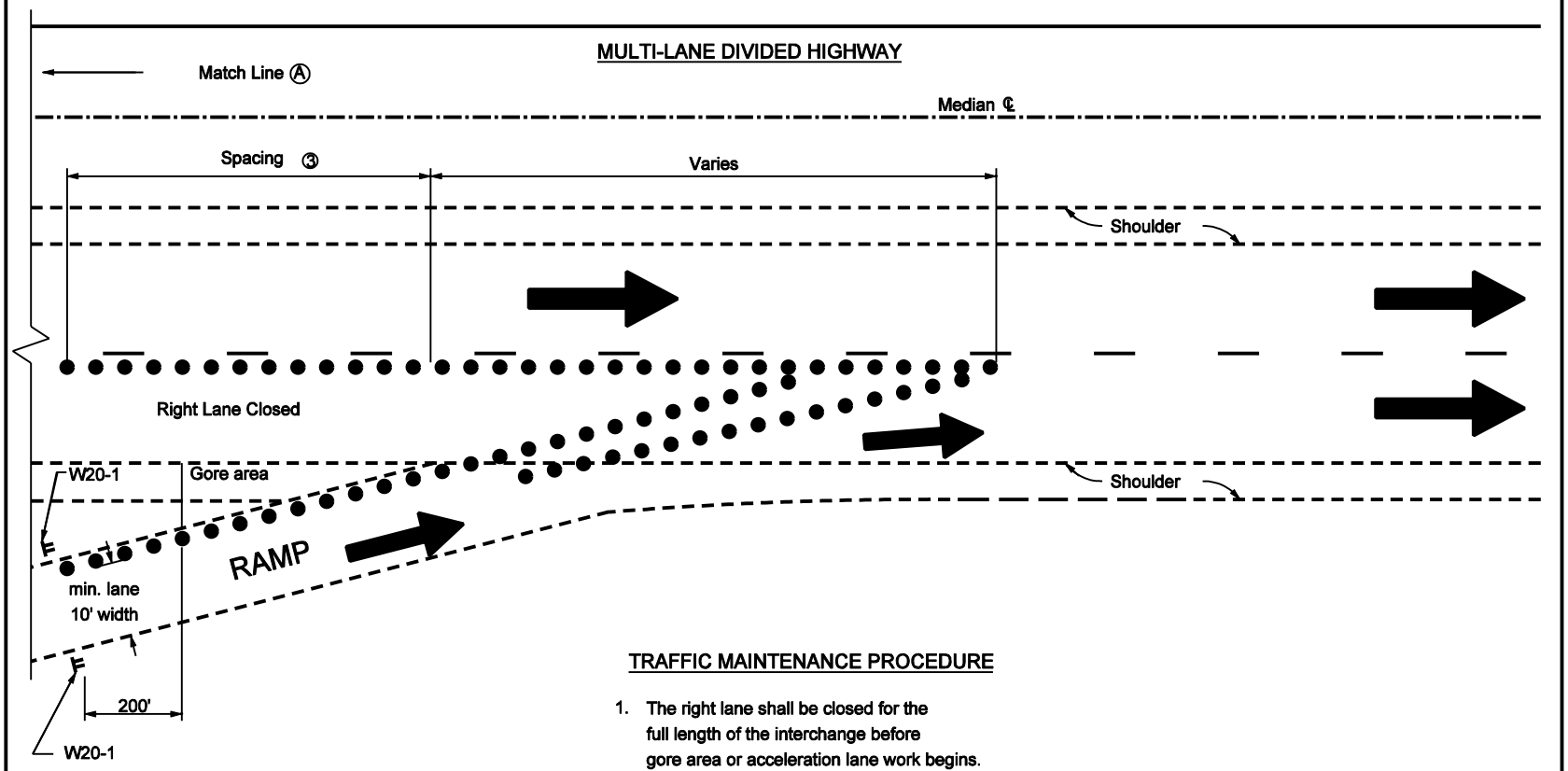
SEPTEMBER 2002

STANDARD DRAWING NO. E 801-TCTC-07

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

/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smulzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



TRAFFIC MAINTENANCE PROCEDURE

1. The right lane shall be closed for the full length of the interchange before gore area or acceleration lane work begins. The right lane closure shall not to extend through two adjacent interchanges.
2. Traffic shall be maintained on all exit and entrance ramps.
3. See Standard Drawing E 801-TCLG-01 for cone and drum spacing.
4. Distances shown are approximate and may be adjusted as directed.
5. See Standard Drawing E 801-TCTC-07 for Match Line Ⓐ .

LEGEND

● Cones for daytime operations
Drums for nighttime operations

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTAINCE OF TRAFFIC FOR RPM CASTING REPLACEMENT

SEPTEMBER 2002

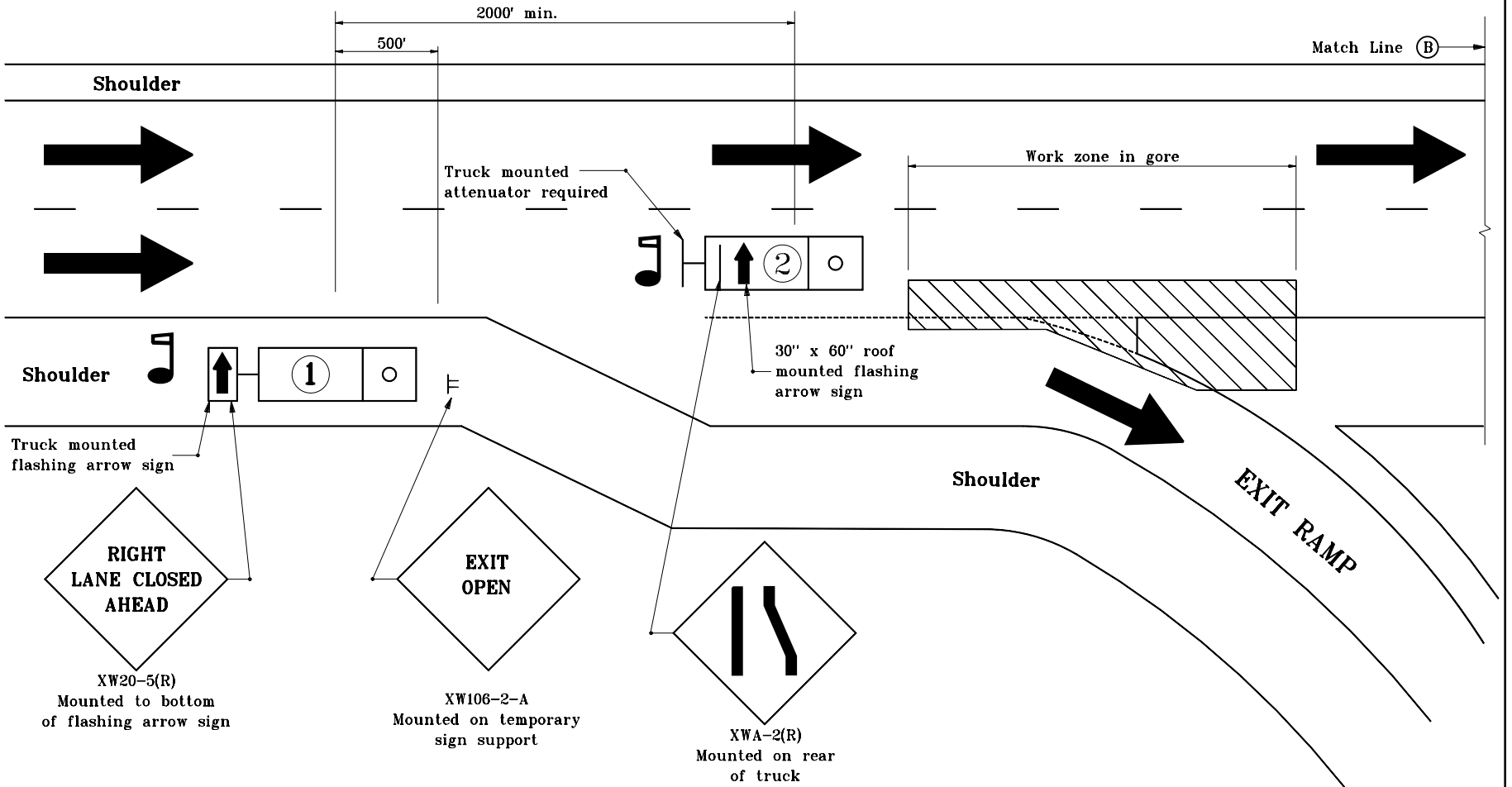
STANDARD DRAWING NO. E 801-TCTC-08

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

/s/ Richard L VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smulzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

MULTI–LANE DIVIDED HIGHWAY



GENERAL NOTES

1. Flaggers shall be used while trucks are stopped.
2. Strobe lights shall be used on all vehicles.
3. Distances shown are approximate and may be adjusted as directed.

LEGEND

- Flagger
- Truck which may be a pickup
- Truck which shall be 24,000 lb GVW or greater

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC FOR RPM REFLECTOR REPLACEMENT

MAY 2000

STANDARD DRAWING NO. **E 801–TCTC–09**

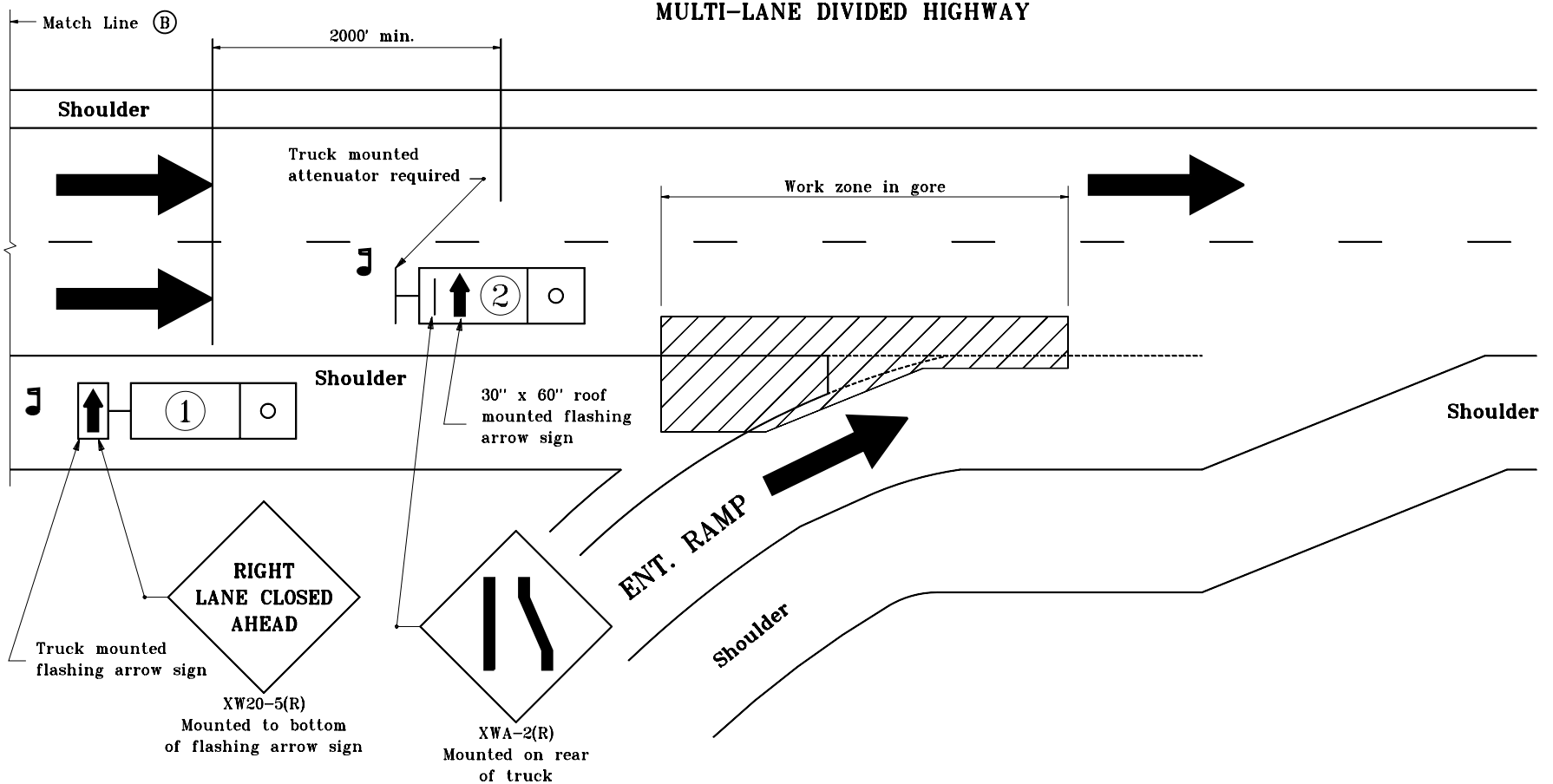
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 5–01–00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 5–01–00
CHIEF HIGHWAY ENGINEER — DATE

MULTI–LANE DIVIDED HIGHWAY



GENERAL NOTES

1. Flaggers shall be used while trucks are stopped.
2. Strobe lights shall be used on all vehicles.
3. Distances shown are approximate and may be adjusted as directed.

LEGEND

Flagger

Truck which may be a pickup

Truck which shall be 24,000 lb GVM or greater

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC FOR RPM REFLECTOR REPLACEMENT

MAY 2000

STANDARD DRAWING NO. **E 801–TCTC–10**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 5–01–00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 5–01–00
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES:

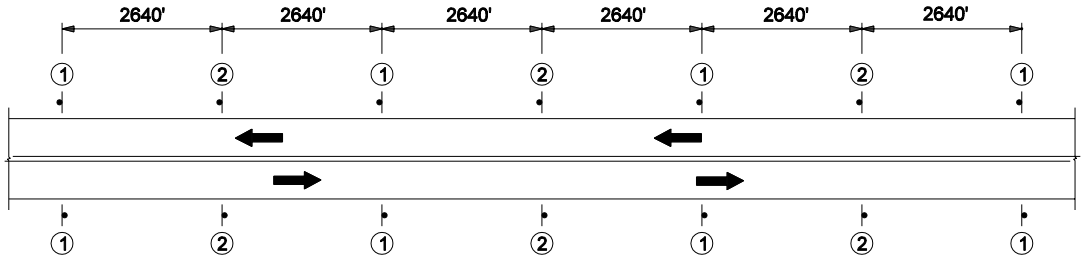
1. Signing pattern typical both sides of roadway, for each direction of travel.
2. See Standard Drawing E 801-TCDV-01 for tubular marker details.

LEGEND

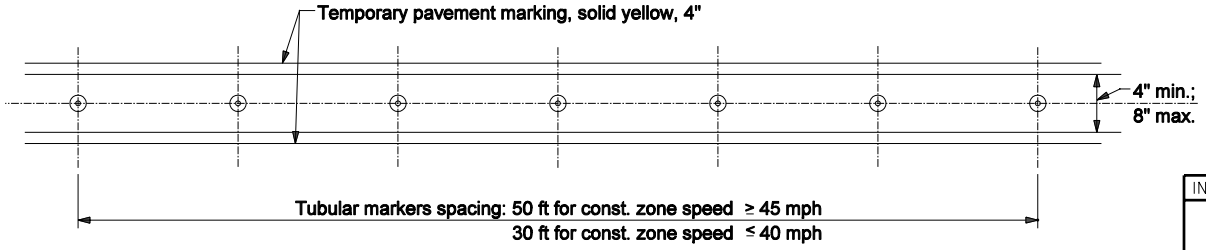
① R4-1-B "Do Not Pass"

② XW6-3 two-way traffic symbol

◯ Tubular markers



CONSTRUCTION SIGNS LOCATION DETAIL



TUBULAR MARKERS ALONG CENTERLINE OF PAVEMENT LAYOUT

TWO LANE, TWO WAY OPPOSING TRAFFIC

INDIANA DEPARTMENT OF TRANSPORTATION

TUBULAR MARKER DELINEATION

MARCH 2006

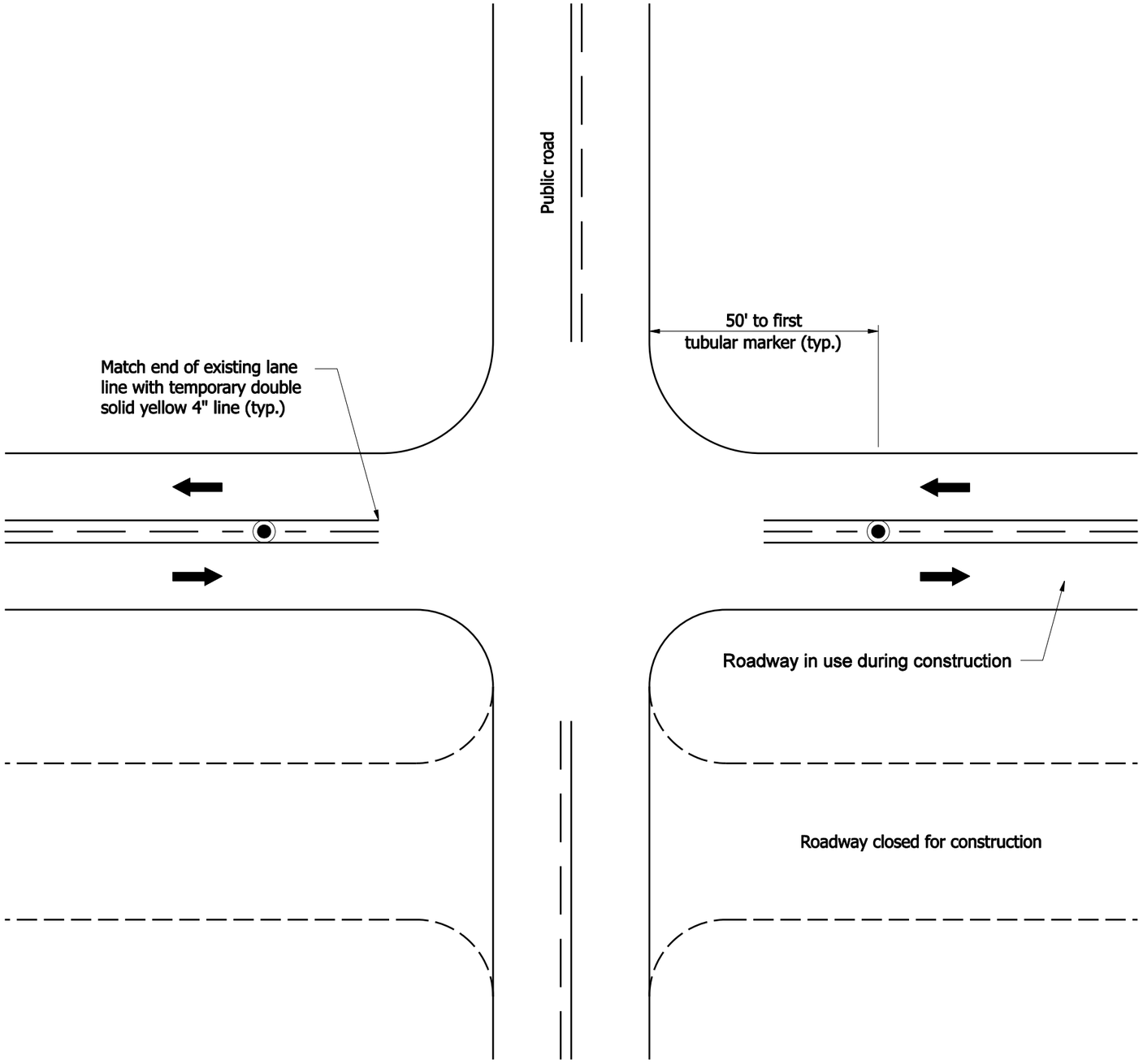
STANDARD DRAWING NO. E 801-TCTC-11

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



GENERAL NOTES:

1. See Standard Drawing E 801-TCDV-01 for tubular marker details.

LEGEND

Tubular markers

INDIANA DEPARTMENT OF TRANSPORTATION

TUBULAR MARKER DELINEATION AT INTERSECTION

SEPTEMBER 2007

STANDARD DRAWING NO. E 801-TCTC-12

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/04/07
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/04/07
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES :

① Shoulder cross slope in superelevated section shall be as follows:

Where the high side is on the outside of the curve:

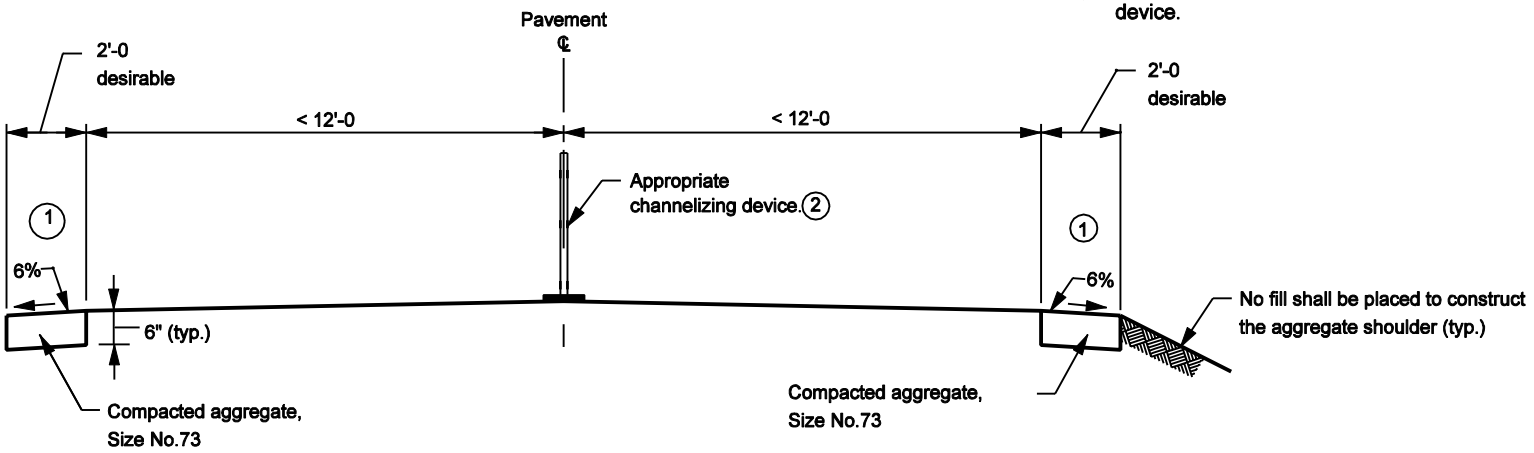
4% ↘ for horizontal curve radius R ≥ 3820 ft

2% ↘ for 2870 ft ≤ R ≤ 3820 ft

Where the high side of the superelevated pavement is on the median side of the curve; maintain adjacent travel lane's superelevation transition rate or superelevation rate.

The low side of a superelevated pavement shall maintain the adjacent travel lane's superelevation transition rate or superelevation rate.

② See Standard Drawing 801-TCDV-01 for channelizing device.



INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY SHOULDER FOR TRAFFIC MAINTENANCE

SEPTEMBER 2002

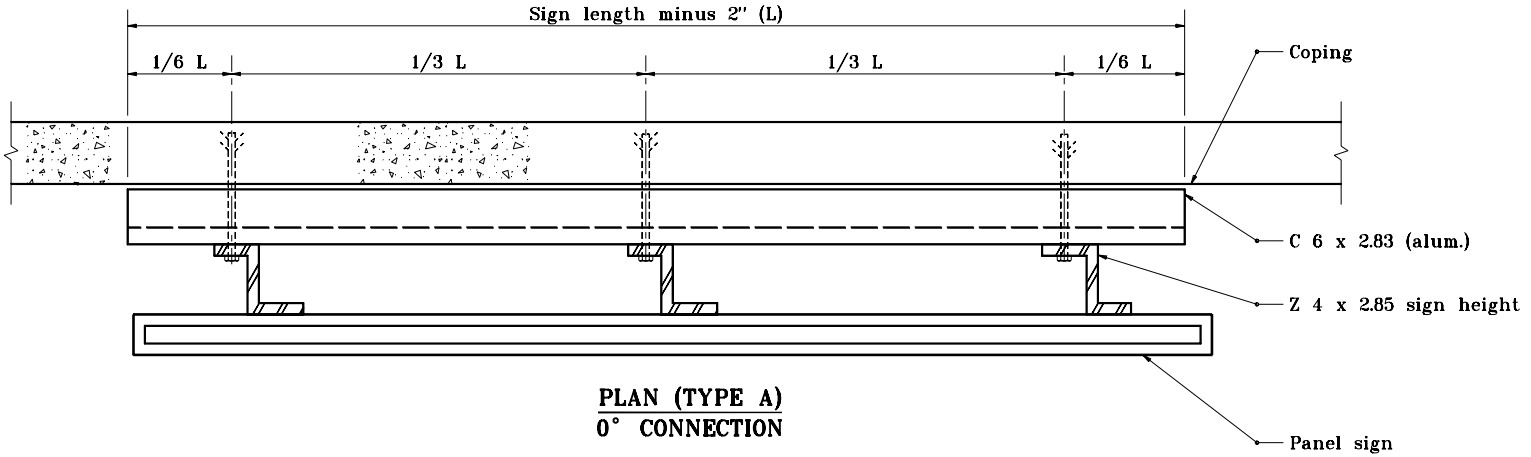
STANDARD DRAWING NO. E 801-TCTS-01

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

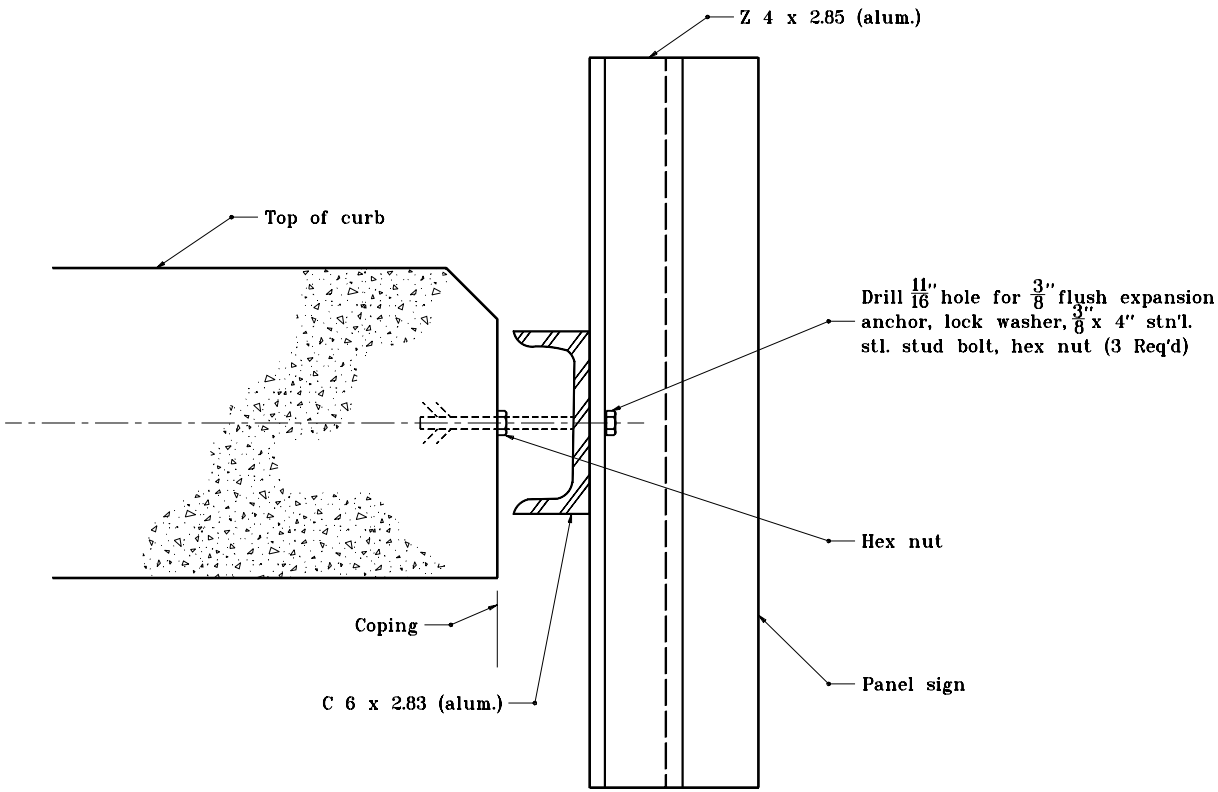
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



PLAN (TYPE A)
0° CONNECTION



SECTION A–A

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE BRACKET ASSY. FOR CROSSROAD SIGNING

SEPTEMBER 2001

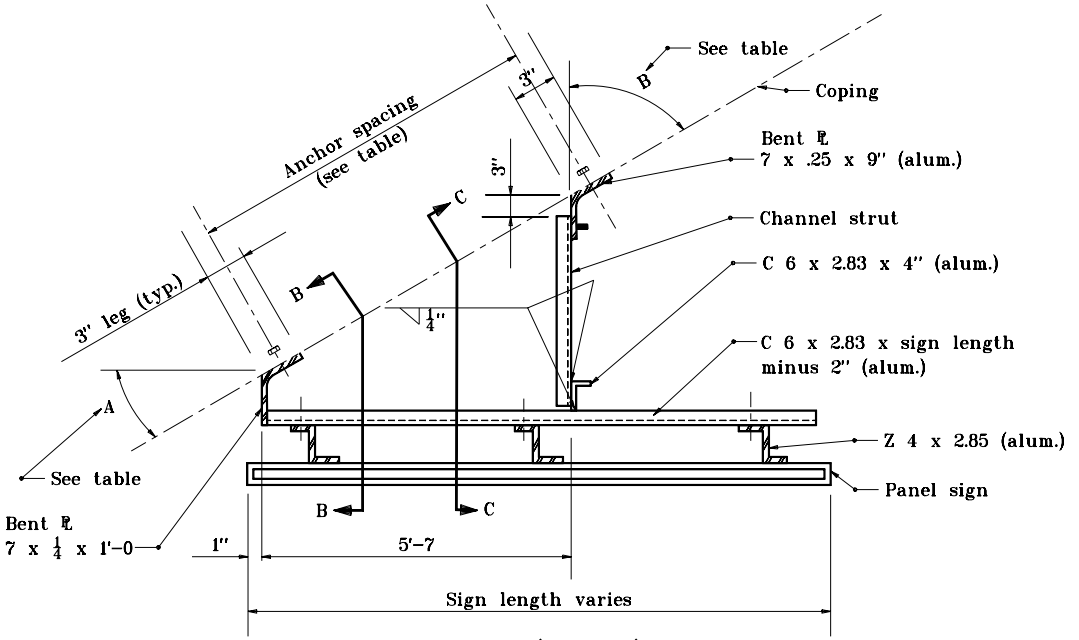
STANDARD DRAWING NO. **E 802–SNBB–01**

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

DESIGN STANDARDS ENGINEER

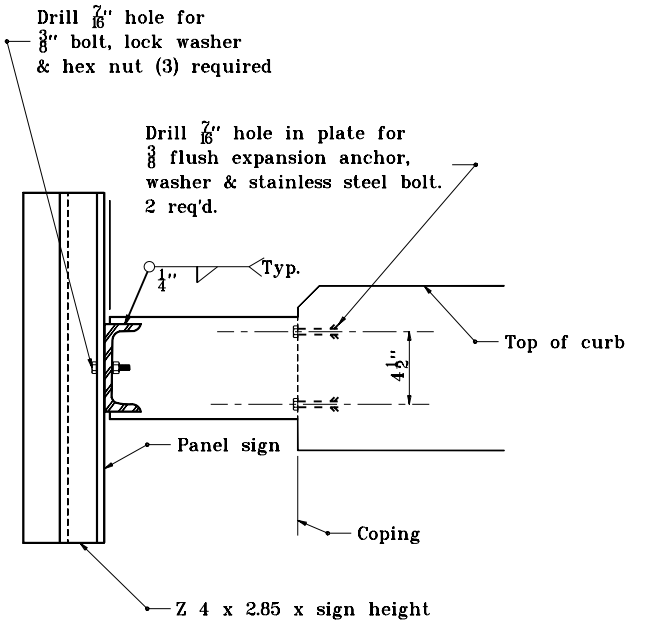
/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



PLAN (TYPE A)

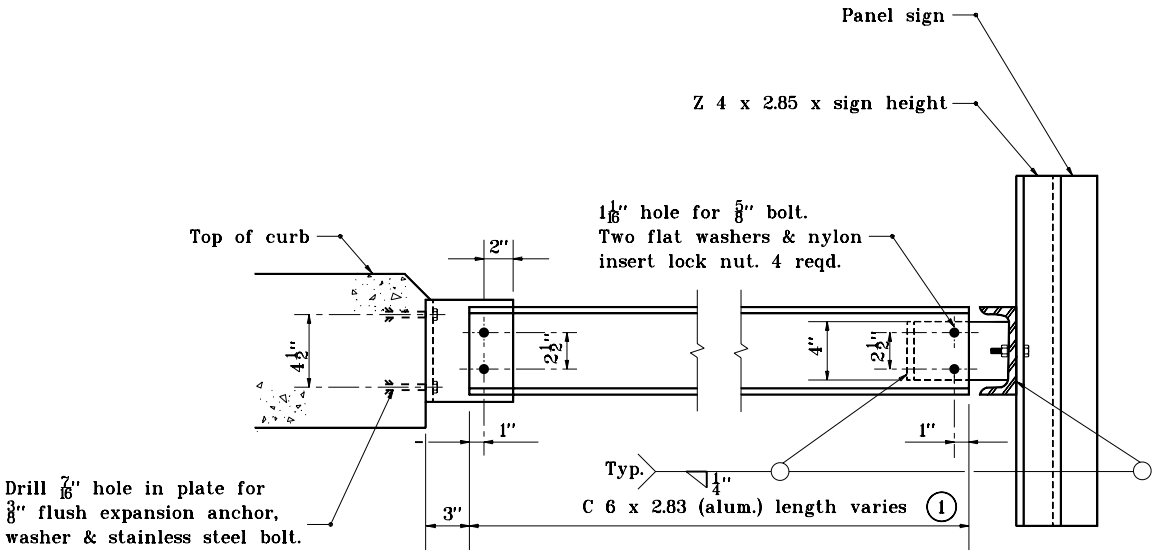
10°, 20°, 30°, & 40° CONNECTIONS



SECTION B–B

GENERAL NOTES

(1) See Standard Drawing E 802-SNBB-05 for table.



SECTION C–C

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE BRACKET ASSY. FOR CROSSROAD SIGNING

SEPTEMBER 2001

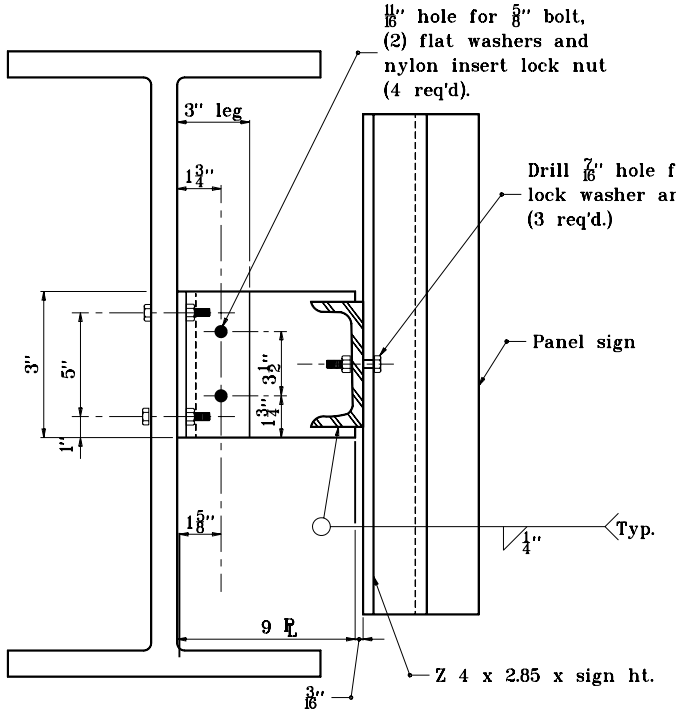
STANDARD DRAWING NO. E 802-SNBB-02

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

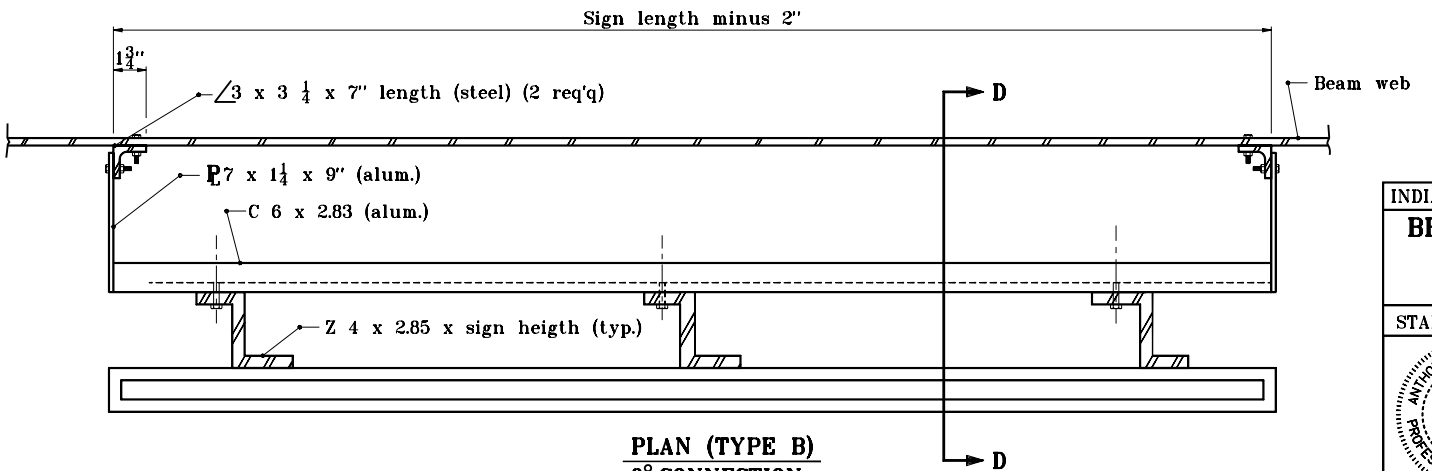
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



SECTION D–D



PLAN (TYPE B)
0° CONNECTION

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE BRACKET ASSY. FOR CROSS–ROAD SIGNING

SEPTEMBER 2001

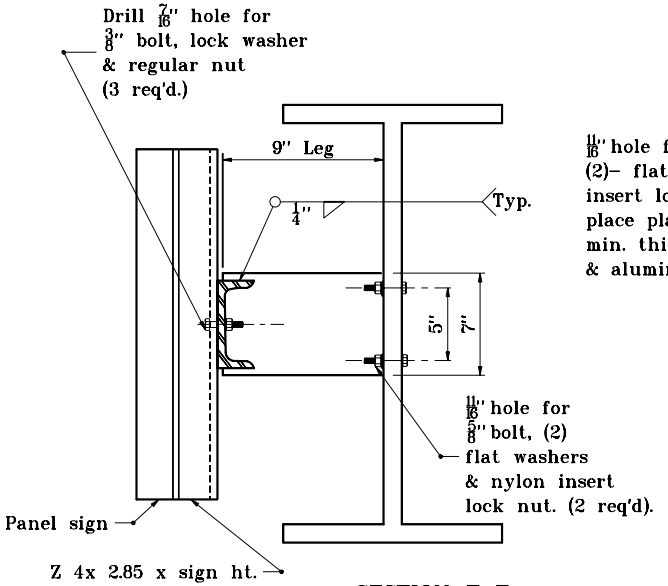
STANDARD DRAWING NO. E 802–SNBB–03

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

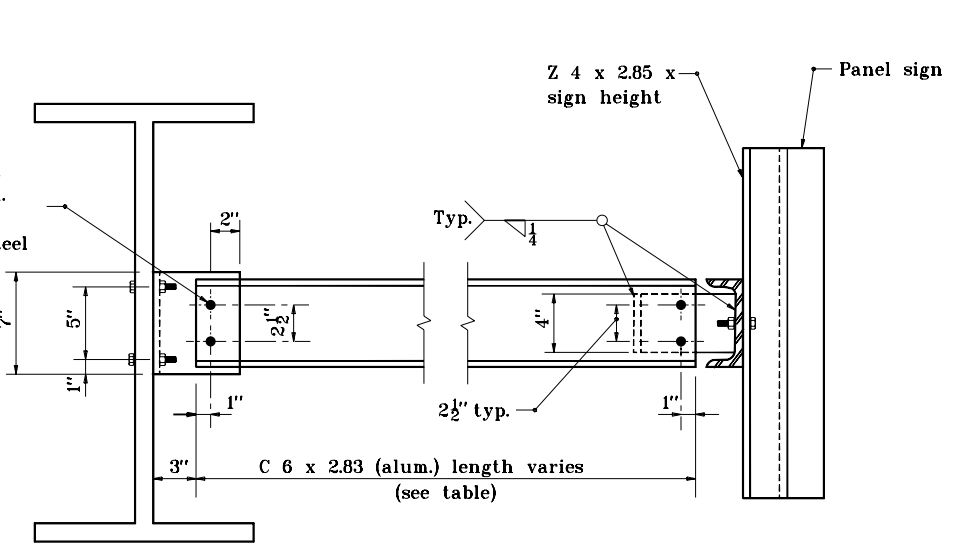
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9–04–01
DESIGN STANDARDS ENGINEER — DATE

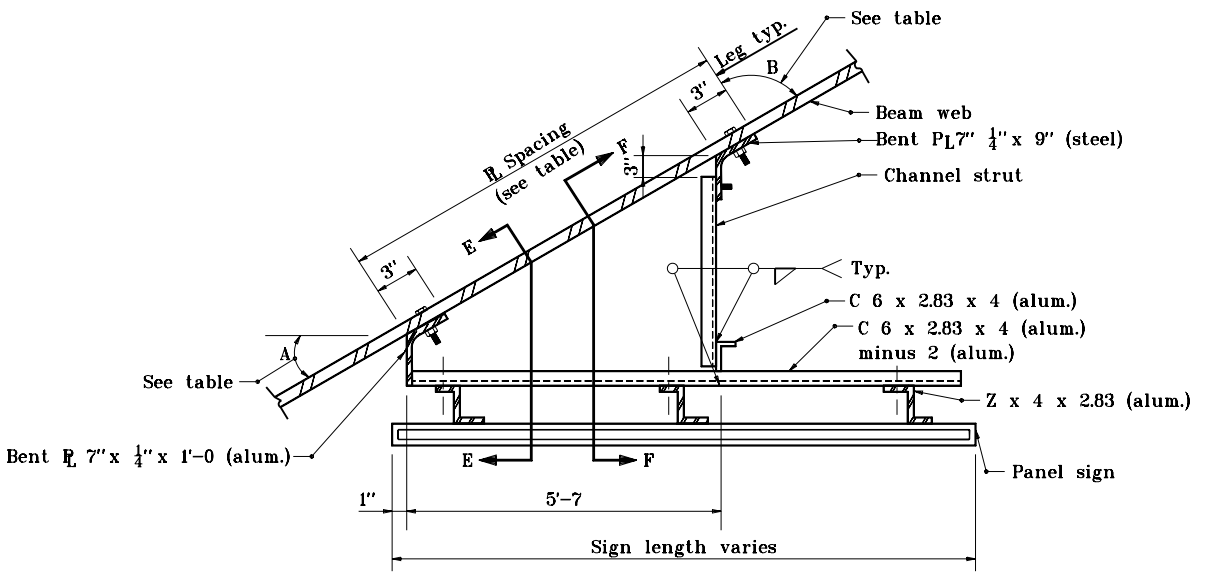
/s/ Firooz Zandi 9–04–01
CHIEF HIGHWAY ENGINEER — DATE



SECTION E–E



SECTION F–F



PLAN (TYPE B)

10°, 20°, 30°, & 40° Connections

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE BRACKET ASSY. FOR CROSSROAD SIGNING

SEPTEMBER 2001

STANDARD DRAWING NO. E 802–SNBB–04

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

TYPE A & B BRIDGE CONNECTION TABLE

SKEW	CONNECTION (ANGLE A)	ANGLE B	CHANNEL STRUT LENGTH	ANCHOR SPACING	PLATE SPACING
0°– 10°	0°	———	———	———	———
10°– 20°	10°	80°	C 6 x 2.83 x 1'–4 3/4"	5'–6	5'–11
20°– 30°	20°	70°	C 6 x 2.83 x 2'–5 1/4"	5'–11 1/2"	6'–2 1/2"
30°– 40°	30°	60°	C 6 x 2.83 x 3'–7 1/2"	6'–5 1/2"	6'–8 1/2"
40°– 50°	40°	50°	C 6 x 2.83 x 5'–1 1/4"	7'–3 3/4"	7'–6 1/2"

GENERAL NOTES

1. Bottom edge of sign shall be horizontal when erected and shall be a minimum of 1'–6 above the bridge beam flange at all points.

2. All 3/8" bolts used with 3/8" expansion anchors shall be 1 in. long (±0 ") and shall engage expansion anchors of 1 1/2 times the bolt dia. or 9 threads minimum except for Type A 0° connections to bridge fascia. The contractor may use either type A or B.

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE BRACKET ASSY. FOR CROSSROAD SIGNING

SEPTEMBER 2001

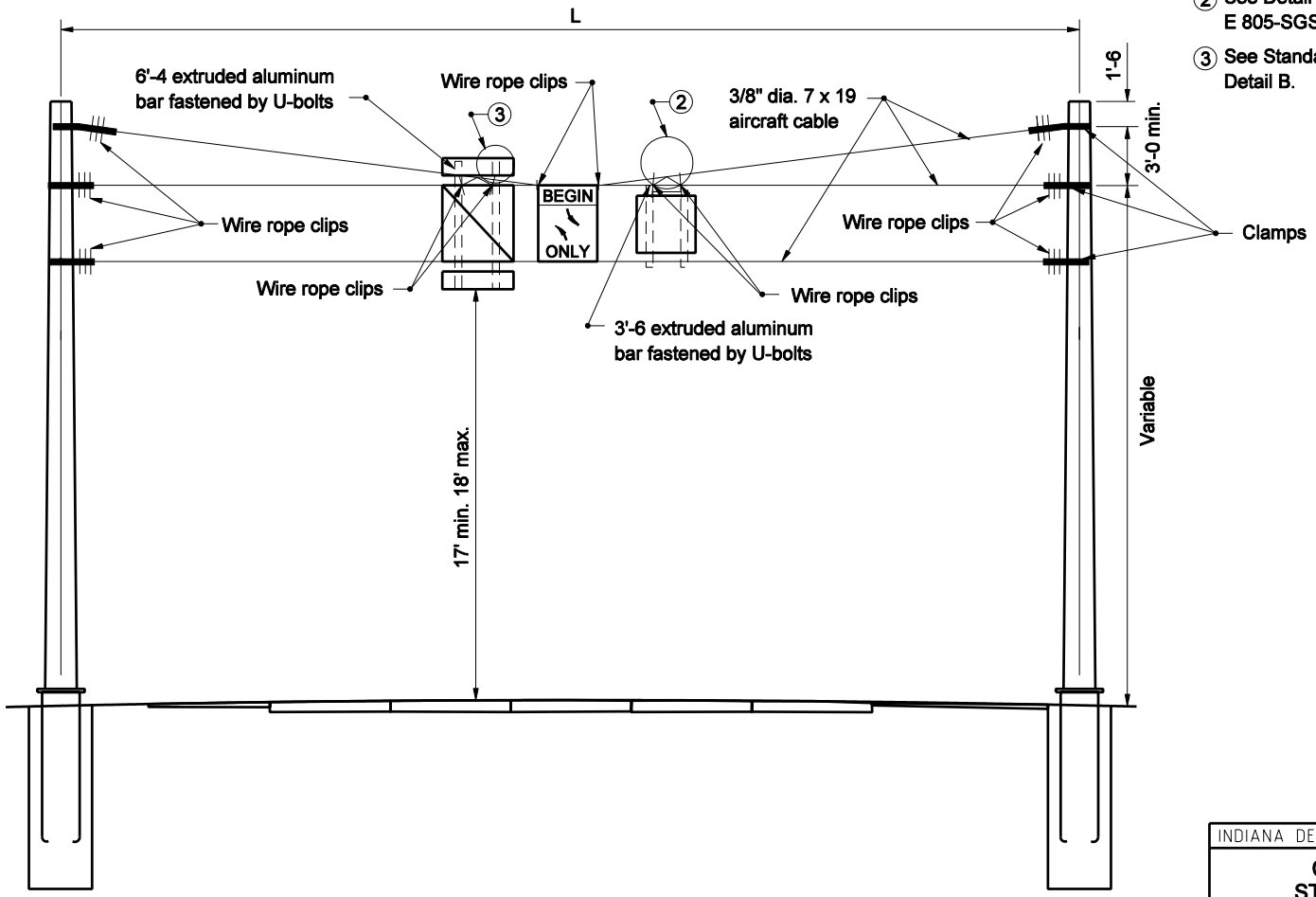
STANDARD DRAWING NO. E 802–SNBB–05

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9–04–01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9–04–01
CHIEF HIGHWAY ENGINEER — DATE



GENERAL NOTES

1. Sign centered over appropiate lane unless otherwise shown on cross section.
2. See Detail A on Standard Drawing E 805-SGSC-04
3. See Standard Drawing E 802-SNCS-03 Detail B.

INDIANA DEPARTMENT OF TRANSPORTATION

CABLE SPAN SIGN STRUCTURE DETAILS

SEPTEMBER 2005

STANDARD DRAWING NO. E 802-SNCS-01

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

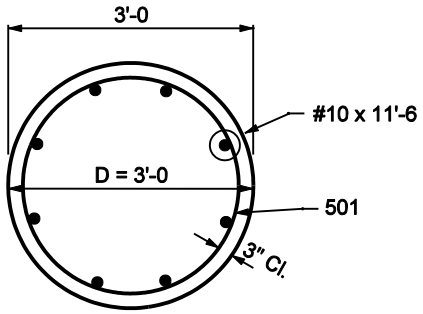
DESIGN STANDARDS ENGINEER

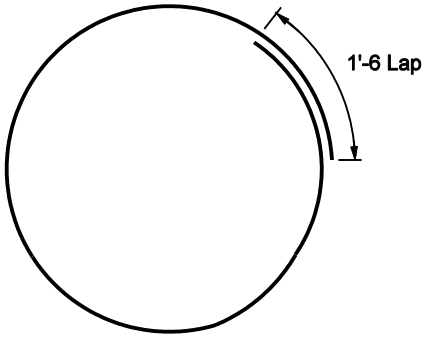
/s/ Anthony L.Uremovich 9-01-05
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 9-01-05
CHIEF HIGHWAY ENGINEER DATE

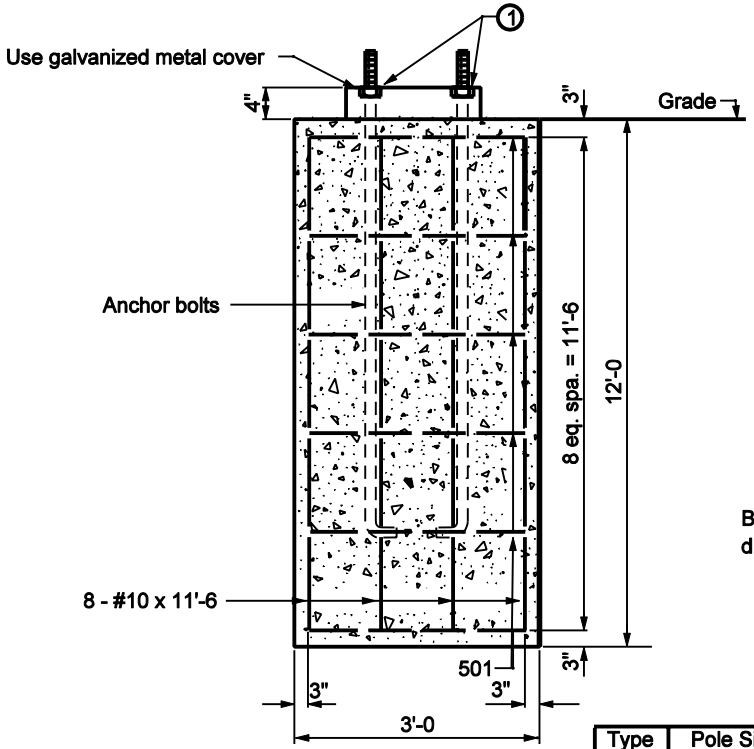
GENERAL NOTES

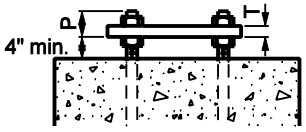
① Square nut under base plate for plumbing or raking pole.

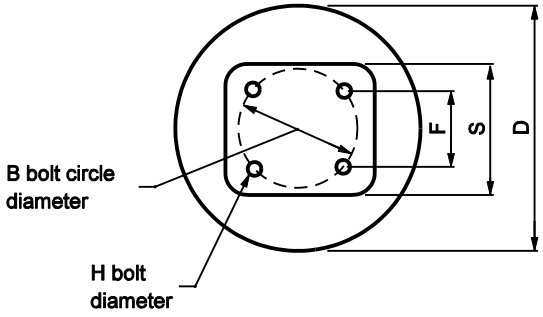




501 x 9'-3







Type	Pole Size	Gauge	D	B	F	H	P	R	S	T	Anchor bolts
IV	12" x 24 ft	0	36"	16"	11"	2"	3"	3"	17"	2"	1" x 7'-6
	14" x 26 ft	0	36"	20"	14"	2"	4"	4"	20"	2"	2" x 8'-0
	15" x 30 ft	0	36"	22"	15"	2"	4"	4"	23"	2"	2" x 8'-0

INDIANA DEPARTMENT OF TRANSPORTATION

CABLE SPAN SIGN FOUNDATION DETAILS

MARCH 2003

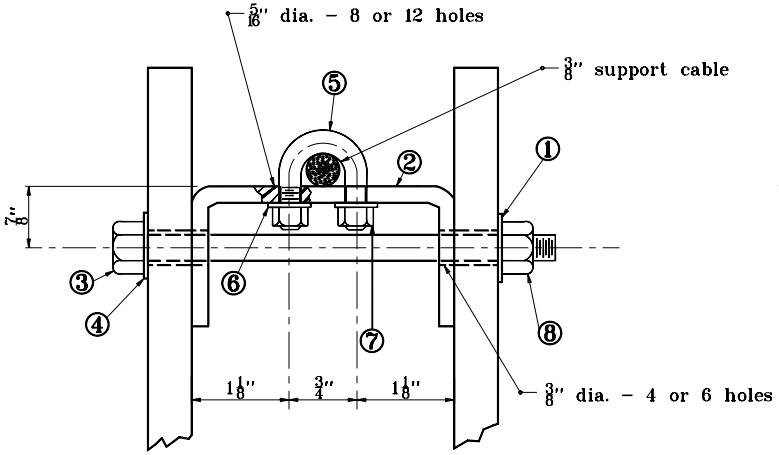
STANDARD DRAWING NO. E 802-SNCS-02

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

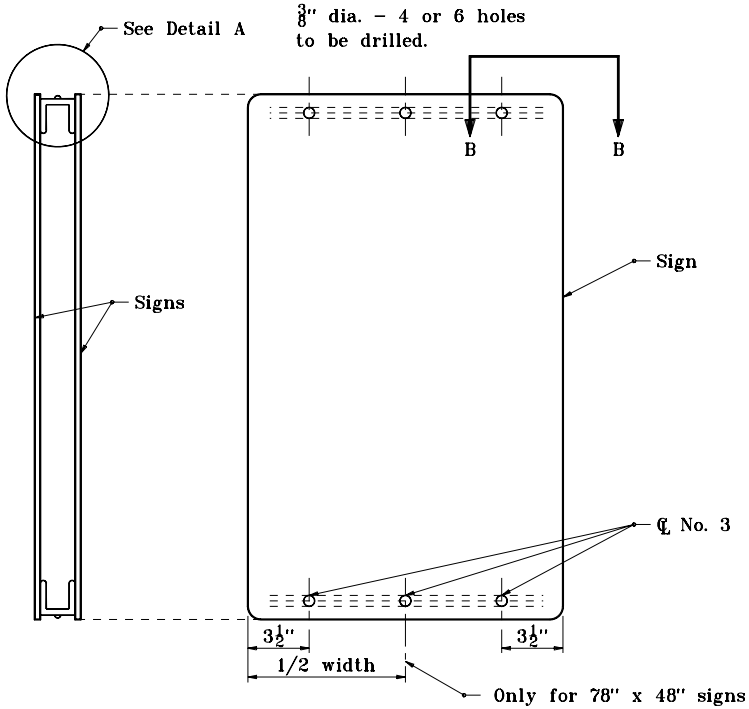
DESIGN STANDARDS ENGINEER

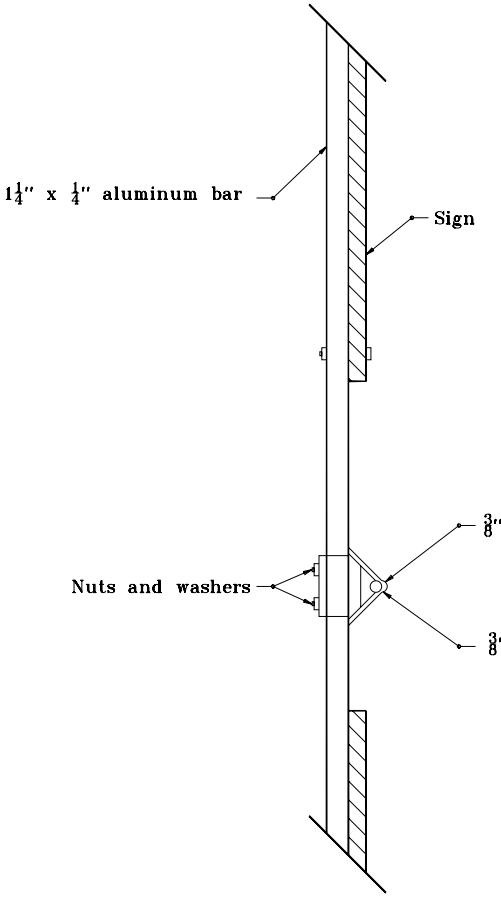
/s/ Richard L. VanCleave 3-03-03
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-03-03
CHIEF HIGHWAY ENGINEER DATE

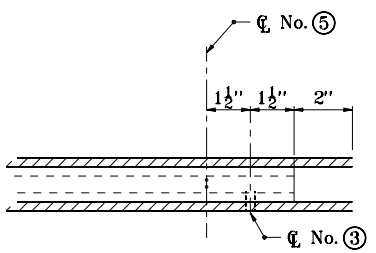


DETAIL A





DETAIL B



B–B TOP VIEW

PART No.	MATERIAL DESCRIPTION
①	5/16" nylon washer
②	3 x 4.1 steel channel
③	5/16 x 4" bolt
④	5/16" nylon washer
⑤	1/4" x 2 3/4" U bolt
⑥	1/4" lock washer
⑦	1/4" hex nut
⑧	5/16" lock nut

INDIANA DEPARTMENT OF TRANSPORTATION

CABLE SPAN SIGN STRUCTURE DETAILS

SEPTEMBER 2001

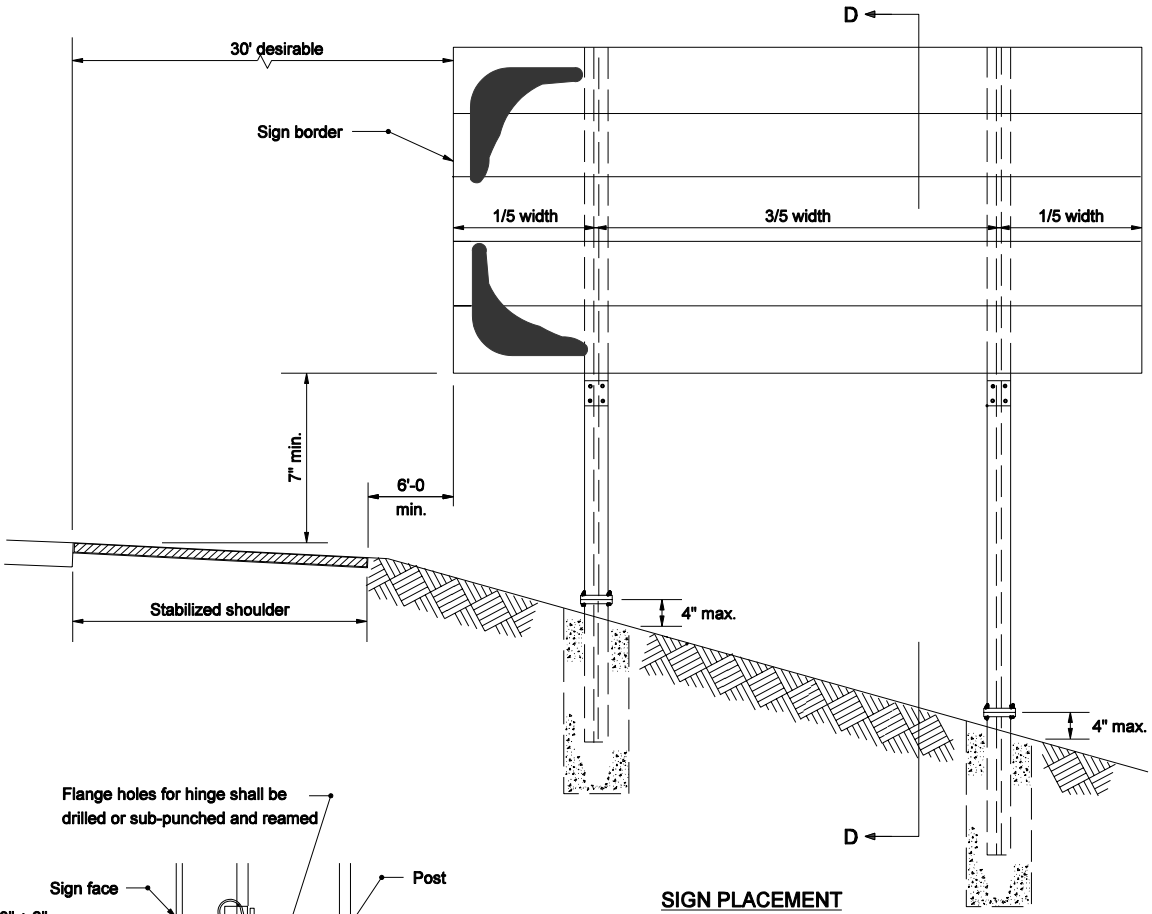
STANDARD DRAWING NO. **E 802–SNCS–03**

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

DESIGN STANDARDS ENGINEER

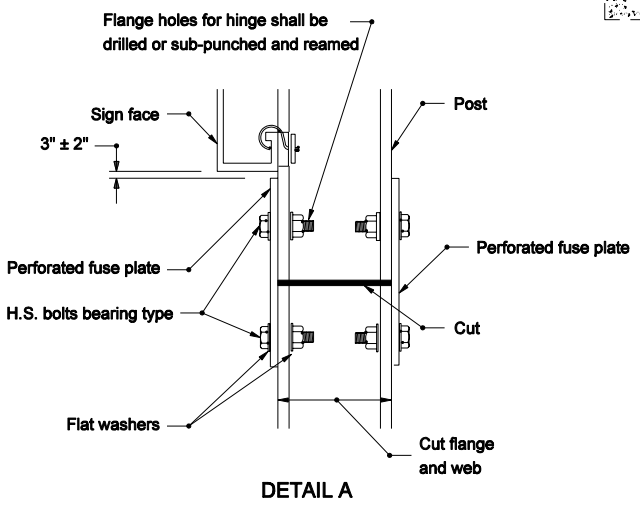
/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

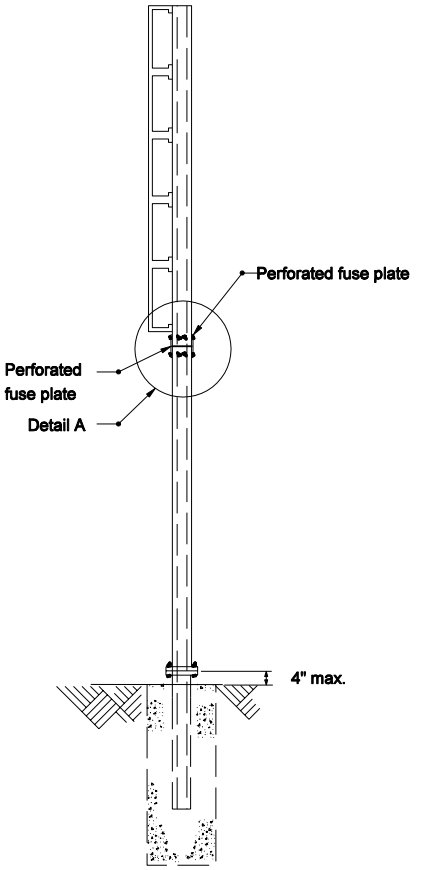


SIGN PLACEMENT

Double Support Sign (Large)



DETAIL A



SECTION D-D

NOTES:

1. No more than one W10 x 19 or larger post can be used in a 7 ft. path. No more than two W8 x 18 or smaller posts can be used in a 7 ft. path.
2. For 3 post installation, the edge of sign to post is 1/6 width of sign and 1/3 width of sign between posts.
3. See E 802-SNGP-04 for base plate details.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PLACEMENT

MARCH 2004

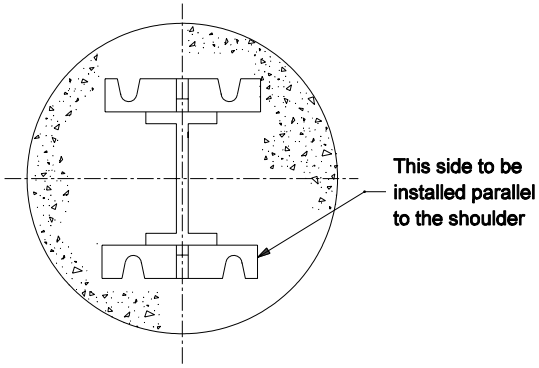
STANDARD DRAWING NO. E 802-SNGP-01

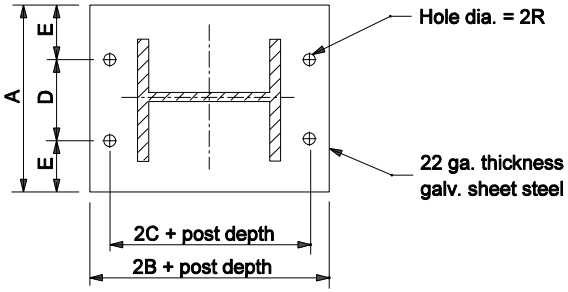
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

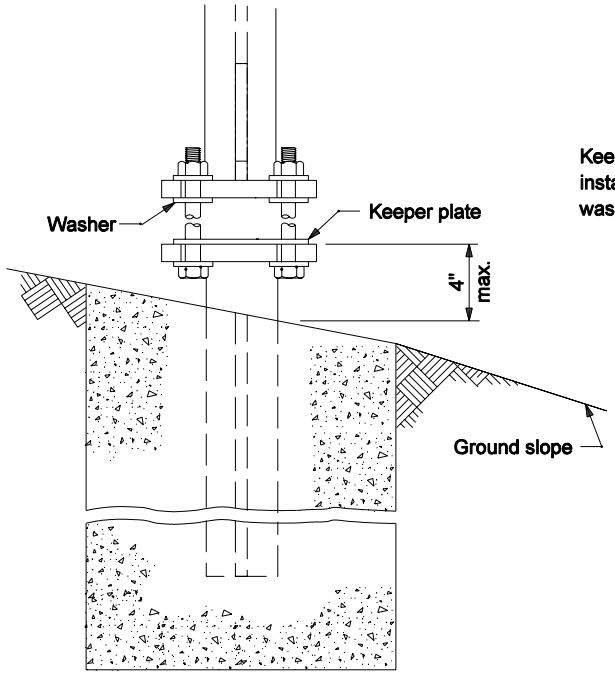
/s/ Richard L. VanCleave 3-01-04
DESIGN STANDARDS ENGINEER DATE

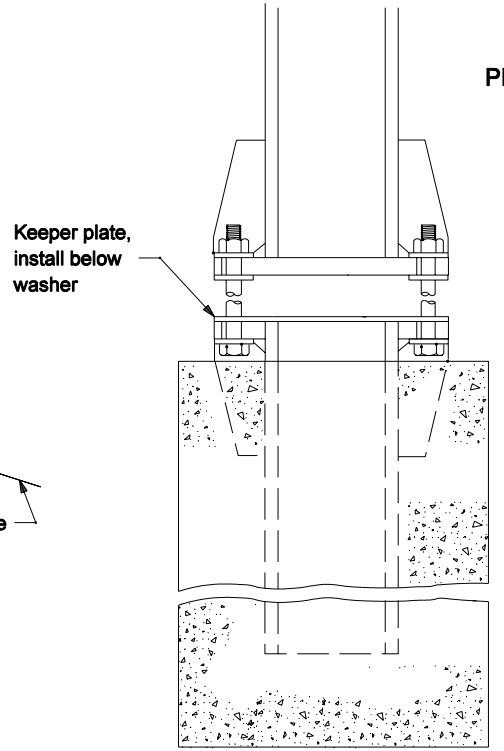
/s/ Richard K. Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE





KEEPER PLATE





PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

Assemble post to stub with bolts. One flat washer on each bolt shall be placed between the top of the keeper plate and bottom of the top base plate. Shim as required to plumb post.

Tighten all bolts the maximum possible with 12" to 25" wrench to bed washers and shims and to clean bolt threads, then loosen each bolt in turn and retighten bolts in a systematic order to the prescribed torque. See table on Standard Drawing E 802-SNGP-05 for dimensions.

Burr threads at junction with nuts using a center punch to prevent nut loosening.

Stubs shall be plumb and base plate shall be leveled and physically held level until the concrete sets.

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE FLANGE SIGN SUPPORT BASE

March 2004

STANDARD DRAWING NO. E 802-SNGP-02

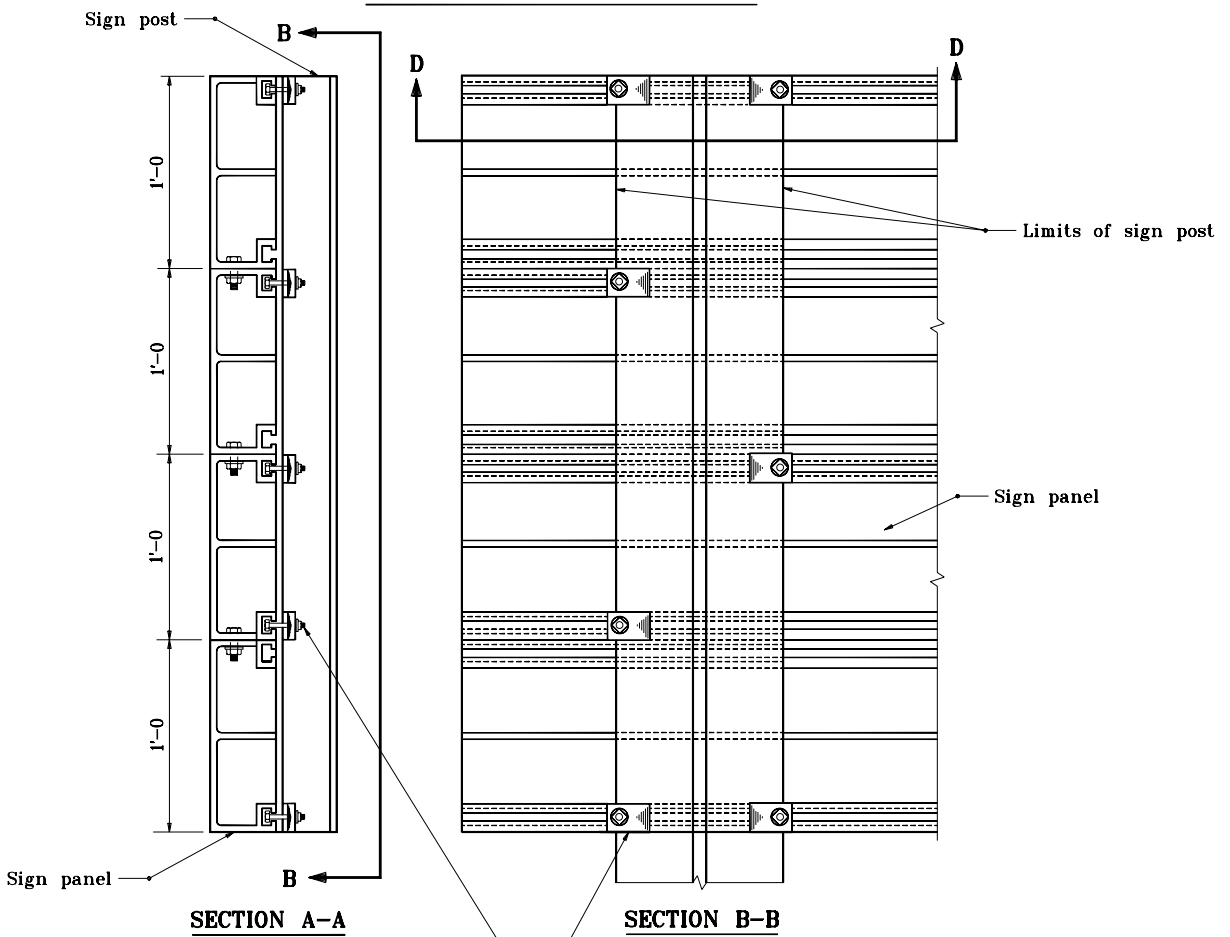
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

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

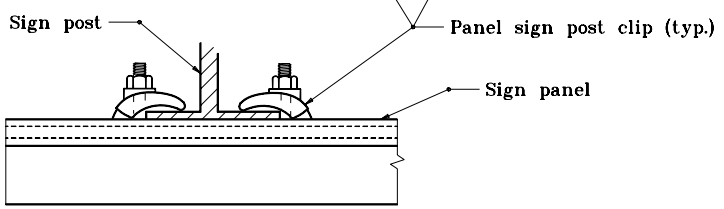
/s/ Richard K. Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE

SIGN PANEL DETAILS–ALUMINUM



SECTION A–A

SECTION B–B



SECTION D–D

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PANEL DETAILS

MARCH 2002

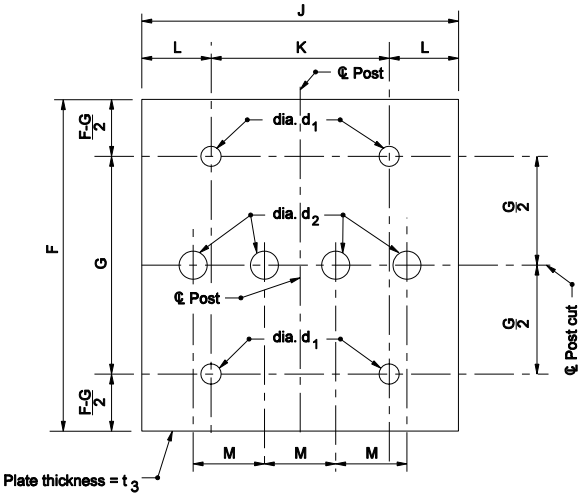
STANDARD DRAWING NO. E 802–SNGP–03

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

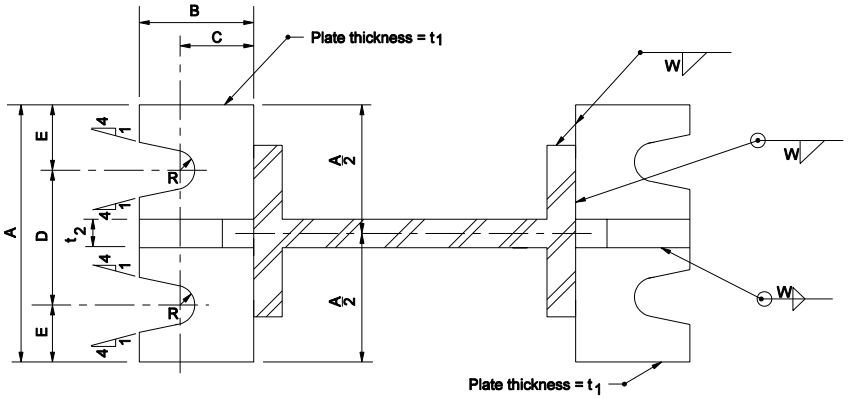
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3–01–02
DESIGN STANDARDS ENGINEER — DATE

/s/ Richard K. Smutzer 3–01–02
CHIEF HIGHWAY ENGINEER — DATE



PERFORATED FUSE PLATE DETAIL ③.

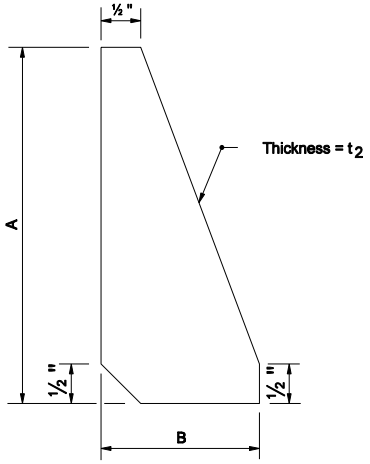


BASE PLATE DETAIL

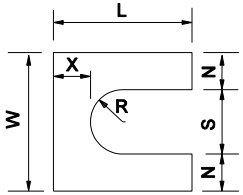
SHIM DETAIL						
BOLT DIAMETER	L	W	N	R	S	X
½" to ¾"	1¾"	1¾"	15/32"	13/32"	1⅜"	15/32"
1"	2"	2"	⅜"	⅝"	1¼"	15/32"

Notes:

1. See table on Standard Drawing E 802-SNGP-05 for diminsions and weight of stiffener plate and base plate.
2. See table on Standard Drawing E 802-SNGP-06 for dimensions and weight of preforated fuse plate.
3. Use H.S. bolts with hex head, & hex nut, one flat washer under each bolt head and beveled or flat washer (where required) under nut.
4. Dimensional tolerances excluding the thickness for shims is ± 1/32".



STIFFENER PLATE DETAIL



Furnish 2-0.012 ± thick and 2-0.03 ± thick shims per post.

SHIM DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DETAILS

SEPTEMBER 2004

STANDARD DRAWING NO. E 802-SNGP-04

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-04
CHIEF HIGHWAY ENGINEER DATE

BASE PLATE & STIFFENER PLATE DATA TABLE

Post Size	Bolt Size	Torque in. - lb	Wt. of 4 Plates (One Post) ,lb	Wt. of 4 Stiffeners (One Post) ,lb	A	B	C	D	E	R	d4	t_1	t_2	W
W6 x 9	½" ø x 2¼ "	140	5.10	3.33	4½"	2"	1⅜"	2½"	1"	9/23"	1⅜"	½"	½"	3/16"
W8 x 10	⅝" ø x 2½ "	300	6.38	4.07	5"	2¼"	1½"	2⅞"	1 1/16"	11/32"	1½"	"	"	"
W8 x 13	¾" ø x 3"	500	12.6	7.97	6"	2½"	"	3⅛"	1 7/16"	13/32"	1¾"	¾"	¾"	¼"
W8 x 15	"	"	"	"	"	"	"	"	"	"	"	"	"	"
W8 x 18	"	"	"	"	"	"	"	"	"	"	"	"	"	5/16"
W10 x 19	1" ø x 3.¼"	700	14.04	8.66	"	2¾"	1½"	3⅝"	1 3/16"	17/32"	2¼"	¾"	¾"	5/16"

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DATA TABLES

SEPTEMBER 2002

STANDARD DRAWING NO. E 802-SNGP-05

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

PERFORATED FUSE PLATE DATA TABLE												
Post Size	BOLT SIZE	Wt. of Plate* (One Post), lb	F	G	J	K	L	M	d_1	d_2	t_3	Bolt Tension, lbs
W6 x 9	½ " x 1½ "	1.01	4¼ "	2"	4"	2¼ "	⅞ "	1"	9⁄16"	¾ "	¼ "	12000
W8 x 10	½ " x 1½ "	1.01	4¼ "	2"	4"	2¼ "	⅞ "	1"	9⁄16"	¾ "	¼ "	12000
W8 x 13	½ " x 1½ "	1.01	4¼ "	2"	4"	2¼ "	⅞ "	1"	9⁄16"	¾ "	¼ "	12000
W8 x 15	⅝ " x 2¼ "	1.72	5"	2½ "	4"	2¼ "	⅞ "	1"	11⁄16 "	¾ "	⅜ "	19000
W8 x 18	⅝ " x 2¼ "	2.27	5"	2½ "	5¼ "	2¾ "	1¼ "	1¼ "	11⁄16 "	1 1⁄16 "	⅜ "	19000
W10 x 19	⅝ " x 2¼ "	1.72	5"	2½ "	4"	2¼ "	⅞ "	1"	11⁄16 "	¾ "	⅜ "	19000

* Gross weight with holes deducted from weight. Incidental weights of bolts and washers are not included in plan quantities.

NOTES:

1. See Standard Drawing E 802-SNGP-01 through 07 for details and notes for posts, bolts, washers, etc.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DATA TABLES

SEPTEMBER 2008

STANDARD DRAWING NO. E 802- SNGP-06

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/02/08

DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller 09/02/08

CHIEF HIGHWAY ENGINEER — DATE

FOUNDATION DATA				
Type	Post Size	Stub Length	Dia.	Depth
VII	W6 x 9	2'-0	20"	5'
VIII	W8 x 10	2'-0	20"	5'
IX	W8 x 13	2'-0	20"	5'
X	W8 x 15	2'-6	24"	6'
XI	W8 x 18	2'-6	24"	6'
XII	W10 x 19	2'-6	24"	7'

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE FLANGE SIGN POST SUPPORT FOUNDATION DATA

MARCH 2004

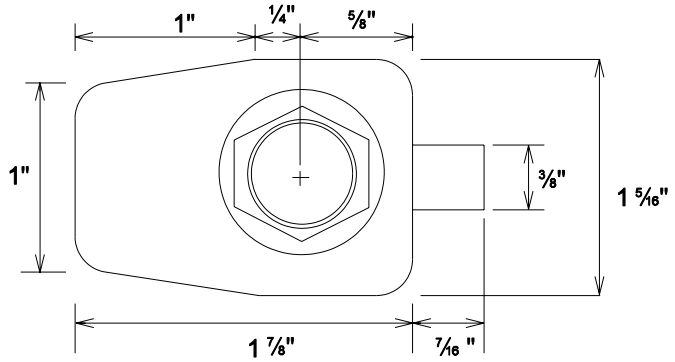
STANDARD DRAWING NO. E 802-SNGP-07

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

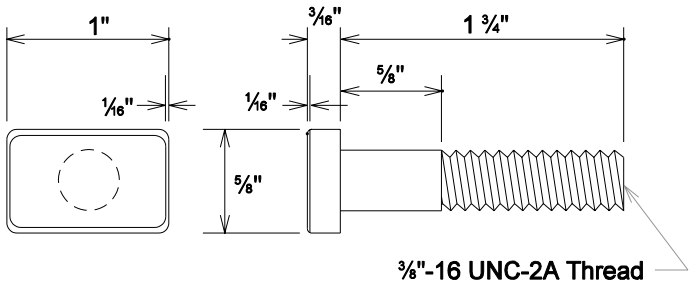
DESIGN STANDARDS ENGINEER

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

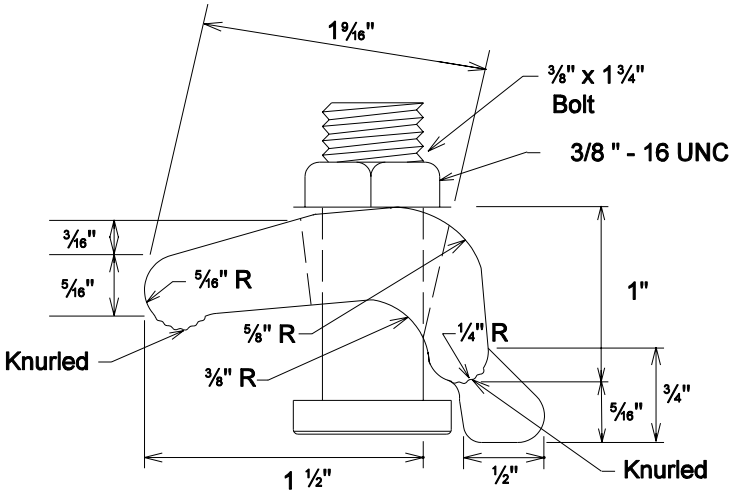
/s/ Richard K. Smutzer 3-01-04
CHIEF HIGHWAY ENGINEER DATE



PLAN VIEW



SIDE VIEW



TOP VIEW

ELEVATION VIEW

POST CLIP BOLT

INDIANA DEPARTMENT OF TRANSPORTATION

Panel Sign Post Clip

SEPTEMBER 2004

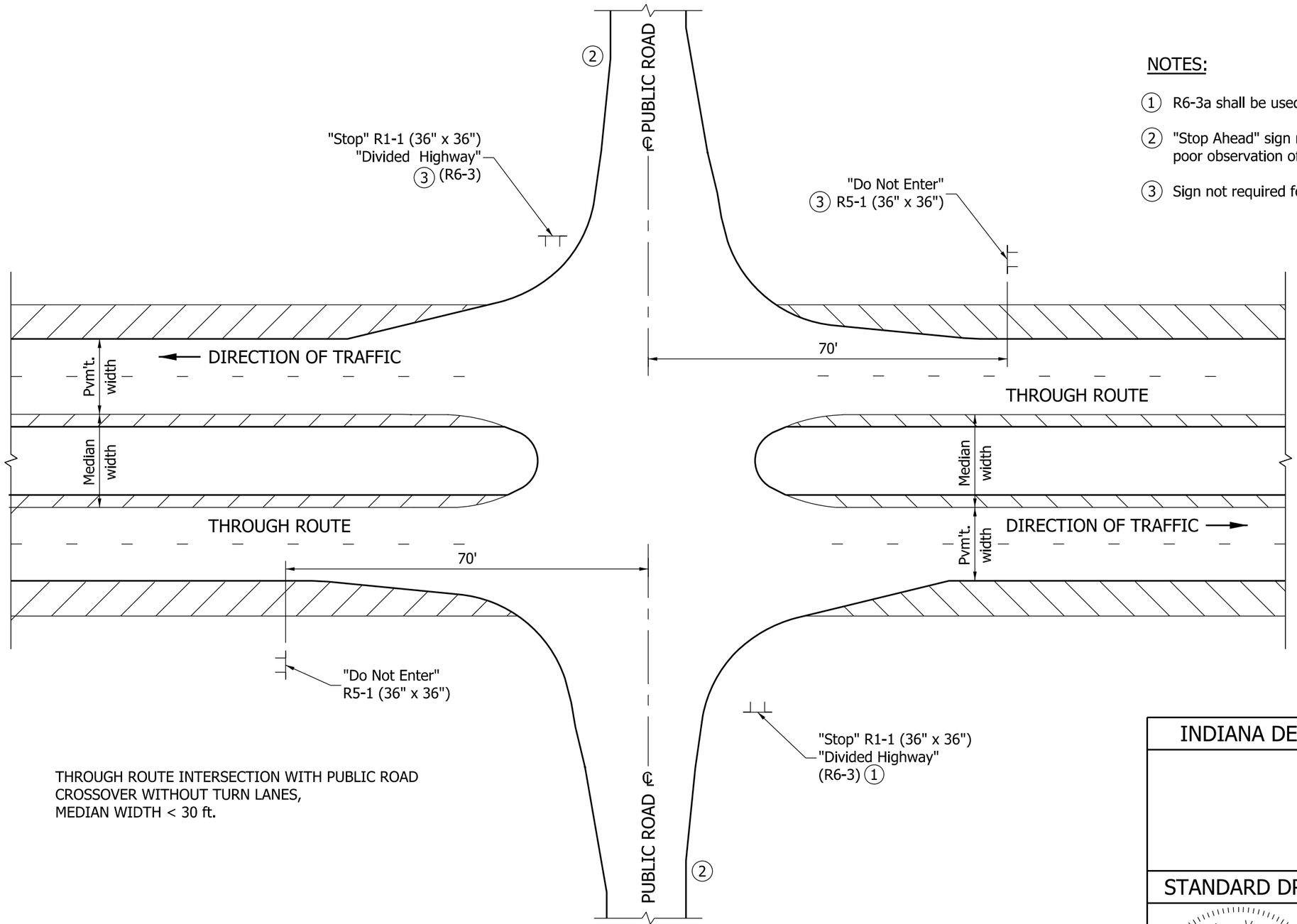
STANDARD DRAWING NO. E 802-SNGP-10A

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-04
CHIEF HIGHWAY ENGINEER DATE



THROUGH ROUTE INTERSECTION WITH PUBLIC ROAD
CROSSOVER WITHOUT TURN LANES,
MEDIAN WIDTH < 30 ft.

NOTES:

① R6-3a shall be used in place of R6-3 at tee intersection.

② "Stop Ahead" sign may be required if there is determined to be poor observation of the "Stop" sign. See plans for locations.

③ Sign not required for tee intersection.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PLACEMENT

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGP-11

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

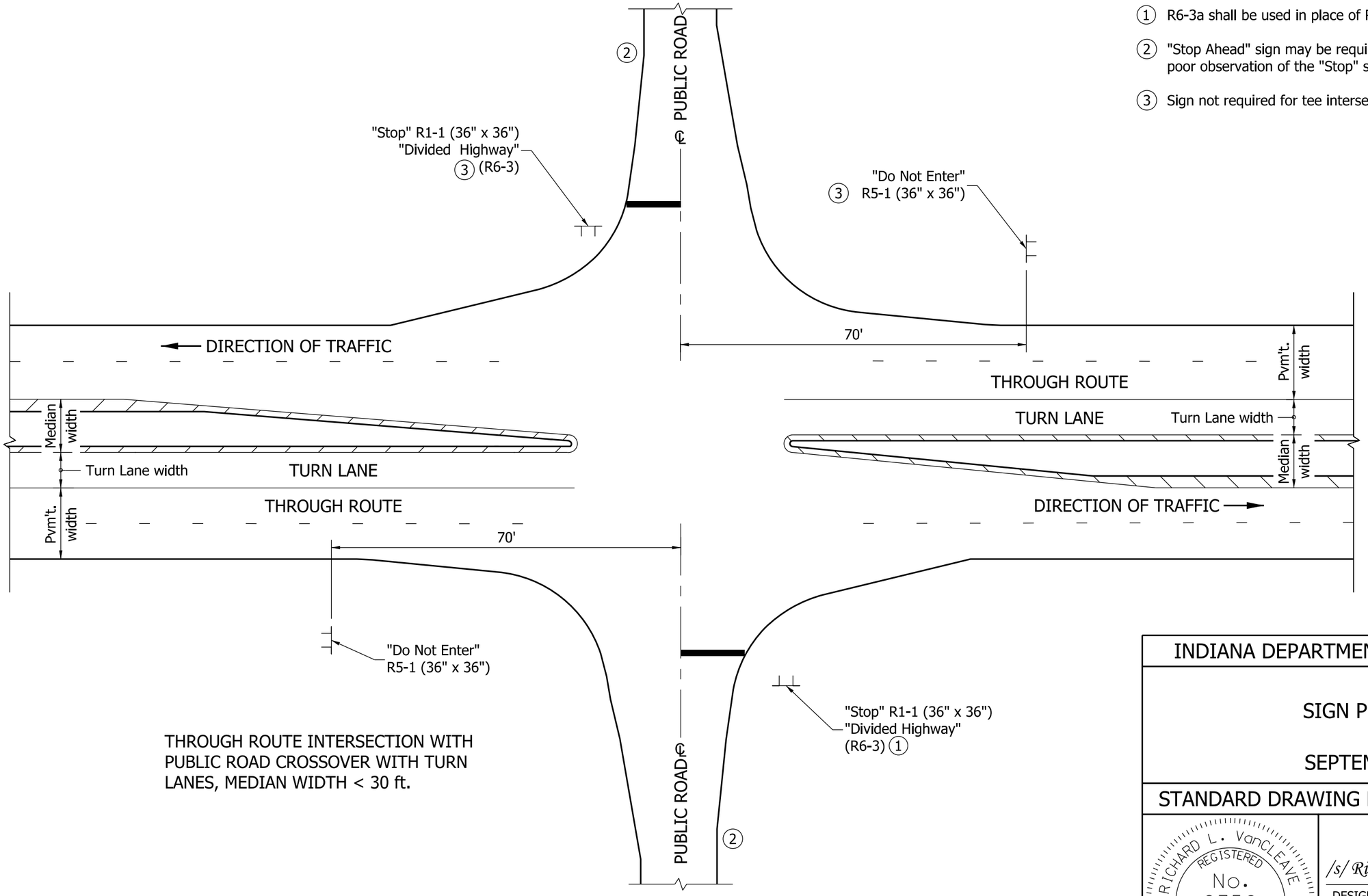
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. R6-3a shall be used in place of R6-3 at tee intersection.
2. "Stop Ahead" sign may be required if there is determined to be poor observation of the "Stop" sign. See plans for locations.
3. Sign not required for tee intersection.



THROUGH ROUTE INTERSECTION WITH PUBLIC ROAD CROSSOVER WITH TURN LANES, MEDIAN WIDTH < 30 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PLACEMENT

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGP-12

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

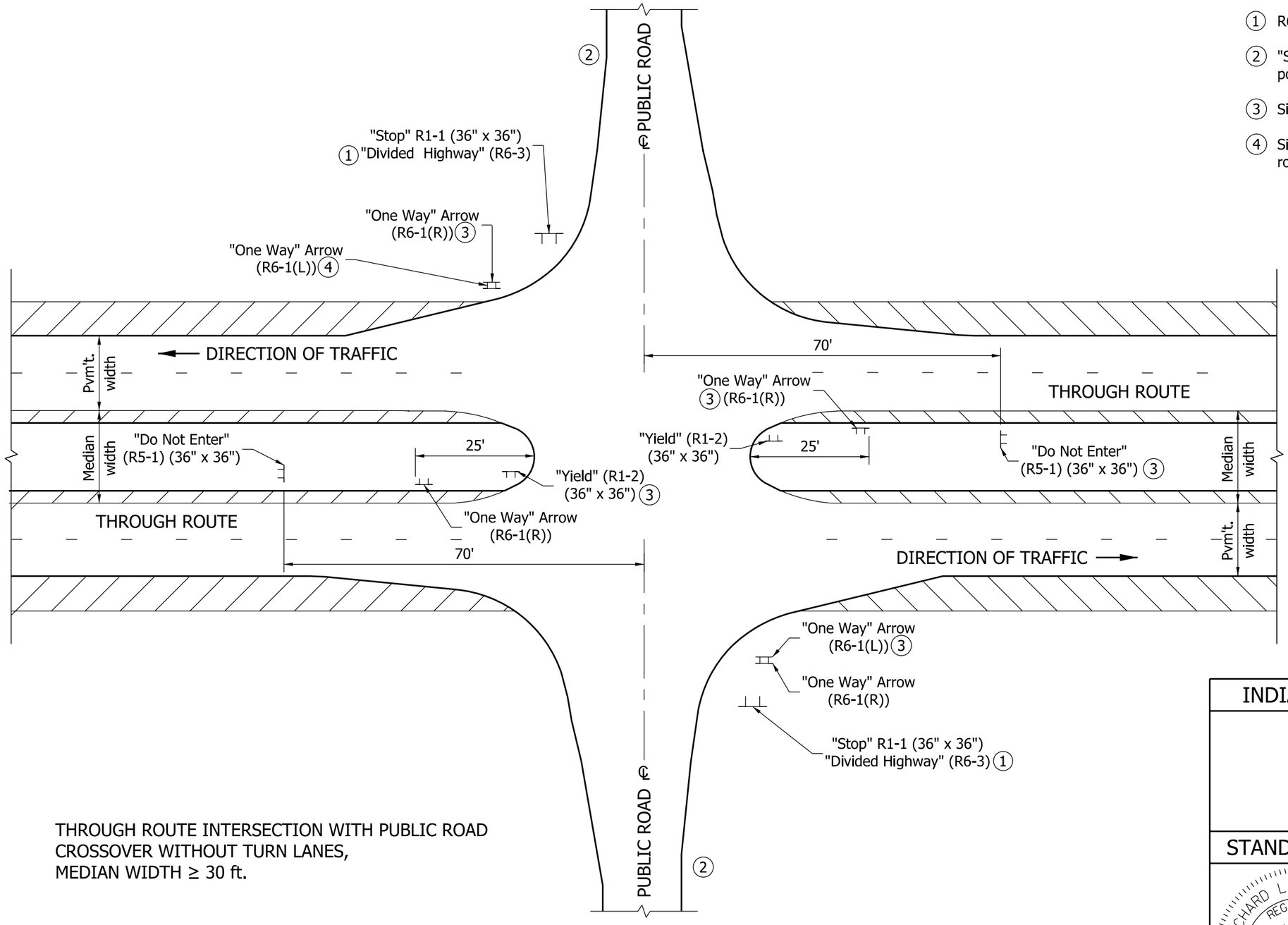
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. R6-3a shall be used in place of R6-3 at tee intersection.
2. "Stop Ahead" sign may be required if there is determined to be poor observation of the "Stop" sign. See plans for locations.
3. Sign not required for tee intersection.
4. Sign shall be placed on centerline of public road approach for tee intersection.



THROUGH ROUTE INTERSECTION WITH PUBLIC ROAD
CROSSOVER WITHOUT TURN LANES,
MEDIAN WIDTH ≥ 30 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PLACEMENT

SEPTEMBER 2010

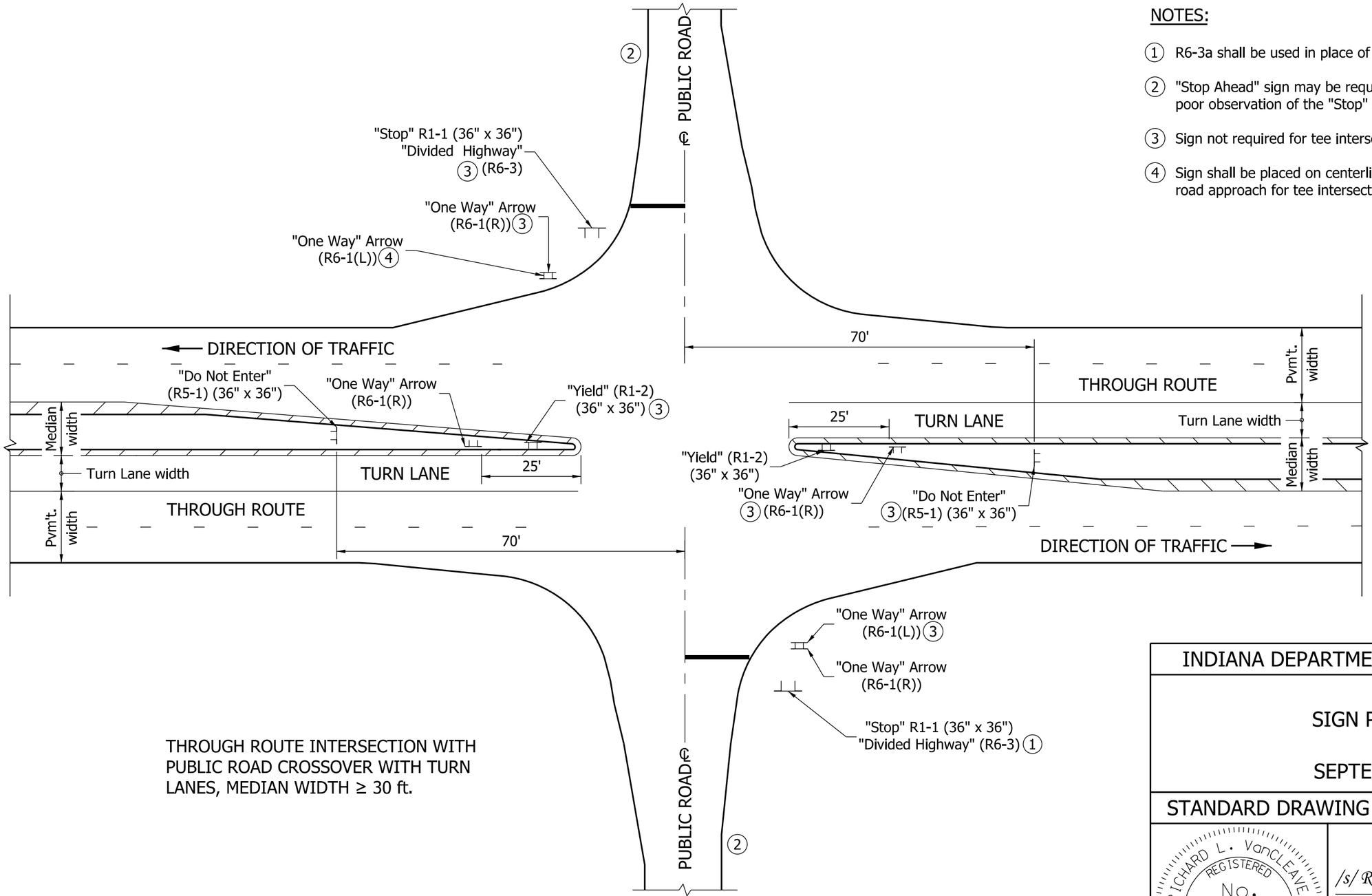
STANDARD DRAWING NO. E 802-SNGP-13

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



THROUGH ROUTE INTERSECTION WITH PUBLIC ROAD CROSSOVER WITH TURN LANES, MEDIAN WIDTH ≥ 30 ft.

NOTES:

1. R6-3a shall be used in place of R6-3 at tee intersection.
2. "Stop Ahead" sign may be required if there is determined to be poor observation of the "Stop" sign. See plans for locations.
3. Sign not required for tee intersection.
4. Sign shall be placed on centerline of public road approach for tee intersection.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN PLACEMENT

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGP-14

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

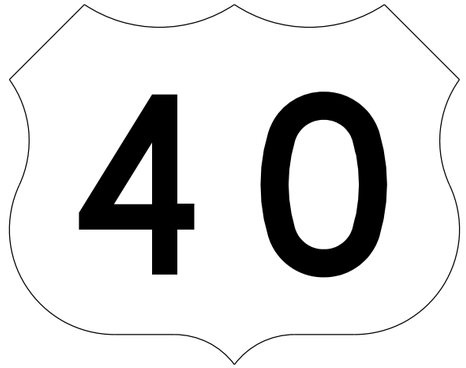
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

WHITE BACKGROUND WITH BLACK BORDER AND NUMERALS

M1-4(I)



WHITE BACKGROUND WITH BLACK NUMERALS

M1-4(G)

(G) INDICATES SHIELD TO BE USED ON ALL GUIDE SIGNS AND DOES NOT REQUIRE BLACK BORDER

FOR INDEPENDENT USE ONLY

M1-4(I)					
12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
24" x 24"	30" x 24"	36" x 36"	45" x 36"	48" x 48"	60" x 48"

FOR GUIDE SIGN USE

M1-4(G)					
12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
24" x 24"	30" x 24"	36" x 36"	45" x 36"	48" x 48"	60" x 48"

M2-1(S)
M2-1(I)

M4-5(I)
M4-5(S)

(I) INDICATES WHITE LEGEND ON BLUE BACKGROUND (INTERSTATE)
(S) INDICATES BLACK LEGEND ON SILVER BACKGROUND (STATE)

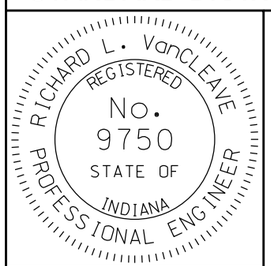
STATE	M2-1(S)	M2-1-(S)	M4-5(S)	M4-5-(S)
INTERSTATE	M2-1(I)	M2-1-(I)	M4-5(I)	M4-5-(I)
SHIELD SIZES	24" x 24" 30" x 24"	36" x 36" 45" x 36"	24" x 24" 30" x 24"	36" x 36" 45" x 36"
CORRESPONDING SIGN SIZE	21" x 15"	21" x 15"	24" x 21"	30" x 15"

INDIANA DEPARTMENT OF TRANSPORTATION

ROUTE MARKER DETAILS

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGS-01



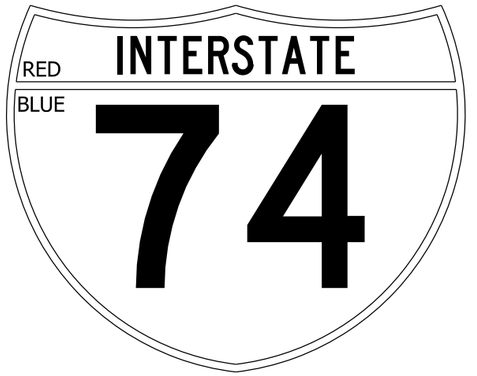
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

WHITE BACKGROUND WITH BLACK
LETTERS, NUMERALS AND BORDER

M1-5



WHITE LETTERS, NUMERALS, AND BORDER

M1-1

STATE ROUTE MARKER

M1-5					
12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
24" x 24"	30' x 24"	36" x 36"	45" x 36"	48" x 48"	60" x 48"

INTERSTATE SHIELD

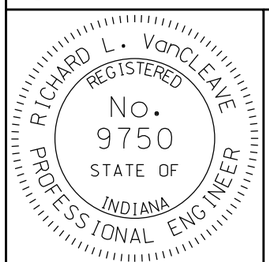
M1-1					
12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
24" x 24"	30' x 24"	36" x 36"	45" x 36"	48" x 48"	60" x 48"

INDIANA DEPARTMENT OF TRANSPORTATION

ROUTE MARKER DETAILS

SEPTEMBER 2010

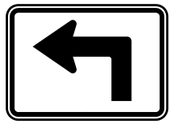
STANDARD DRAWING NO. E 802-SNGS-02



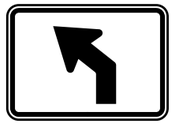
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

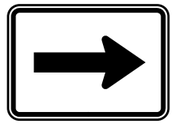
/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



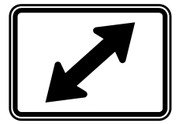
M5-1 (R or L) (I or S)



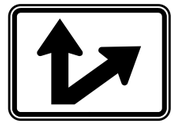
M5-2 (R or L) (I or S)



M6-1 (R or L) (I or S)



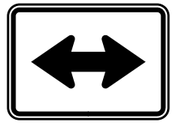
M6-5 (R or L) (I or S)



M6-7 (R or L) (I or S)

M6-2 (R or L) (I or S)

M6-3 (I or S)



M6-4 (I or S)

M6-6 (R or L) (I or S)

STATE	M5-1(S) M6-1(S) M6-3(S) M6-5(S) M6-7(S) M5-2(S) M6-2(S) M6-4(S) M6-6(S)	
INTERSTATE	M5-1(I) M6-1(I) M6-3(I) M6-5(I) M6-7(I) M5-2(I) M6-2(I) M6-4(I) M6-6(I)	
SHIELD SIZES	24" x 24" 30" x 24"	36" x 36" 45" x 36"
CORRESPONDING SIGN SIZE	21" x 15"	21" x 15"

M3-1 *
(S or I)

M3-2 *
(S or I)

M3-3 *
(S or I)

M3-4 *
(S or I)

* Note: Make 1st letter 10% taller

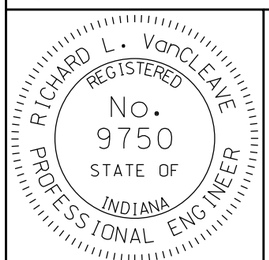
STATE	M3-1(S) M3-2(S) M3-3(S) M3-4(S)			
INTERSTATE	M3-1(I) M3-2(I) M3-3(I) M3-4(I)			
SHIELD SIZES	24" x 24"	30" x 24"	36" x 36"	45" x 36"
CORRESPONDING SIGN SIZE	24" x 12"	30" x 15"	30" x 15"	30" x 15"

INDIANA DEPARTMENT OF TRANSPORTATION

ROUTE MARKER DETAILS

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGS-03



DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave *09/01/10*

DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller *09/01/10*

CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

1. All series M(S) "JCT", cardinal directions, "TO", and arrows shall be white background with black legend and border.

2. All series M(I) "JCT", cardinal directions, "TO", and arrows shall be blue background with white legend and border.

3. Numerals sometimes cannot be accommodated within the space available. For this situation, the standard series D numeral may be reduced to series C. As a second choice, use the next smaller height commonly available.

4. For independent use of sheet signs, a nylon and metal washer shall be placed between each bolt head and the face of the metal sign. See Sign Bolt Detail on Std. Dwg. No. E 802-SNGS-07.

5. Visually space numbers about vertical centerline of shield.

6. Wherever white is specified herein as a color, it is understood to include silver-colored reflecting coatings or elements that reflect white light.

7. Fabrication details for the signs shown shall be found in the Standard Highway Signs booklet. Shop drawings will be supplied on all other signs not found in such booklet

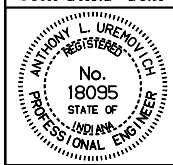
8. For hole punch pattern see shop drawings.

INDIANA DEPARTMENT OF TRANSPORTATION

ROUTE MARKER DETAILS

JANUARY 2000

STANDARD DRAWING NO. **E 802-SNGS-04**



DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 3-01-95
DESIGN STANDARDS ENGINEER — DATE

/s/ Donald W. Lucas 3-01-95
CHIEF HIGHWAY ENGINEER — DATE

SIGN	REMARKS	BACKGROUND	COPY & BORDER
IGD, GD	Directional	S-3-H	B
IGDO, GD	Directional	S-3-H	B
IGI	Information	S-3-H	B
IGS	Services	S-4-H	B
IGS	Services	S-6-H	S-2-H
IGDO, GDO Special - Panel	Warning Panel	S-1-H	A
R1-1	Stop	S-5-H	S-2-H
R1-2	Yield	S-2-H	S-5-H
R1-3, R1-4	4-Way, All-Way	S-5-H	S-2-H
R2-3	Night Speed	0-1-H	S-2-H
R3-1, R3-2, R3-4	No Right, Left, or U Turns	S-2-H	S-5-H, 0-1-H
R5-1	Do Not Enter	S-5-H	S-2-H
R5-1a	Wrong Way	S-5-H	S-2-H
R5-2, R5-6	No Trucks, Bicycles	S-2-H	S-5-H, 0-1-H
R7-1, R7-4, R7-107, R7-201	No Parking (Urban)	S-2-H	S-5-H
R7-2a, R7-107a	No Parking (Urban)	S-2-H	S-5-H, 0-1-H
R7-5, R7-5a, R7-108	Restricted Parking	S-2-H	S-7-H
R7-8	Reserved Parking	S-2-H	S-7-H, S-6-H
R8-1, R8-1a, R8-2, R8-3, R8-3b, R8-3c, R8-8	No Parking (Rural)	S-2-H	S-5-H
R8-3a	No Parking (Rural)	S-2-H	S-5-H, 0-1-H
R9-3a, R9-4a	Pedestrian Signs	S-2-H	S-5-H, 0-1-H
All other regulatory signs		S-2-H	0-1-H
W3-1a, W3-2a	Stop & Yield Ahead	S-1-H	S-2-H, S-5-H, O-1-H
W3-3	Signal Ahead	S-1-H	S-5-H S-7-H, O-1-H
All other warning signs	Except Construction Signs, School Warning Signs, and Signs labeled as "FY"	S-1-H	O-1-H
Warning Signs labeled as "FY"		S-10-H	O-1-H
All School Warning Signs		S-11-H	O-1-H
M1-1	Interstate Shields	S-8-H	S-2-H
M1-2, M1-3	Business Shields	S-7-H	S-2-H
M1-4	U.S. Shields	S-2-H	O-1-H
M1-5	County Shields	S-4-H	S-1-H
M1-6	State Shields	S-2-H	O-1-H
M1-7	National Forest	△	S-2-H

KEY

CODE	DESCRIPTION
0-1-H	Paint (Black) for use with prismatic reflective sheeting
S-1-H	Reflective sheeting (Yellow) prismatic
S-2-H	Reflective sheeting (Silver) prismatic
S-3-H	Reflective sheeting (Green) prismatic
S-4-H	Reflective sheeting (Blue) prismatic
S-5-H	Reflective sheeting (Silver with reverse screen transparent Red) prismatic
S-6-H	Reflective sheeting (Silver with reverse screen transparent Blue) prismatic
S-7-H	Reflective sheeting (Silver with reverse screen transparent Green) prismatic
S-8-H	Reflective sheeting (Silver with reverse screen transparent Red and Blue) prismatic
S-9-H	Reflective sheeting (Orange) prismatic
S-10-H	Reflective sheeting (Fluorescent Yellow), prismatic
S-11-H	Reflective sheeting (Fluorescent Yellow-Green), prismatic
A	Cut - Out letters which are painted black or as per specifications
B	Copy as per specifications
△	Brown background with prismatic reflective sheeting

SIGN IDENTIFICATION CODES

IGDO	Interstate guide directional overhead
IGD	Interstate guide directional
IGS	Interstate guide service and rest area
IGI	Interstate guide information
GDO	Guide directional overhead
GD	Guide directional
R	Regulatory sign
W	Warning, construction, & maint. signs
M	Route markers and aux. markers for assemblies
D	Destination sign
I	Information

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN REFLECTORIZATION SCHEDULE

SEPTEMBER 2012

STANDARD DRAWING NO. E 802-SNGS-05

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

SIGN	REMARKS	BACKGROUND	COPY & BORDER
M2-1 (I), M3-1 (I), M3-2 (I), M3-3 (I), M3-4 (I)	Auxiliary markers	S-6-H	S-2-H
M4-5 (I), M4-7 (I), M5-1 (I), M5-2 (I)	Auxiliary markers	S-6-H	S-2-H
M6-1 Through M6-7	Auxiliary markers	S-6-H	S-2-H
M4-5, M4-6, M4-6a	Auxiliary markers	S-7-H	S-2-H
M4-8, M4-9	Detour marker	S-9-H	O-1-H
all other marker Auxiliaries		S-2-H	O-1-H
D4-1	Parking	S-2-H	S-7-H
D5-5, D5-5a, D9-2, D9-6	Rest area & service	S-6-H	S-2-H
D7-2	Recreation area	△	S-2-H
All other destination signs		S-3-H	S-2-H
I-17, I-18, I-19		S-6-H	S-2-H
I-20, I-21		S-2-H	O-1-H
All other I-Signs		S-7-H	S-2-H
All construction signs		S-9-H	O-1-H
All maintenance signs		S-9-H	O-1-H

NOTE: Wherever white is specified herein as a color, it is understood to include silver-colored reflecting coatings or elements that reflect white light.

KEY

CODE	DESCRIPTION
0-1-H	Paint (Black) for use with prismatic reflective sheeting
S-1-H	Reflective sheeting (Yellow) prismatic
S-2-H	Reflective sheeting (Silver) prismatic
S-3-H	Reflective sheeting (Green) prismatic
S-4-H	Reflective sheeting (Blue) prismatic
S-5-H	Reflective sheeting (Silver with reverse screen transparent Red) prismatic
S-6-H	Reflective sheeting (Silver with reverse screen transparent Blue) prismatic
S-7-H	Reflective sheeting (Silver with reverse screen transparent Green) prismatic
S-8-H	Reflective sheeting (Silver with reverse screen transparent Red and Blue) prismatic
S-9-H	Reflective sheeting (Orange) prismatic
A	Cut - Out letters which are painted black or as per specifications
B	Copy as per specifications
△	Brown background with prismatic reflective sheeting

SIGN IDENTIFICATION CODES

IGDO	Interstate guide directional overhead
IGD	Interstate guide directional
IGS	Interstate guide service and rest area
IGI	Interstate guide information
GDO	Guide directional overhead
GD	Guide directional
R	Regulatory sign
W	Warning, construction, & maint. signs
M	Route markers and aux. markers for assemblies
D	Destination sign
I	Information

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN REFLECTORIZATION SCHEDULE

SEPTEMBER 2010

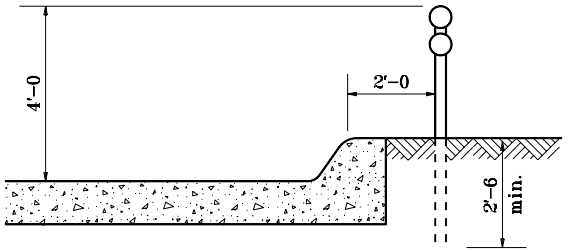
STANDARD DRAWING NO. E 802-SNGS-06

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

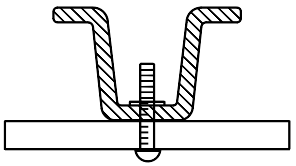
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

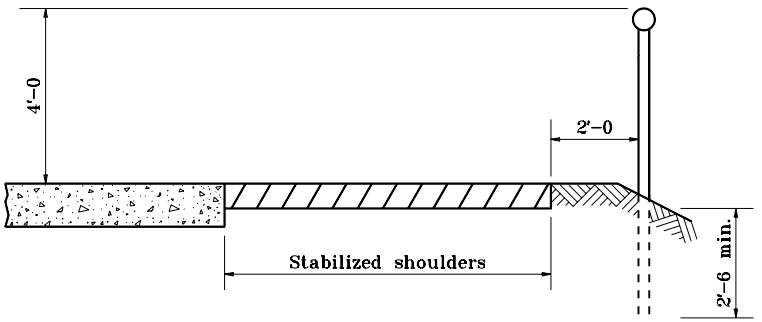
/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



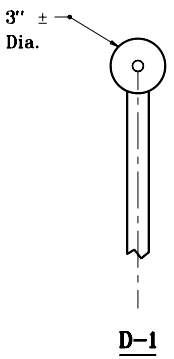
UNMOUNTABLE CURB SECTION



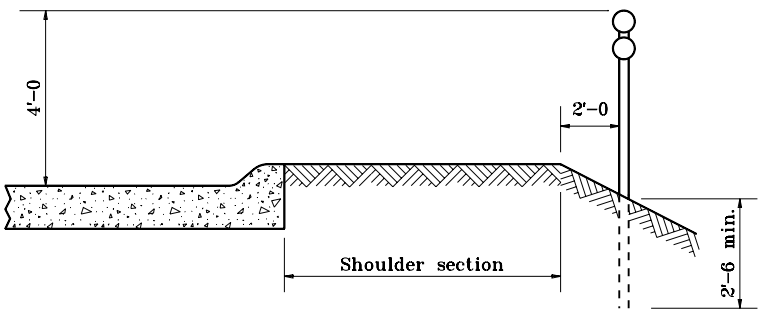
MOUNTING DETAIL



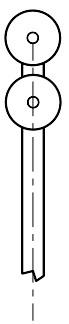
SHOULDER SECTION



D-1



MOUNTABLE CURB SECTION

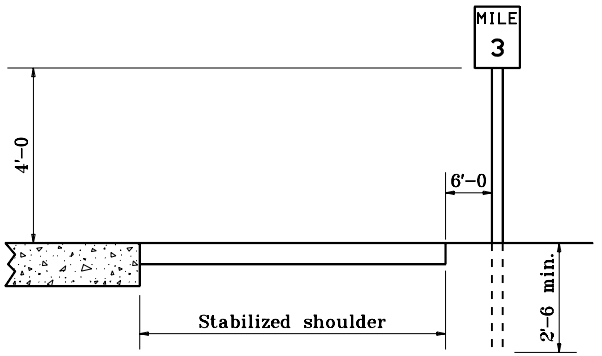


D-2

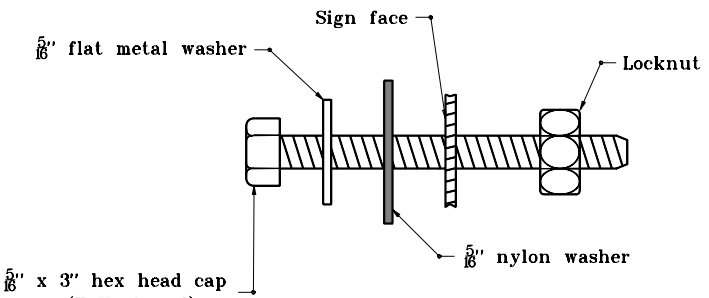
DELINEATOR DETAILS

GENERAL NOTES

1. Post to be type A flange posts.
2. Mileposts shall be installed in accordance with Interstate Sign Manual.



TYPICAL MILE or REFERENCE POST



SIGN BOLT DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

MISC. SIGN DETAILS

MARCH 1995

STANDARD DRAWING NO. E 802-SNGS-07

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95

GENERAL NOTES

1. Nut shall be tightened sufficiently so that the sign is held firmly against the post. However, there shall be no deformation of aluminum sheeting or twisting or damage to the reflective sheeting.

2. Signs shall be fastened to the posts with bolts, metal and nylon washers and locknut.

3. A nylon washer and a metal washer shall be placed between each bolt head and the face of the sign.

4. Flanged channel posts are as specified and as shown on the plans.

5. The sheet signs shall be punched or drilled for mounting such that the vertical hole spacing is in equal increments of millimeters.

6. See Std. Dwg. No. E 802-SNPL-02 for mounting height and lateral locations of signs.

7. Splicing of flanged channel post will not be permitted.

8. Bolt can either be stainless steel or galvanized steel bolt.

INDIANA DEPARTMENT OF TRANSPORTATION

MISC. SIGN DETAILS
GENERAL NOTES

MAY 1999

STANDARD DRAWING NO. **E 802-SNGS-08**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 5-03-99

MOUNTING HEIGHT / WIDTH X HEIGHT ("W x H")	5 ft		6 ft		7 ft		8 ft	
	U CHANNEL	SQUARE POST	U CHANNEL	SQUARE POST	U CHANNEL	SQUARE POST	U CHANNEL	SQUARE POST
12 x 12, 12 x 6, 12 x 9 12 x 12, 12 x 18, 12 x 30	1-A	1-Type 1	1-A	1-Type 1	1-A	1-Type 1	1-A	1-Type 1
12 x 36	1-A		1-A		1-A		1-A	
18 x 6, 18 x 12, 18 x 18	1-A		1-A		1-A		1-A	
18 x 24	1-A		1-A		1-A		1-A	
18 x 30	1-A		1-A		1-A		1-A	
18 x 48	1-A		1-A		1-A		1-A	
24 x 12, 24 x 18, 24 x 24	1-A		1-A		1-A		1-A	
24 x 30	1-A		1-A		1-A		1-A	
24 x 36	1-A		1-A		1-A		1-A	
30 x 18	1-A		1-A		1-A		1-A	
30 x 24	1-A		1-A		1-A		1-A	
30 x 30	1-A		1-A		1-A		1-A	
30 x 36	1-A		1-A		1-A		1-A	
30 x 42	1-B		1-B		1-B		1-B	
30 x 48	1-B		1-B		1-B		1-B	
36 x 12	2-A		2-A		2-A		2-A	
36 x 18	2-A		2-A		2-A		2-A	
36 x 24	2-A		2-A		2-A		2-A	
36 x 36	2-A		2-A		2-A		2-A	
36 x 48	2-A		2-A		2-A		2-A	
42 x 18	2-A		2-A		2-A		2-B	
42 x 24	2-A		2-A		2-A		2-A	
42 x 30	2-A		2-A		2-A		2-A	
42 x 36	2-A		2-A		2-A		2-A	
48 x 16	2-A		2-A		2-A		2-A	
48 x 18	2-A		2-A		2-A		2-A	
48 x 24	2-A		2-A		2-A		2-A	
48 x 30	2-A		2-A		2-A		2-A	
48 x 36	2-A	2-Type 2	2-A	2-Type 2	2-A	2-Type 2	2-A	2-Type 2
48 x 48	2-A		2-B		2-B		2-B	
48 x 60	2-B		2-B		2-B		2-B	
60 x 24	2-A		2-A		2-A		2-A	
60 x 30	2-A		2-A		2-A		2-A	
60 x 36	2-A		2-A		2-B		2-B	
60 x 48	2-B		2-B		2-B		2-B	
72 x 24	2-A		2-A		2-A		2-A	
72 x 36	2-B		2-B		2-B		2-B	
90 x 36 120 x 36	2-B	2-Type 3	2-B	2-Type 3	2-B	2-Type 3	2-B	2-Type 3

GENERAL NOTES

1. See Standard Sheet E 802-SNGS-10 for square steel sign post installation details.
2. The type 1 post shall be 2¼ in. x 2¼in. x 12 ga. wall thickness.
3. The type 2 post shall be 2 in. x 2 in. x 12 ga. wall thickness.
4. The type 3 post shall be $2\frac{1}{2}$ in. x $2\frac{1}{2}$ in. x 12 ga. wall thickness.

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL SIGN POSTS

SEPTEMBER 2006

STANDARD DRAWING NO. E 802-SNGS-09

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

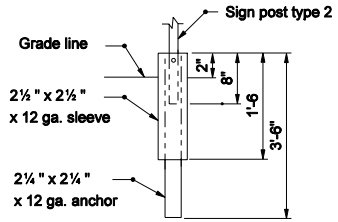
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-06
CHIEF HIGHWAY ENGINEER DATE

SQUARE POST

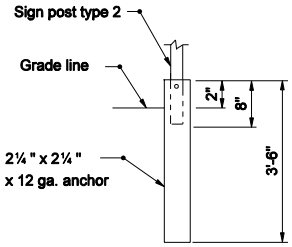
12 ga. Thickness



REINFORCED ANCHOR BASE

SQUARE POST

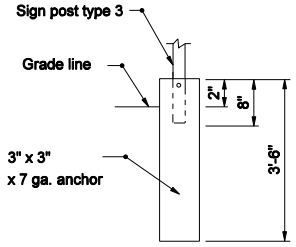
12 ga. Thickness



UNREINFORCED ANCHOR BASE

SQUARE POST

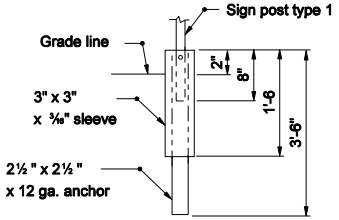
12 ga. Thickness



UNREINFORCED ANCHOR BASE

SQUARE POST

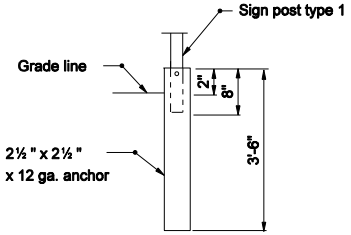
12 ga. Thickness



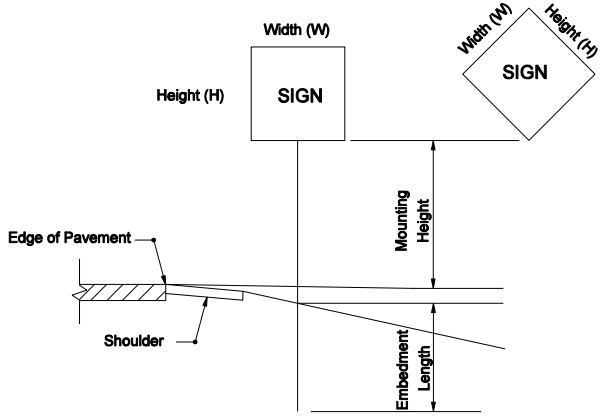
REINFORCED ANCHOR BASE

SQUARE POST

12 ga. Thickness



UNREINFORCED ANCHOR BASE



GENERAL NOTES:

1. See Standard Drawing E-802-SNGS-09 for sign size and E802-SNPL-02 for mounting height table.

POST	TYPE	WALL THICKNESS	NO. OF POSTS PERMITTED IN 7 ft PATH	EMBEDMENT LENGTH
U-CHANNEL	A , B		1 OR 2	3'-6"
SQUARE	1	12 ga.	1	ANCHOR BASE
	2	12 ga.	1 OR 2	
	3	12 ga.	1	

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL SIGN POSTS

SEPTEMBER 2006

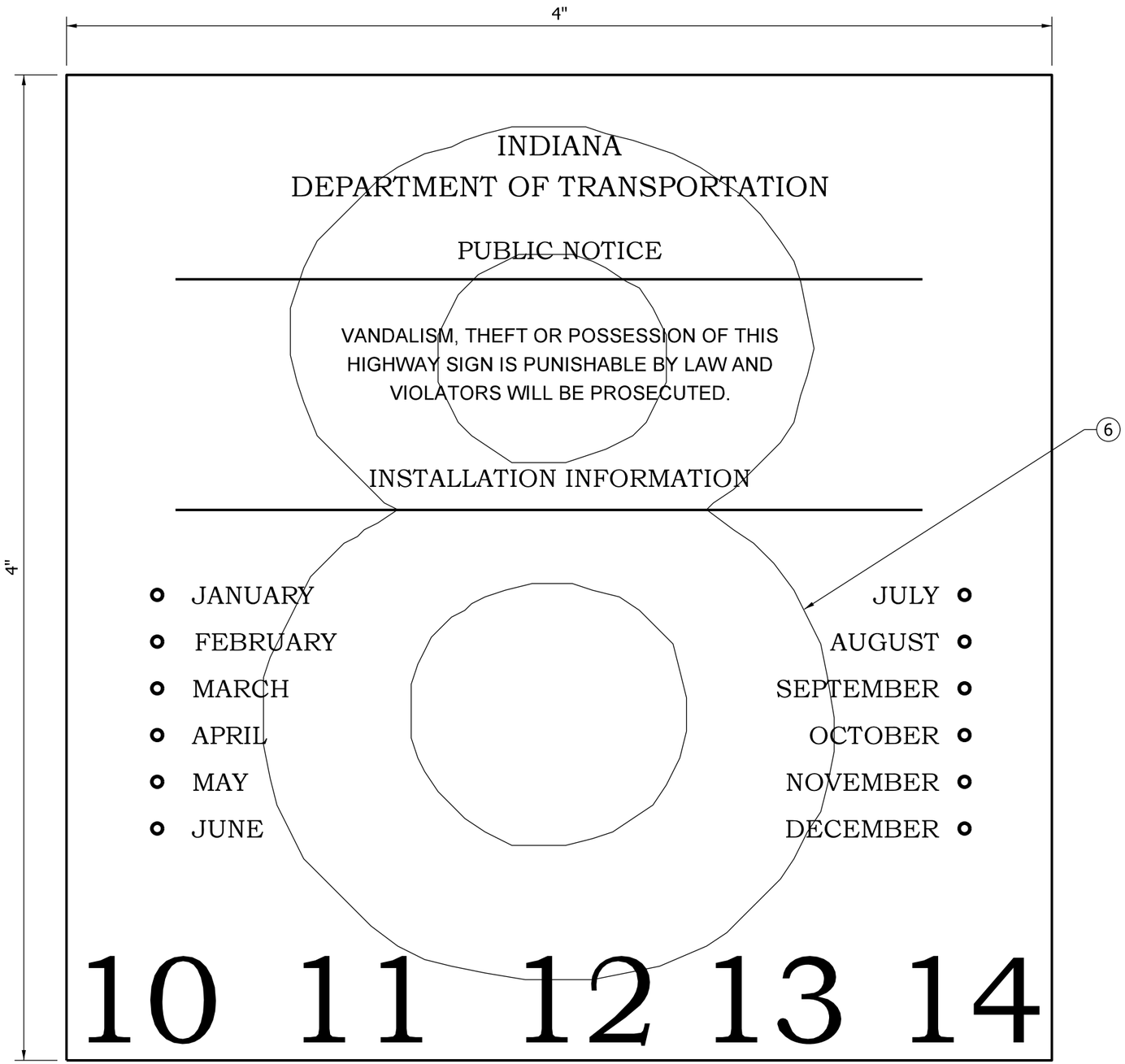
STANDARD DRAWING NO. E 802-SNGS-10

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES:

1. Height of lettering shall be 1/8" to 1/4". The height of the dates along the bottom shall be 1/2".
2. Copy shall be black on reflectorized white background
3. The number of dates along the bottom need not be five, and the first date need not be 07. However, the installation date shall be shown.
4. The month and year of installation shall be punched by a 1/4" minimum diameter hole.
5. The overlay number to be of colored transparent sheeting to indicate the last digit of the year of installation.

(6) The decade of installation shall be indicated by color of transparent sheeting:

2010 - 2019 Red
2020 - 2029 Brown
2030 - 2039 Orange

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN IDENTIFICATION
MARKING

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNGS-11

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

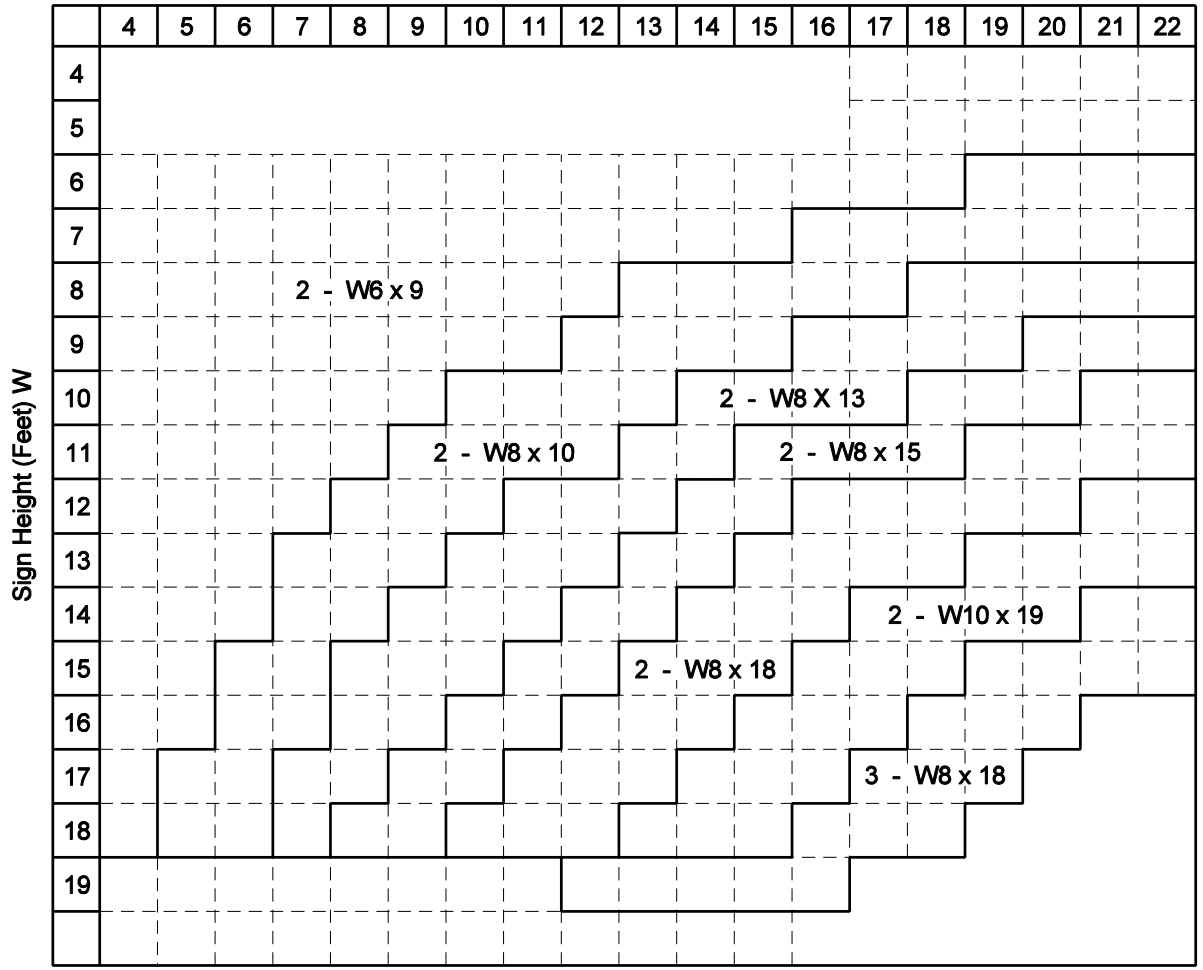
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

Wide Flange Post Selection Table

Sign Width (Feet) L



INDIANA DEPARTMENT OF TRANSPORTATION

WIDE FLANGE POST SELECTION TABLE

MARCH 2004

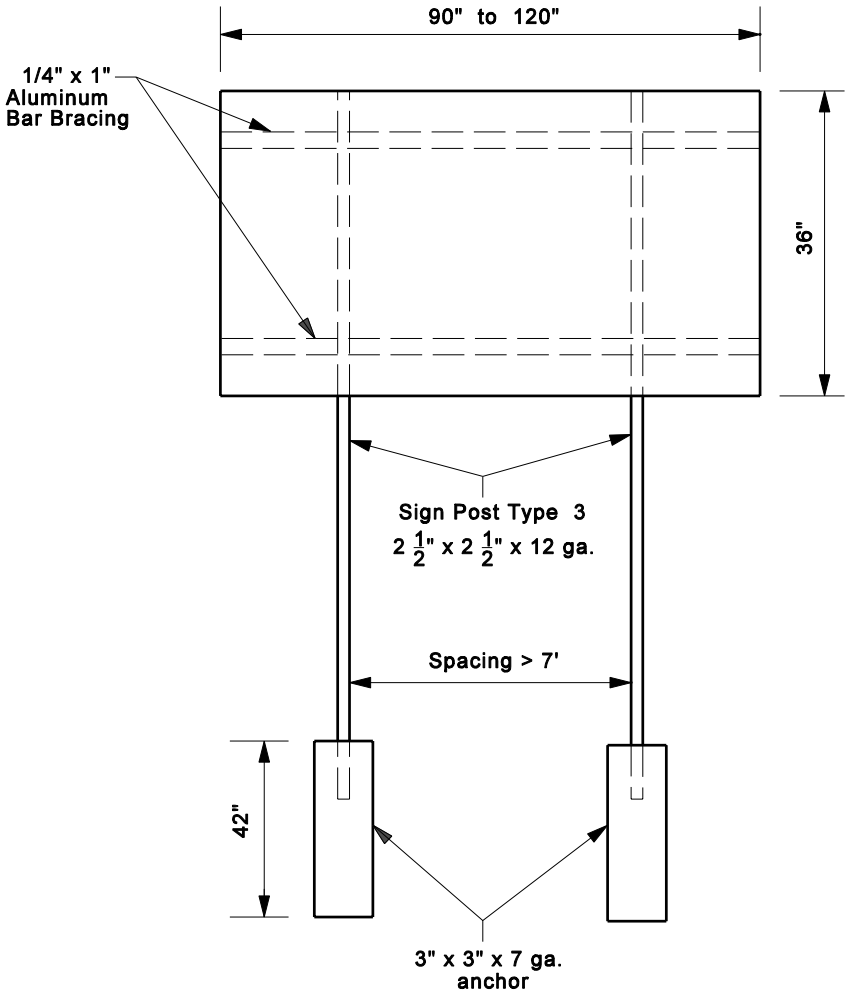
STANDARD DRAWING NO. E 802-SNGS-12

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



UNREINFORCED ANCHOR BASE

NOTES

1. Maximum Sign Width 120", Height 36".

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL SIGN POSTS

SEPTEMBER 2006

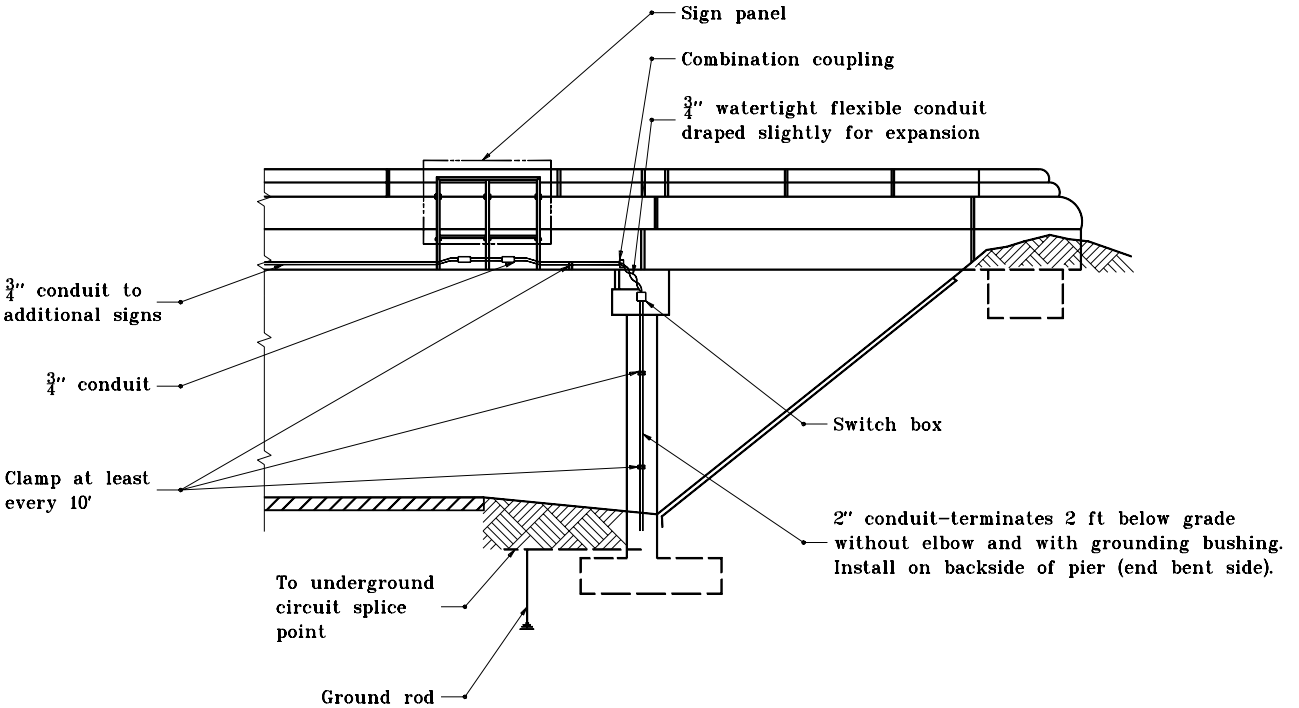
STANDARD DRAWING NO. E 802-SNGS-13

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

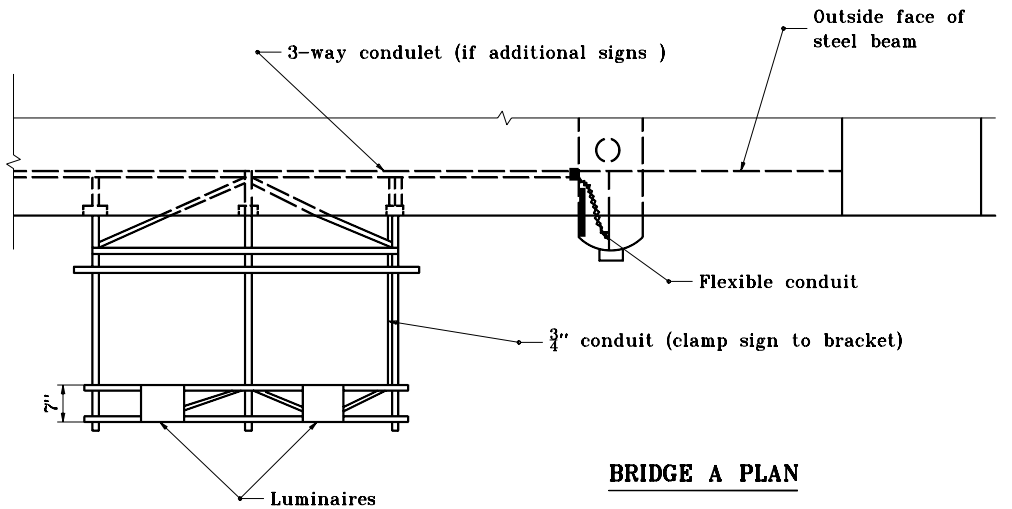
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-06
CHIEF HIGHWAY ENGINEER DATE



BRIDGE A



BRIDGE A PLAN

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN ILLUMINATION DETAILS

SEPTEMBER 2001

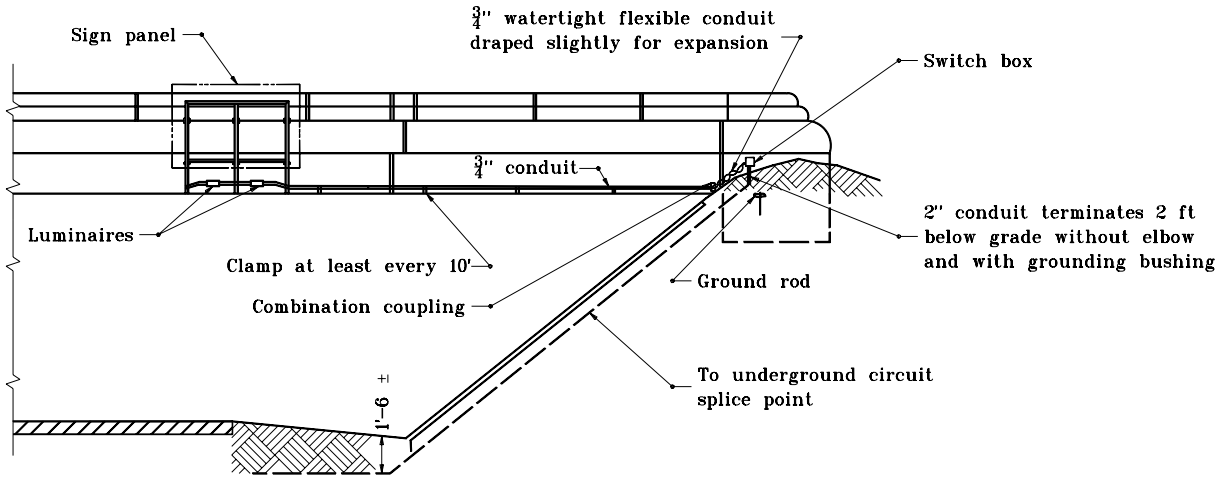
STANDARD DRAWING NO. **E 802–SNIL–01**

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

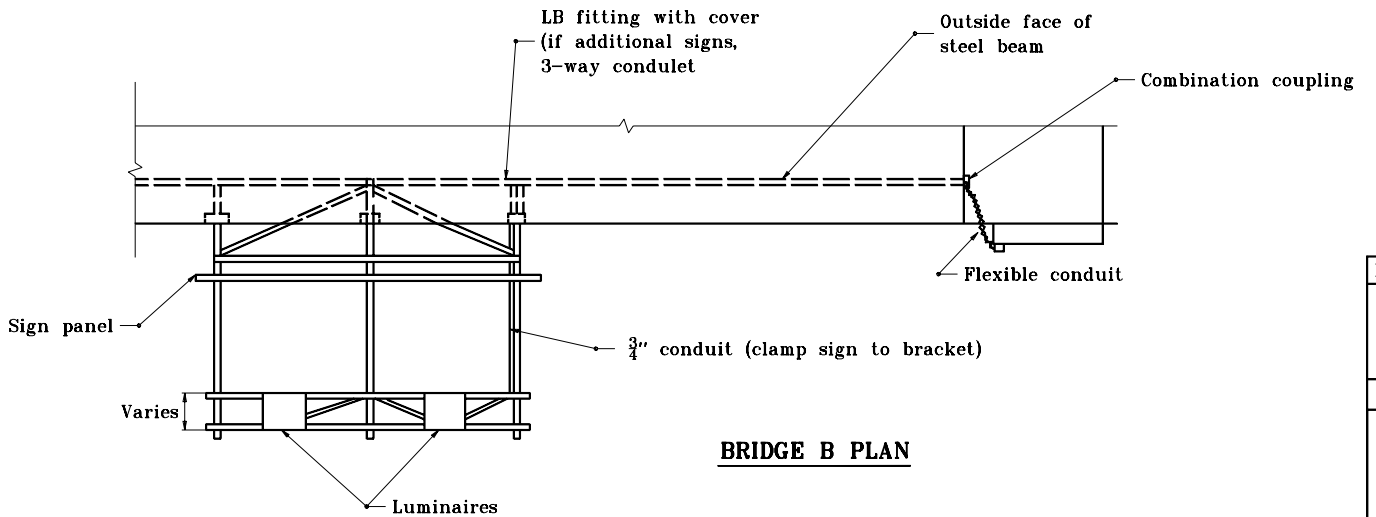
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich — DESIGN STANDARDS ENGINEER — 9–04–01 DATE

/s/ Firooz Zandi — CHIEF HIGHWAY ENGINEER — 9–04–01 DATE



BRIDGE B



BRIDGE B PLAN

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN ILLUMINATION DETAILS

SEPTEMBER 2001

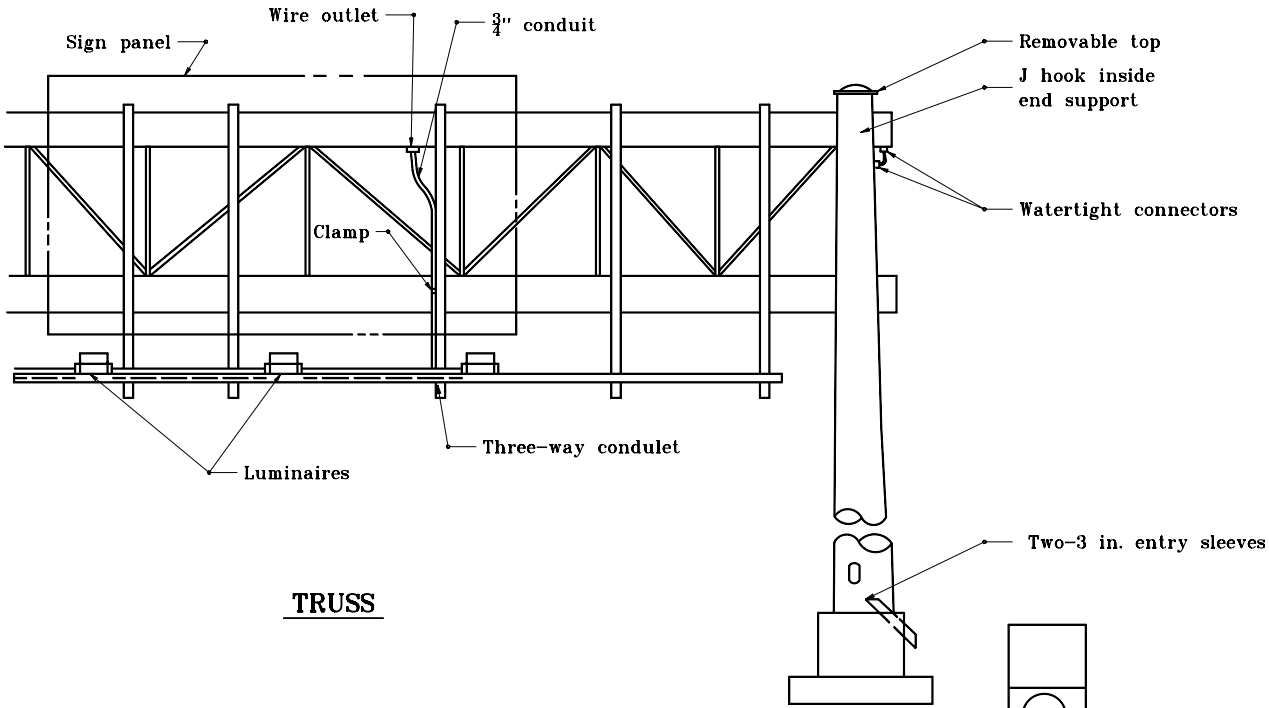
STANDARD DRAWING NO. **E 802-SNIL-02**

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

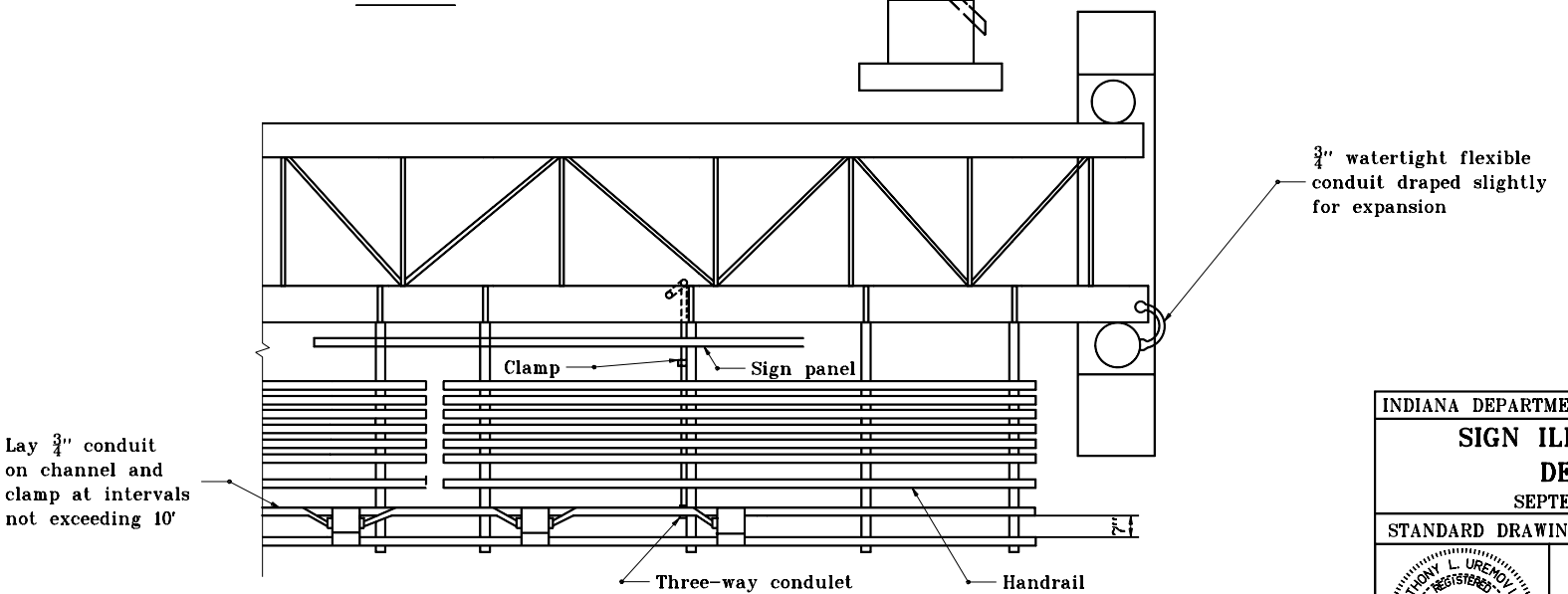
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



TRUSS



Top View

TRUSS PLAN

GENERAL NOTES

1. For grating details see Std. Dwg. No. E 802–SNWW–02.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN ILLUMINATION DEATILS

SEPTEMBER 2001

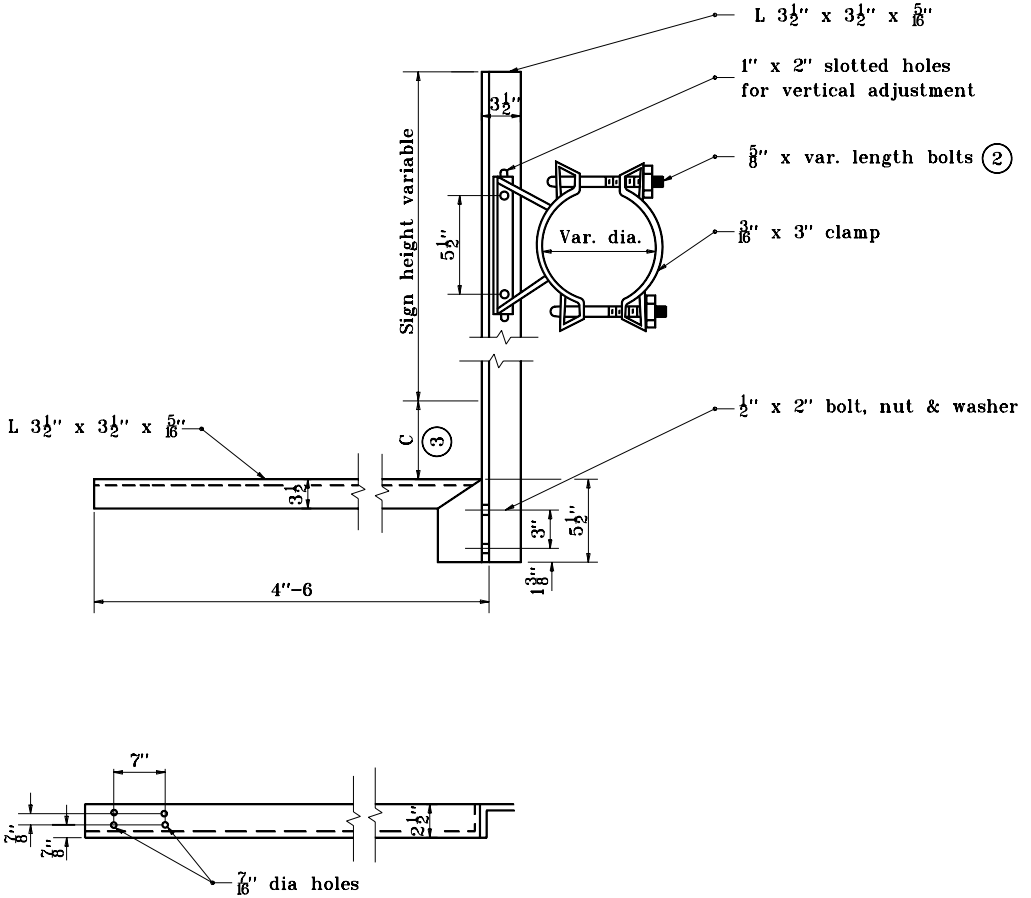
STANDARD DRAWING NO. **E 802–SNIL–03**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9–04–01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9–04–01
CHIEF HIGHWAY ENGINEER — DATE



SIGN BRACKET WITH EXTENSION LIGHTING SUPPORT (FOR SINGLE ARM OR BEAM)

GENERAL NOTES

1. Alternate right and left hand sign brackets required. (See typical plan)

(2) See Standard Drawing E 802-SNIL-07 for Conduit-Lighting Detail.

(3) Dimension governed by type of lighting fixture used. The contractor shall advise the fabricator of this dimension.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BRACKET WITH EXTENSION LIGHTING SUPPORT

SEPTEMBER 2001

STANDARD DRAWING NO. **E 802-SNIL-06**

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

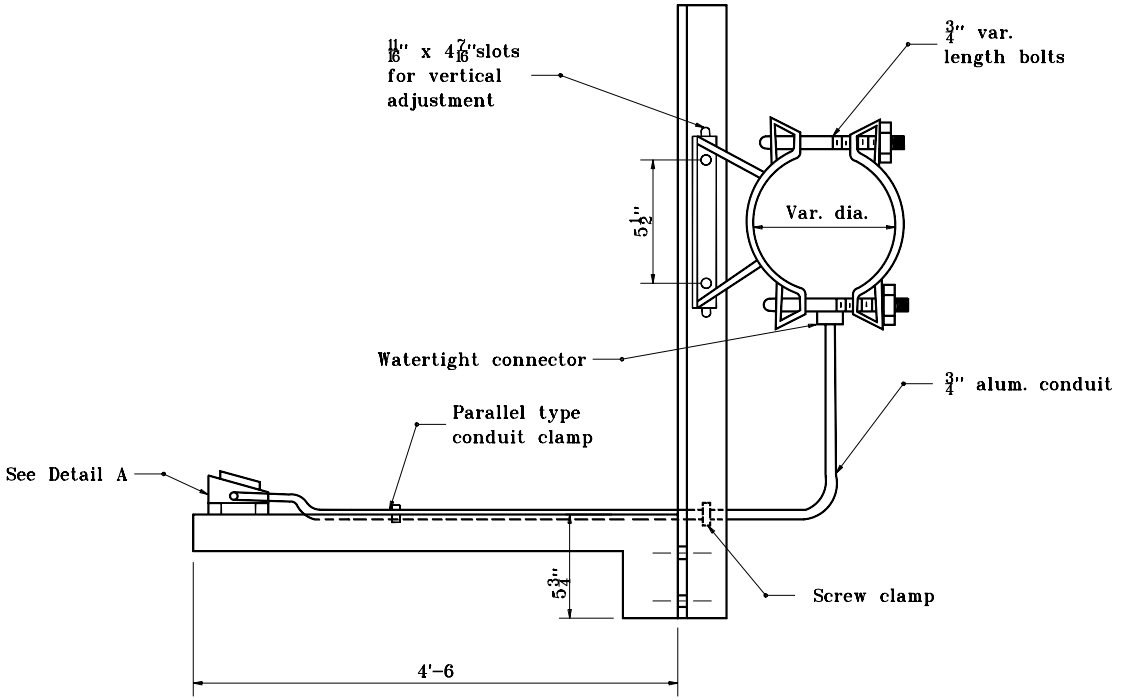
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

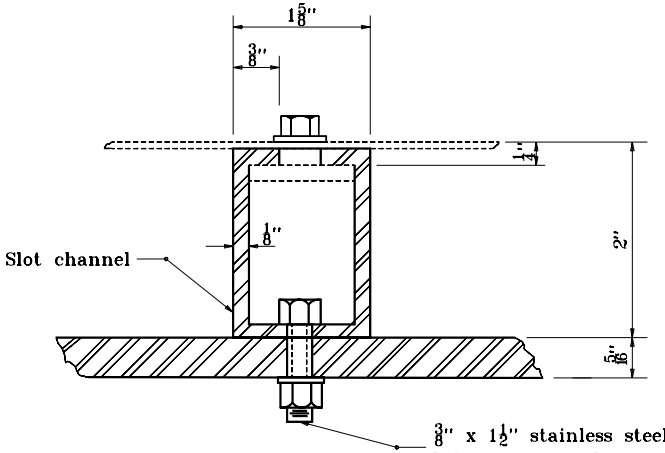
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

1. For connection details see Sign Wiring Details on the plans.



CONDUIT / LIGHTING DETAIL
(For single arm or beam sign bracket)



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

CONDUIT / LIGHTING

SEPTEMBER 2001

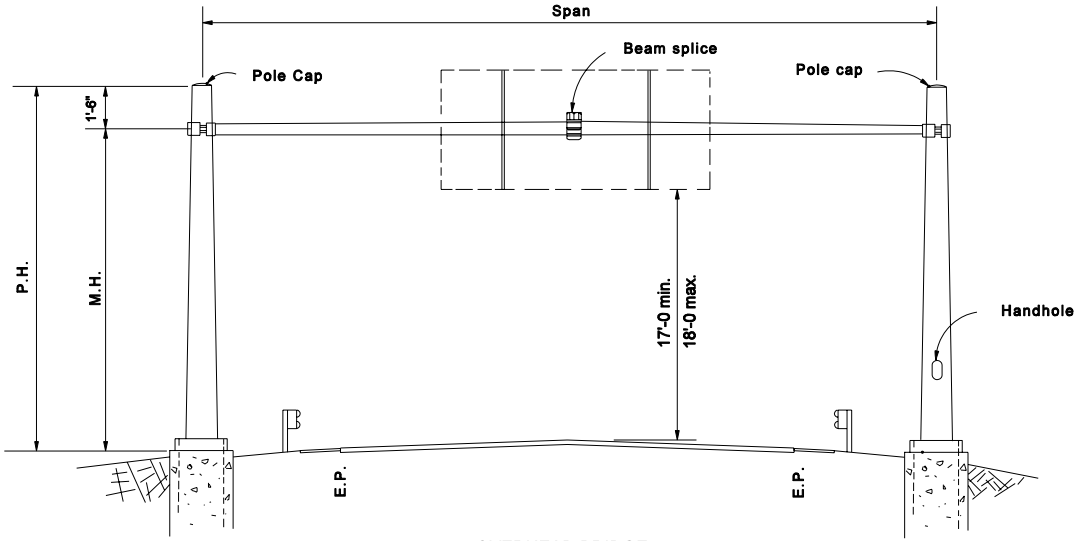
STANDARD DRAWING NO. **E 802-SNIL-07**

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

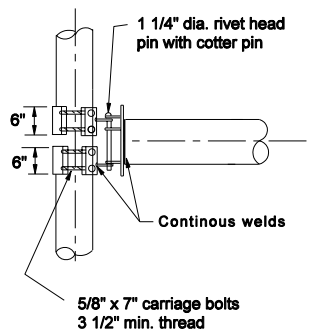
DESIGN STANDARDS ENGINEER

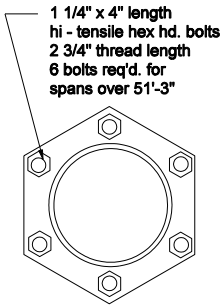
/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

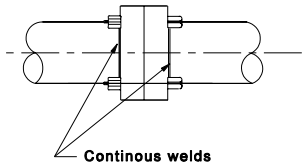
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



OVERHEAD BRIDGE







BEAM SPLICE

All Dimension are in mm unless otherwise specfied

INDIANA DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN BRIDGE SPANS

MARCH 2004

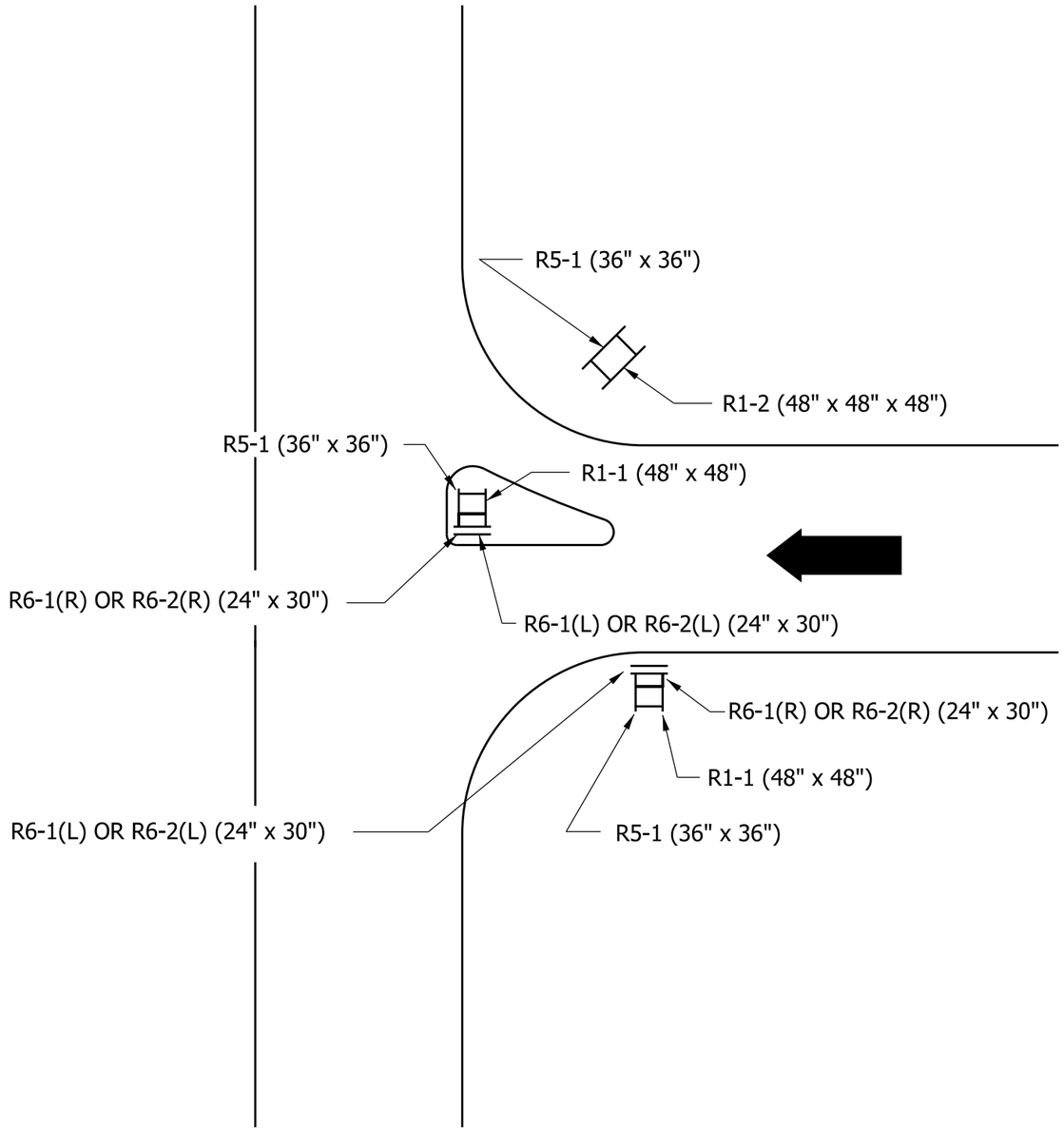
STANDARD DRAWING NO. E 802-SNOB-01

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



INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DETAILS
TYPICAL LOCATION

SEPTEMBER 2010

STANDARD DRAWING NO. E 802-SNPL-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave *09/01/10*
DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller *09/01/10*
CHIEF HIGHWAY ENGINEER — DATE

TYPE OF ROADWAY CLEARANCE	INTERSTATE AND DIVIDED HIGHWAY WITH SHOULDER, RURAL & URBAN	DIVIDED HIGHWAY WITH CURB, RURAL & URBAN	NON-DIVIDED HIGHWAY, RURAL OR CITY STREET	NON-DIVIDED HIGHWAY, URBAN
VERTICAL: EDGE OF TRAVELED WAY PAVEMENT TO BOTTOM OF SIGN OR SIGNS	7 ft TO 7.5 ft ①	7 ft TO 7.5 ft ②	5 ft TO 5.5 ft ④ ②	7 ft TO 7.5 ft ②
HORIZONTAL: EDGE OF TRAVELED WAY PAVEMENT TO EDGE OF SIGN OR SIGNS	12 ft min. or 6 ft min. from the shoulder, whichever is greater	6 ft min. ③	12 ft min. or 6 ft min. from the shoulder, whichever is greater	12 ft min. or 6 ft min. from the shoulder, whichever is greater ③

NOTES:

① If a secondary sign is mounted below another sign, the secondary sign shall be installed at least 5 ft. above the level of the pavement edge.

② The height to the bottom of a secondary sign mounted below another sign may be 1 ft. less than the height specified above.

③ In urban areas where lateral offsets are limited, a minimum lateral offset of 2 ft. may be used. A minimum offset of 1 ft. from the face of the curb may be used in urban areas where sidewalk width is limited or where existing poles are close to the curb.

④ Where parking or pedestrian movements occur on an expected recurring basis, the clearance to the bottom of the sign shall be at least 7 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

HORIZONTAL AND VERTICAL SHEET SIGN CLEARENCE

SEPTEMBER 2003

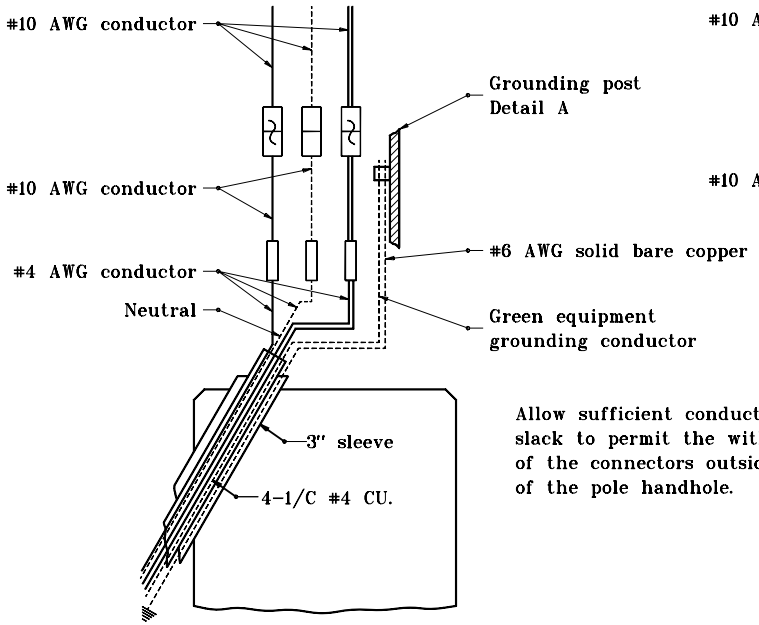
STANDARD DRAWING NO. E 802-SNPL-02

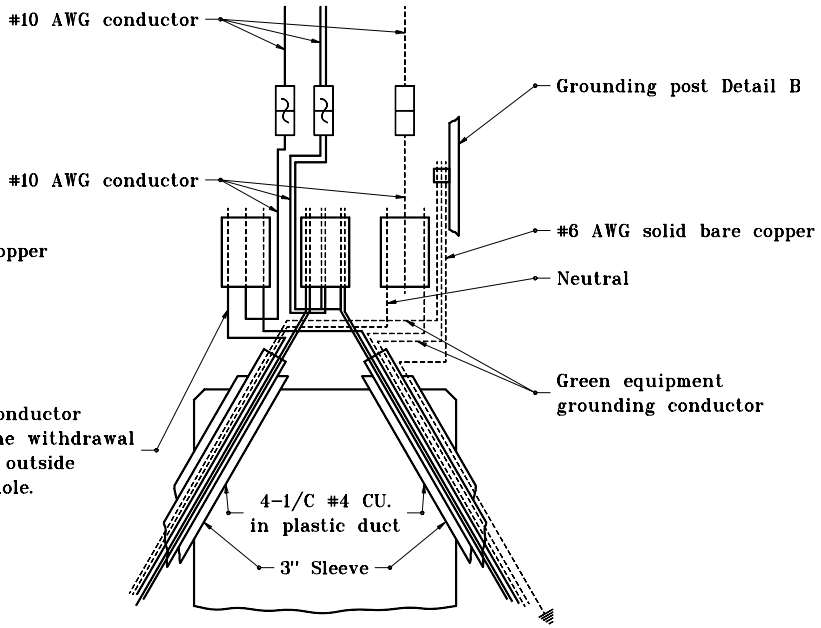
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

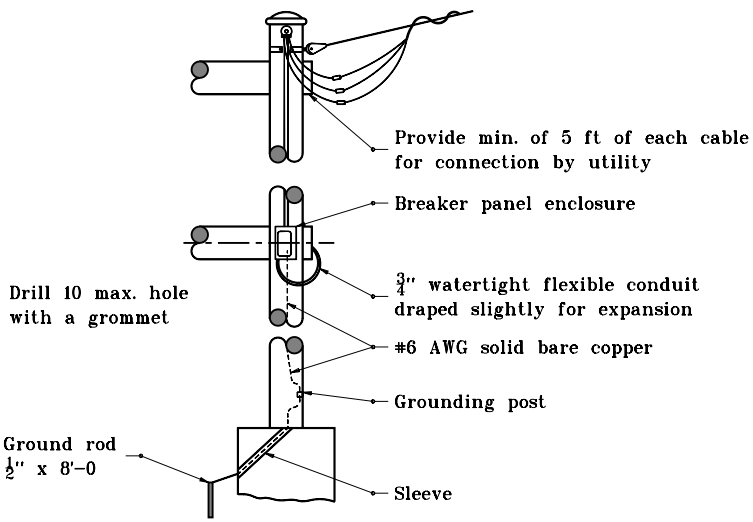
/s/ Richard L. VanCleave 9-02-03
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-02-03
CHIEF HIGHWAY ENGINEER DATE





OVERHEAD SIGN SERVICE DETAIL (UNDERGROUND CONNECTIONS)

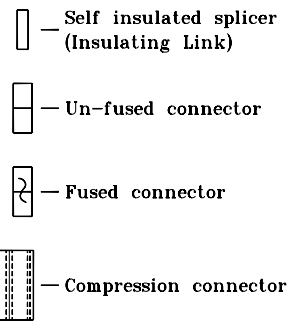


OVERHEAD SIGN SERVICE DETAIL (AERIAL CONNECTION)

GENERAL NOTES

1. Breaker panel wiring to be used with bridge bracket sign illumination, or when lighting overhead sign is not part of a roadway lighting system.
2. Oxidation inhibitor shall be liberally applied to all surfaces that mate with a dissimilar material.

LEGEND



INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WIRING DETAILS

SEPTEMBER 2001

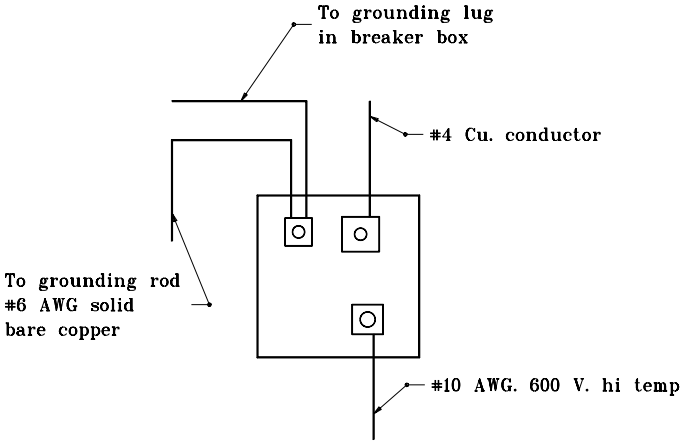
STANDARD DRAWING NO. E 802-SNWR-01

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

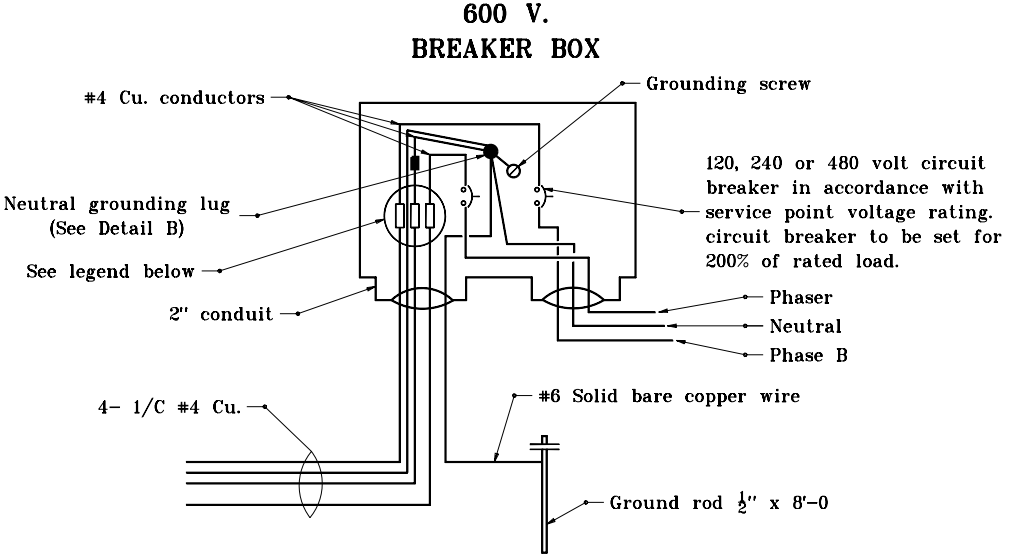
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

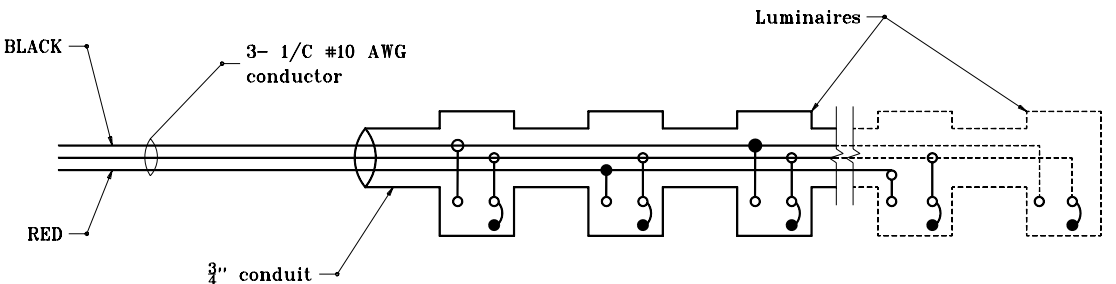
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



NEUTRAL GROUND LUG DETAIL B



BREAKER BOX WIRING DETAIL



Alternate connections to balance load.

(For connection to 120 V. or 240 V. phase to neutral)

LUMINAIRE WIRING DETAIL

LEGEND

Yes No

GENERAL NOTES

1. Breaker panel wiring to be used with bridge bracket sign illumination, or when lighting overhead sign is not a roadway lighting system.
2. Oxidation inhibitor shall be liberally applied to all surfaces that mate with a dissimilar material.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WIRING DETAILS

SEPTEMBER 2001

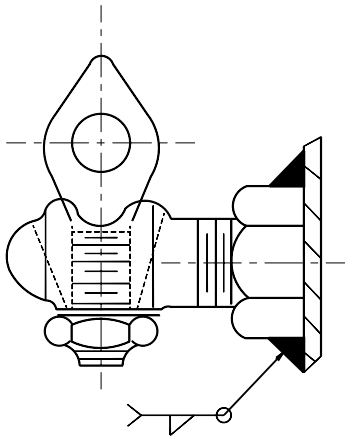
STANDARD DRAWING NO. E 802-SNWR-02

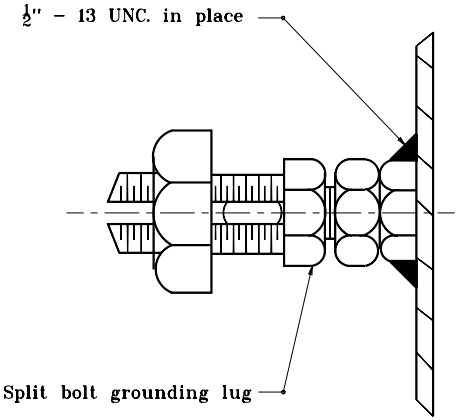
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

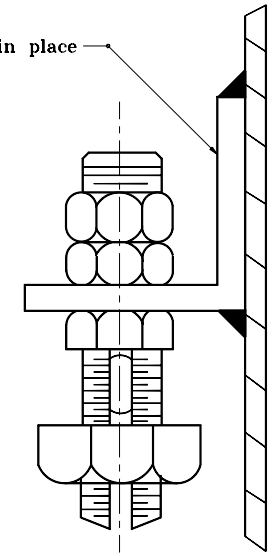
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER DATE

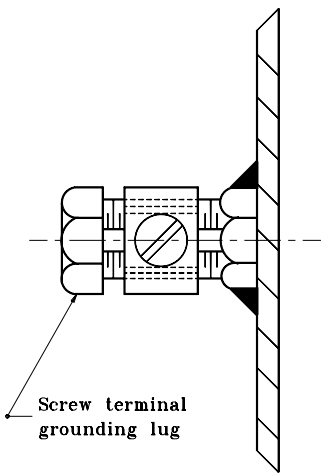


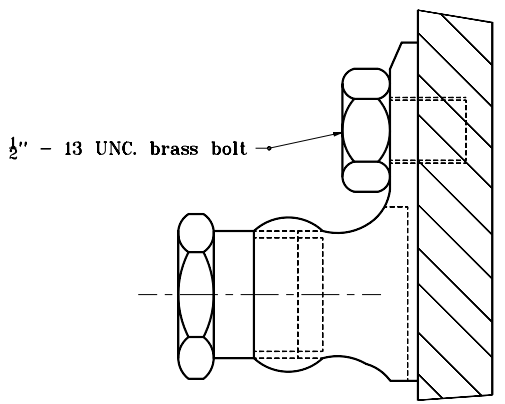




GENERAL NOTES

1. Oxidation inhibitor shall be liberally applied to all surfaces that mate with a dissimilar material.





ALTERNATIVE GROUNDING POSTS DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WIRING DETAILS

SEPTEMBER 2001

STANDARD DRAWING NO. **E 802-SNWR-03**

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

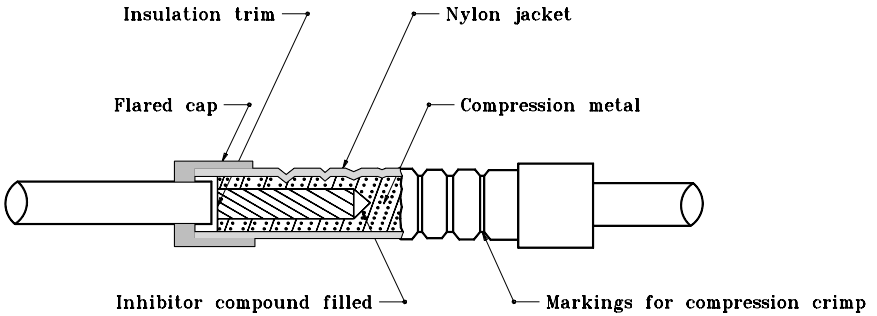
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

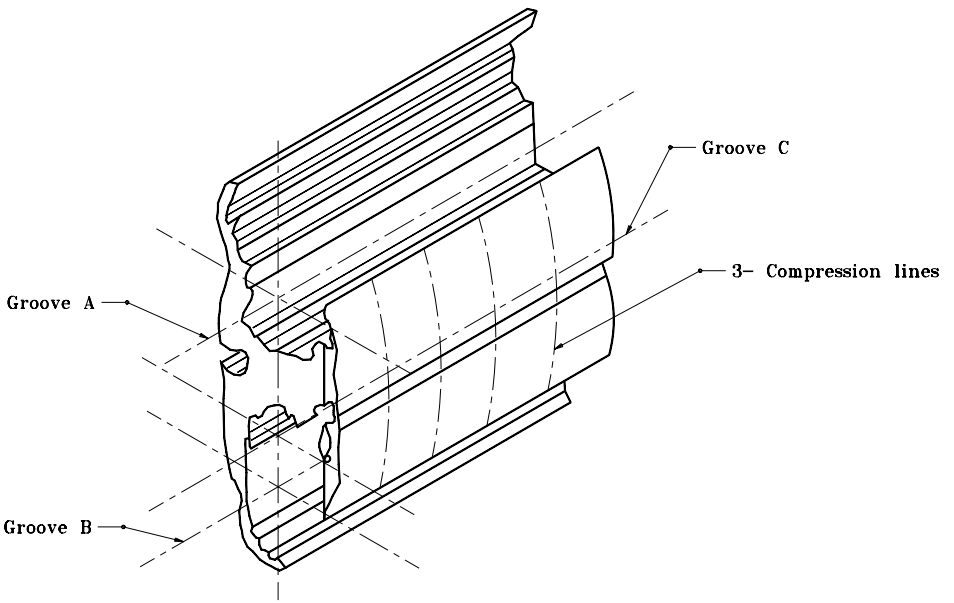
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

1. Oxidation inhibitor shall be liberally applied to all surfaces that mate with a dissimilar material.
2. Grooves A & B to receive 1 #4 Cu. conductor.
3. Groove C to receive 1 #10 conductor.
4. Use of inhibiting compound is mandatory for all connections.
5. Multiple compression fitting shall be covered with snap-on fiber or plastic covers. Taping shall not be permitted.



INSULATING LINK DETAIL



MULTIPLE COMPRESSION FITTING DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WIRING DETAILS

SEPTEMBER 2001

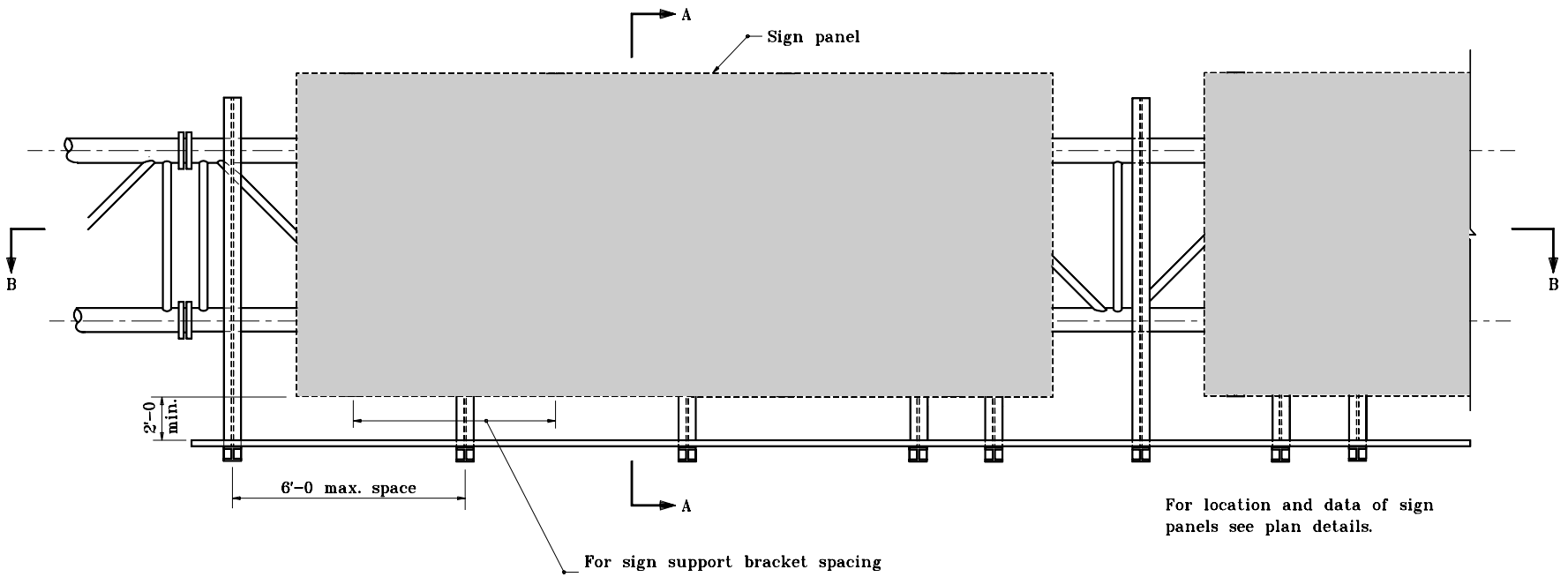
STANDARD DRAWING NO. **E 802-SNWR-04**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



TYPICAL FRONT ELEVATION
(With lights & handrail omitted for clarity)

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN TRUSS DETAILS

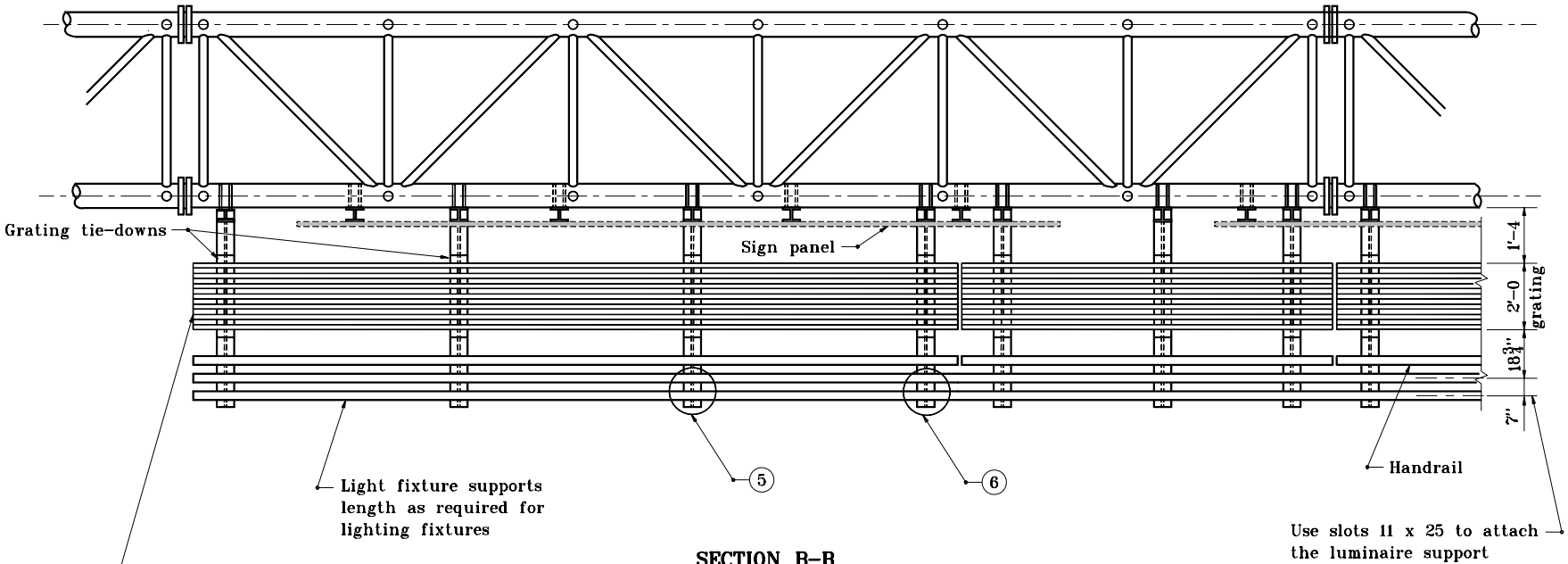
SEPTEMBER 2001

STANDARD DRAWING NO. **E 802-SNWW-01**

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

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



SECTION B–B

1. Aluminum punched walkway deck extrusion may be used as substitute. It shall weigh at least 2.1 lb/ft^3. The overall dimensions are $2\frac{1}{2}$ in by 6 in. Four widths shall be welded together to attain the 2 ft width required. The $\frac{7}{8}$ in. by $3\frac{3}{8}$ in. punchings shall be on 3 in. centers at a 45°angle.

2. Walkway deck extrusion may be used as a substitute for the standard walkway. A different grating of equal design strength may be used upon approval.

3. The top surface of the walkway grating shall be deformed to allow for better traction.

4. Handrail and grating shall span a minimum of 3 brackets.

(5) See Standard Drawing E 802-SNWW-06 for Detail F.

(6) See Standard Drawing E 802-SNWW-06 for Detail G.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN TRUSS DETAILS

SEPTEMBER 2001

STANDARD DRAWING NO. **E 802-SNWW-02**

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

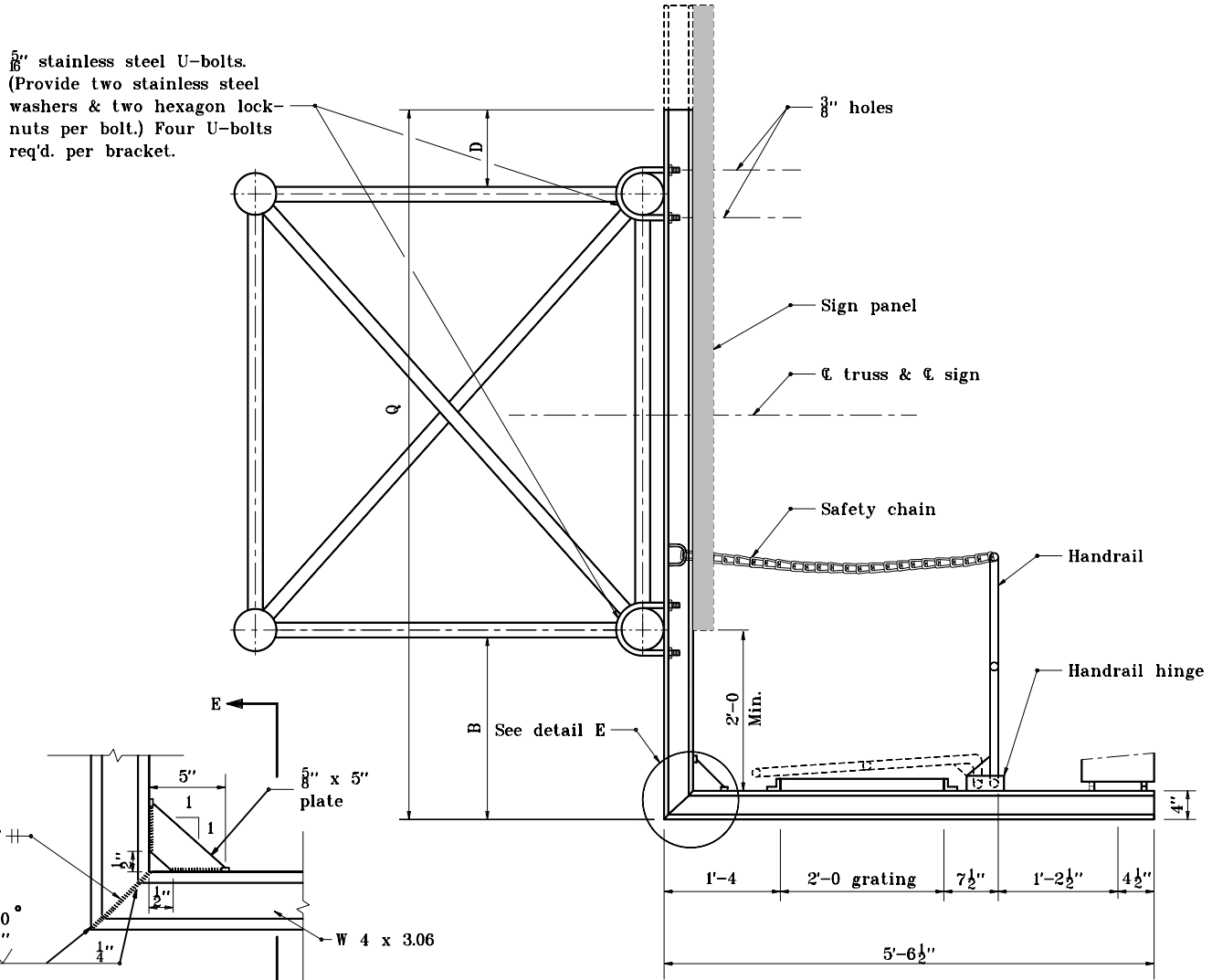
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

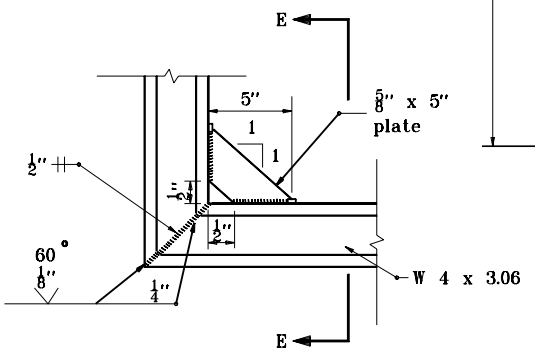
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

GENERAL NOTES

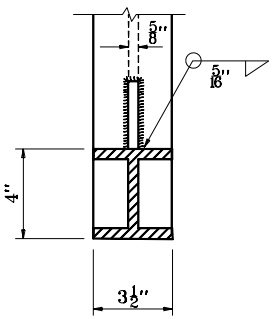
1. Dimensions B,D and Q to be determined by contractor to fit signs involved.
2. Sign panel shall be placed symmetrically about ℄ truss.



SECTION A-A



DETAIL E



SECTION E-E

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN TRUSS DETAILS

SEPTEMBER 2001

STANDARD DRAWING NO. E 802-SNWW-03

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

DESIGN STANDARDS ENGINEER

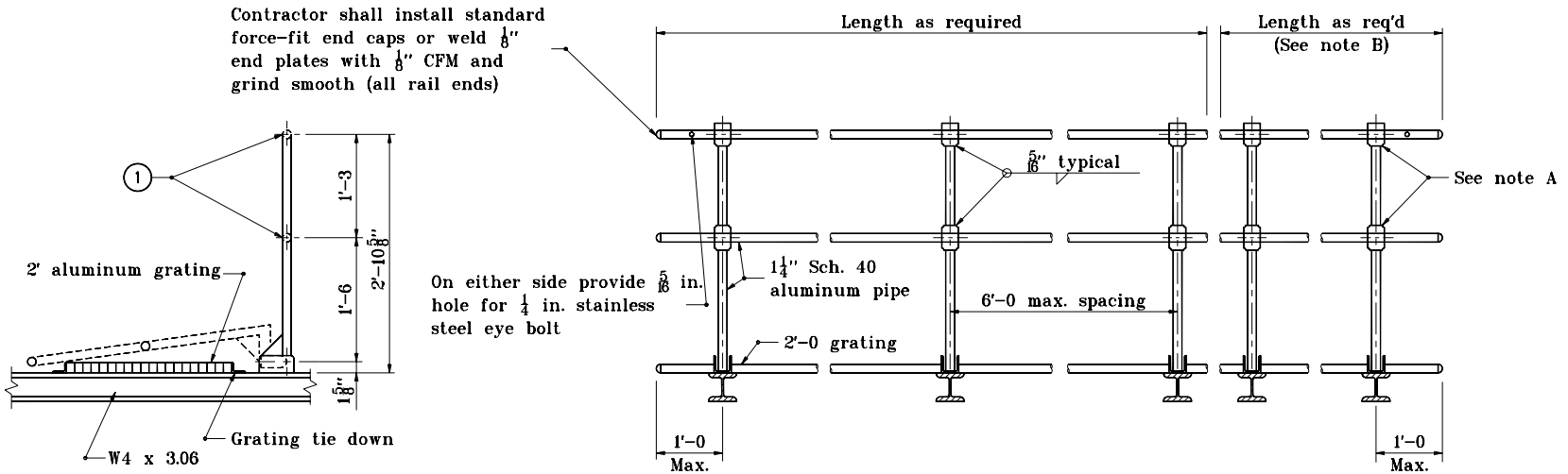
/s/ Anthony L. Uremovich — DESIGN STANDARDS ENGINEER — 9-04-01 DATE

/s/ Firooz Zandi — CHIEF HIGHWAY ENGINEER — 9-04-01 DATE

GENERAL NOTES

① Horizontal rail member shall be continuous thru fitting. Provide $\frac{7}{16}$ in. hole in fitting for $\frac{3}{8}$ in. bolt. Field drill $\frac{7}{16}$ in. hole in horizontal rail member. Provide $\frac{3}{8}$ in. washer & $\frac{3}{8}$ in. locknut for bolt.

2. Rail and grating shall span a minimum of three brackets.



SIDE ELEVATION

FRONT ELEVATION

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY/ HANDRAIL DETAIL

SEPTEMBER 2001

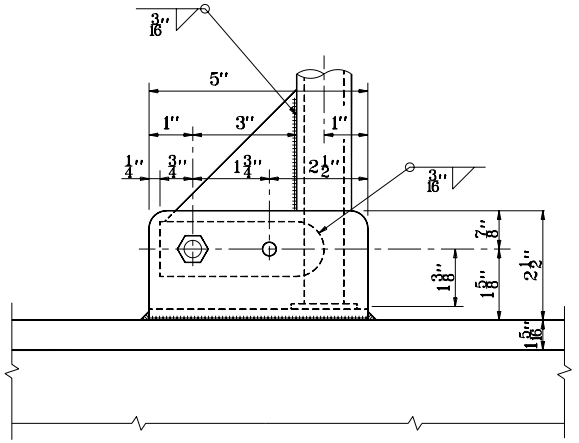
STANDARD DRAWING NO. **E 802-SNWW-04**

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

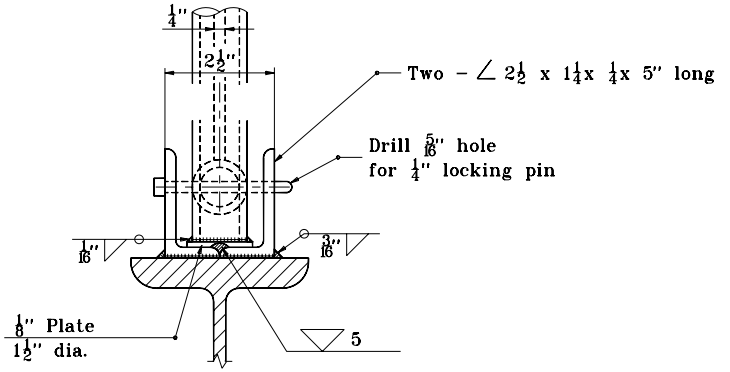
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

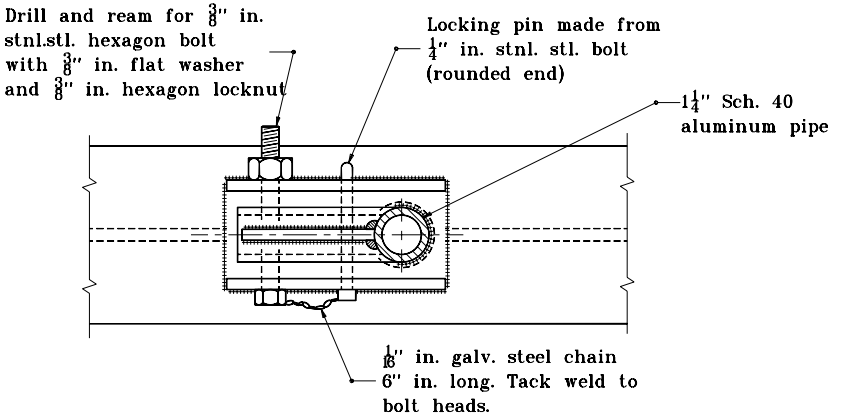
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



SIDE ELEVATION

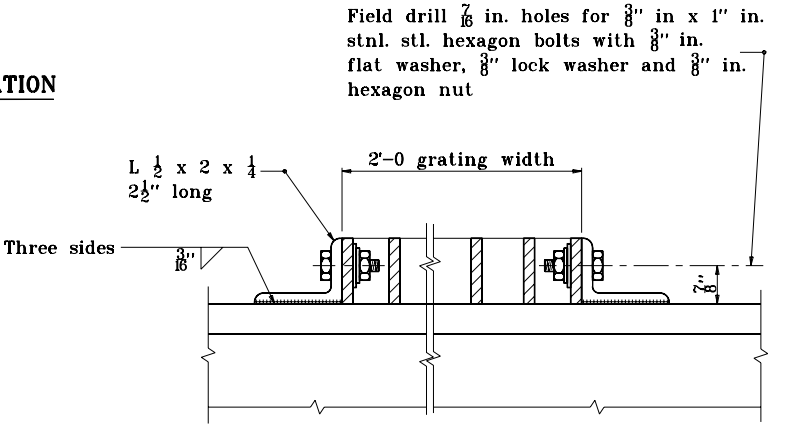


FRONT ELEVATION



PLAN

DETAILS OF HANDRAIL HINGE



GRATING TIE DOWN

(Two req'd per walkway bracket)

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY HANDRAIL DETAILS

SEPTEMBER 2001

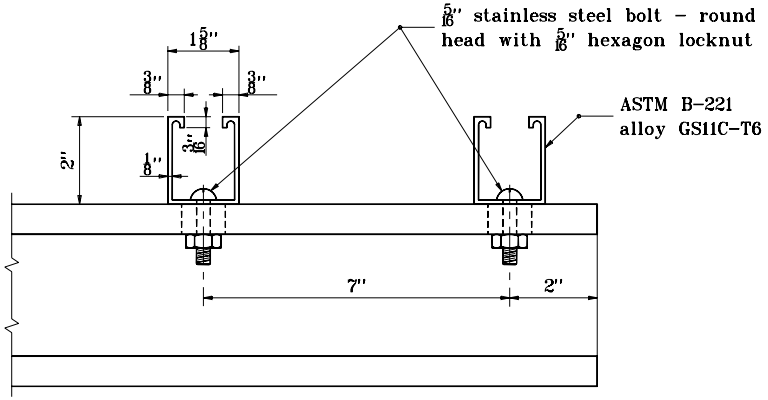
STANDARD DRAWING NO. **E 802-SNWW-05**

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

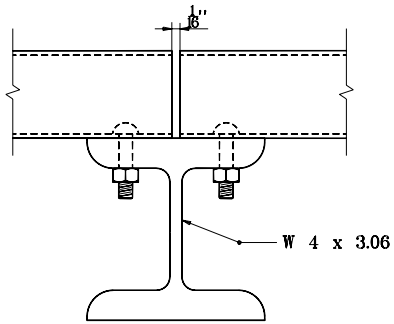
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

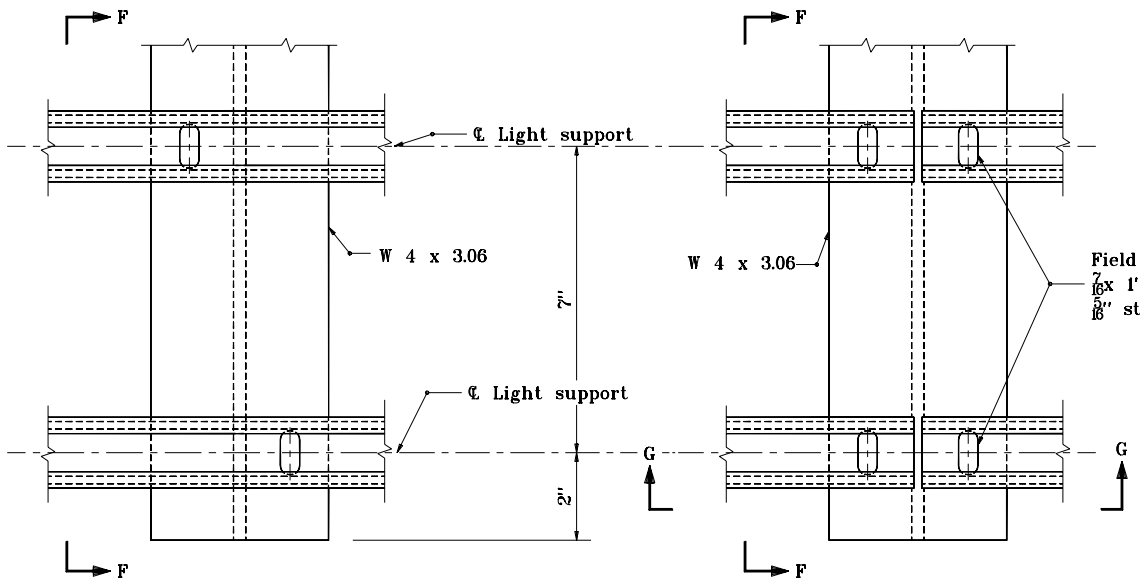
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



SECTION F–F



SECTION G–G



DETAIL F

DETAIL G

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN DETAILS
LIGHTING FIXTURE MOUNTS

SEPTEMBER 2001

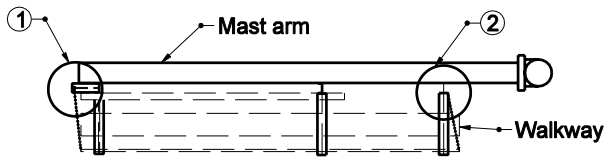
STANDARD DRAWING NO. **E 802-SNWW-06**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

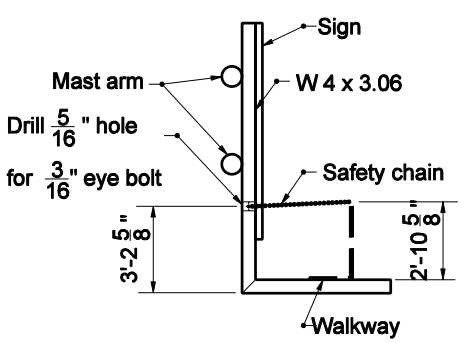
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

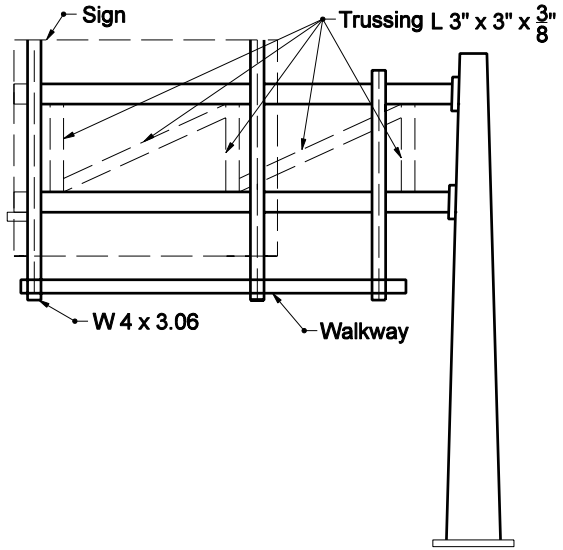


GENERAL NOTE

① See Standard Drawing E 802-SNWW-08 for Detail A.

② See Standard Drawing E 802-SNWW-08 for Detail B.





CHAIN SUPPORT FOR
DOUBLE MASTARM CANTILEVER
(BOX TRUSS SIMILIAR)

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY DETAILS

MARCH 2006

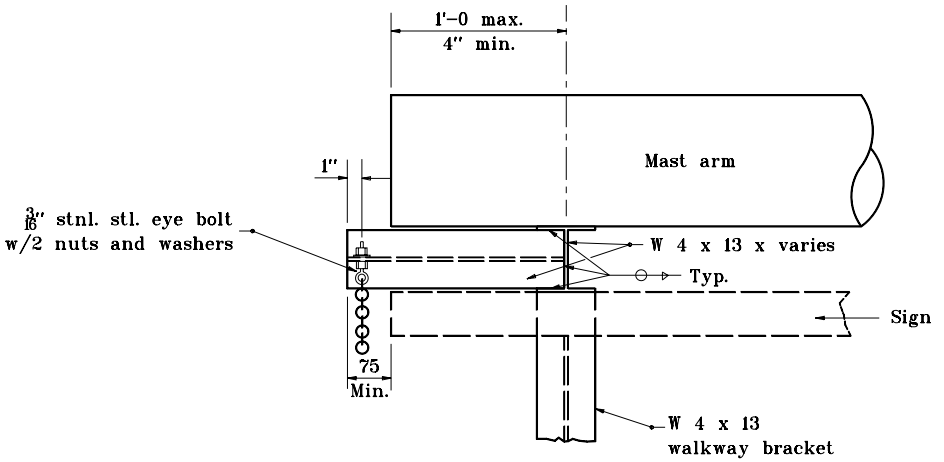
STANDARD DRAWING NO. E 802-SNWW-07

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

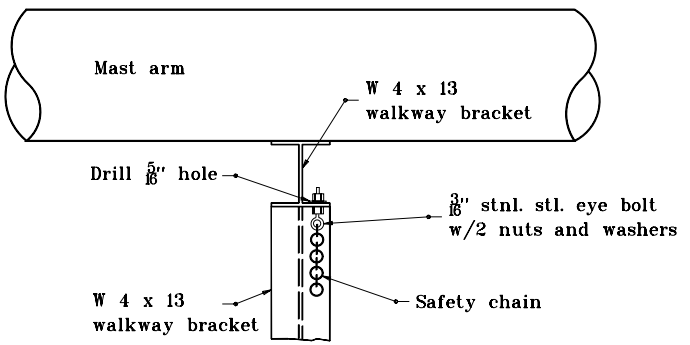
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



DETAIL A



DETAIL B

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY DETAILS

SEPTEMBER 2001

STANDARD DRAWING NO. **E 802-SNWW-08**

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

DESIGN STANDARDS ENGINEER

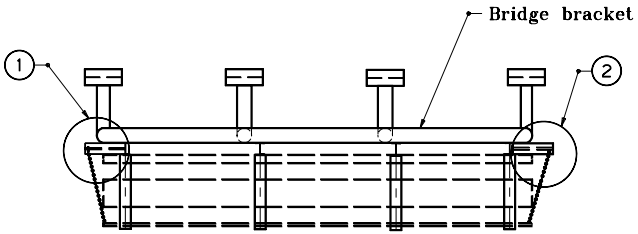
/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

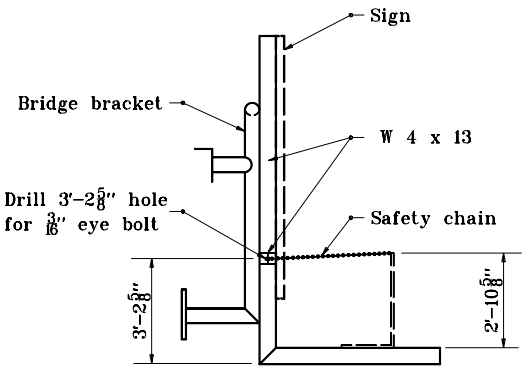
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE

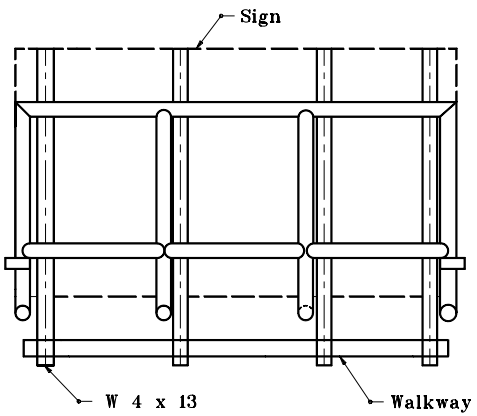
GENERAL NOTES

(1) See Standard Drawing E 802-SNWW-11 for Detail C.

(2) See Standard Drawing E 802-SNWW-11 for Detail D.







CHAIN SUPPORT FOR BRIDGE BRACKET

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY DETAILS

SEPTEMBER 2001

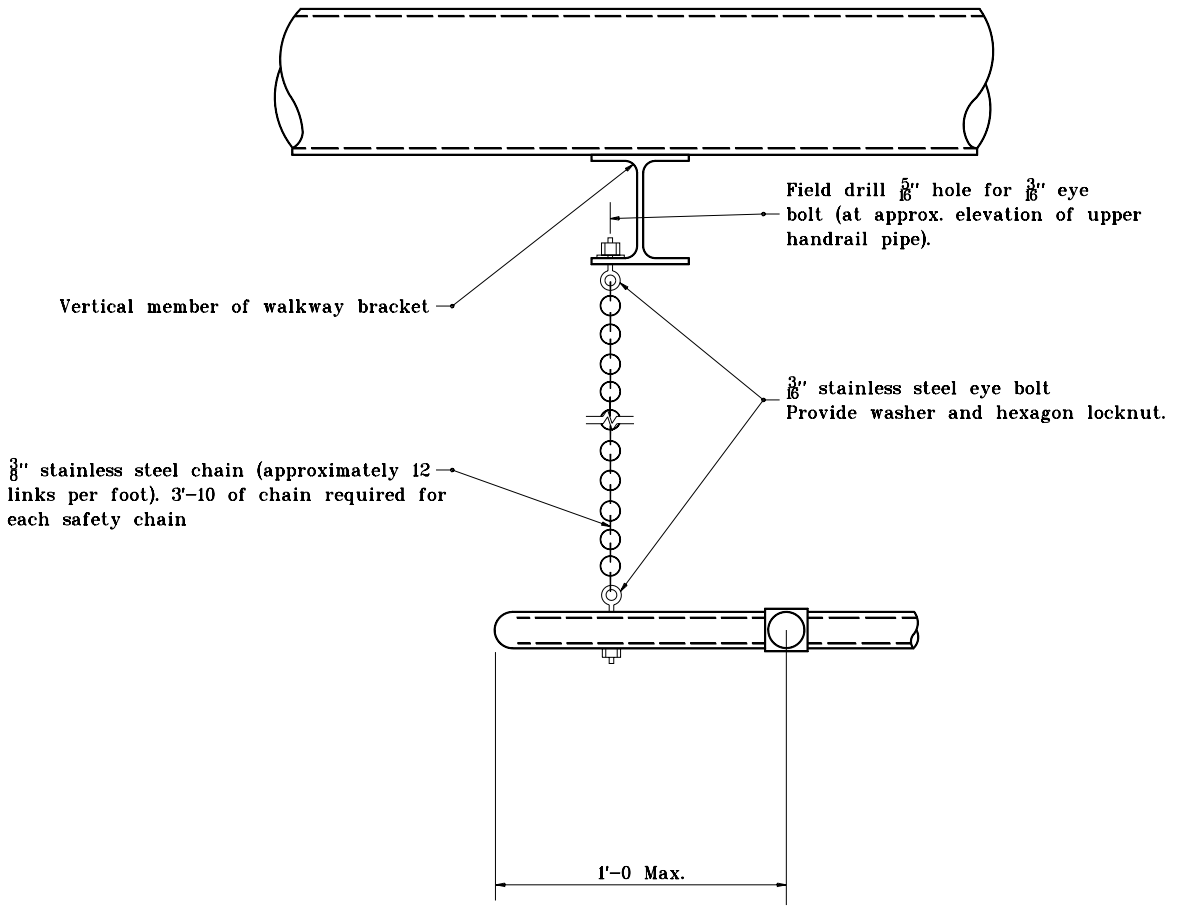
STANDARD DRAWING NO. **E 802-SNWW-09**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



SAFETY CHAIN

One req'd. for each end of each walkway

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY DETAILS

SEPTEMBER 2001

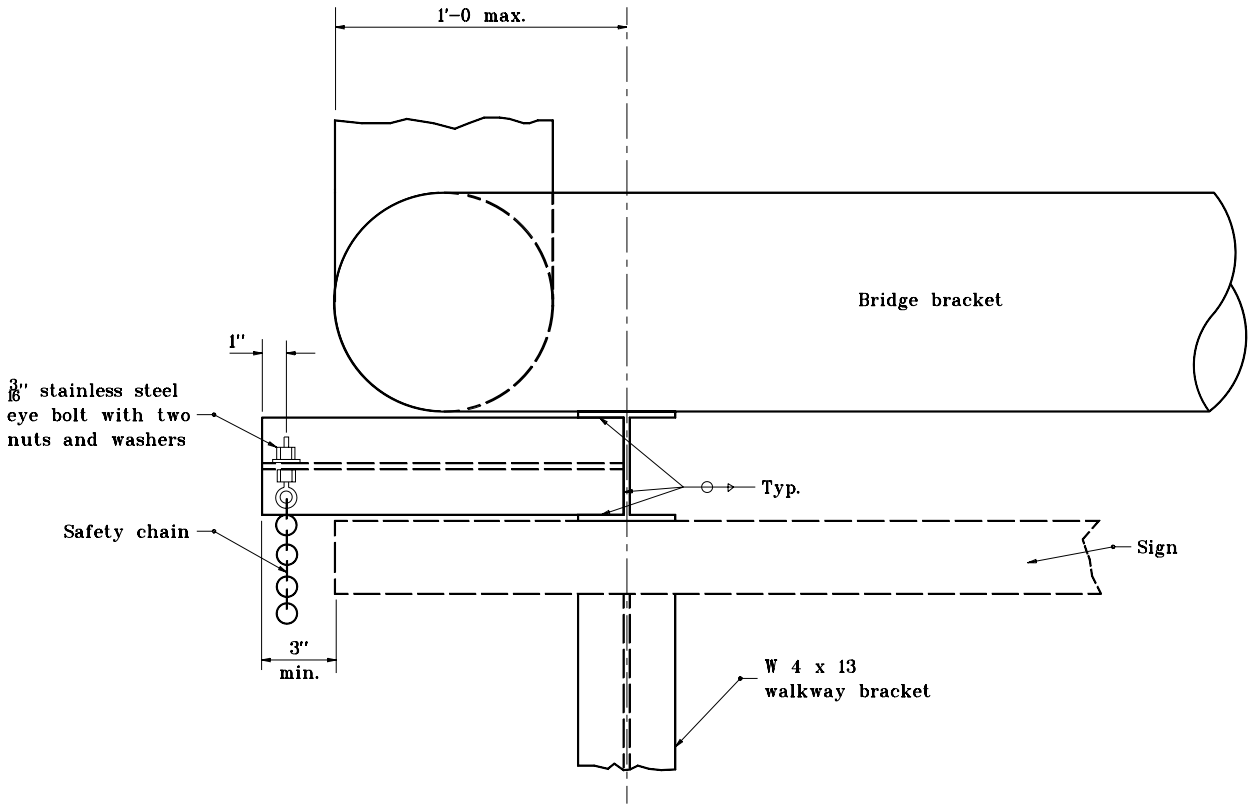
STANDARD DRAWING NO. **E 802-SNWW-10**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



DETAIL C (AS SHOWN)

DETAIL D (OPP. HAND)

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN WALKWAY DETAILS

SEPTEMBER 2001

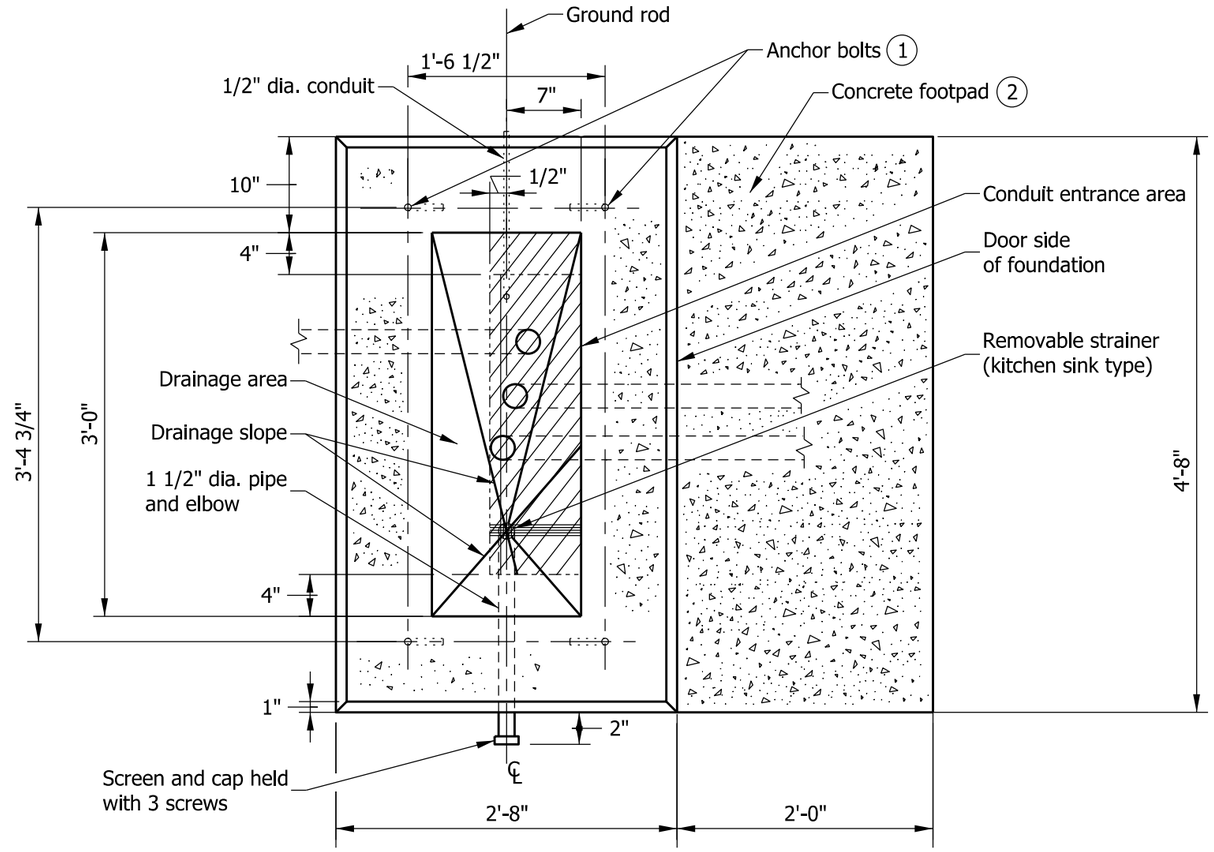
STANDARD DRAWING NO. **E 802-SNWW-11**

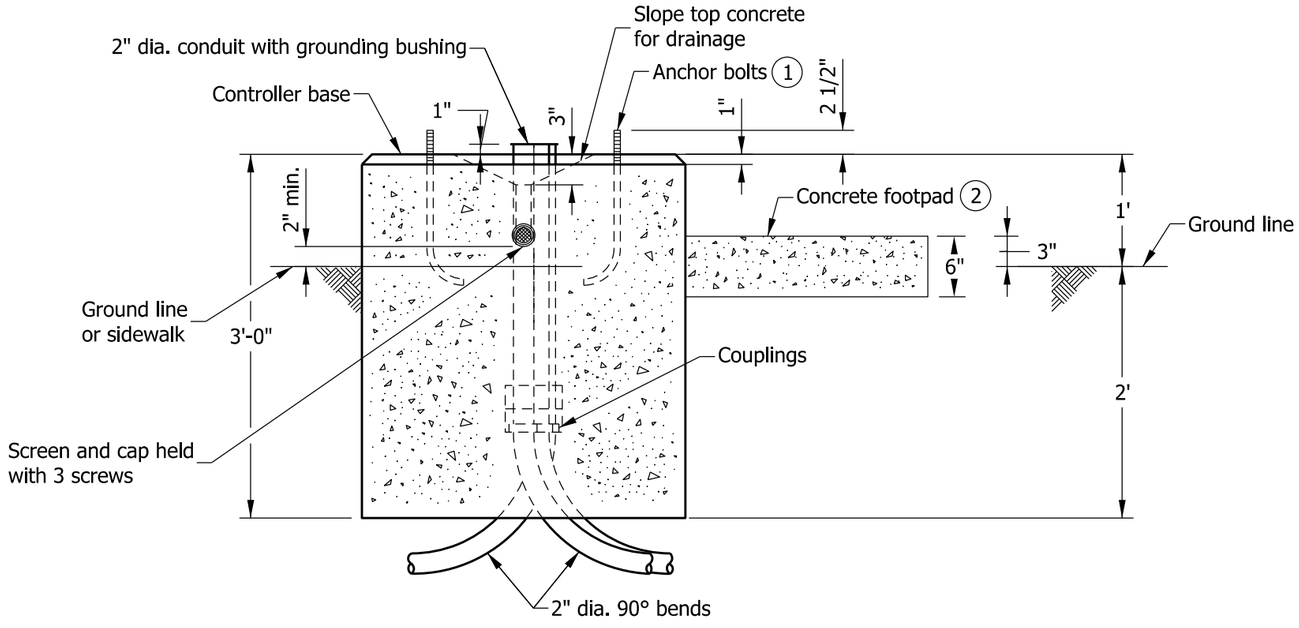
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-04-01
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE





NOTES

(1) See Standard Drawing E 805-SGPB-01 for anchor bolts details.

(2) See Standard Drawing E 805-SGCF-03 for foundation details and General Notes.

INDIANA DEPARTMENT OF TRANSPORTATION

CONTROLLER CABINET FOUNDATION TYPE P-1

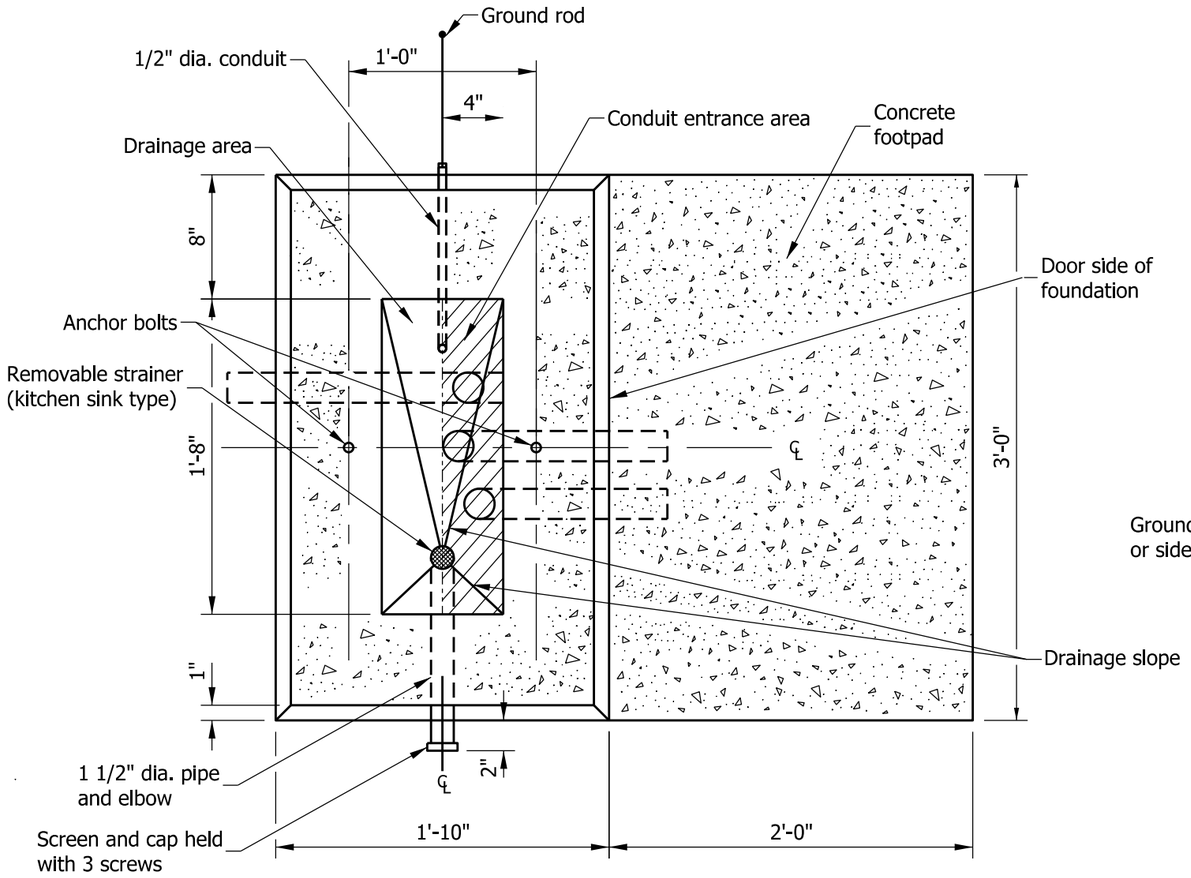
SEPTEMBER 2012

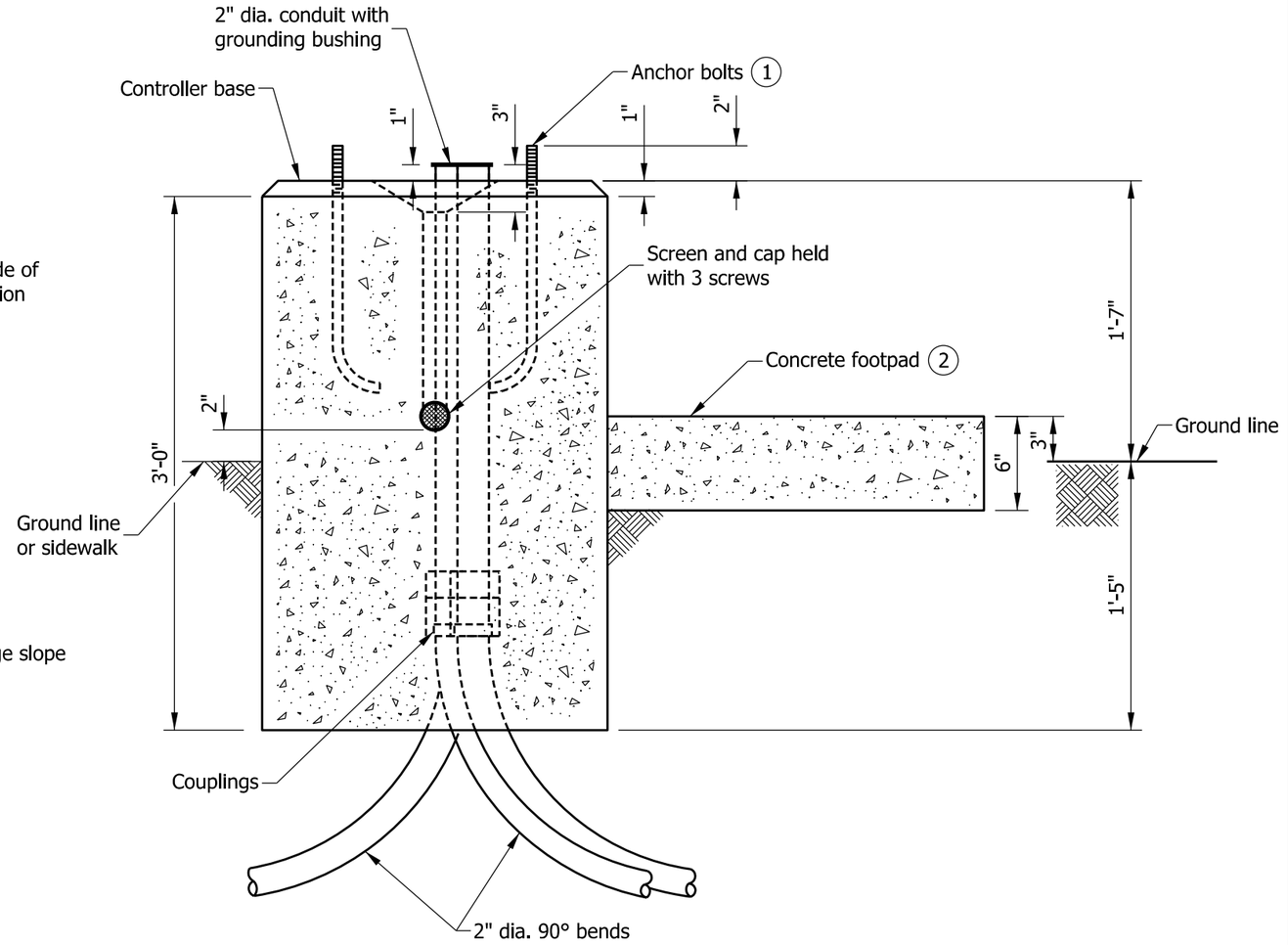
STANDARD DRAWING NO. E 805-SGCF-01

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE





NOTES

(1) See Standard Drawing E 805-SGPB-01 for anchor bolts details.

(2) See Standard Drawing E 805-SGCF-03 for foundation details and General Notes.

INDIANA DEPARTMENT OF TRANSPORTATION

CONTROLLER CABINET FOUNDATION TYPE M

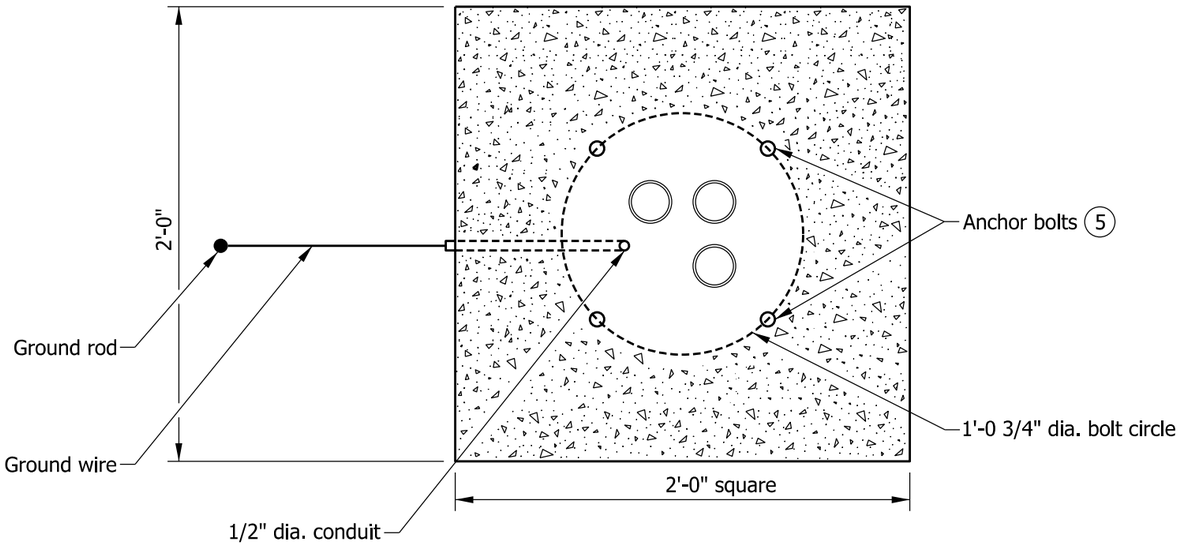
SEPTEMBER 2012

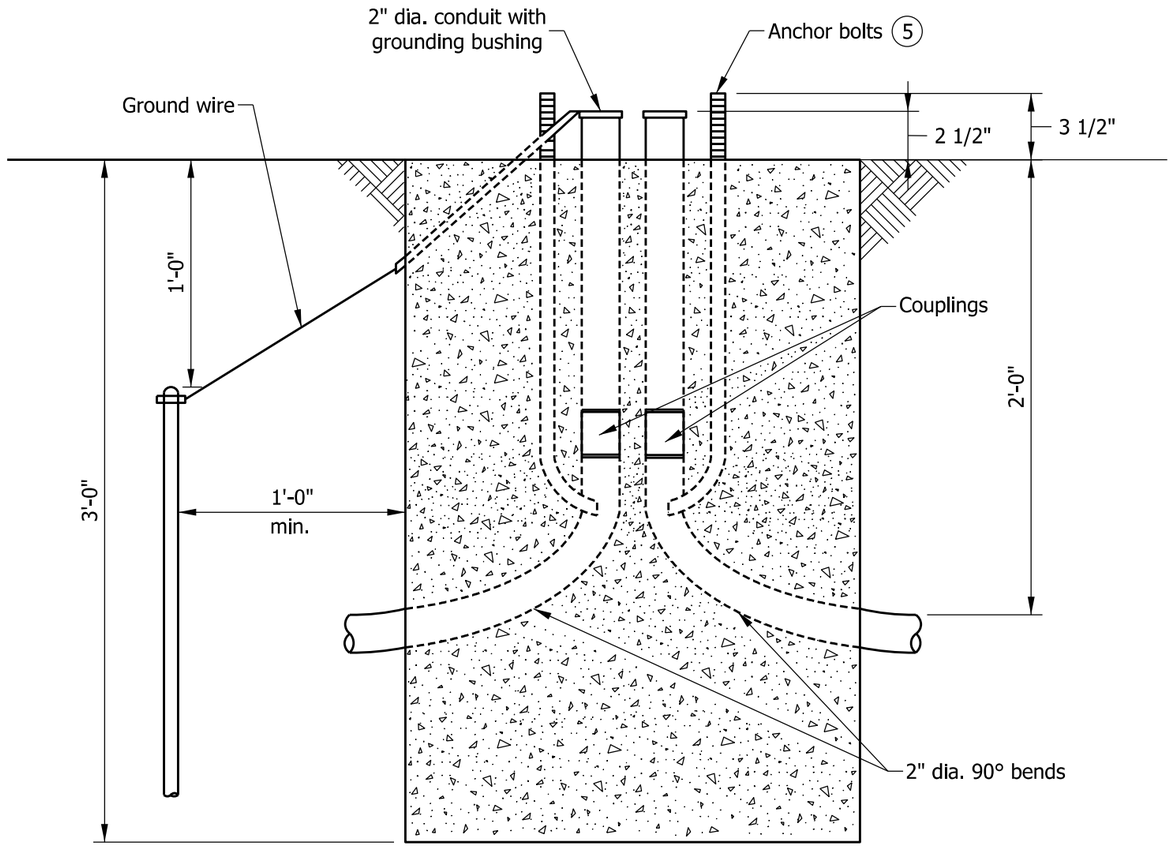
STANDARD DRAWING NO. E 805-SGCF-02

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE





GENERAL NOTES

1. Concrete walk shall be constructed of the same class of concrete as the foundation.
2. A minimum of three 2 in. dia. conduit inlets shall be installed per foundation.
3. Conduit inlets not used shall be capped below grade. More inlets shall be installed as required on plans.
4. Foundation Types P-1 and M shall conform to all minor differences of individual designs for all accepted cabinets.
5. See Standard Drawing E 805-SGPB-01 for anchor bolt details.
6. For sidewalk installation, the concrete footpad shall be flush with the sidewalk.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL PEDESTAL FOUNDATION TYPE A

SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGCF-03

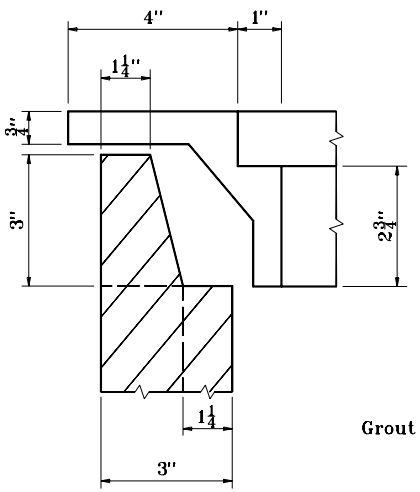
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

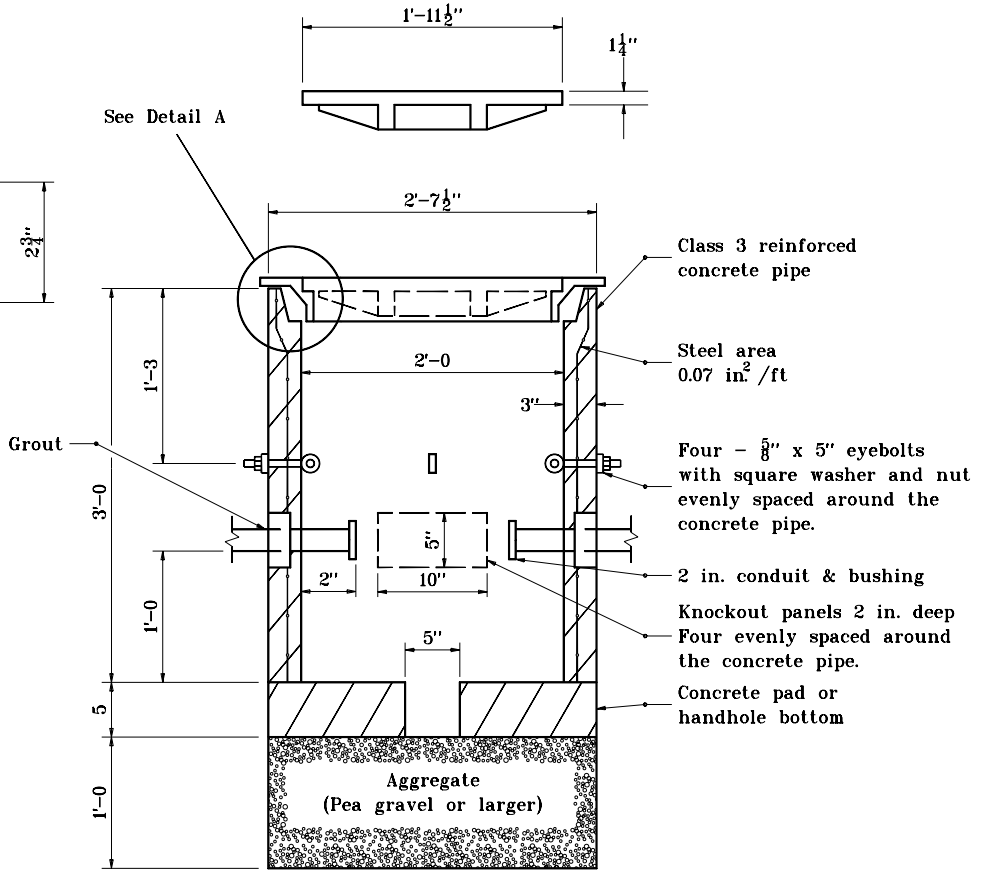
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

GENERAL NOTES

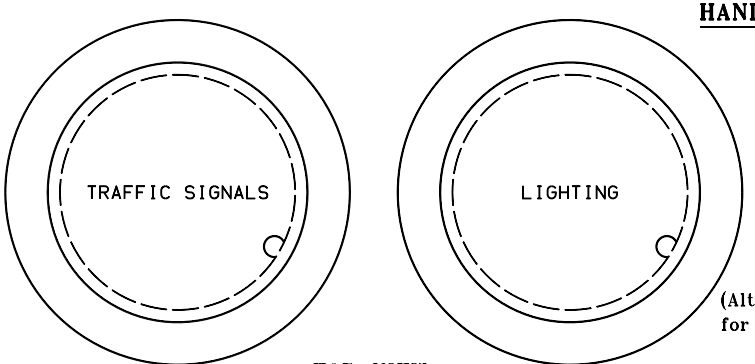
1. Approximate weight for cast iron ring and cover shall be 320 lb.



DETAIL A



HANDHOLE



(Alternate label for lighting)

TOP VIEW

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL HANDHOLE

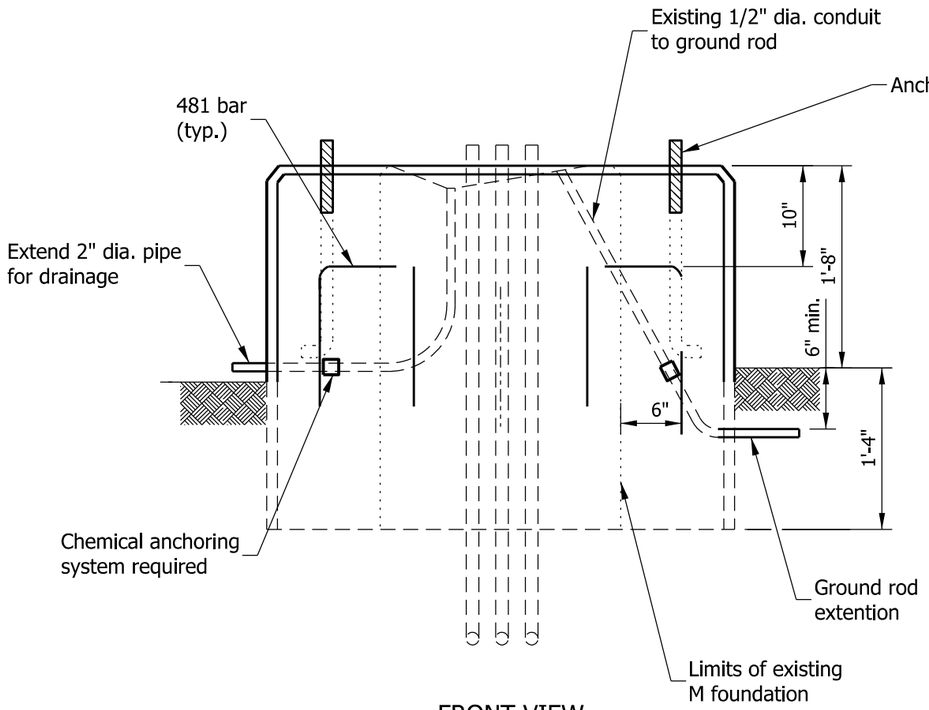
JUNE 1996

STANDARD DRAWING NO. E 805-SGCF-04

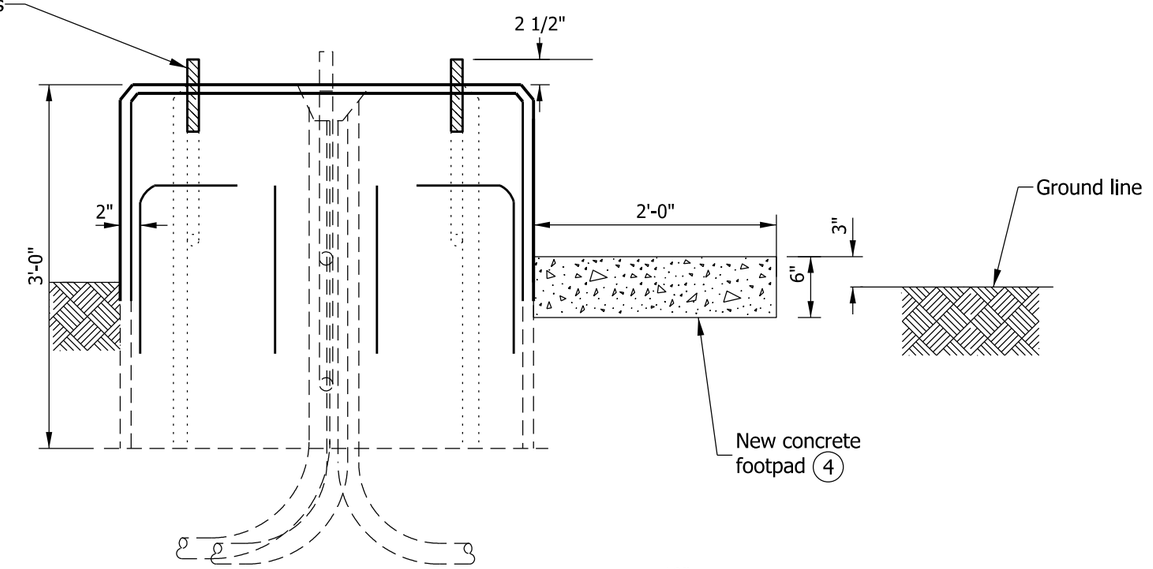
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

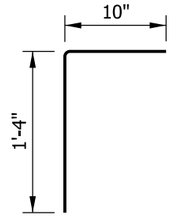
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	6-03-96



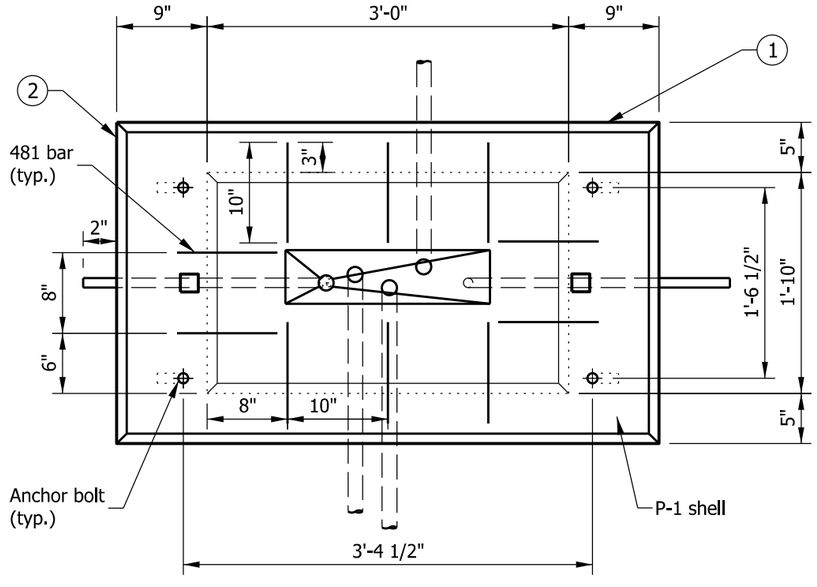
FRONT VIEW



SIDE VIEW



481 X 2'-2"



PLAN

NOTES

(1) See Standard Drawing E 805-SGCF-02 for M foundation details.

(2) See Standard Drawing E 805-SGCF-01 for P-1 foundation details.

3. Existing anchor bolts shall be cut at or below top of existing foundation.

(4) See Standard Drawing E 805-SGCF-03 for foundation details and General Notes.

INDIANA DEPARTMENT OF TRANSPORTATION

EXISTING M FOUNDATION MODIFIED TO P-1 FOUNDATION

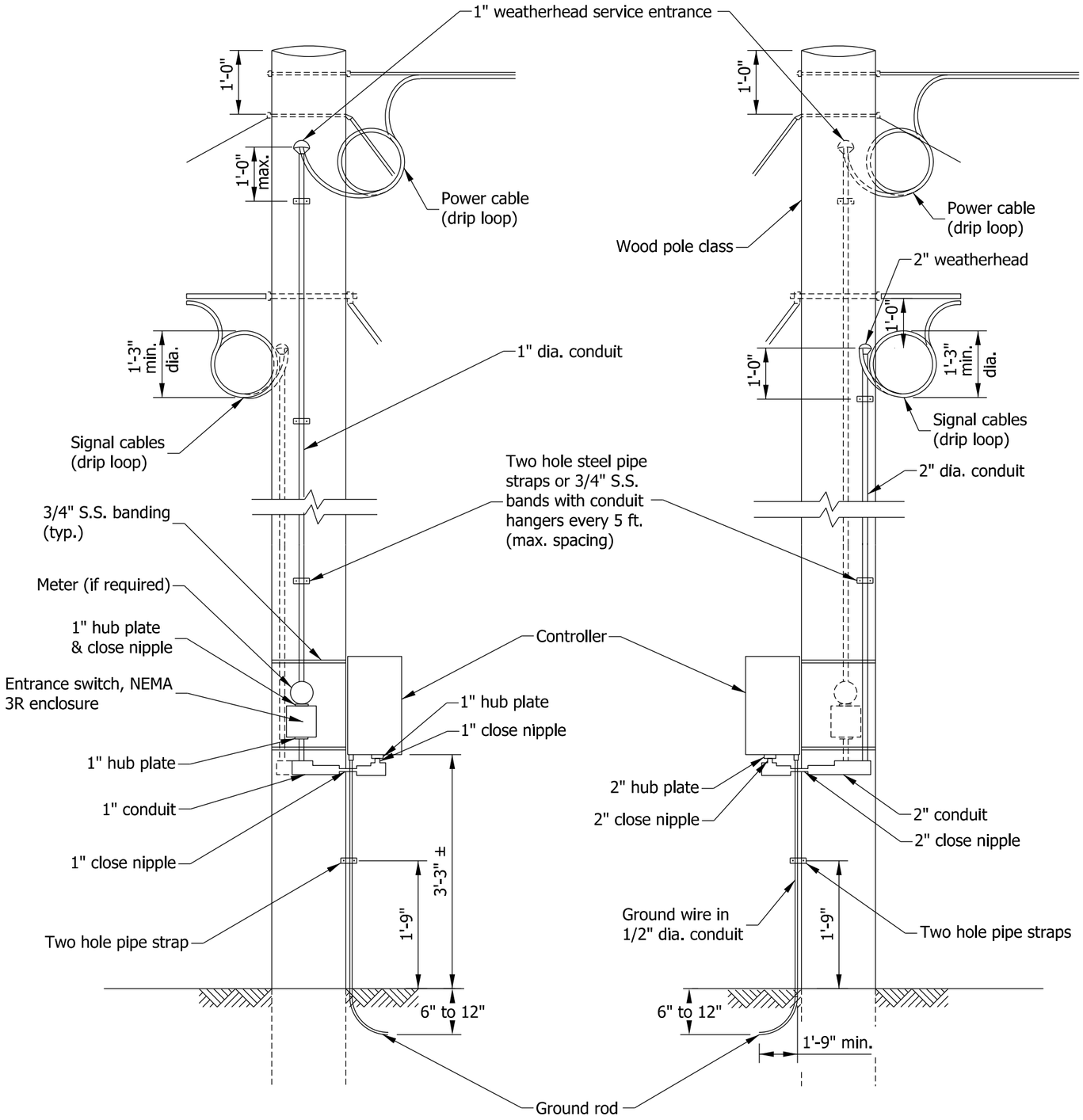
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGCF-05

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL SERVICE & CONTROLLER MOUNTED ON WOOD POLE

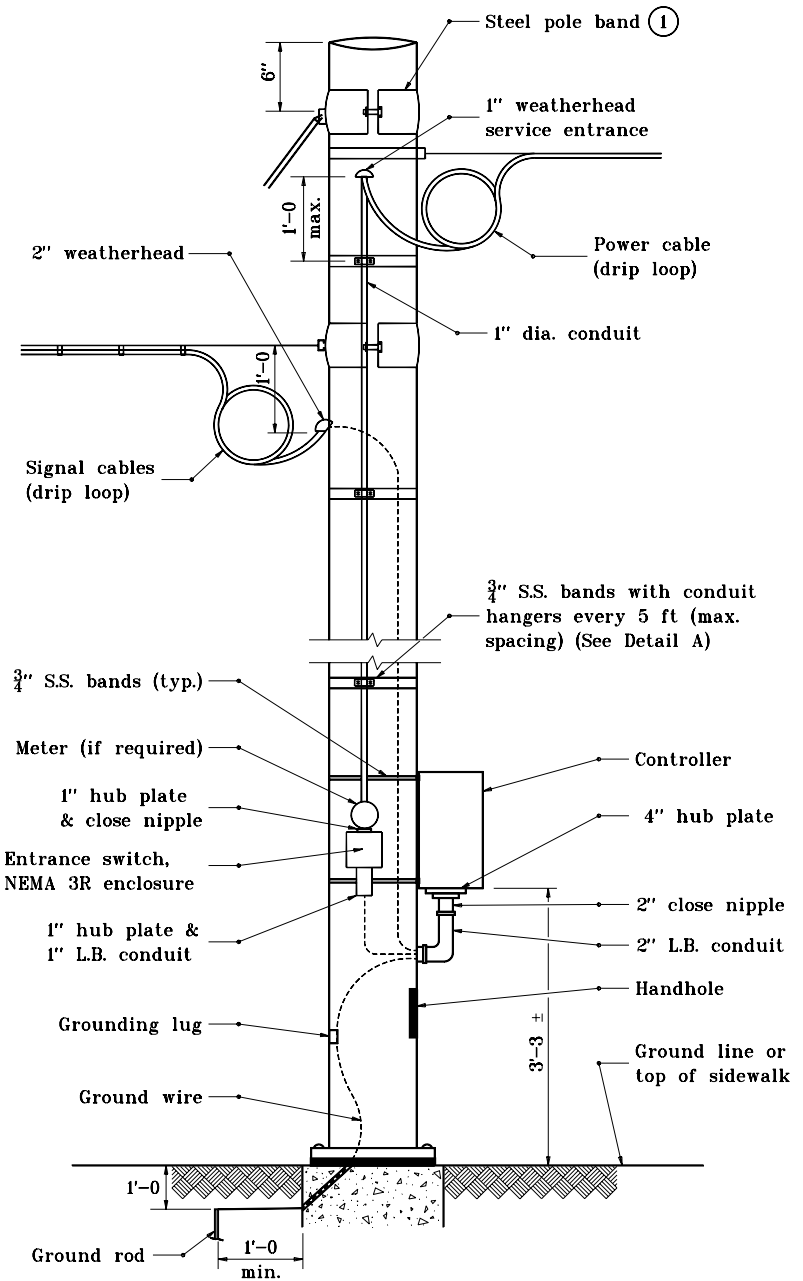
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGCO-01

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

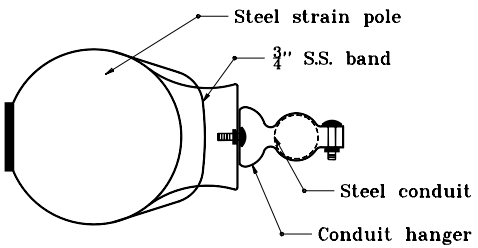
/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



GENERAL NOTES

(1) See Standard Drawing E 805-SGSP-03 for details of bands.



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL SERVICE & CONTROLLER MOUNTED ON STEEL POLE

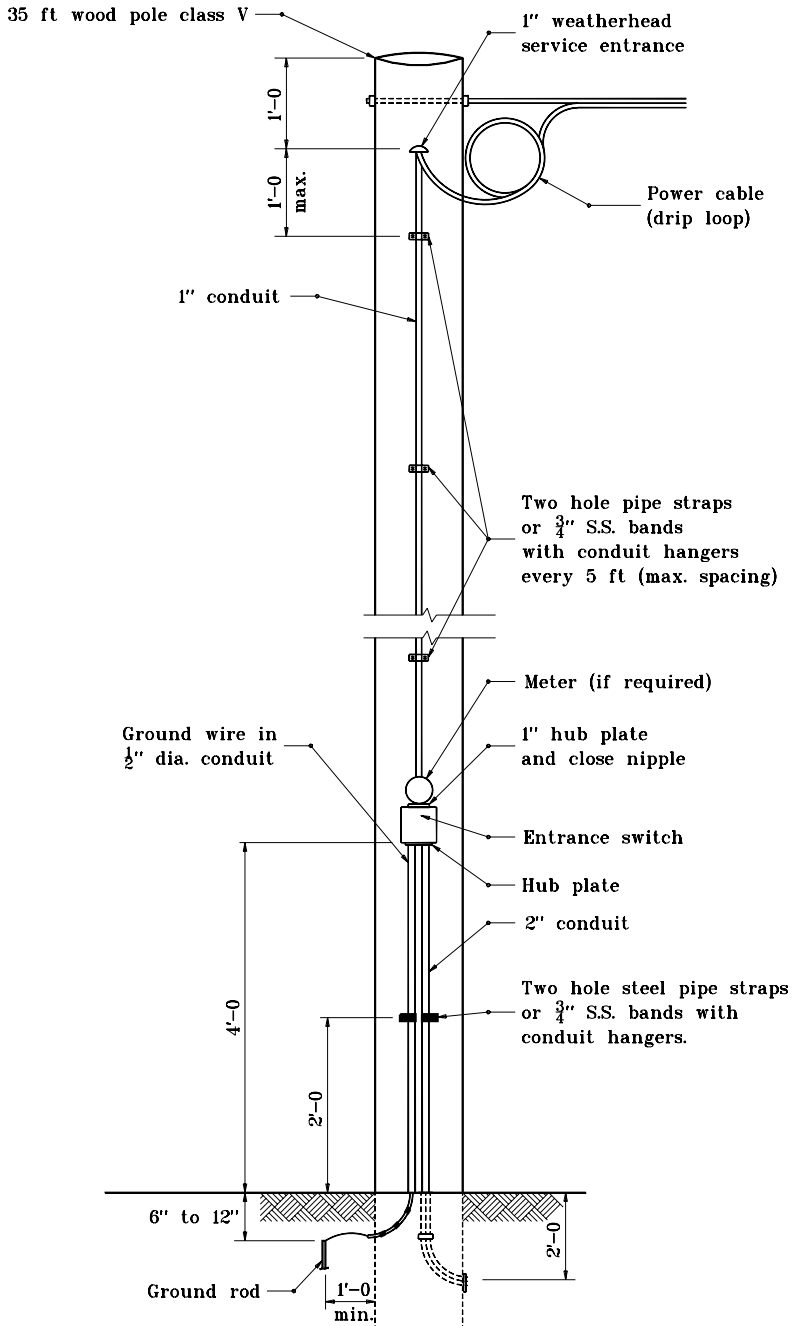
SEPTEMBER 1998

STANDARD DRAWING NO. E 805-SGCO-02

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-98



INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL SERVICE ON WOOD POLE

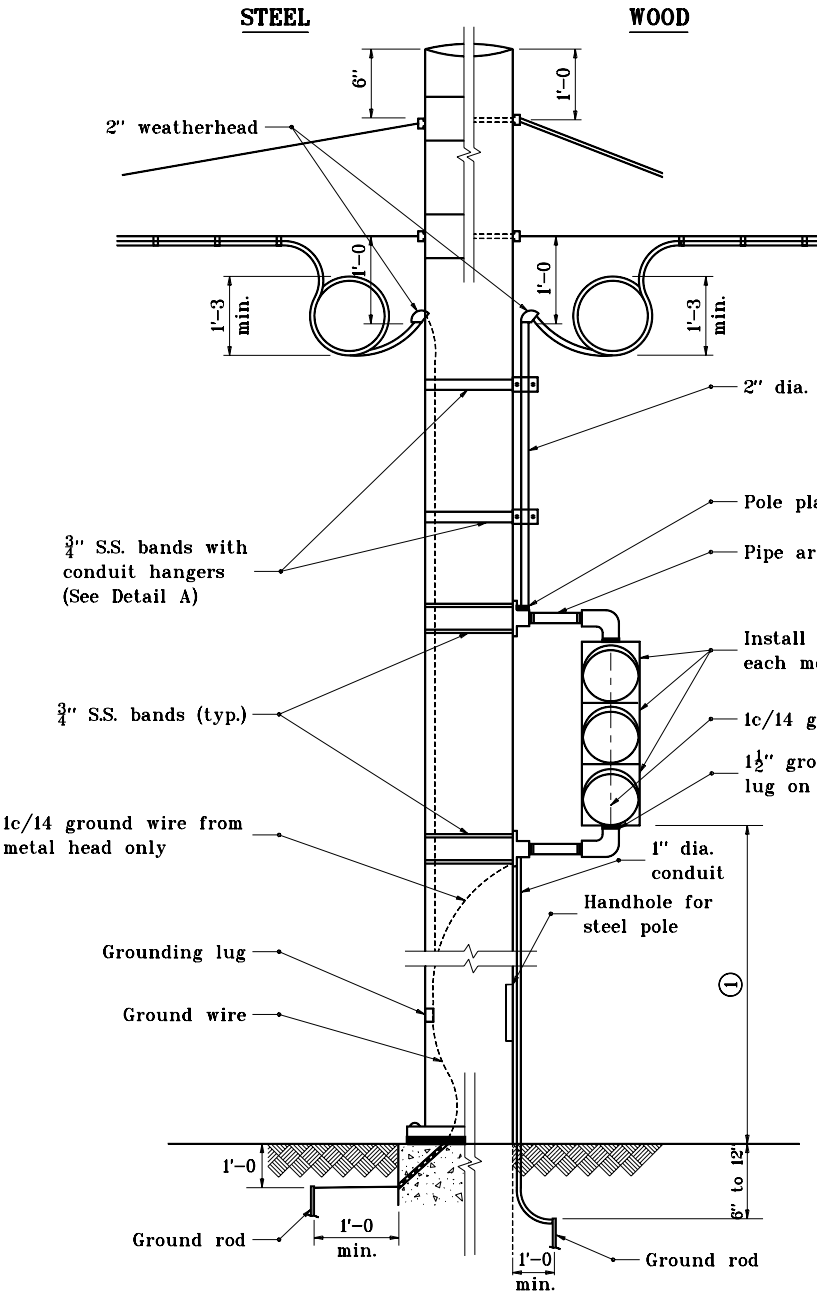
SEPTEMBER 1998

STANDARD DRAWING NO. **E 805-SGC0-03**

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

DESIGN STANDARDS ENGINEER

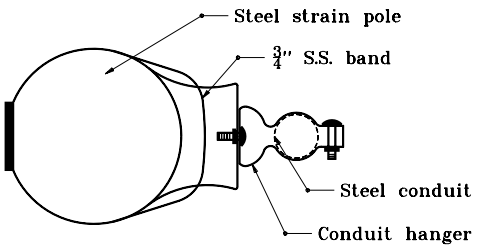
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	9-01-98



GENERAL NOTES

(1) This distance shall be from 10 ft to 15 ft above centerline of pavement for vehicular signals and from 7 ft to 10 ft above top of sidewalk for pedestrian signals.

(2) Each pedestrian signal and each vehicular signal requires 2 pole plates and 2 pipe arms.



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL INDICATION MOUNTED ON STEEL OR WOOD POLES

SEPTEMBER 1998

STANDARD DRAWING NO. **E 805-SGC0-04**

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

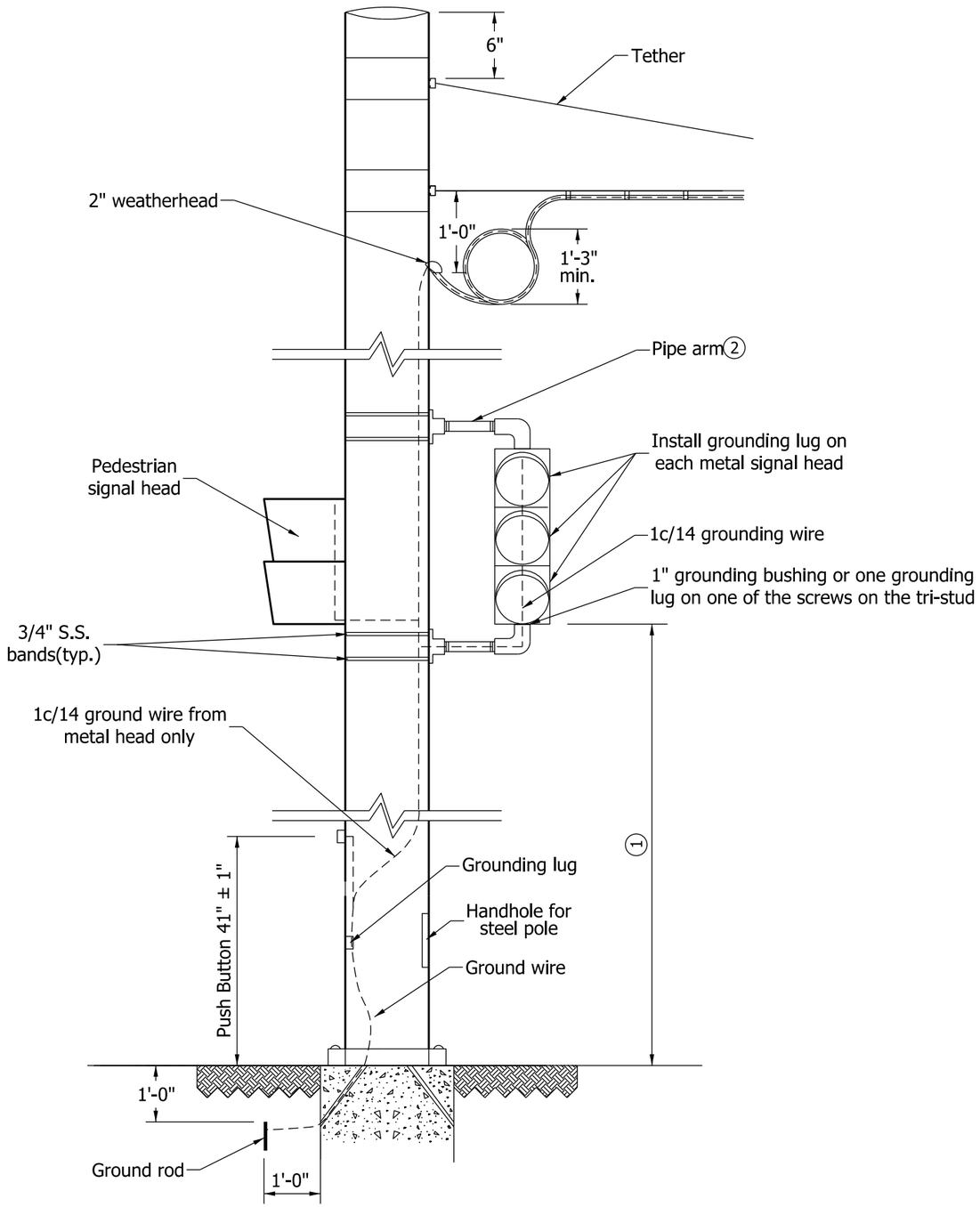
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-98



NOTES:

(1) This distance shall be from 10'-0" to 15'-0"above centerline of pavement for vehicular signals and from 7'-0" to 10'-0" above top of sidewalk for pedestrian signals.

(2) Each pedestrian signal and each vehicularsignal requires 2 pole plates and 2 pipe arms.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL INDICATION MOUNTED
ON STEEL POLE

SEPTEMBER 2010

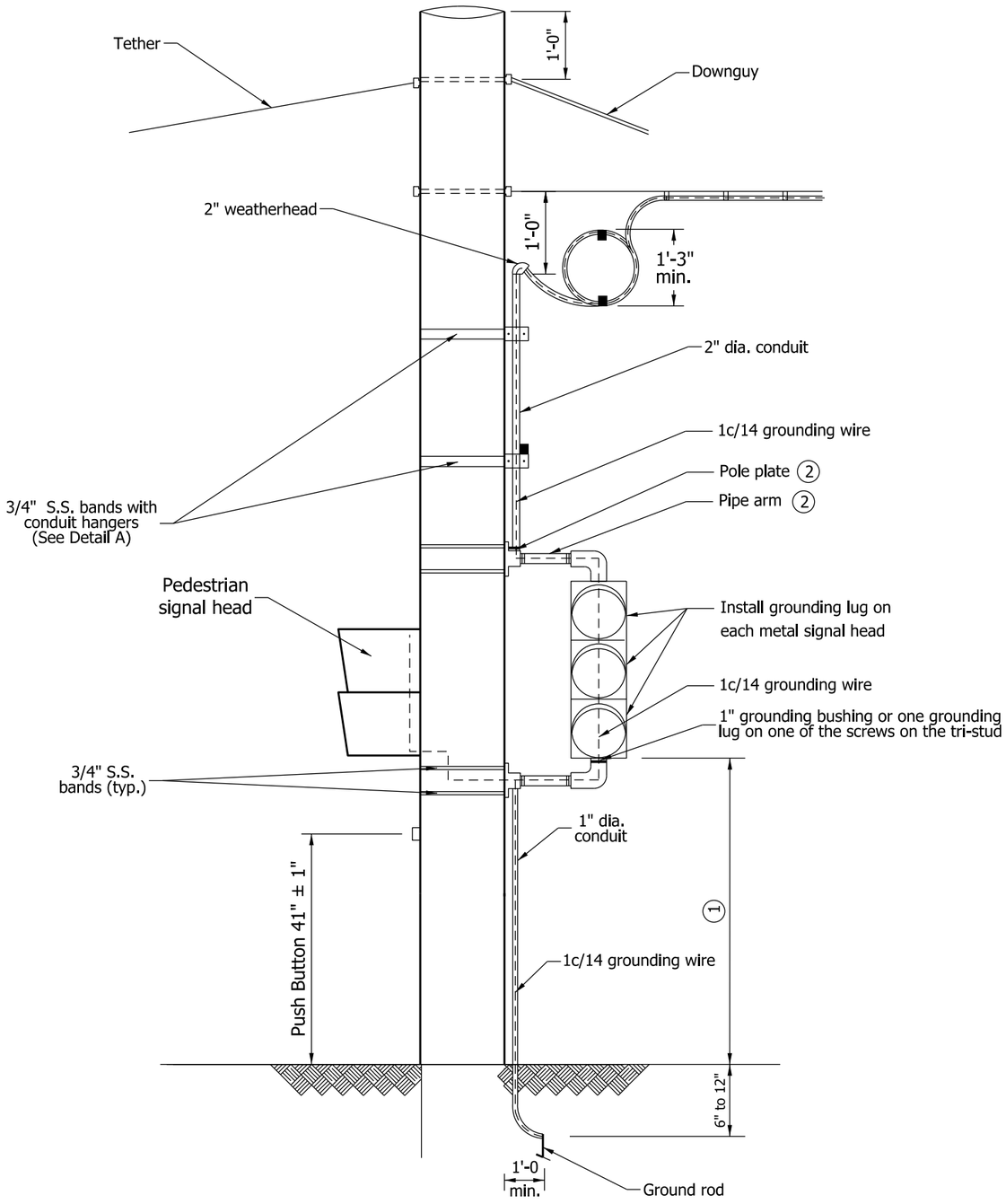
STANDARD DRAWING NO. E 805-SGCO-04A

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

DESIGN STANDARDS ENGINEER

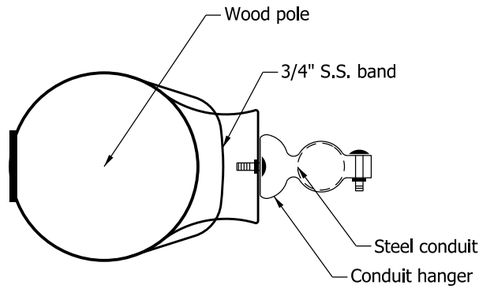
/s/ Richarh L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



NOTES:

1. This distance shall be from 10'-0" to 15'-0"above centerline of pavement for vehicular signals and from 7'-0" to 10'-0" above top of sidewalk for pedestrian signals.
2. Each pedestrian signal and each vehicularsignal requires 2 pole plates and 2 pipe arms.



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

SIGNAL INDICATION MOUNTED ON WOOD POLES

SEPTEMBER 2010

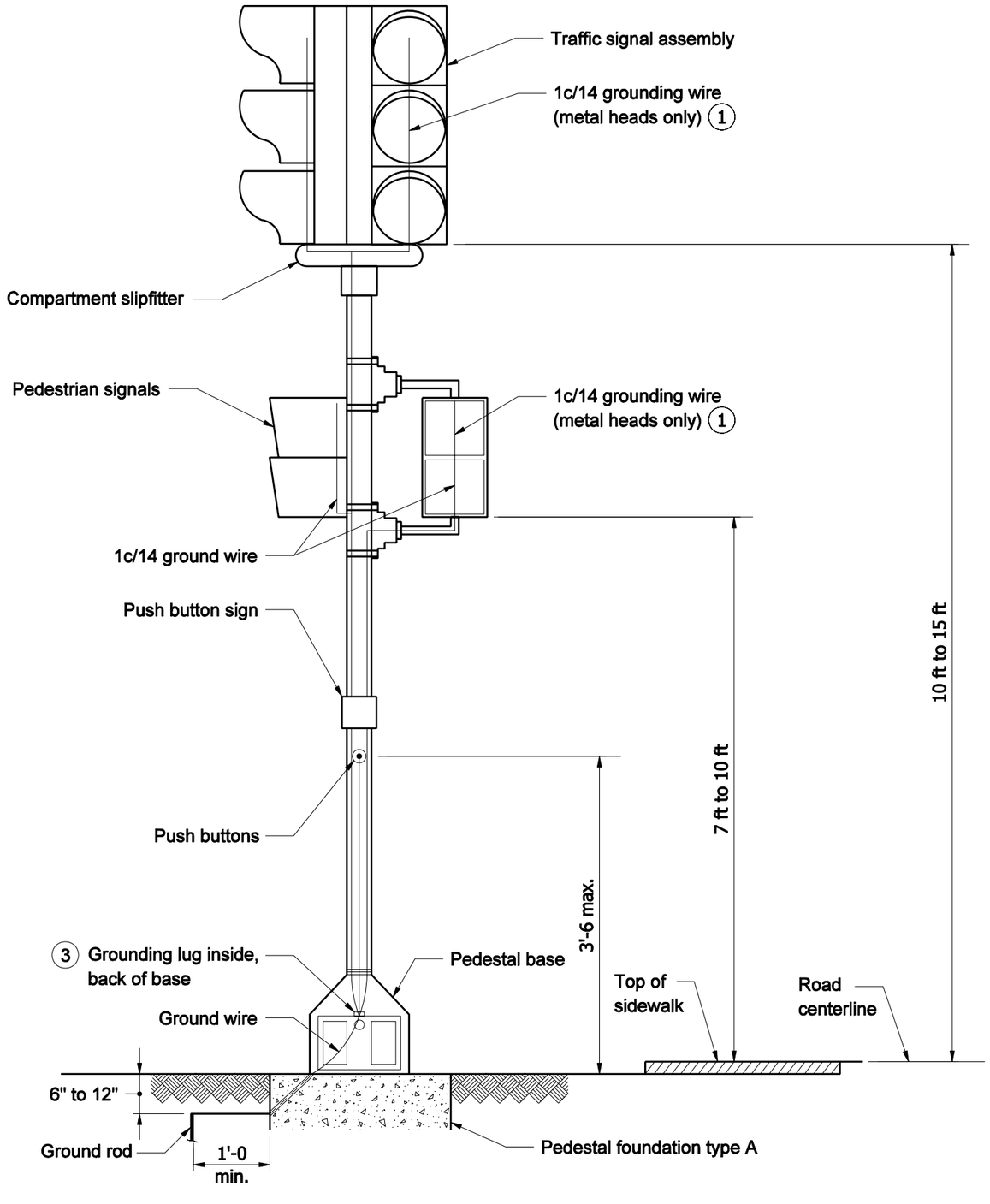
STANDARD DRAWING NO. E 805-SGCO-04B

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

DESIGN STANDARDS ENGINEER

/s/ Richarh L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



GENERAL NOTES

1. On metal signal heads grounding wire shall connect each signal head and the bottom groundingbushing of the assembly to the grounding lug.
2. Single conductor (hookup) shall be used from slipfitterterminal block to signal indications.
3. See Standard Drawing E 805-SGGR-03 for grounding lug details.

INDIANA DEPARTMENT OF TRANSPORTATION

PEDESTAL MOUNTED SIGNAL INDICATIONS

SEPTEMBER 2007

STANDARD DRAWING NO. E 805-SGCO-05

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

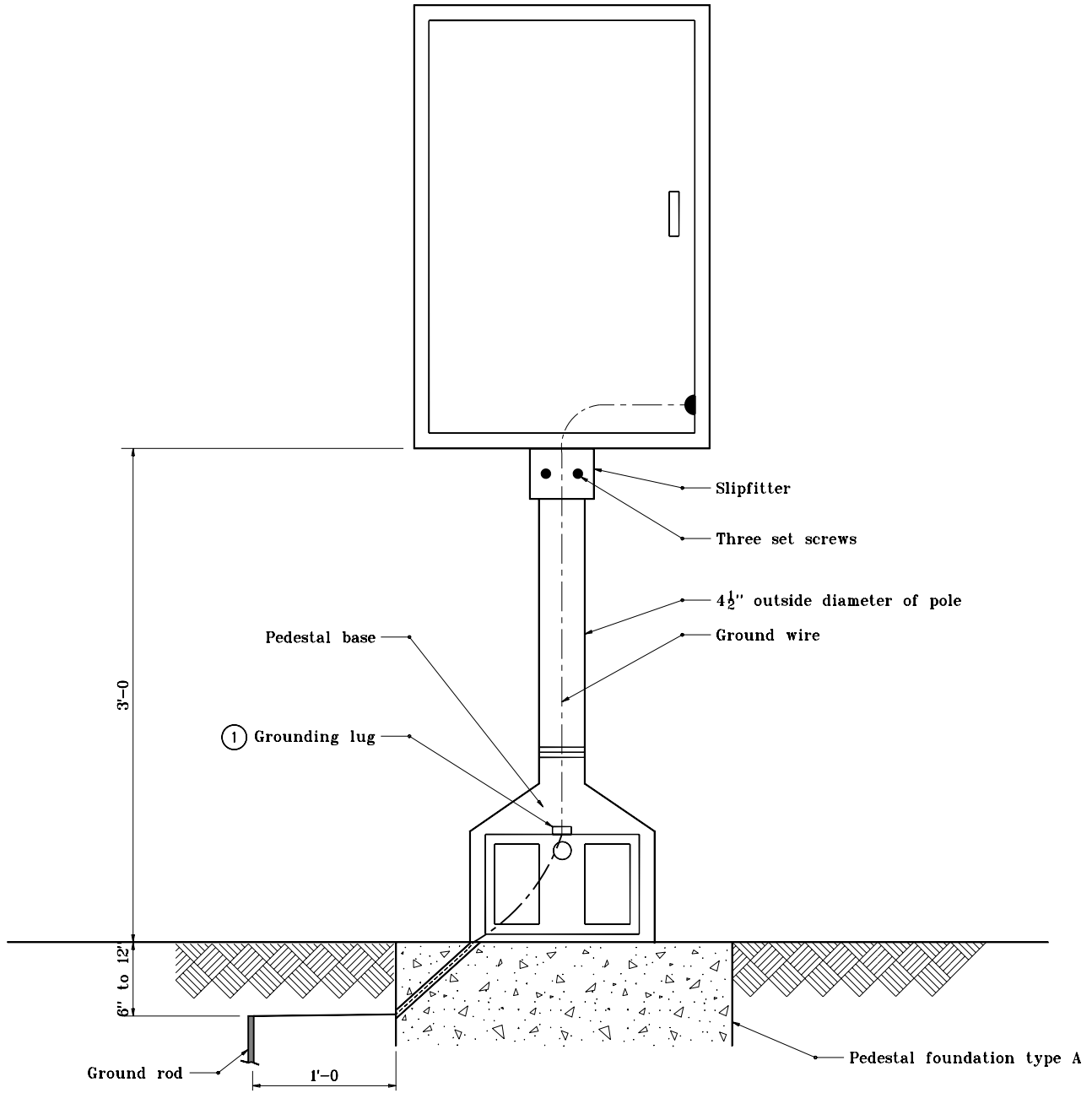
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/04/07
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/04/07
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

(1) See Standard Drawing E 805-SGGR-03 for grounding lug details.



INDIANA DEPARTMENT OF TRANSPORTATION

CONTROLLER CABINET TYPE G ON PEDESTAL

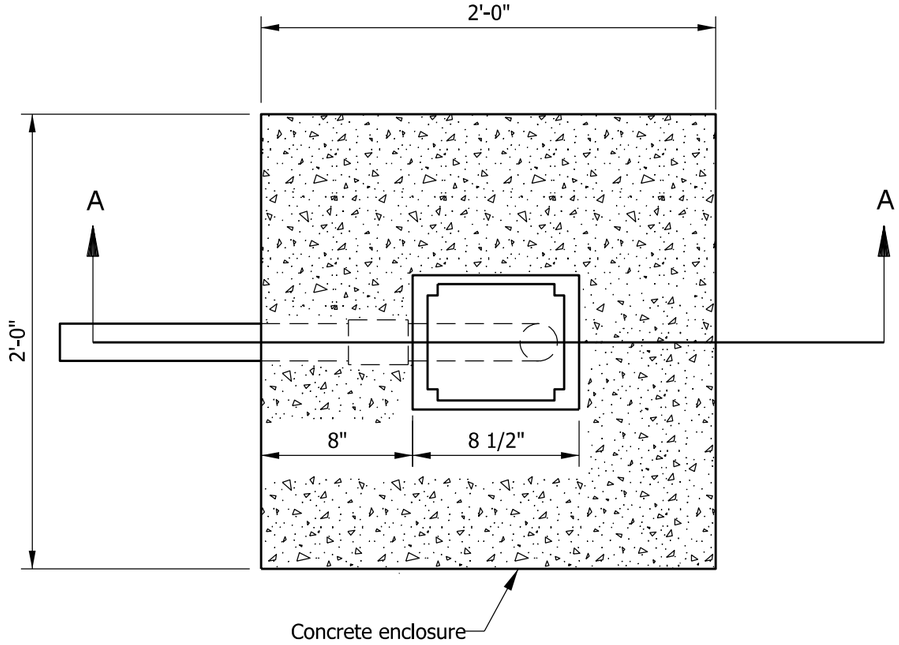
SEPTEMBER 1998

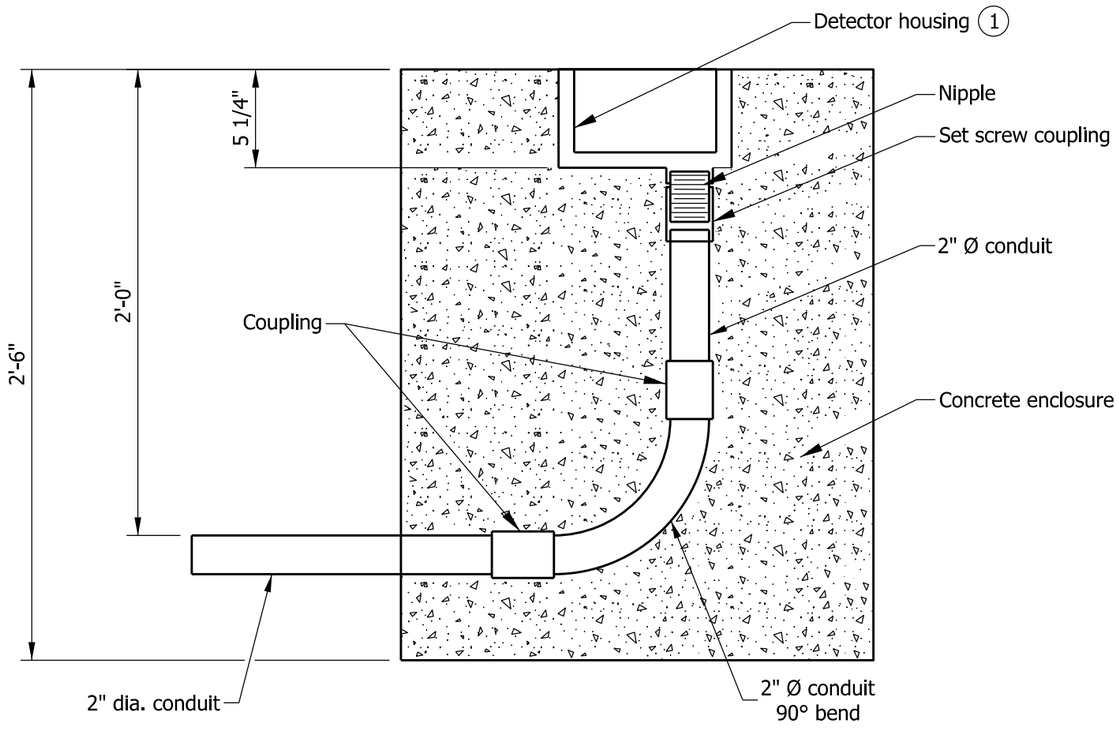
STANDARD DRAWING NO. E 805-SGCO-06

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-98

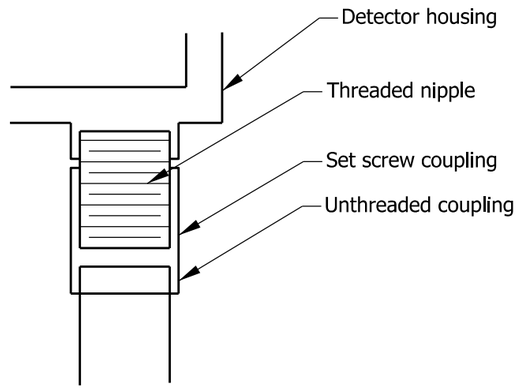




SECTION A-A

NOTE

(1) See Standard Drawing E 805-SGDH-02 for detector housing detail.



DETECTOR HOUSING
COUPLING DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

INSTALLATION DETAIL
DETECTOR HOUSING

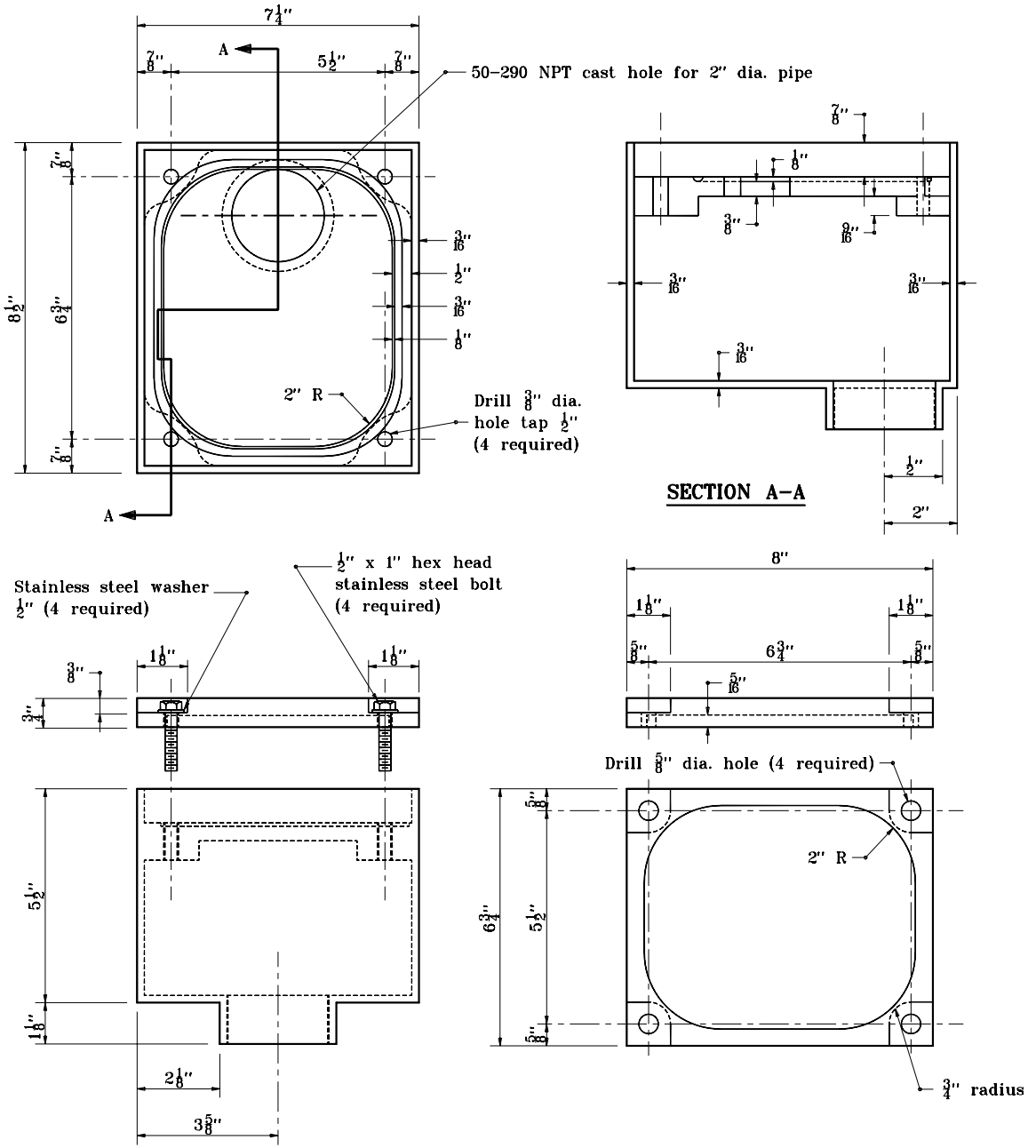
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGDH-01

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



INDIANA DEPARTMENT OF TRANSPORTATION

DETAIL OF DETECTOR HOUSING

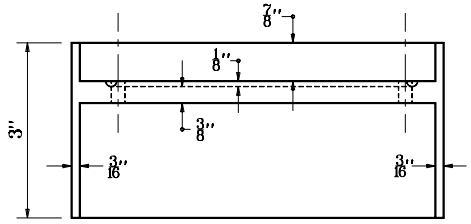
MAY 1998

STANDARD DRAWING NO. **E 805-SGDH-02**

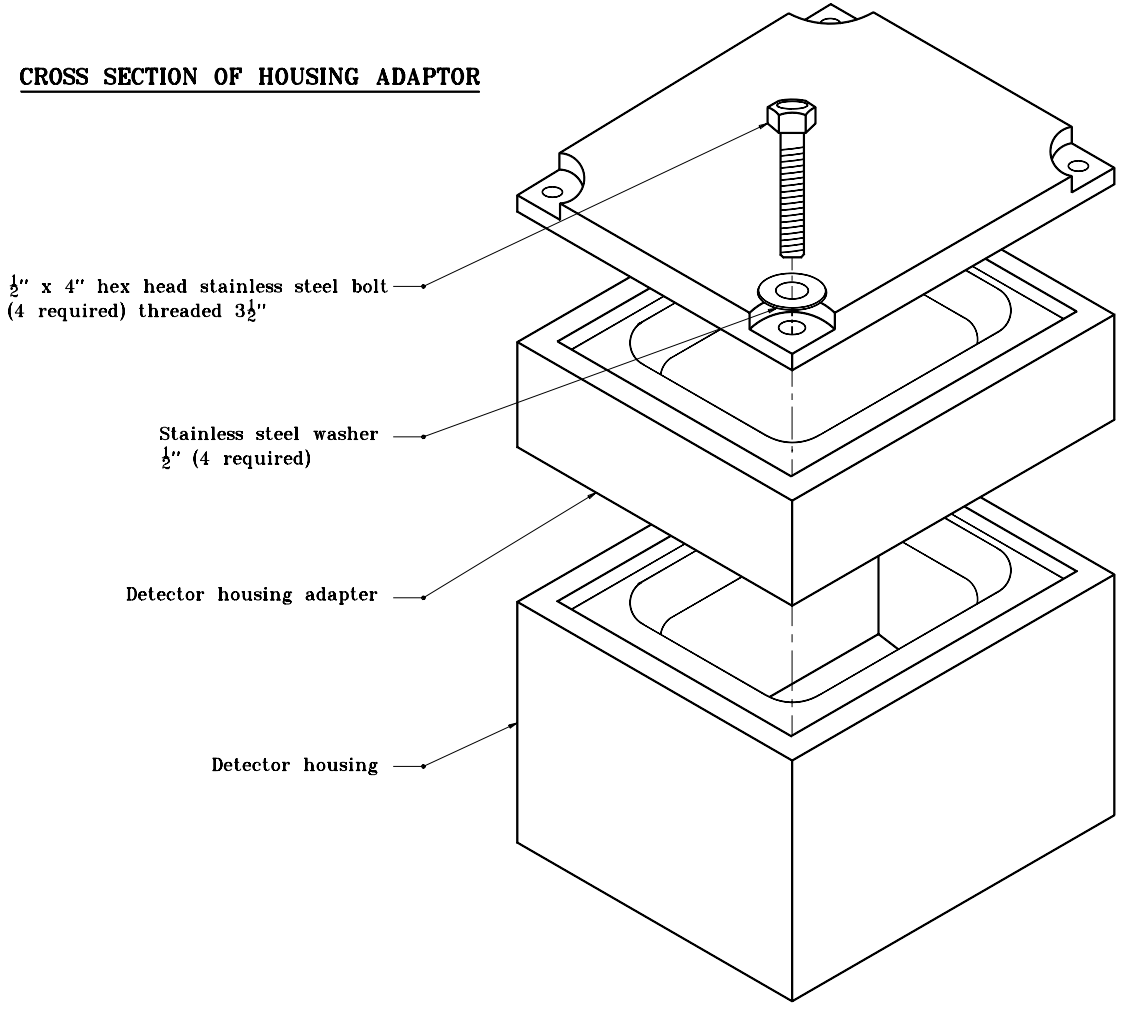
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	5-01-98



CROSS SECTION OF HOUSING ADAPTOR



INDIANA DEPARTMENT OF TRANSPORTATION

DETAILS OF DETECTOR HOUSING ADAPTER

MARCH 1995

STANDARD DRAWING NO. **E 805-SGDH-03**

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

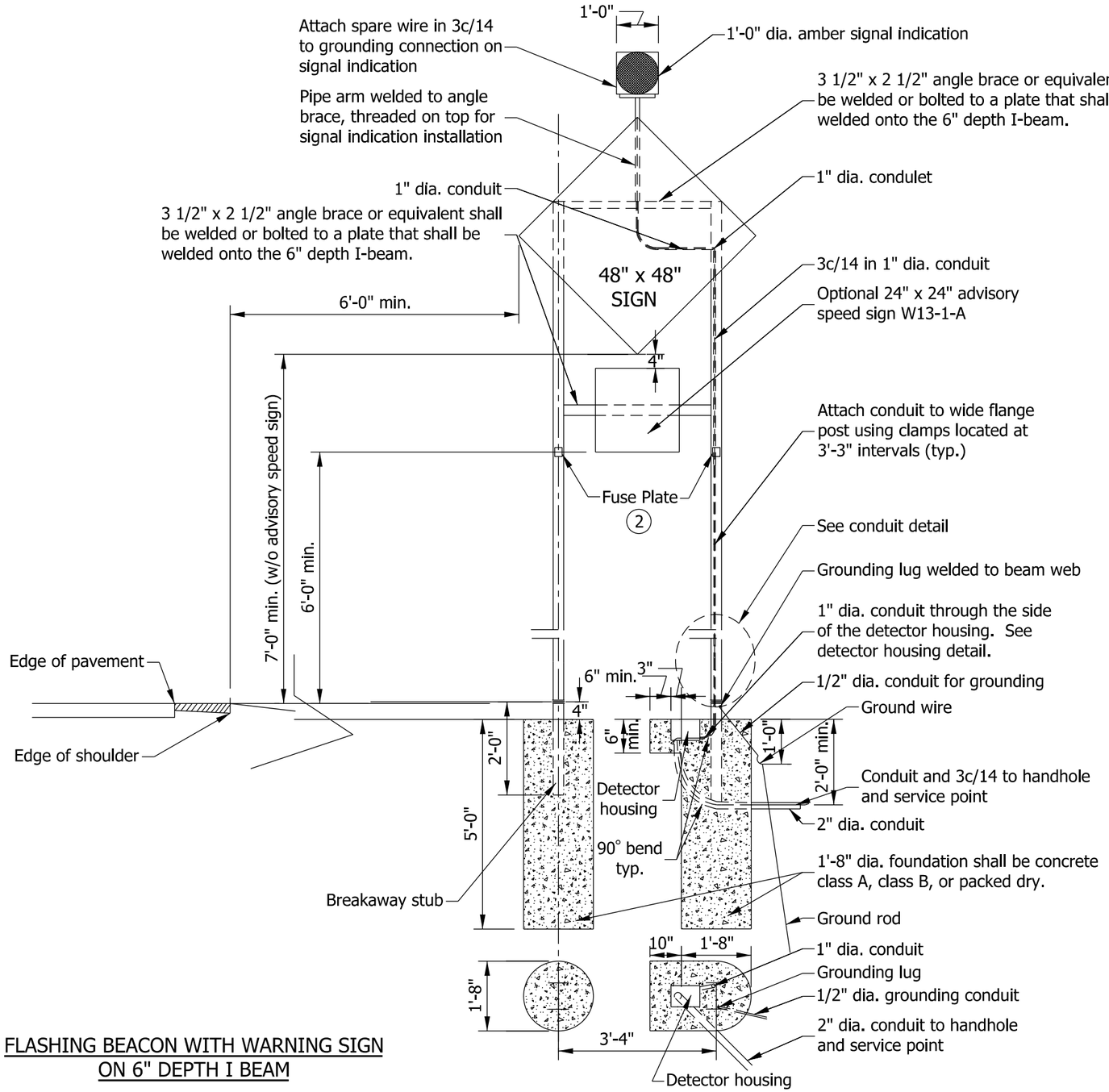
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



FLASHING BEACON WITH WARNING SIGN
ON 6" DEPTH I BEAM

NOTES

1. See Standard Drawing E 802-SNGP-01 through 10 for breakaway details and dimensions. Use post size W 6 x 9.

(2) The fuse plate shall be 6 in. below the lowest fastener of the sign.

3. See Standard Drawing E 805-SGFB-01A for conduit and detector housing details.

INDIANA DEPARTMENT OF TRANSPORTATION

FLASHING BEACON
WITH WARNING SIGN

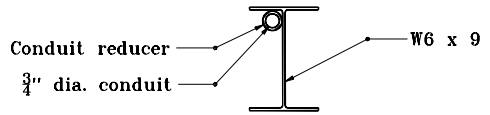
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGFB-01

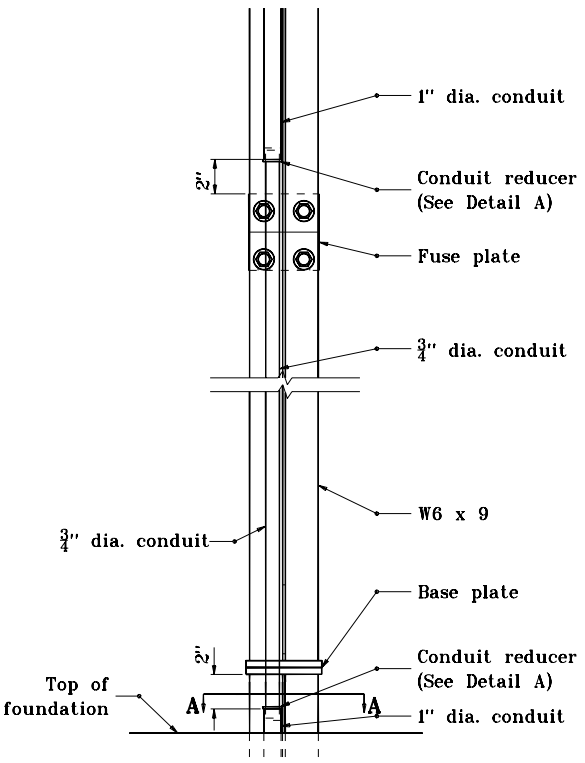
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

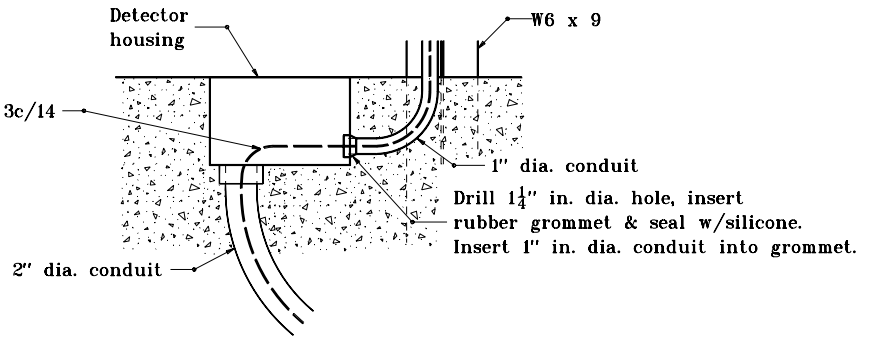
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



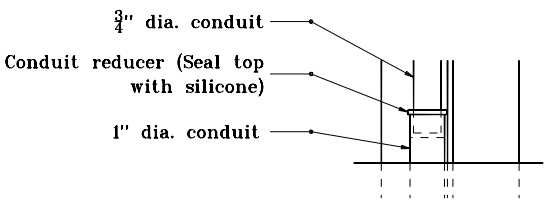
SECTION A-A



CONDUIT DETAIL



DETECTOR HOUSING DETAIL



DETAIL A
(INVERT FOR TOP CONDUIT JOINT)

INDIANA DEPARTMENT OF TRANSPORTATION

FLASHING BEACON WITH WARNING SIGN DETAILS

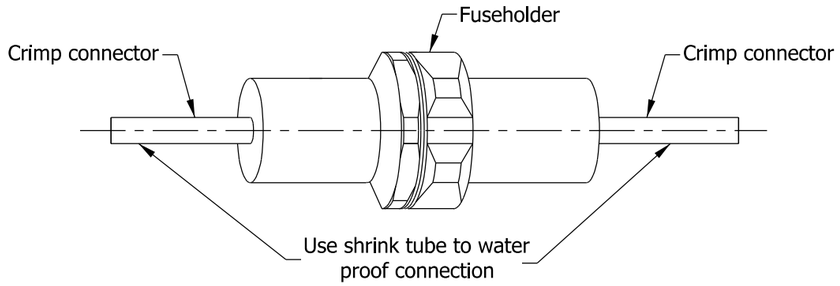
SEPTEMBER 1998

STANDARD DRAWING NO **E 805-SGFB-01A**

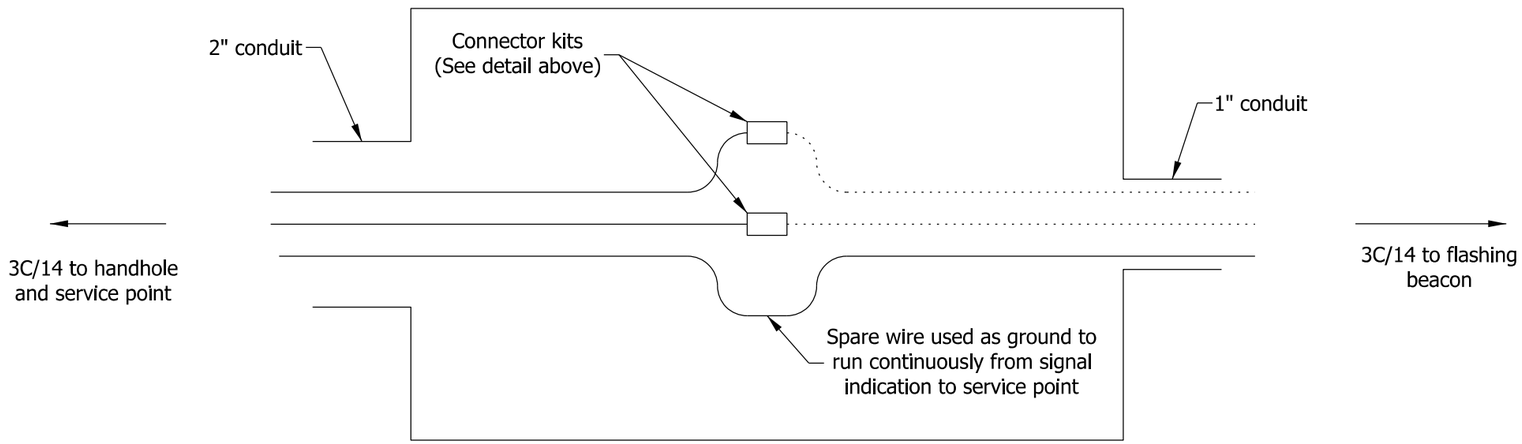
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	9-01-98

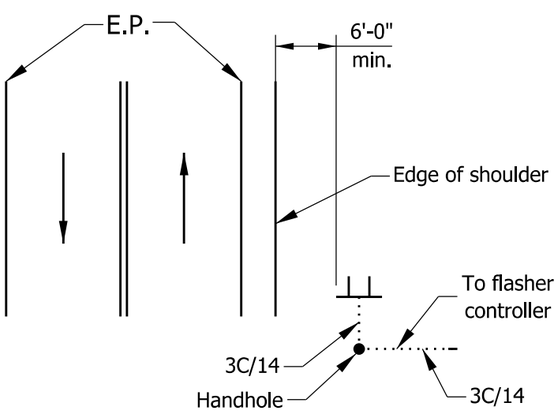


DISCONNECT CONNECTOR KIT
TO BE USED IN DETECTOR HOUSING

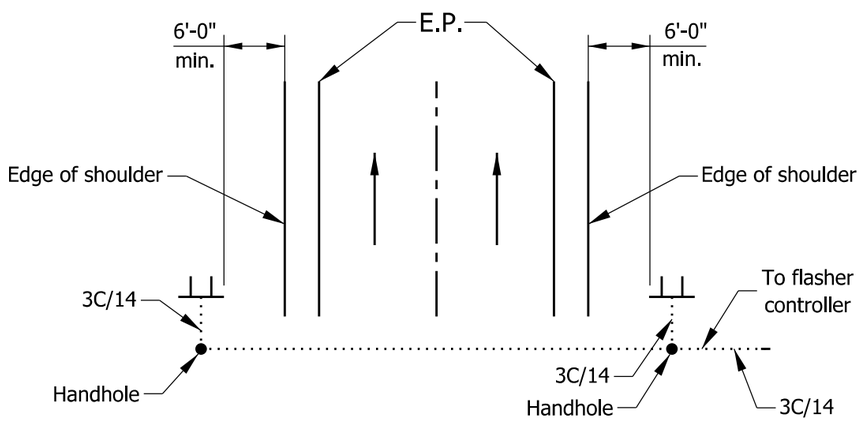


DETECTOR HOUSING CONNECTIONS DETAIL

SINGLE LANE ROADWAY



MULTI-LANE ROADWAY



TYPICAL FLASHING BEACON CONFIGURATION

INDIANA DEPARTMENT OF TRANSPORTATION

FLASHING BEACON WITH
WARNING SIGN DETAILS

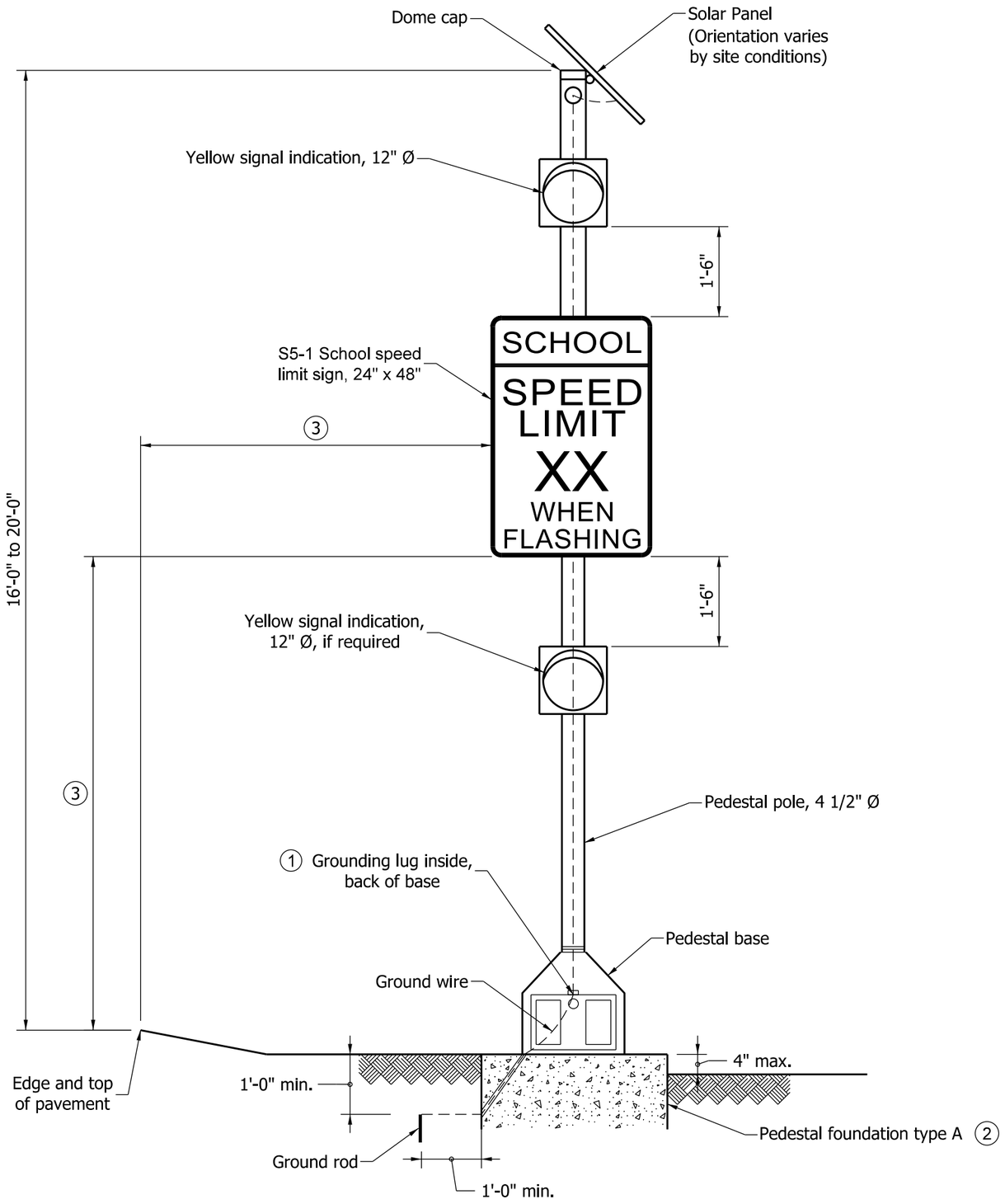
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGFB-02

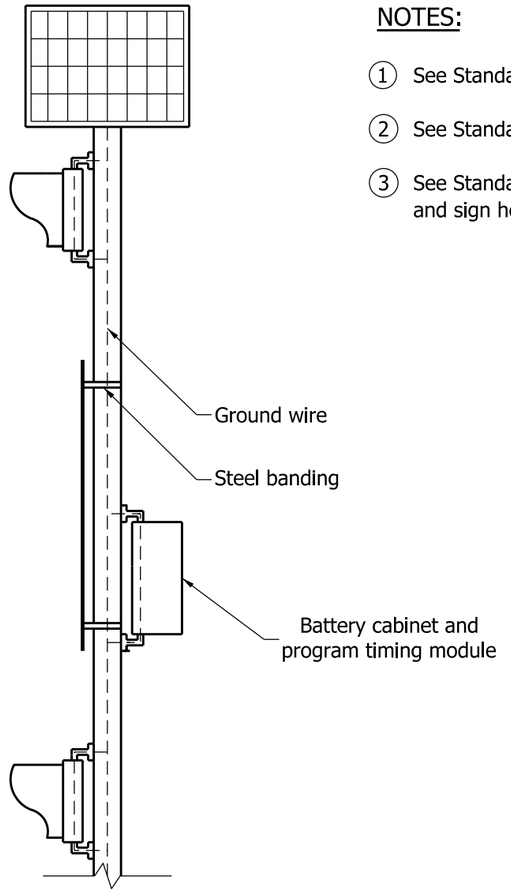
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF
INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



FRONT VIEW



SIDE VIEW

NOTES:

1. See Standard Drawing E 805-SGGR-03 for grounding lug details.
2. See Standard Drawing E 805-SGCF-03 for type A foundation details.
3. See Standard Drawing E 802-SNPL-02 for edge of pavement offset and sign height.

INDIANA DEPARTMENT OF TRANSPORTATION

PEDESTAL MOUNTED SOLAR POWERED SCHOOL SPEED LIMIT FLASHING BEACON ASSEMBLY

SEPTEMBER 2010

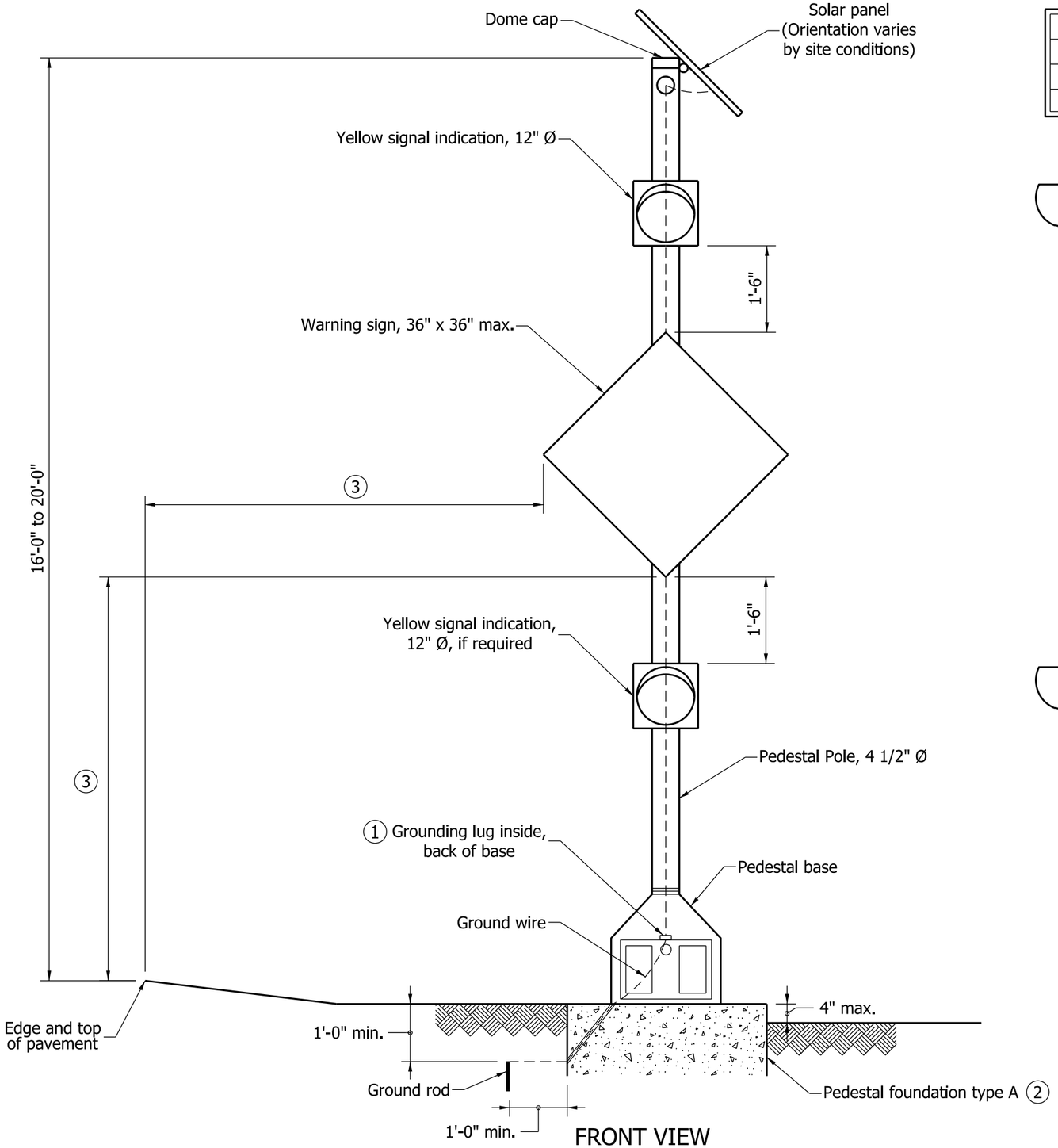
STANDARD DRAWING NO. E 805-SGFB-03

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

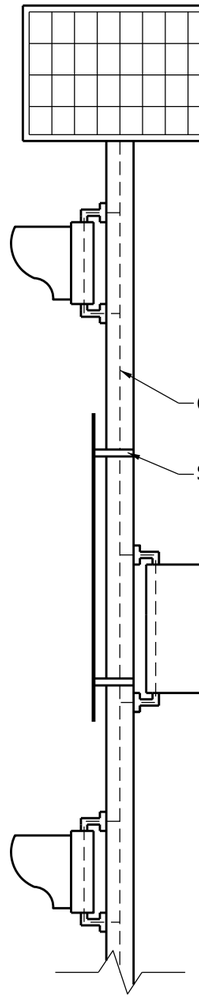
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



FRONT VIEW



SIDE VIEW

NOTES:

1. See Standard Drawing E 805-SGGR-03 for grounding lug details.
2. See Standard Drawing E 805-SGCF-03 for type A foundation details.
3. See Standard Drawing E 802-SNPL-02 for edge of pavement offset and sign height.

INDIANA DEPARTMENT OF TRANSPORTATION

PEDESTAL MOUNTED SOLAR POWERED WARNING SIGN FLASHING BEACON ASSEMBLY

SEPTEMBER 2010

STANDARD DRAWING NO. E 805-SGFB-04

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

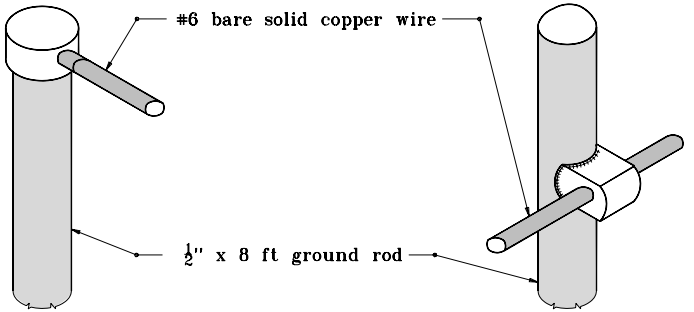
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

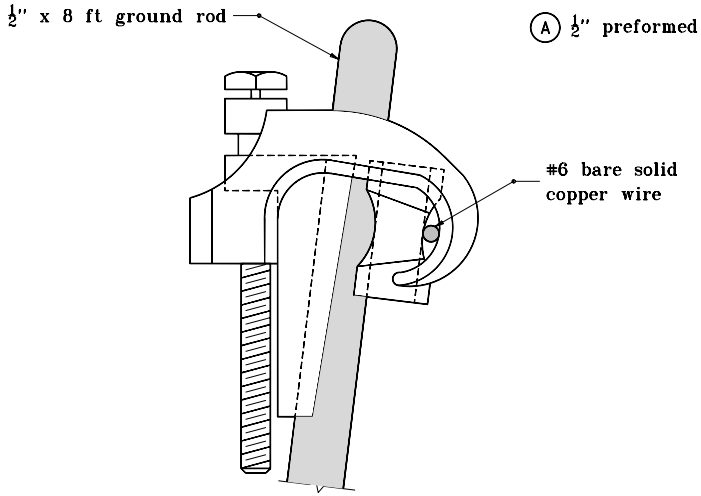
(A) ½" preformed joint



TOP CONNECTION

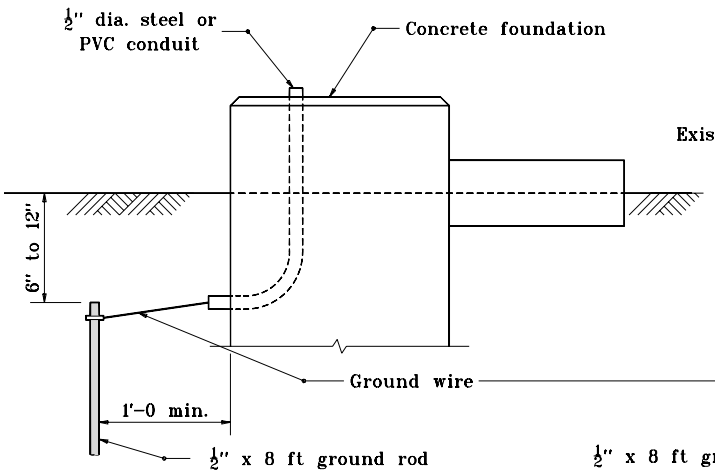
SIDE CONNECTION

THERMO WELD

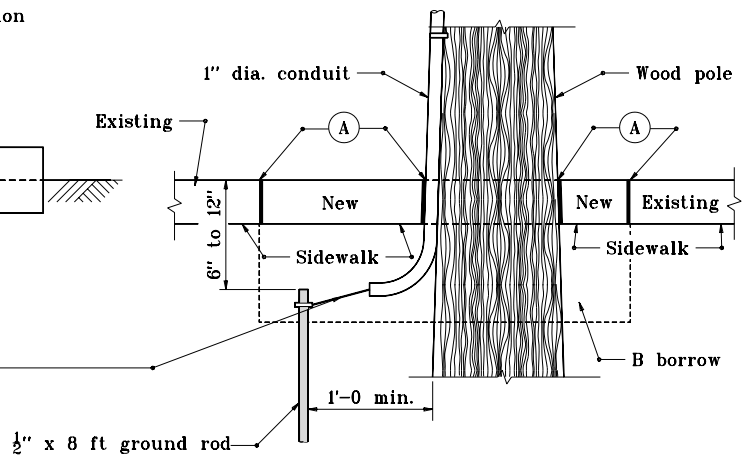


GROUNDING GRID

GROUND ROD CONNECTIONS



TYPICAL DETAIL
GROUND ROD IN EARTH



TYPICAL DETAIL
GROUND ROD IN SIDEWALK

INDIANA DEPARTMENT OF TRANSPORTATION

GROUND ROD

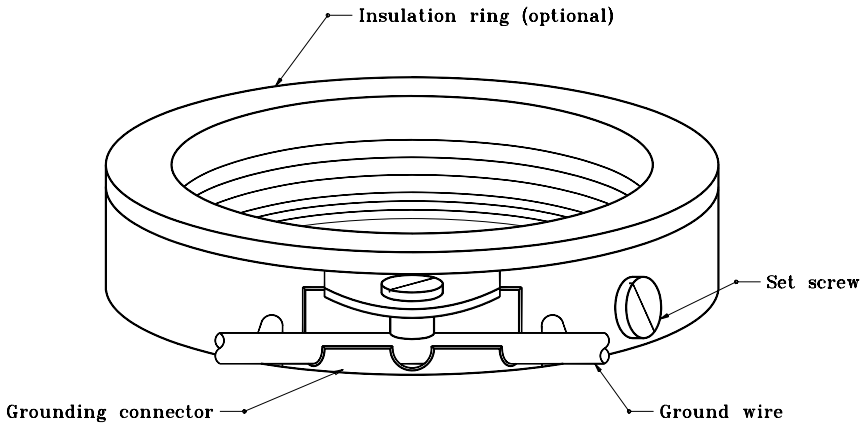
SEPTEMBER 1998

STANDARD DRAWING NO. E 805-SGGR-01

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-98



INDIANA DEPARTMENT OF TRANSPORTATION

THREADED GROUNDING BUSHING

SEPTEMBER 1998

STANDARD DRAWING NO. **E 805-SGGR-02**

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

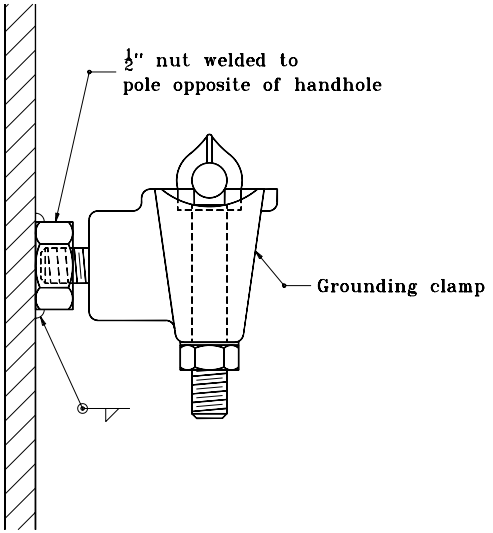
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

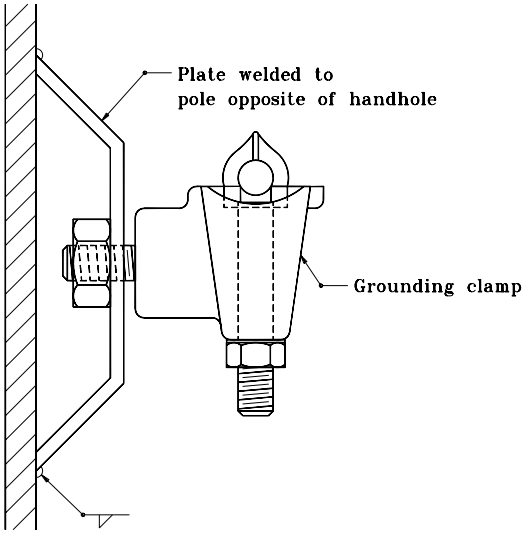
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-98

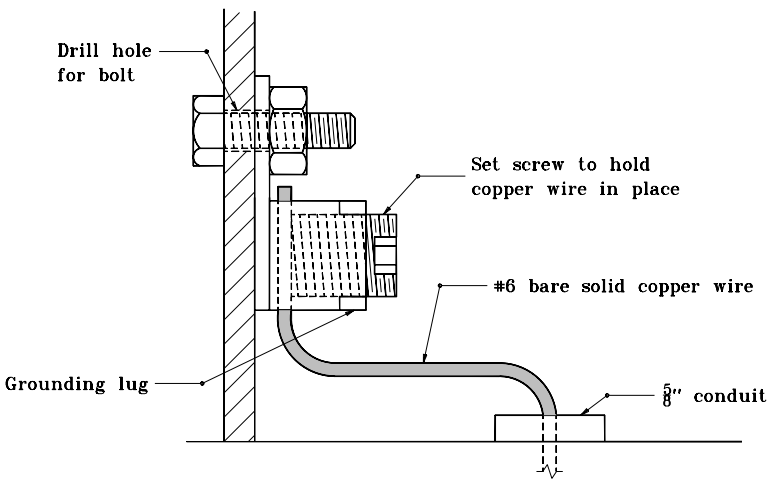


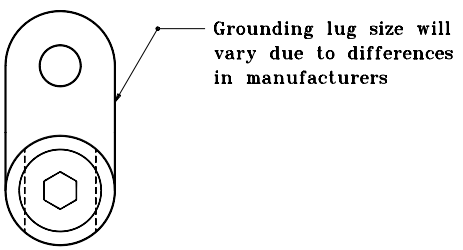
ALUMINUM POLES



STEEL POLES

GROUNDING POST DETAIL





GROUNDING LUG DETAIL (FIELD CONNECTION)

INDIANA DEPARTMENT OF TRANSPORTATION

GROUNDING DETAILS

MARCH 1995

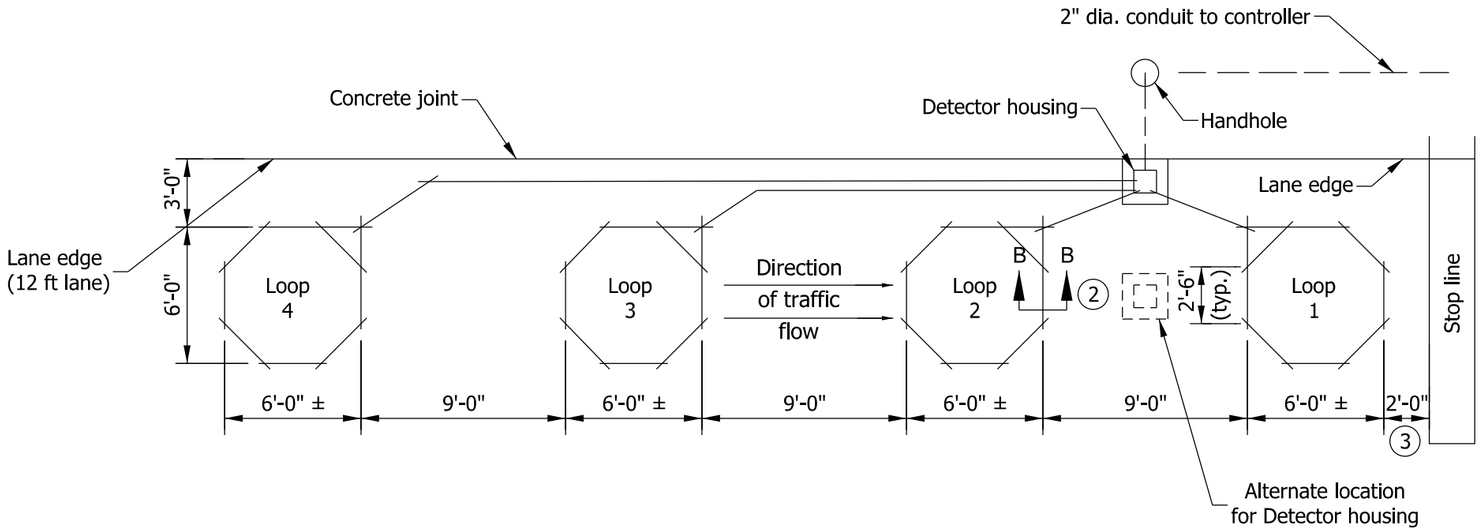
STANDARD DRAWING NO. **E 805-SGGR-03**

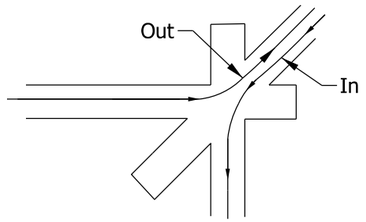
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

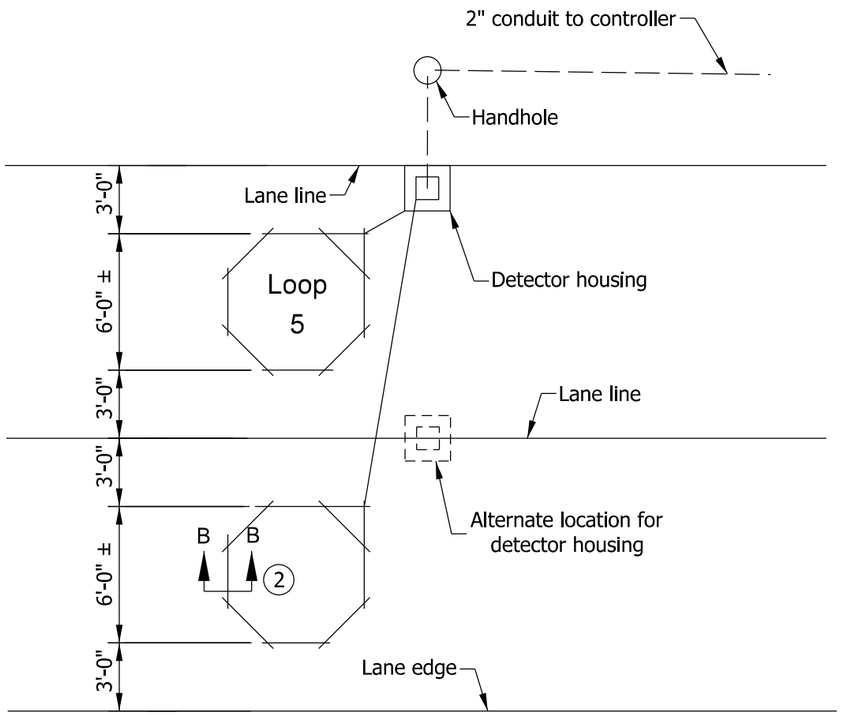
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95

TYPICAL LOOP DETECTION SAW-CUT PLAN (ONE LANE)





TYPICAL LOOP DETECTION (TWO LANES)



NOTES

1. Loop saw-cuts as shown on plan sheets are to be considered as schematic only. In the event of discrepancies, this detail shall govern.

(2) See Standard Drawing E 805-SGLI-02 for Section B-B.

(3) This distance is typical depending on the intersection geometrics; a loop can be sawed in front of the stop line.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL
LOOP INSTALLATION

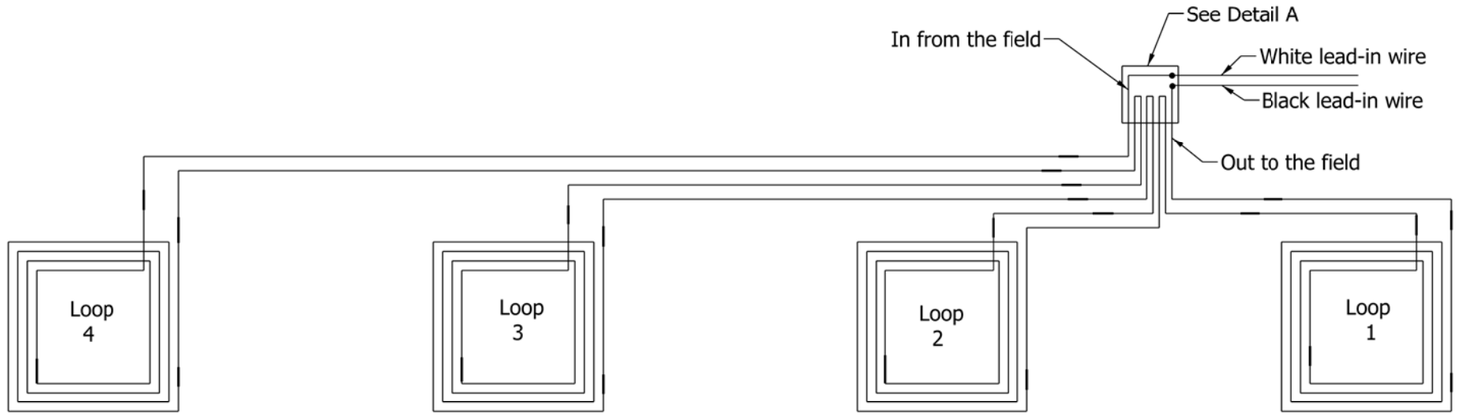
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-SGLI-01

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

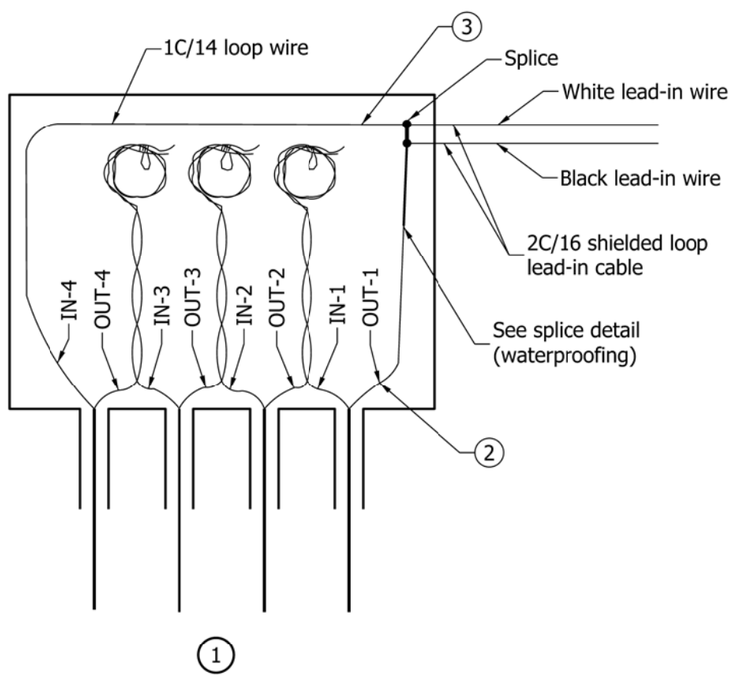
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



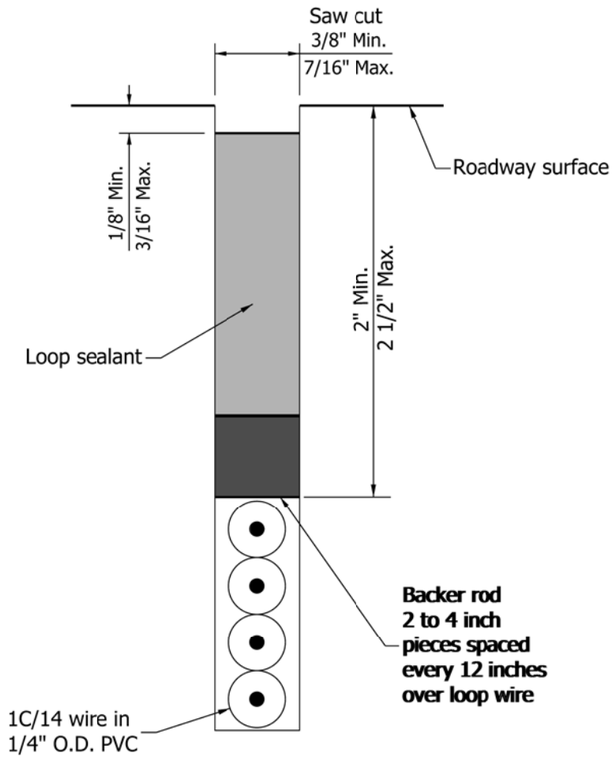
LOOP WIRING DIAGRAM

NOTES:

1. Duct loop wires to be twisted around each other a minimum of 5 turns/ft then coiled and tied with self-locking strips.
2. Loop wires to be tagged in or out as indicated.
3. See splice detail (waterproofing) on Standard Drawing E 805-SGLI-04.
4. The loop wire is continuously wound in the loop saw slot for the required number of turns.



DETAIL A
DETECTOR HOUSING WIRING



LOOP SAW-CUT DETAIL
SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL
LOOP INSTALLATION

SEPTEMBER 2010

STANDARD DRAWING NO. E 805-SGLI-02

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

DESIGN STANDARDS ENGINEER

/s/ Richarh L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

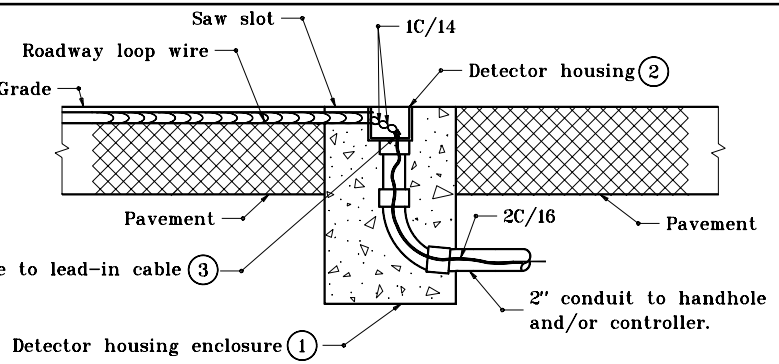
/s/ Mark A. Miller 09/01/10
CHEIF HIGHWAY ENGINEER DATE

GENERAL NOTES

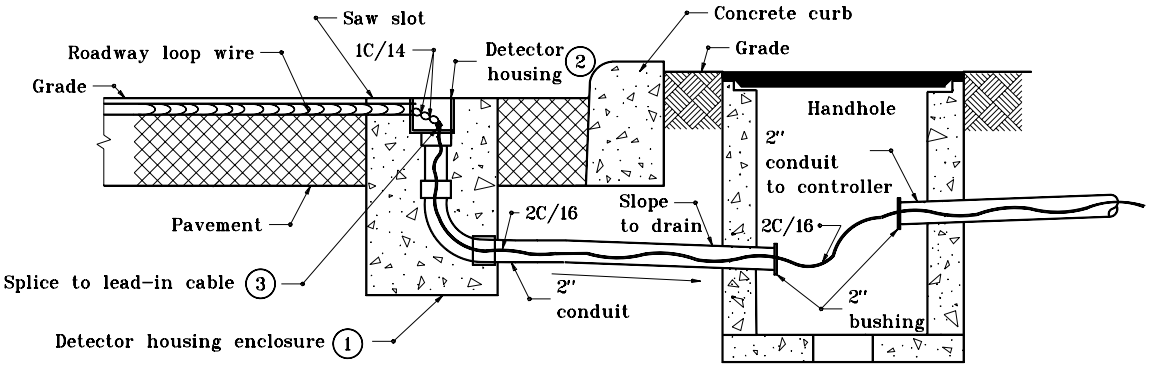
(1) For detail, see Standard Drawing No. E 805-SGDH-01.

(2) For detail, see Standard Drawing No. E 805-SGDH-02

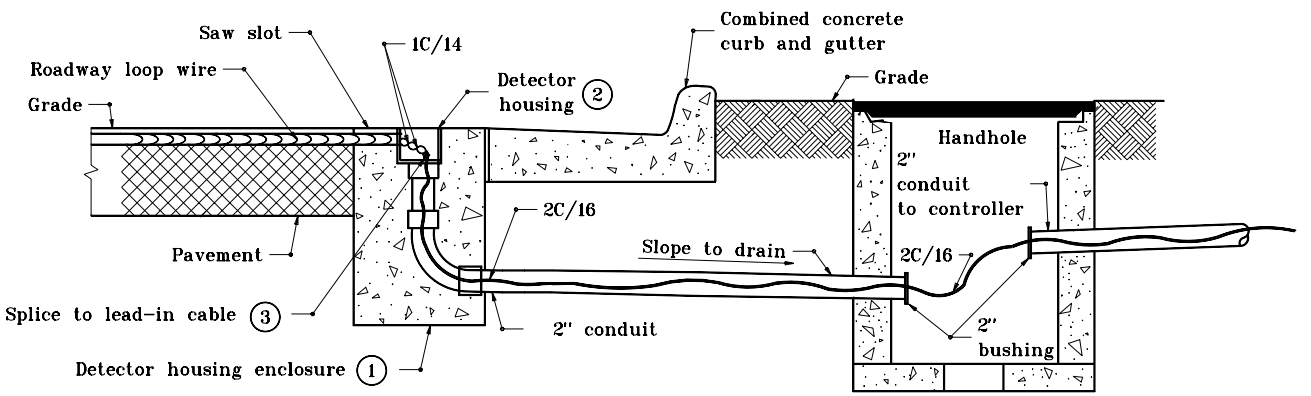
(3) For detail, see Standard Drawing No. E 805-SGLI-04.



CROSS SECTION FOR NON-CURBED SECTIONS



CROSS SECTION FOR CONCRETE CURB SECTIONS



CROSS SECTION FOR COMBINED CURB & GUTTER SECTIONS

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL LOOP DETECTOR HOUSING INSTALLATION

MARCH 1995

STANDARD DRAWING NO. **E 805-SGLI-03**

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

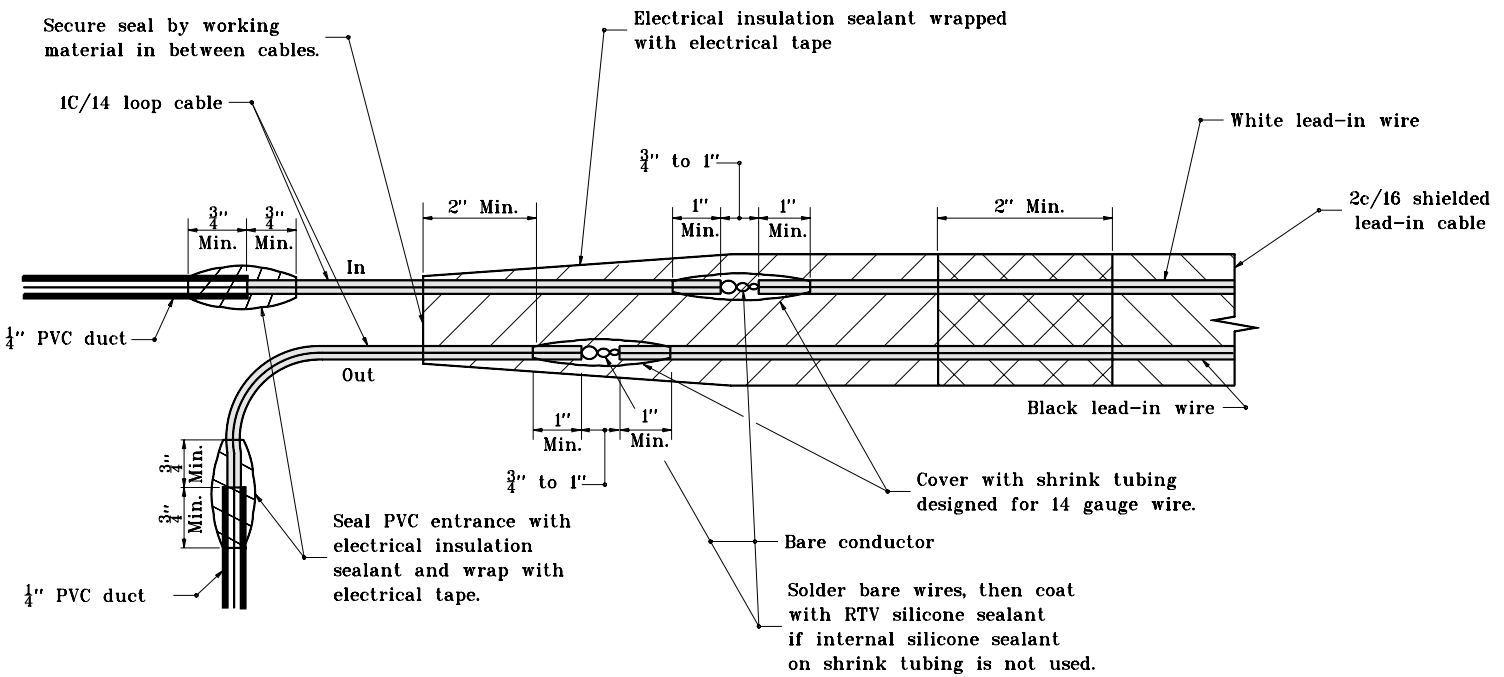
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



SPLICE DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL LOOP SPLICE

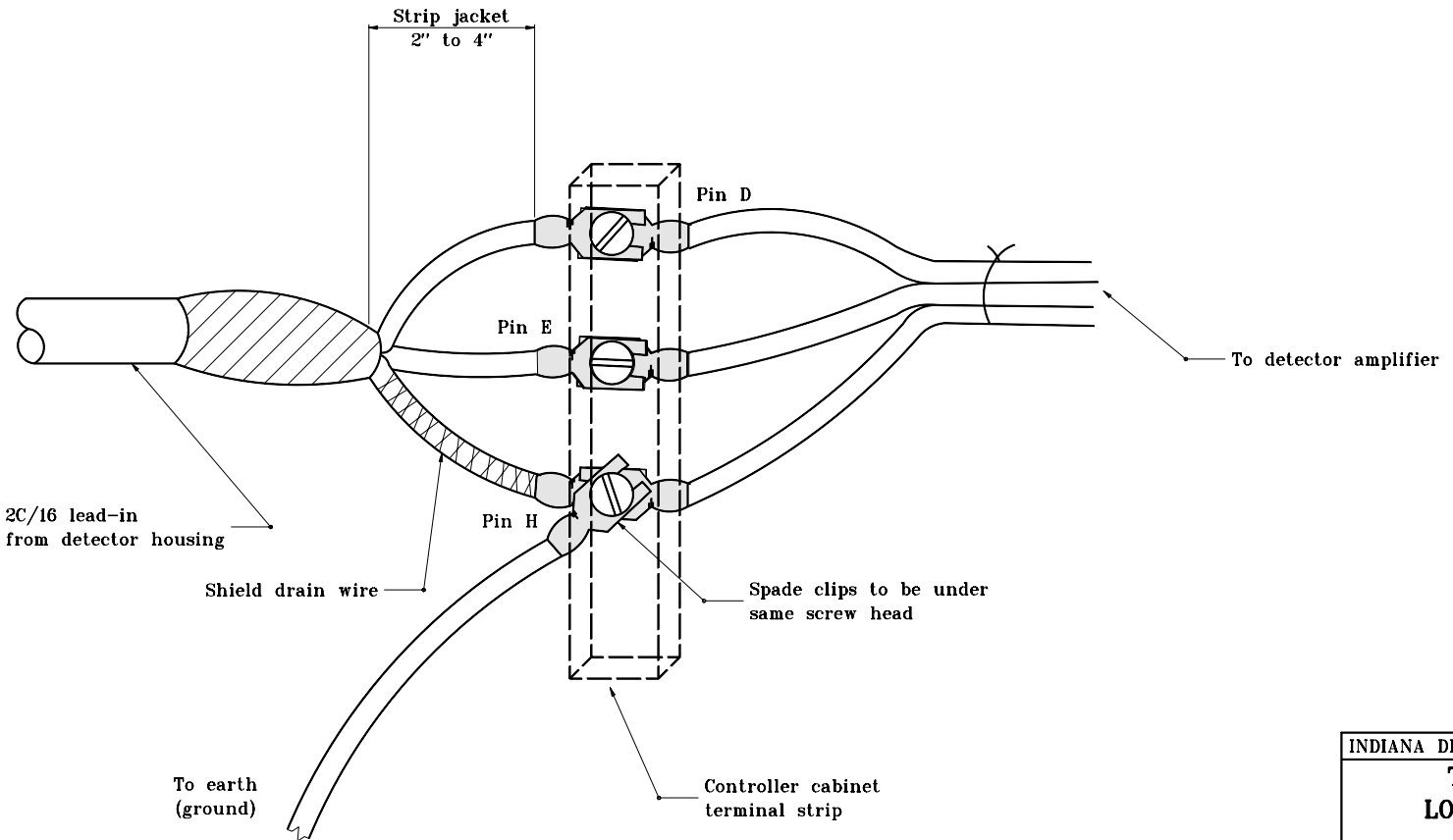
MARCH 1995

STANDARD DRAWING NO. **E 805-SGLI-04**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95



LOOP LEAD-IN
CONTROLLER CABINET CONNECTION DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL
LOOP INSTALLATION

MARCH 1995

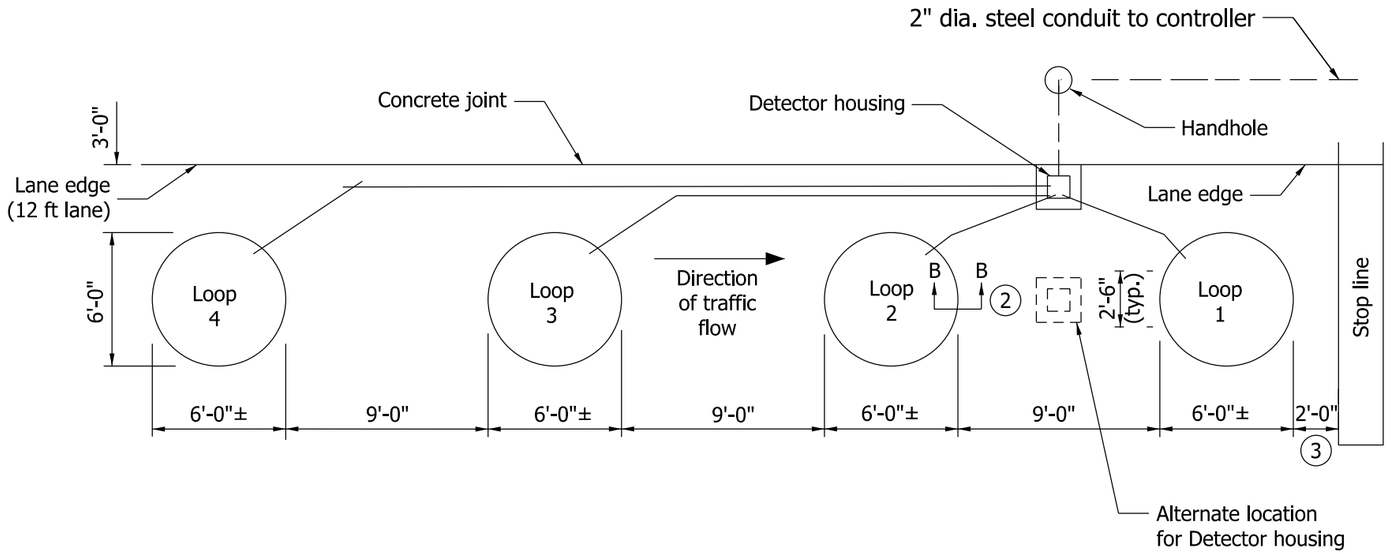
STANDARD DRAWING NO. **E 805-SGLI-05**

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

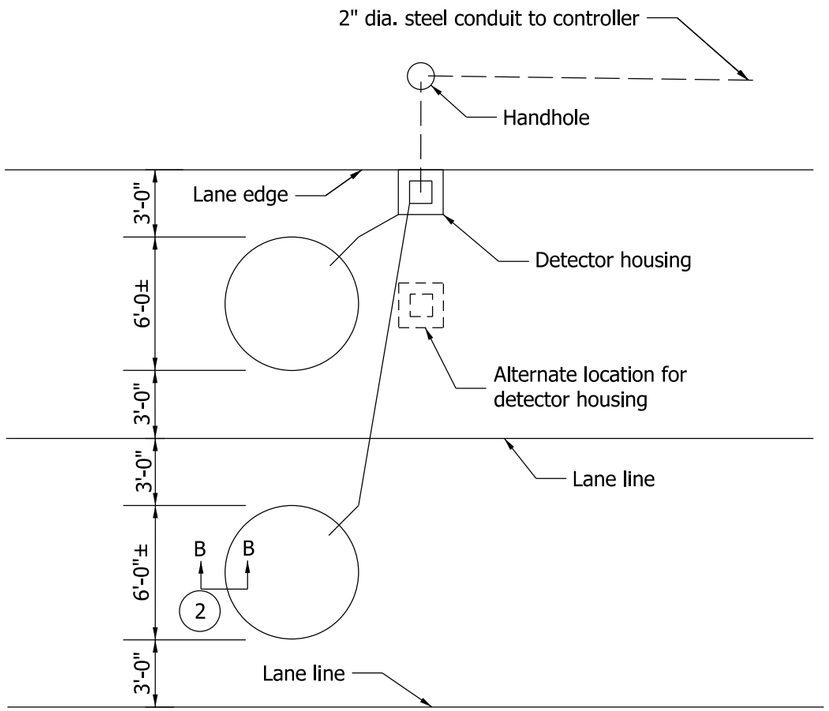
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95

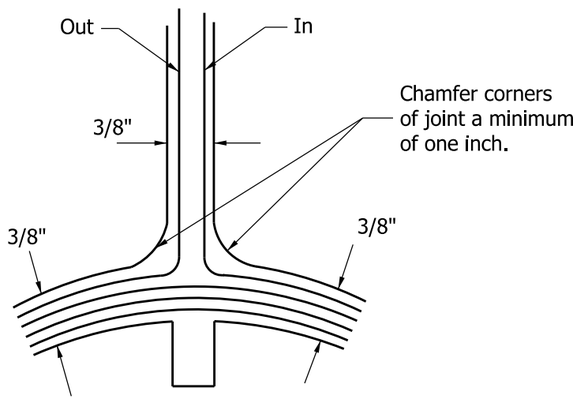
TYPICAL LOOP DETECTION SAW-CUT PLAN (ONE LANE)



TYPICAL LOOP DETECTION (TWO LANES)



DETAIL A
DETECTOR HOUSING WIRING



The loop wire is continously wound in the loop saw slot for the required numbers of turns (4 turns shown)

NOTES:

1. Loop saw-cuts as shown on the plans are to be considered as schematic only. In the event of discrepancies, this detail shall govern.
2. See Standard Drawing E 805-SGLI-02 for Section B-B.
3. This distance is typical depending on the intersection geometrics; a loop can be sawed in front of the stop line.
4. The loop(s) shall be centered transversely in the travel lane.
5. The saw slot for the line from the detector housing to the circular loop shall be approximately perpendicular to the tangent of the loop at the point of intersection.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL LOOP INSTALLATION

SEPTEMBER 2011

STANDARD DRAWING NO. E 805-SGLI-06

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

DESIGN STANDARDS ENGINEER

/s/ Richarh L. Vancleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHEIF HIGHWAY ENGINEER DATE

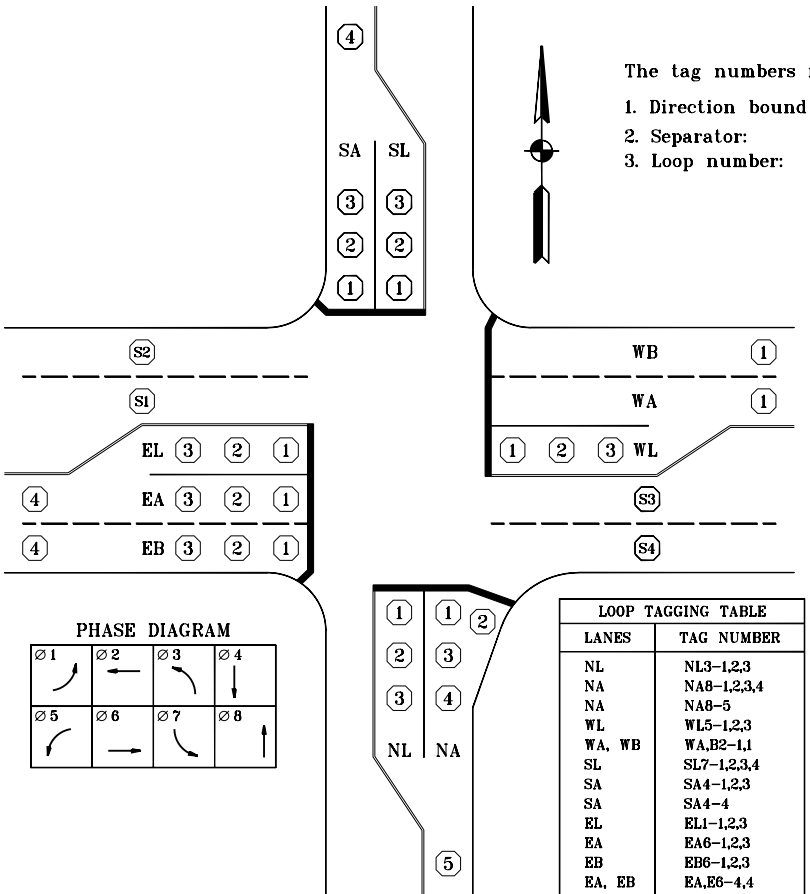
Each loop lead-in cable (2C/16) shall be tagged according to the designation shown on the plans. The tag numbers for lead-in cable shall be assigned as follows:

1. Direction bound: N, S, E, or W.
2. Lane designation: L = Left turn.
   A = Through lane closest to centerline of roadway.
   B = Next lane out from centerline of roadway.
   Alphabet is continued to lane closest to edge of pavement.
3. Phase number: 1 through 8.
4. Separator: –
5. Loop number: 1 = Loop closest to stop line.
   2 = Next loop away from stop line.
   Numbering is continued to loop farthest from stop line.

The tag numbers for system loops shall be assigned as follows:

1. Direction bound and lane designation are the same as for lead-in cable.
2. Separator: –
3. Loop number: S1 is used for the southernmost approach. Numbering is continued in a clockwise direction beginning with S2.

LOOP TAGGING SYSTEM



PHASE DIAGRAM

LOOP TAGGING TABLE	
LANES	TAG NUMBER
NL	NL3–1,2,3
NA	NA8–1,2,3,4
NA	NA8–5
WL	WL5–1,2,3
WA, WB	WA,B2–1,1
SL	SL7–1,2,3,4
SA	SA4–1,2,3
SA	SA4–4
EL	EL1–1,2,3
EA	EA6–1,2,3
EB	EB6–1,2,3
EA, EB	EA,E6–4,4
WA	WA–S1
WB	WB–S2
EA	EA–S3
EB	EB–S4

INDIANA DEPARTMENT OF TRANSPORTATION

LOOP TAGGING SYSTEM

MARCH 1995

STANDARD DRAWING NO. **E 805–SGLT–01**

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

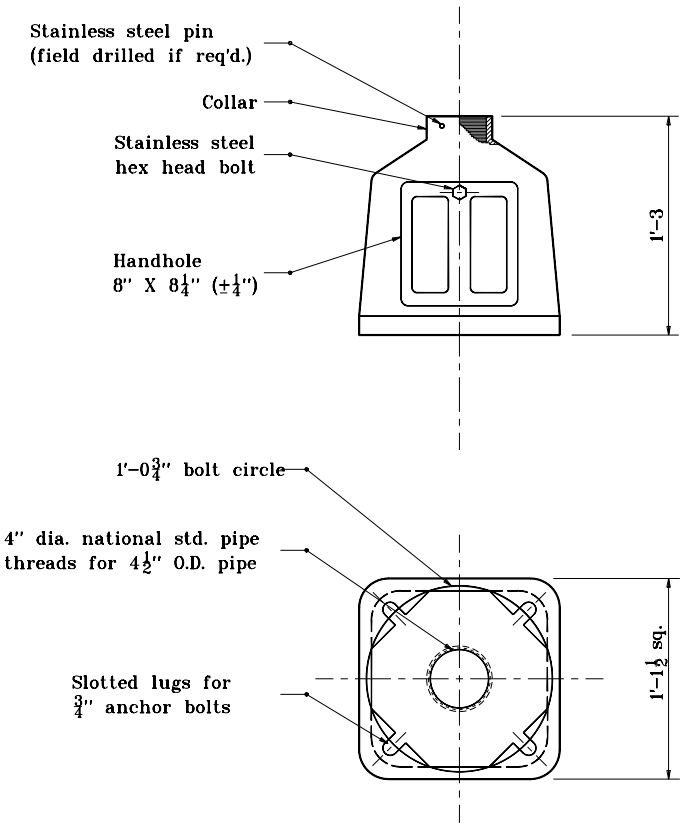
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

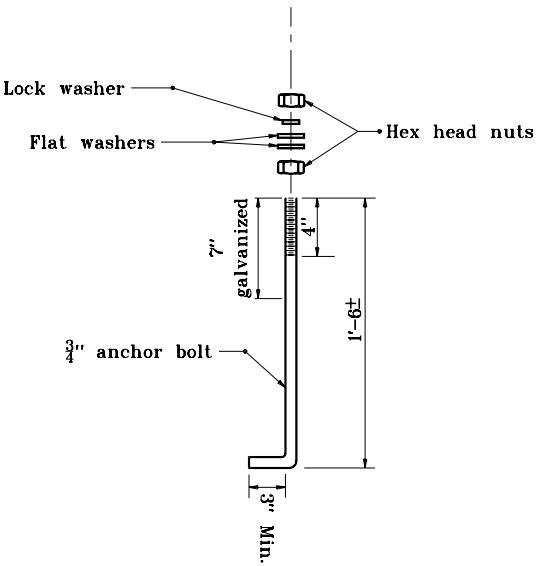
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



BOTTOM VIEW



ANCHOR BOLT FOR
A, M, AND P-1
FOUNDATIONS

INDIANA DEPARTMENT OF TRANSPORTATION

ANCHOR BOLTS AND PEDESTAL BASE

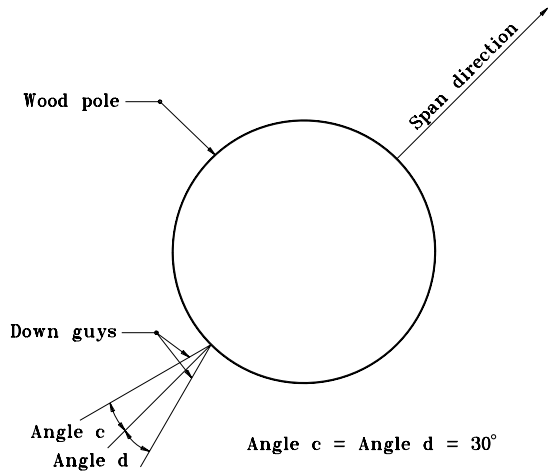
SEPTEMBER 1998

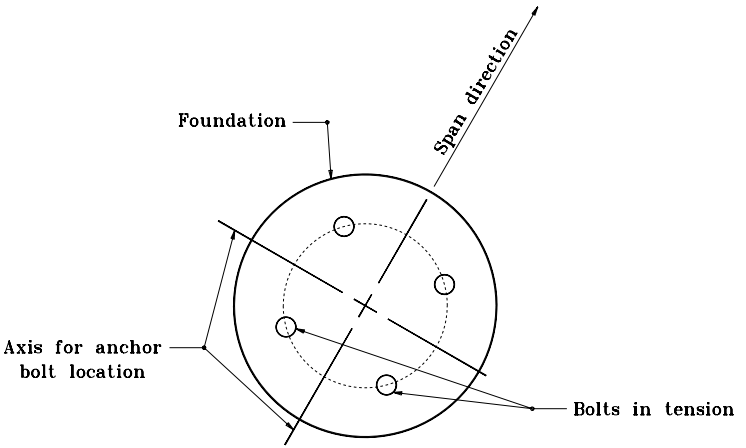
STANDARD DRAWING NO. **E 805-SGPB-01**

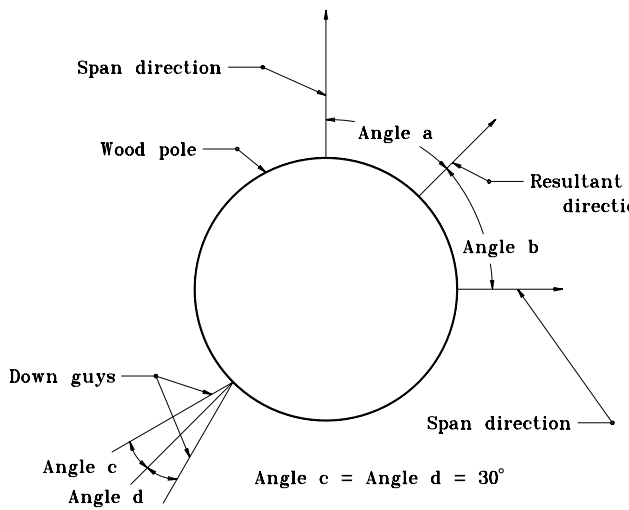
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

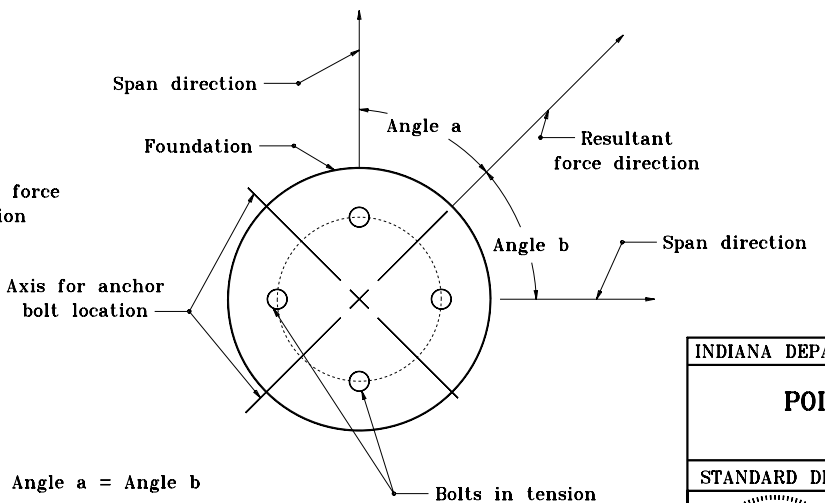
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-98







WOOD POLE
GUY ALIGNMENT



STEEL STRAIN POLE
ANCHOR BOLT ORIENTATION

INDIANA DEPARTMENT OF TRANSPORTATION

POLE ALIGNMENT

JUNE 1996

STANDARD DRAWING NO. **E 805-SGSC-01**

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

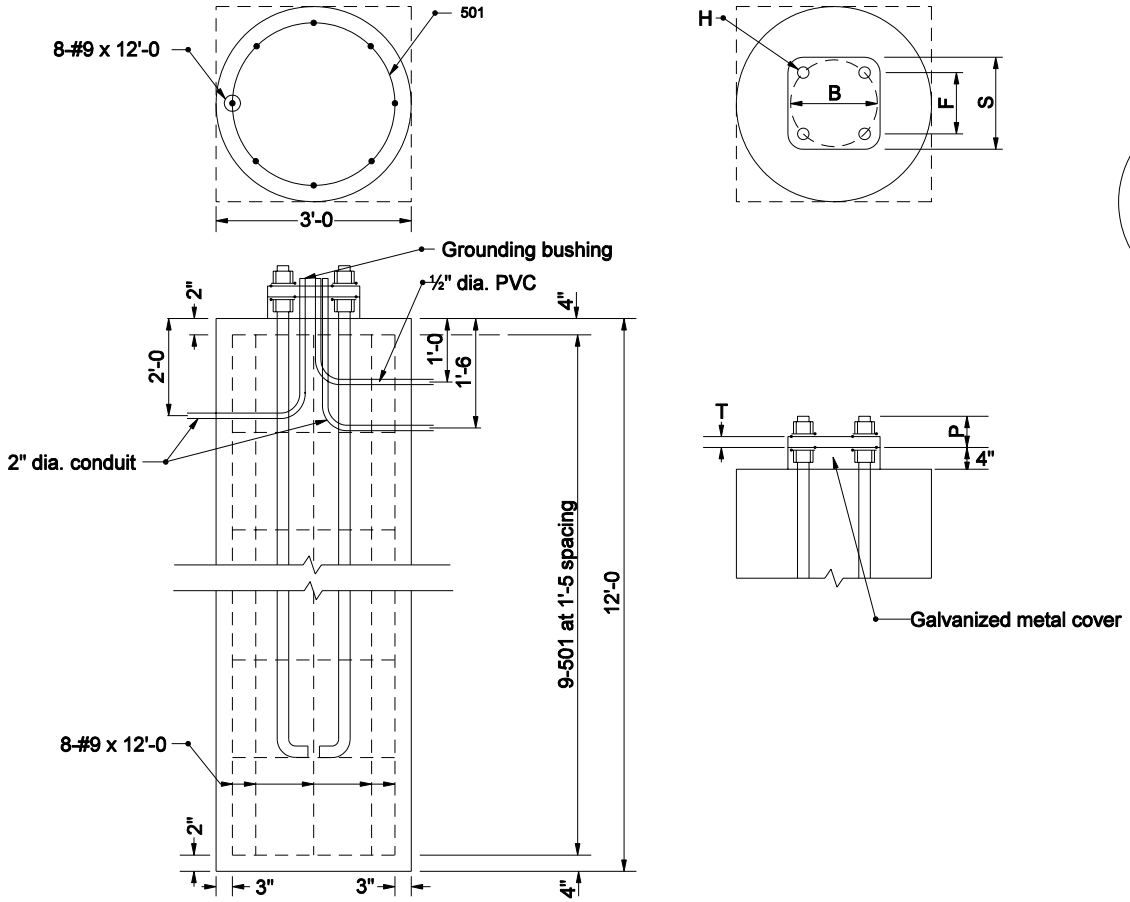
DESIGN STANDARDS ENGINEER

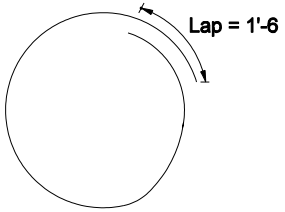
DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 6-03-96





501 x 9'-4

BASE PLATE AND ANCHOR BOLT DATA								
Anchor bolts	B	F	H	P	S	T	Pole size	Foundation
$2\frac{1}{4}$" x 8'-0	1'-10	1'-3½	2¾"	4¾"	1'-11	2½"	1'-3 x 30 ft 1'-5 x 36 ft	3'-0 x 12 ft

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL SIGNAL STRAIN POLE FOUNDATION DETAILS

SEPTEMBER 2004

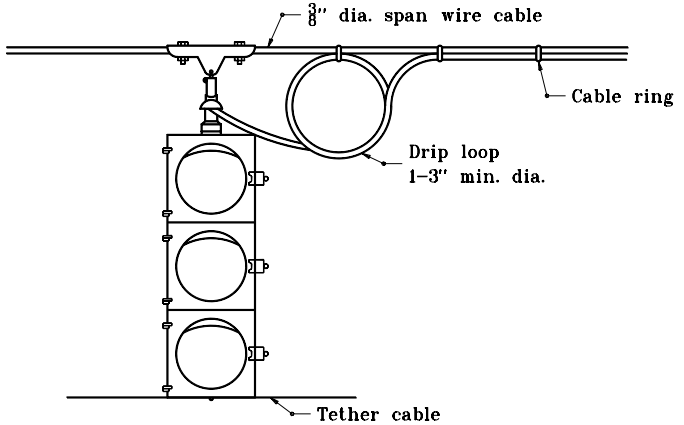
STANDARD DRAWING NO. E 805-SGSC-02

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-04
DESIGN STANDARDS ENGINEER DATE

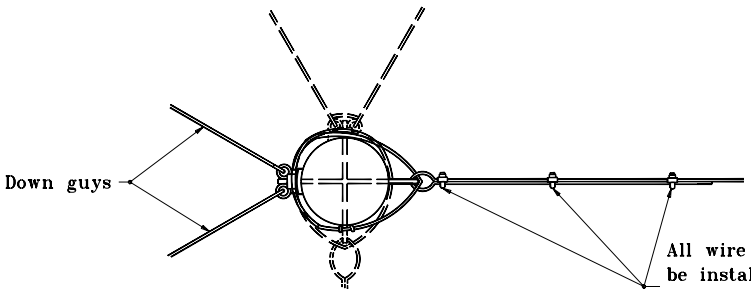
/s/ Richard K. Smutzer 9-01-04
CHIEF HIGHWAY ENGINEER DATE

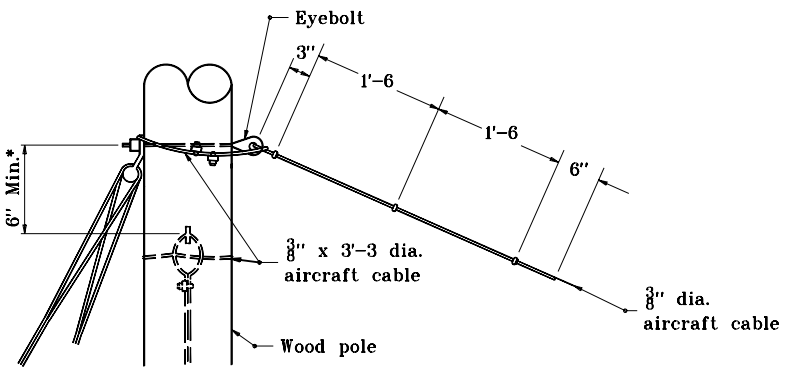


SPAN–HEAD ATTACHMENT

GENERAL NOTES

1. Installation is the same for steel strain poles except pole bands will be used.
2. Aircraft cable shall use a heavy closed wire rope thimble at contact with pole bands.





SAFETY CABLE AND EYE BOLT DETAIL

* If more than one catenary is attached to pole

INDIANA DEPARTMENT OF TRANSPORTATION

CABLE SPAN ATTACHMENT

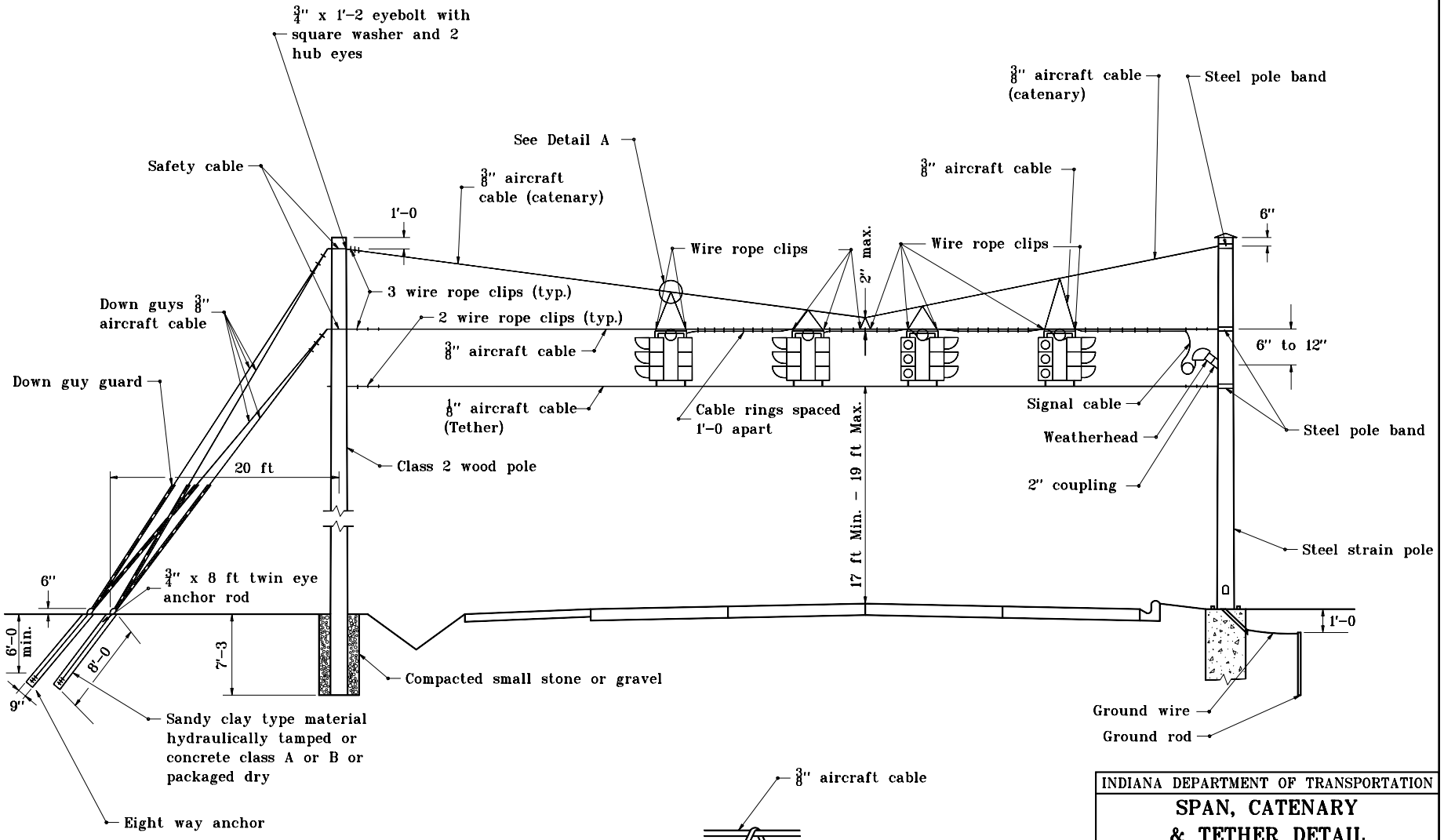
SEPTEMBER 1998

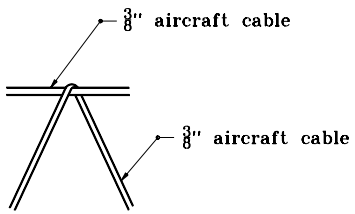
STANDARD DRAWING NO. **E 805–SGSC–03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-98





DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

SPAN, CATENARY & TETHER DETAIL

SEPTEMBER 2000

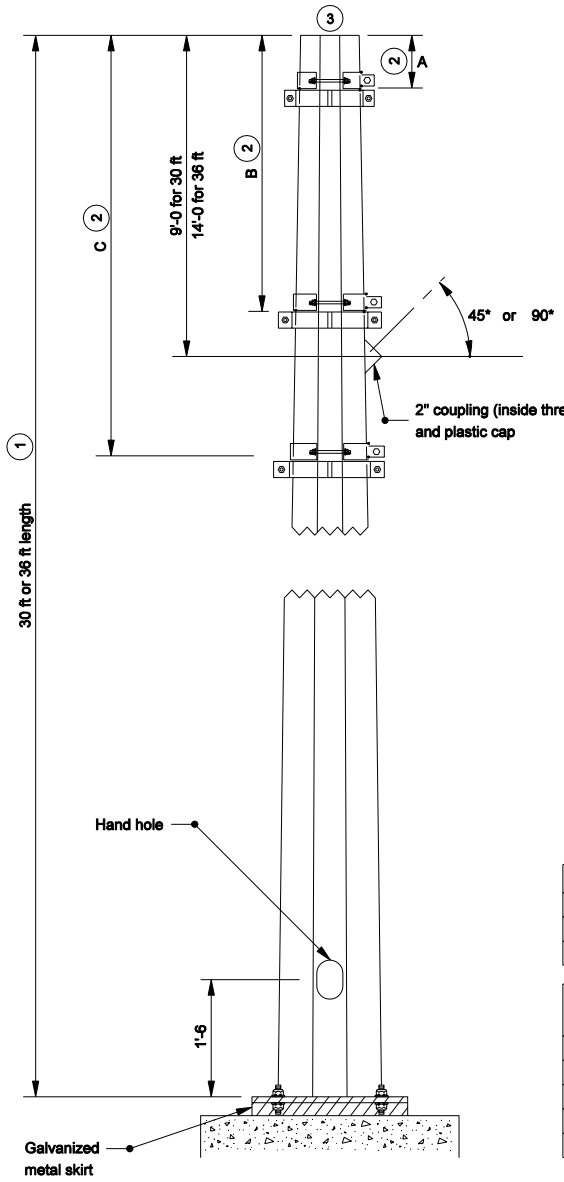
STANDARD DRAWING NO. **E 805-SGSC-04**

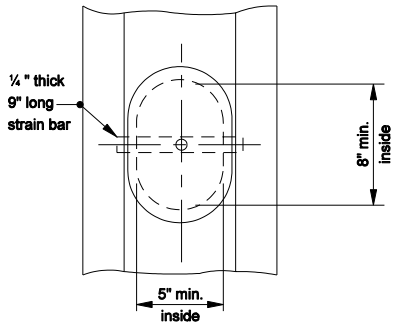
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

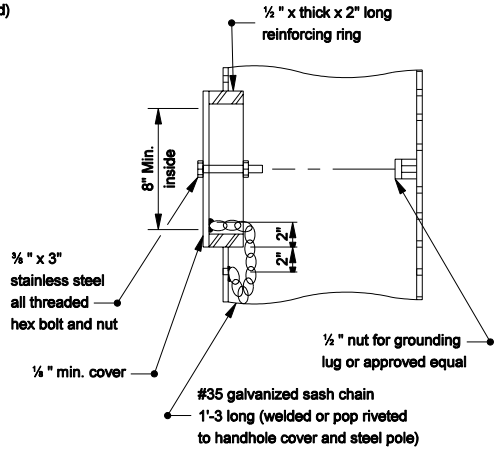
/s/ Anthony L. Uremovich 9-01-00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-01-00
CHIEF HIGHWAY ENGINEER — DATE





HANDHOLE AND GROUNDING LUG



GENERAL NOTES:

1. Taper pole 0.14 in. per foot of length.
2. Band position can be variable depending of minimum clearance requirement of tether the cable over the road, and the elevation of the top of the foundation relative to the top of the traveled roadway.
3. Design load of 8000 lb applied perpendicular to pole axis 1'-6 from top of pole.

POLE BAND POSITION			
POLE LENGTH	A	B	C
30 ft	6"	8'-0	12'-0
36 ft	1'-0	13'-0	17'-0

POLE BAND SIZE NUMBER	O.D.(ACROSS POINTS) OF POLE (ROUND OR MULTISIDED)	
	MIN.	MAX.
12	11	1'-1
13	1'-1	1'-2
14	1'-2	1'-3
15	1'-3	1'-4

INDIANA DEPARTMENT OF TRANSPORTATION

30 ft. AND 36 ft. SIGNAL STEEL STRAIN POLES

SEPTEMBER 2005

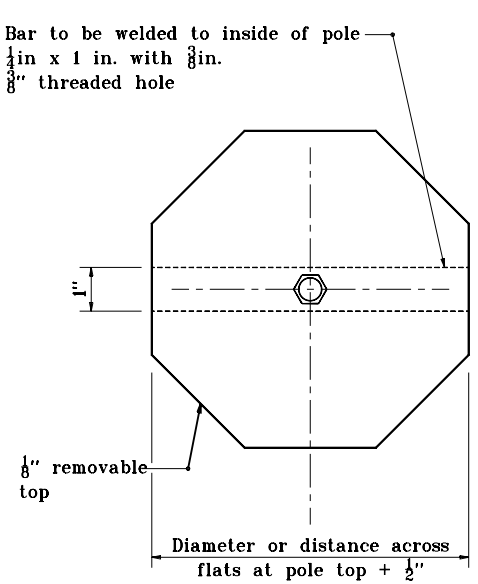
STANDARD DRAWING NO. E 805-SGSP-01

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

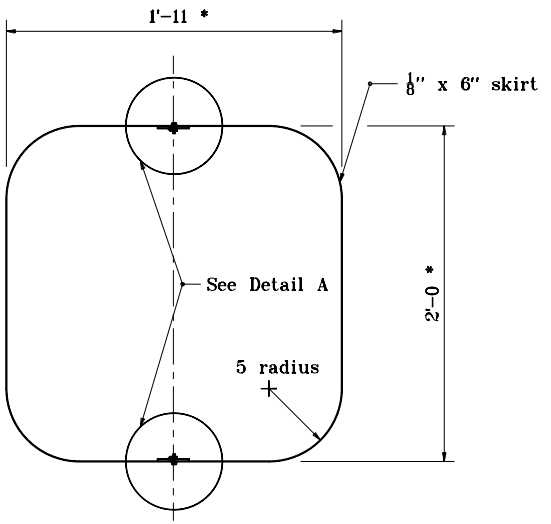
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

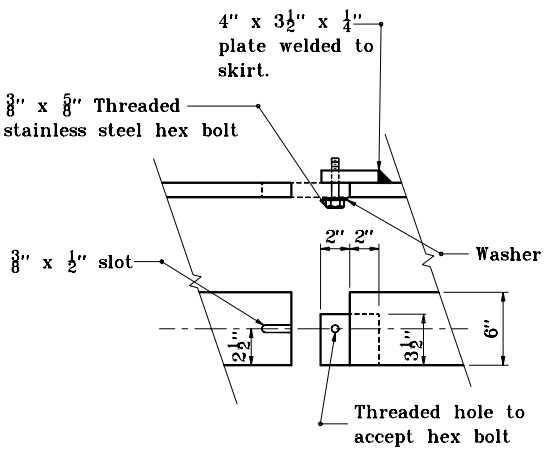
/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



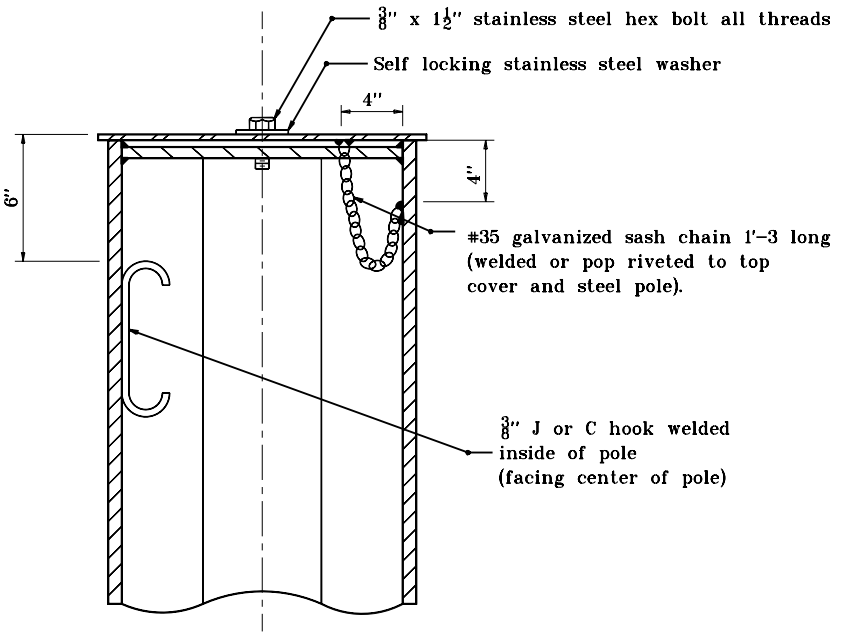
TOP COVER



METAL SKIRT (BASE PLATE)



DETAIL A



INDIANA DEPARTMENT OF TRANSPORTATION

TOP COVER AND METAL SKIRT OF SIGNAL STEEL STRAIN POLE

MARCH 1995

STANDARD DRAWING NO. **E 805-SGSP-02**

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

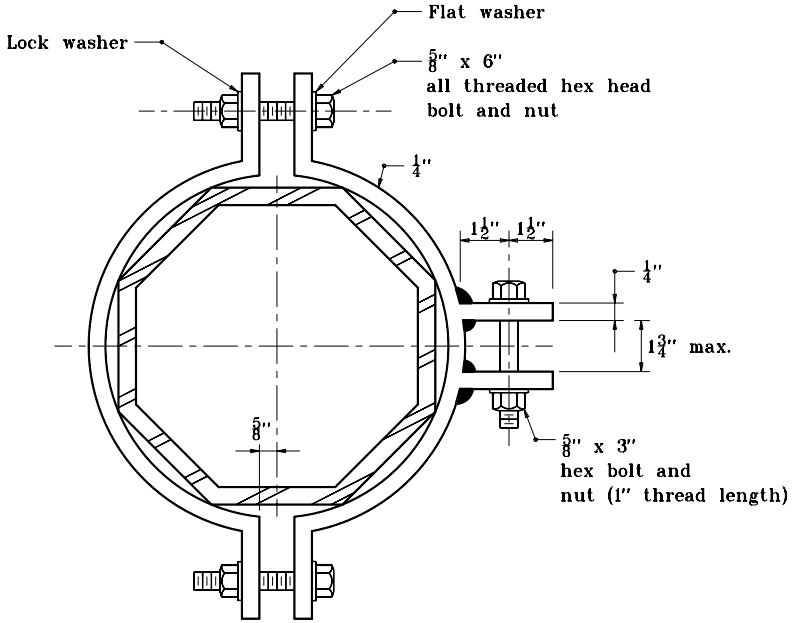
DESIGN STANDARDS ENGINEER

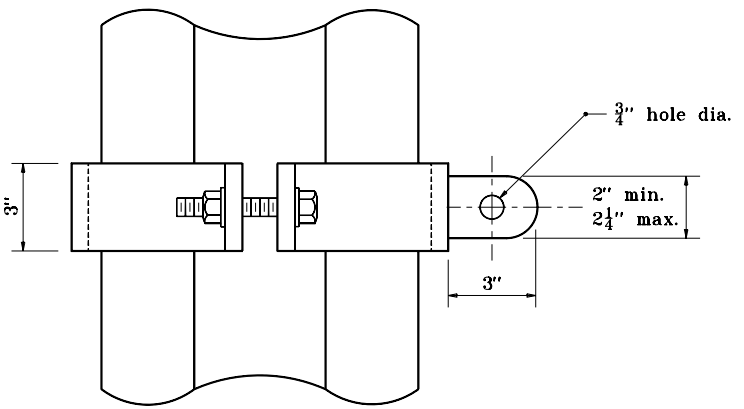
DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95





REQUIRES TWO POLE BANDS AT EACH POSITION ON POLE (SIX BANDS PER POLE)

INDIANA DEPARTMENT OF TRANSPORTATION

POLE BAND FOR SIGNAL STEEL STRAIN POLE

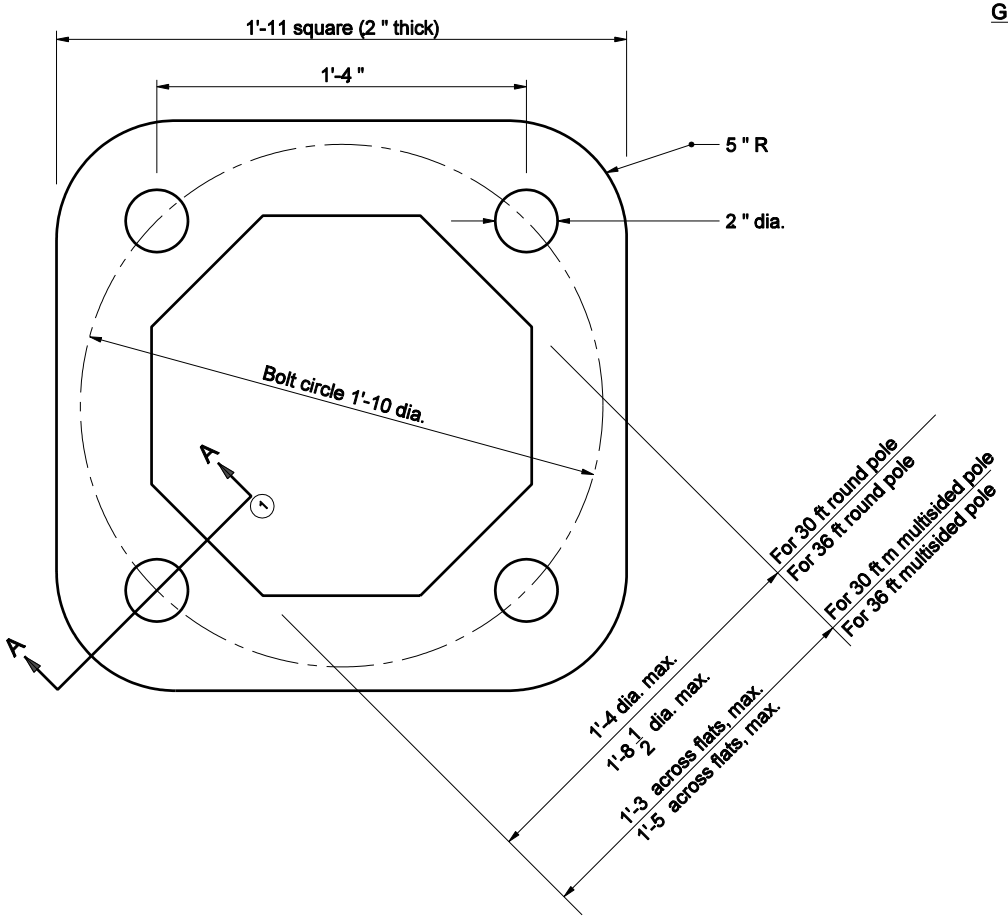
SEPTEMBER 1998

STANDARD DRAWING NO. **E 805-SGSP-03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	9-01-98



GENERAL NOTES

① See Standard Drawing E 805-SGSP-05 for Section A-A.

INDIANA DEPARTMENT OF TRANSPORTATION

BASE PLATE FOR SIGNAL STEEL STRAIN POLE

SEPTEMBER 2004

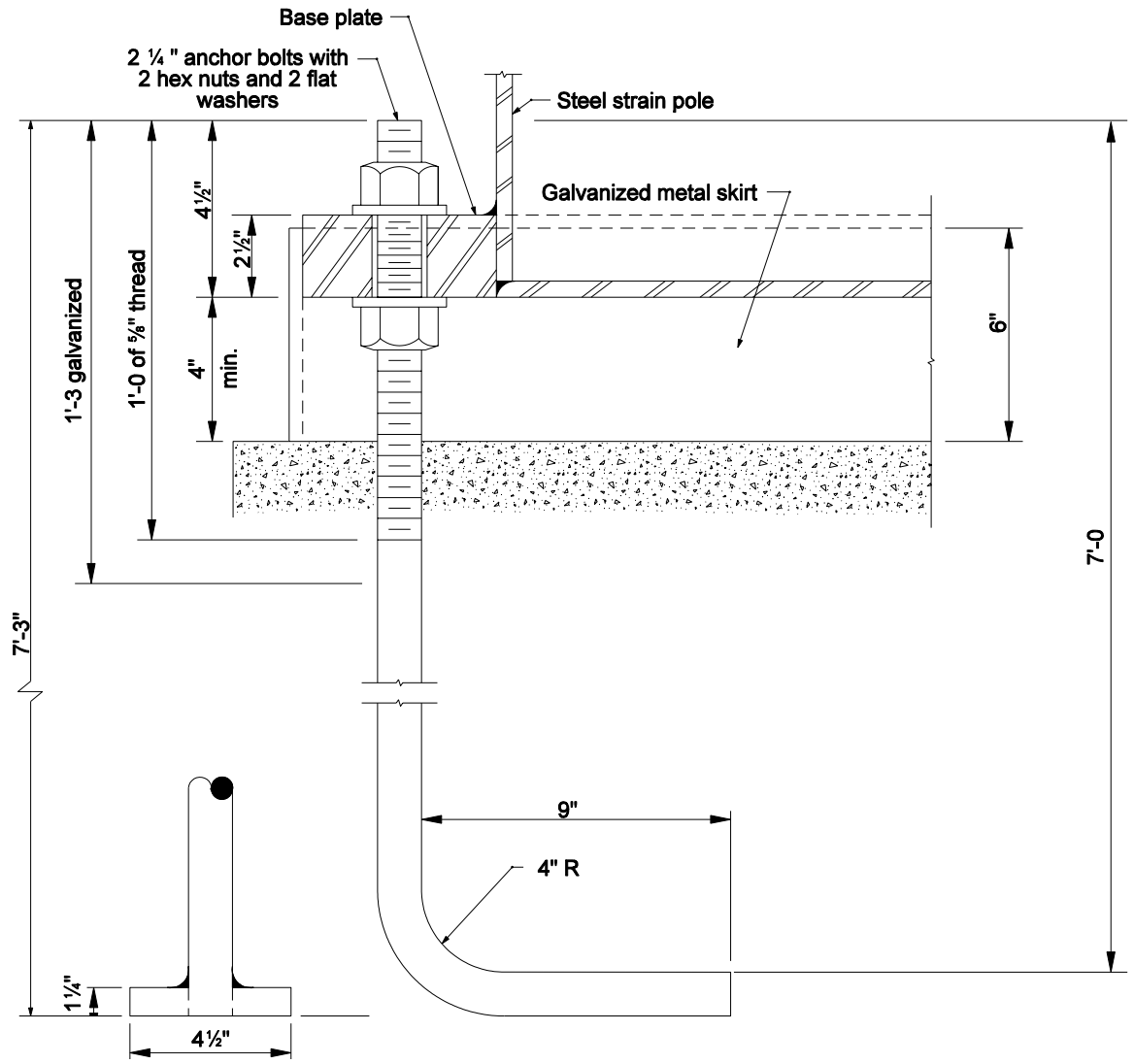
STANDARD DRAWING NO. E 805-SGSP-04

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-04
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-04
CHIEF HIGHWAY ENGINEER DATE



ALTERNATIVE
1¼" x 4½" square plate tapped & welded to anchor bolt

SECTION A-S

INDIANA DEPARTMENT OF TRANSPORTATION

ANCHOR BOLT DETAIL FOR SIGNAL STEEL STRAIN POLES

MARCH 2004

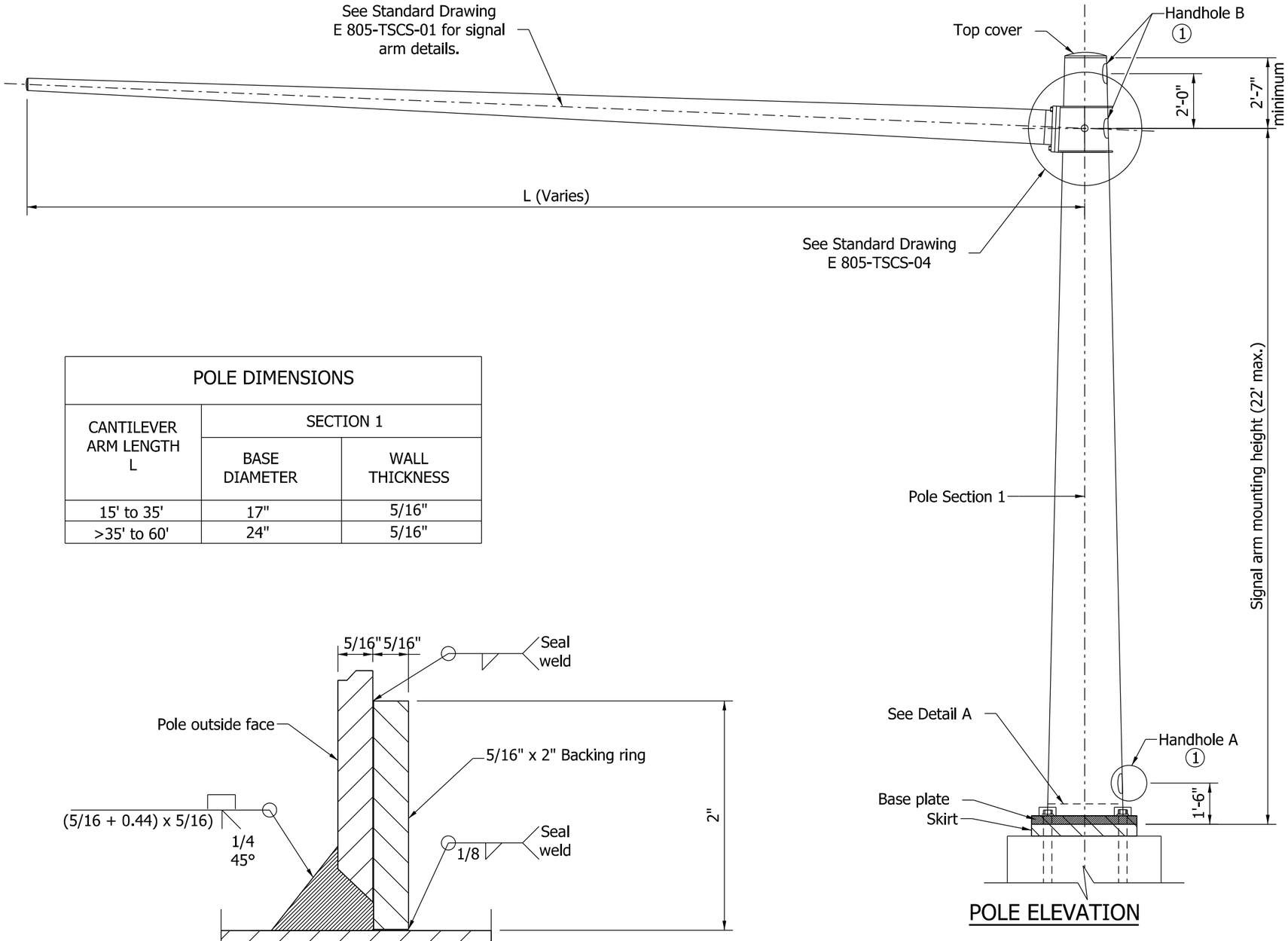
STANDARD DRAWING NO. E 805-SGSP-05

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

DESIGN STANDARDS ENGINEER

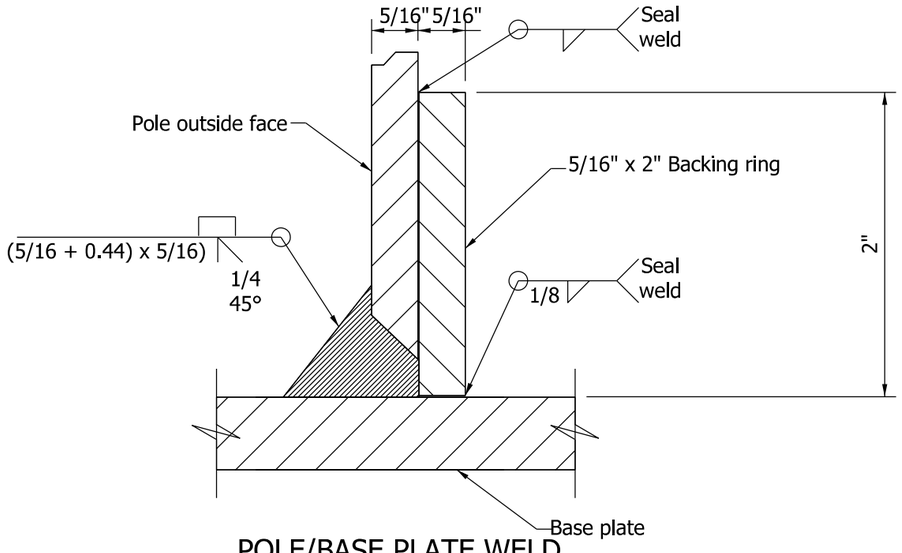
/s/ Richard L. VanCleave 3/01/04
DESIGN STANDARDS ENGINEER DATE

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



POLE ELEVATION

POLE DIMENSIONS		
CANTILEVER ARM LENGTH L	SECTION 1	
	BASE DIAMETER	WALL THICKNESS
15' to 35'	17"	5/16"
>35' to 60'	24"	5/16"



POLE/BASE PLATE WELD
DETAIL A

NOTES:

① See Standard Drawing E 805-TSCS-05 for handhole details.

2. See Standard Drawing E 805-SGGR-01 to -03 for grounding details.

INDIANA DEPARTMENT OF TRANSPORTATION

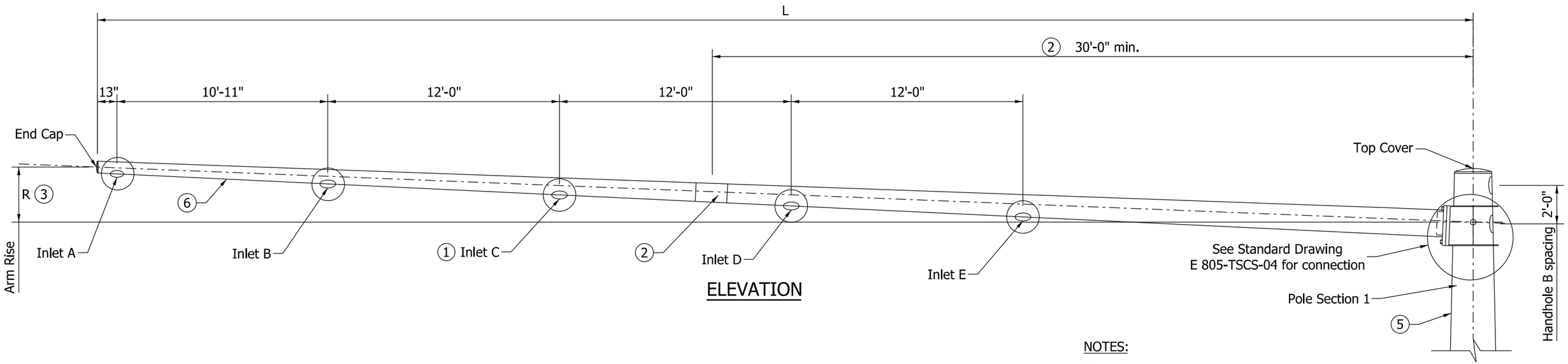
TRAFFIC SIGNAL CANTILEVER STRUCTURE
SINGLE SIGNAL ARM POLE ELEVATION,
DIMENSIONS, AND BASE PLATE WELD DETAIL
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-01

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

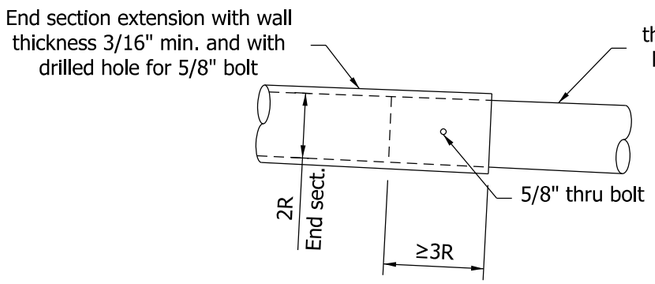
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



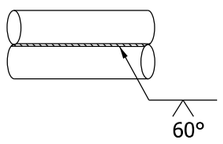
ELEVATION

NOTES:

1. Number of cable inlets depends on arm L (See Arm Dimensions Table). The inlet diameter shall be 1 3/4" with rubber grommet (Typ.)
2. Optional splice can be used for arm length of greater than 40'. Field assembly shall achieve a snug tight joint, with minimum overlap not less than 1.5 times the inside dimension of the end section.
3. Arm rise R is measured in the undeflected position without vertical loads on the arm.
4. See Standard Drawings E 805-TSCS-06 and -07 for placement of signal and signs for each arm length.
5. If seam welds are used, the weld location for the arms shall be along the bottom, and on the side of pole as shown.



2 OPTIONAL ARM SPLICE DETAIL



5 TYPICAL SEAM WELD

ARM DIMENSIONS TABLE				
L (ft.)	ARM DIAMETER AT POLE	ARM WALL THICKNESS (in.)	R (in.)	CABLE INLETS
15	8"	5/16"	7 1/2"	A, B
20	10"	5/16"	10"	A, B
25	11"	5/16"	1'-0 1/2"	A, B
30	13"	5/16"	1'-3"	A, B
35	14"	5/16"	1'-5 1/2"	A, B, C
40	15"	5/16"	1'-8"	A, B, C
45	17"	5/16"	1'-10 1/2"	A, B, C
50	19"	5/16"	2'-1"	A, B, C, D
55	20"	5/16"	2'-3 1/2"	A, B, C, D
60	21"	5/16"	2'-6"	A, B, C, D, E

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE SIGNAL ARM DIMENSIONS & DETAILS

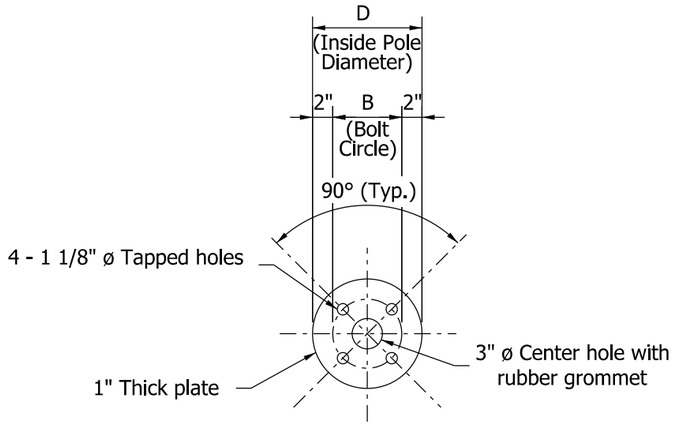
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-02

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

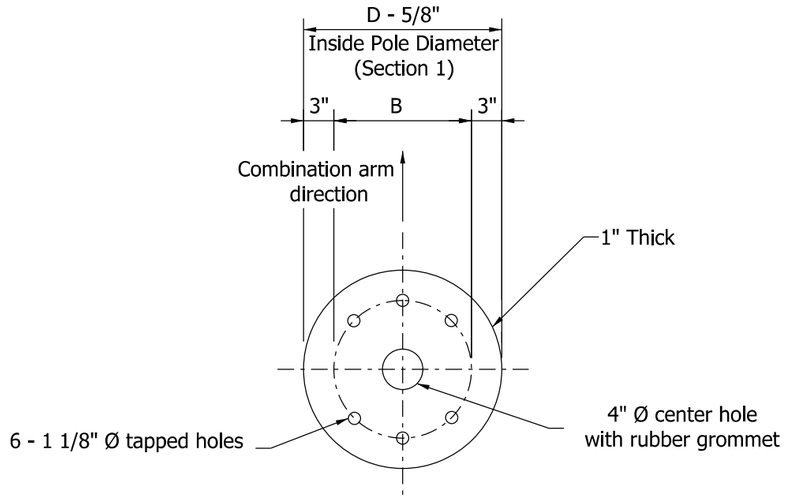
/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



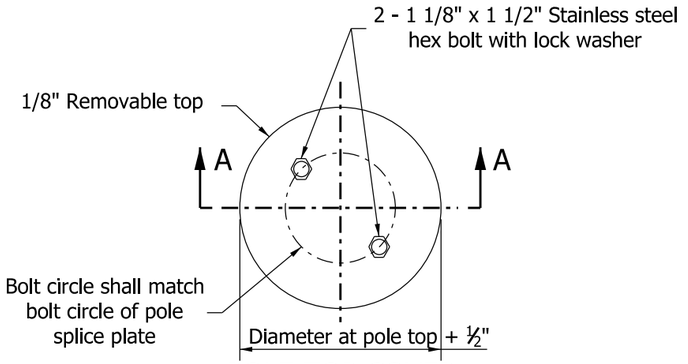
① BOTTOM SPLICE PLATE

(For Cantilever Arm Length of 35' or Less)

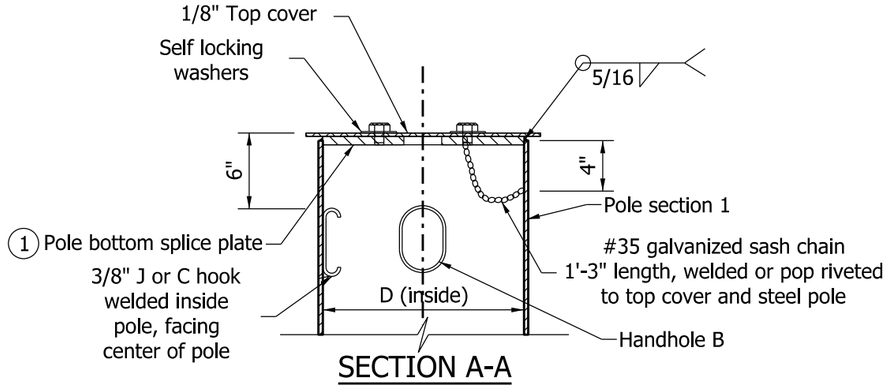


① BOTTOM SPLICE PLATE

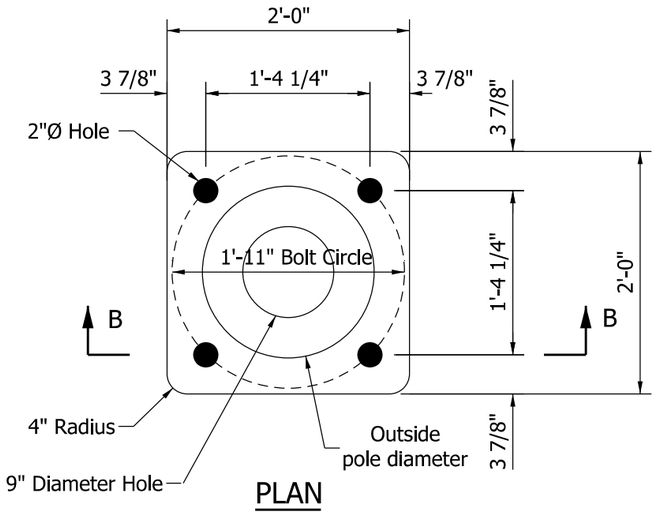
(For Cantilever Arm Length Greater Than 35' to 60')



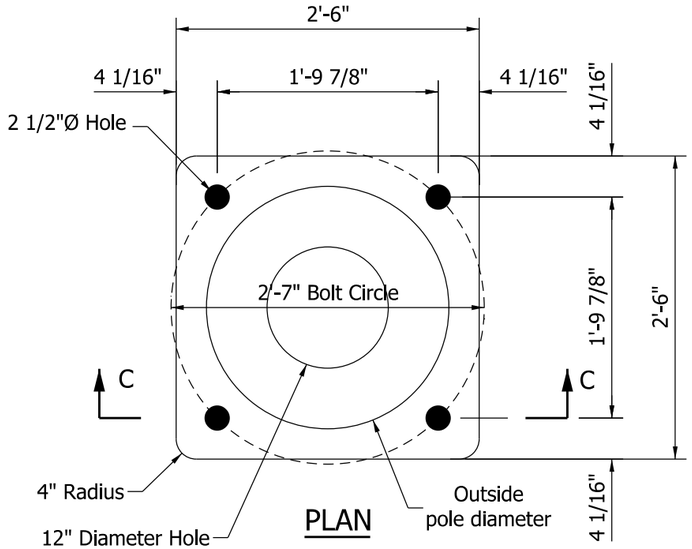
POLE TOP COVER



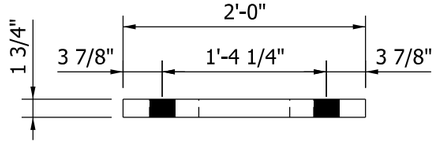
SECTION A-A



PLAN

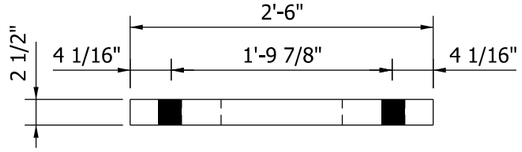


PLAN



SECTION B-B

BASE PLATE A



SECTION C-C

BASE PLATE B

NOTES:

① See Standard Drawings E 805-TSCS-11 and -12 for bottom splice details.

2. Bolt circle shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE SIGNAL ARM POLE BASE PLATE, BOTTOM SPLICE PLATES, AND POLE TOP COVER DETAILS

SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-03

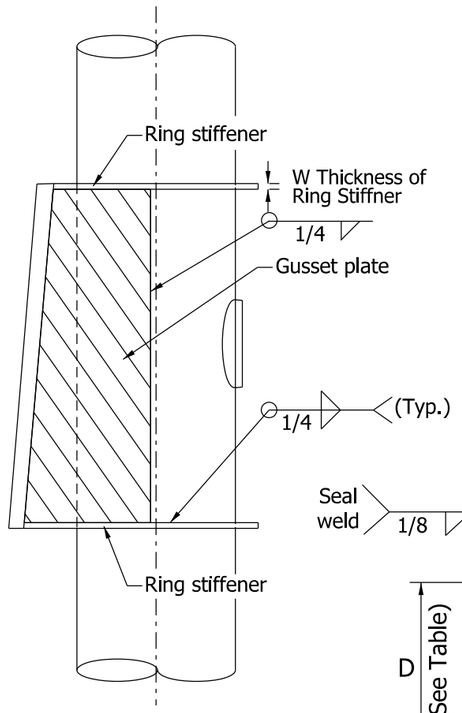
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12

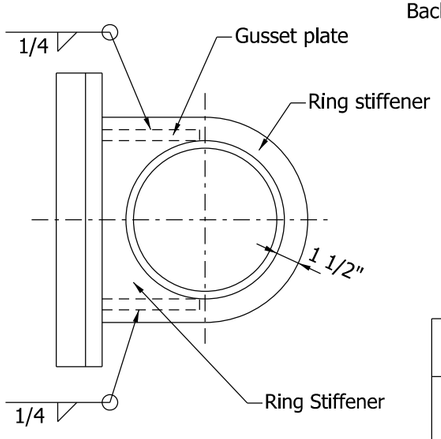
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12

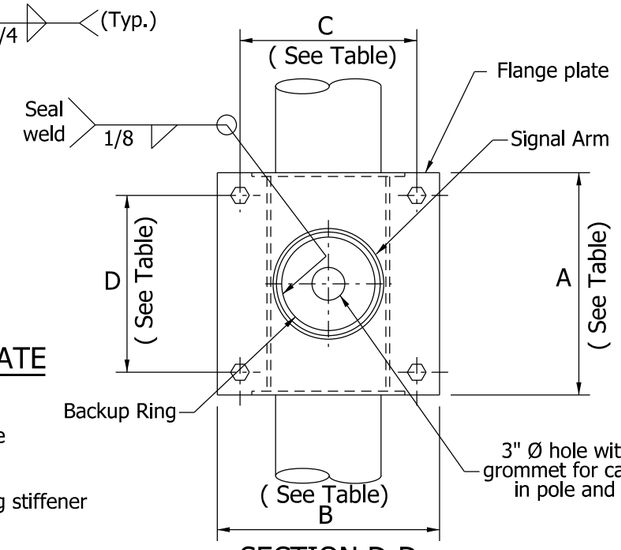
CHIEF ENGINEER DATE



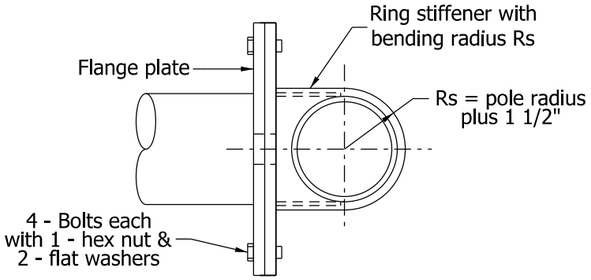
ELEVATION OF GUSSET PLATE



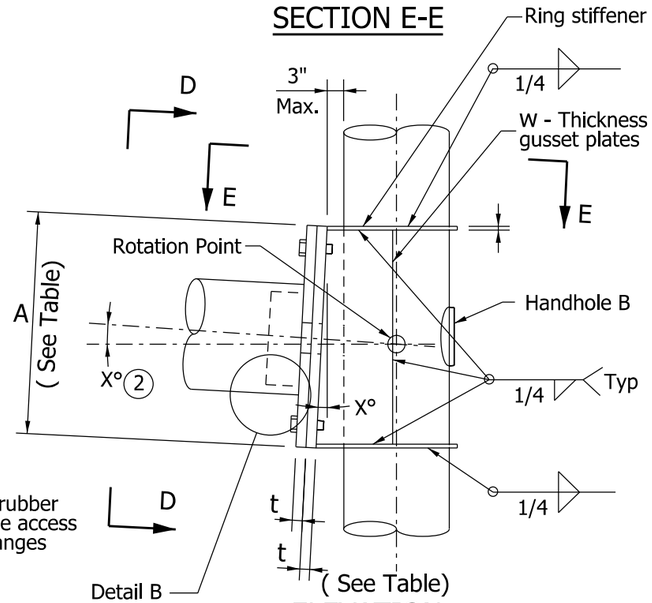
TOP OF GUSSET PLATE



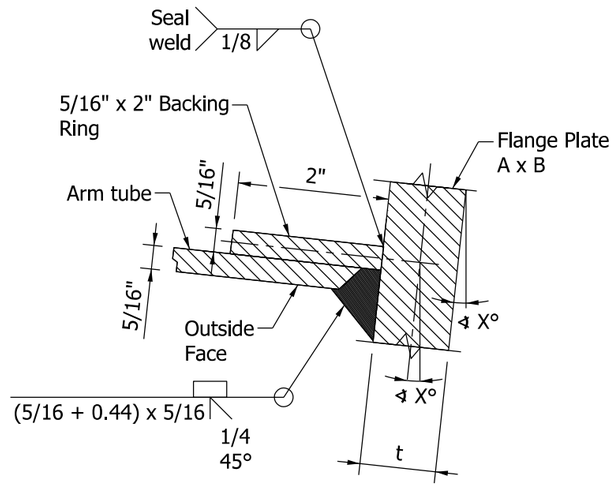
SECTION D-D



SECTION E-E



ELEVATION



DETAIL B - ARM WELD

SIGNAL ARM CONNECTION DETAIL

NOTES:

1. See Standard Drawing E 805-TSCS-05 for Handhole B details.
2. The required signal arm rise shall be built into the gusset plate at the angle X. The angle X is described as arc tan R/L, where R is the arm rise and L is the arm length. Both R and L vary and are listed in the Arm Dimension Table on Standard Drawing E 805-TSCS-02.

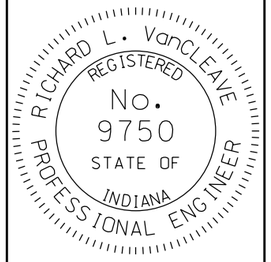
PLATES AND BOLTS FOR SIGNAL SINGLE ARM CANTILEVER					
ARM LENGTH	FLANGE PLATE A x B	BOLT PATTERN C x D	RING STIFFNER GUSSET PLATE w	FLANGE PLATE THICKNESS t	BOLT
15' TO 35'	22" X 22"	17 1/2" X 17 1/2"	3/8"	1 1/2"	1 1/8" - 7 UNC x 4 1/4" LONG
>35' TO 60'	33" X 33"	27 1/2" X 27 1/2"	1/2"	1 3/4"	1 1/2" - 6 UNC x 6 1/4" LONG

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
SIGNAL ARM CONNECTION DETAILS

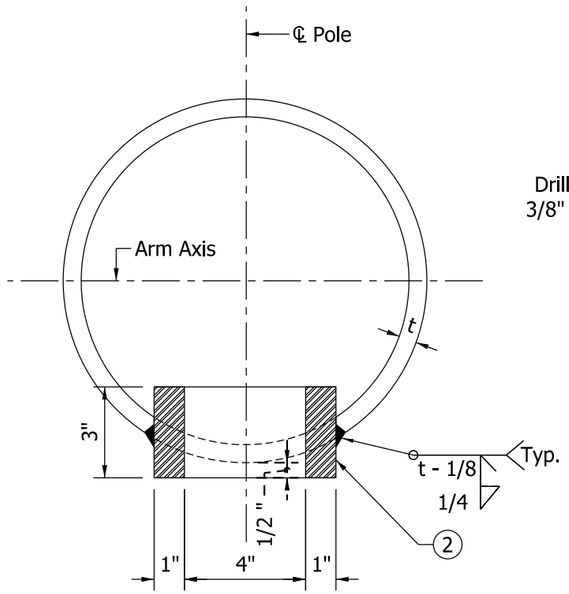
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-04

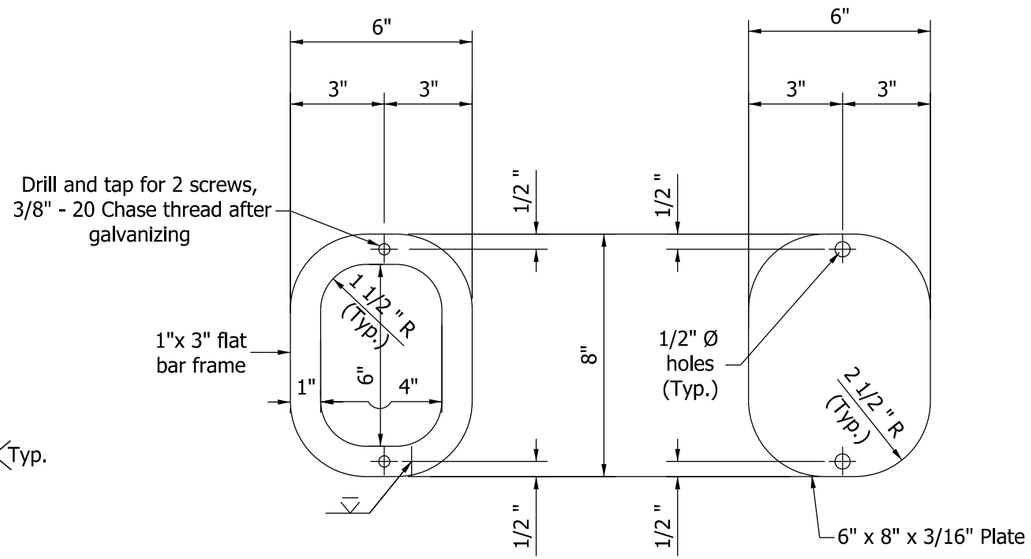


/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



HANDHOLE B
SECTION ACROSS POLE



FRAME DETAIL COVER

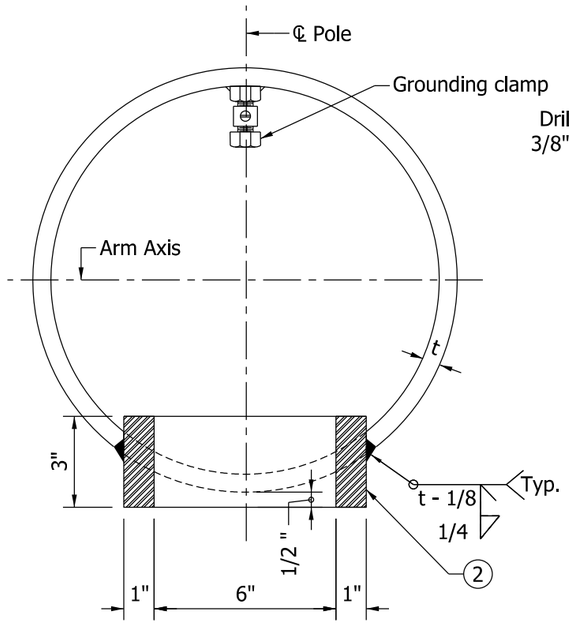
HANDHOLE B

NOTES:

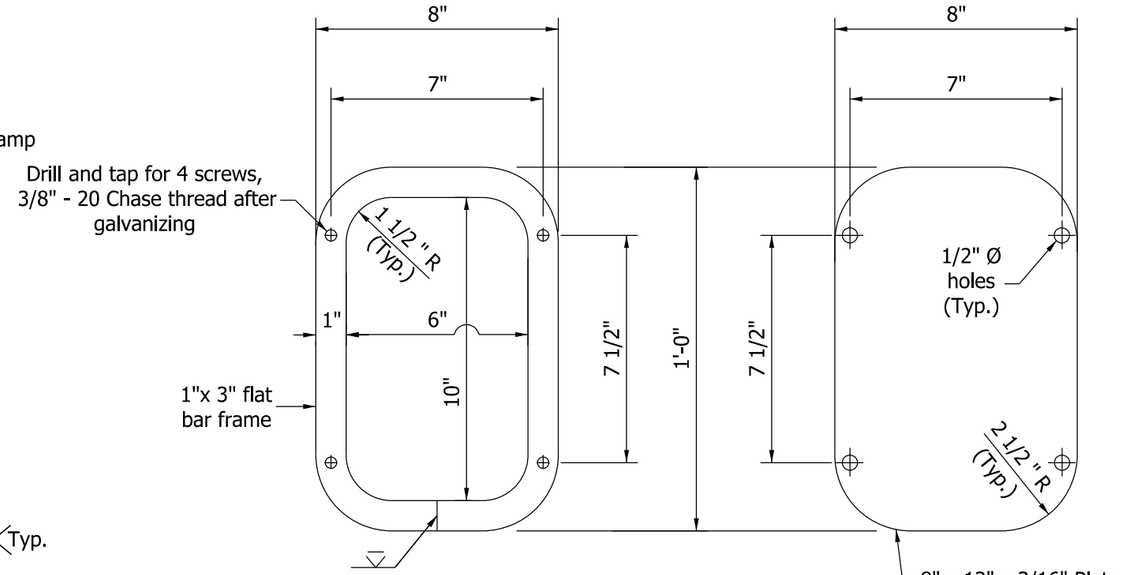
1 Handhole A shall be used at the base of the pole. Handhole B shall be used at all other locations.

(2) In lieu of fabricated handhole frame as shown, frame may be cut from 3" plate with rolling direction vertical.

3 See Standard Drawings E 805-TSCS-01 and -08 for handhole locations.



HANDHOLE A
SECTION ACROSS POLE



FRAME DETAIL COVER

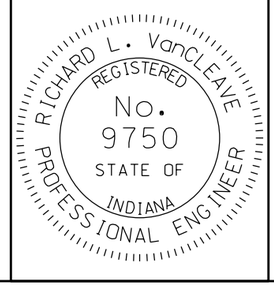
HANDHOLE A

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
HANDHOLE DETAILS

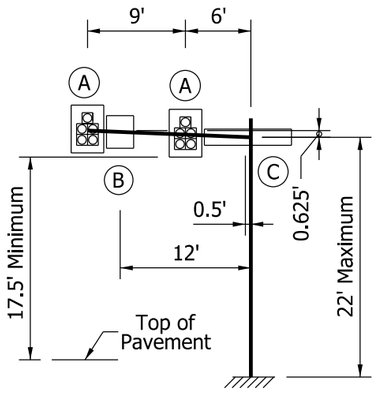
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-05

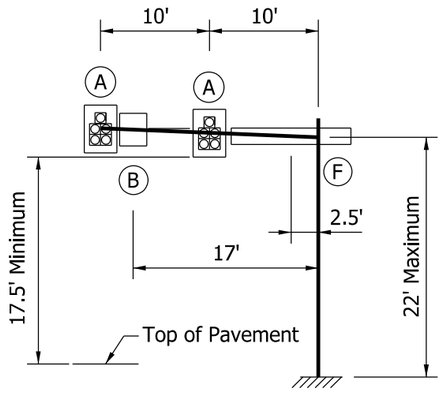


/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

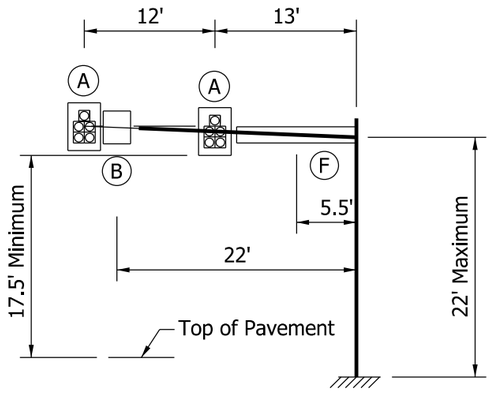
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



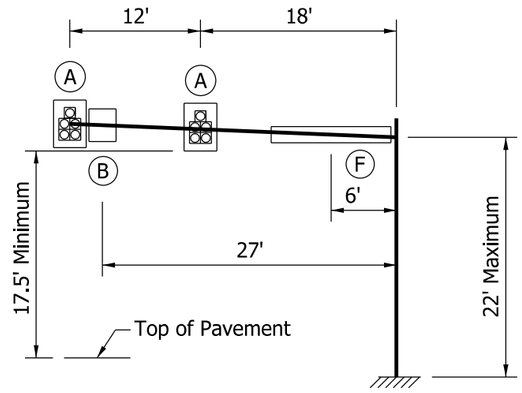
15' ARM



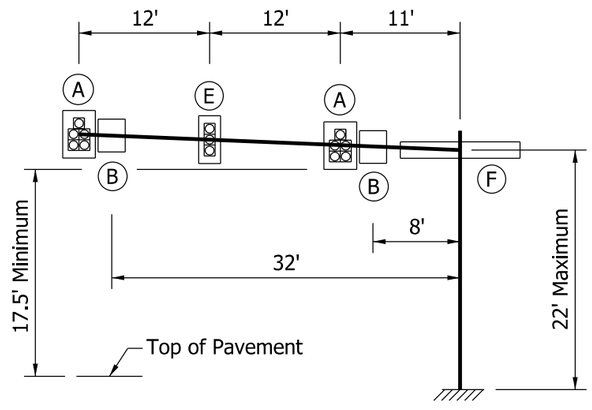
20' ARM



25' ARM



30' ARM



35' ARM

LEGEND	
Device	Description
(A)	12" - 5 Section Signal Head With Backplates
(B)	36" x 30" Regulatory Sign
(C)	18" x 96" Street Name Sign
(E)	12" - 3 Section Signal Head With Backplates
(F)	18" x 132" Street Name Sign

NOTE:

1. The structure arms and pole are designed for the above loading conditions. Foundation types A and C are designed for arms having length of 35 ft or less. See Standard Drawings E 805-TSCS-15 and -17 for foundation types A and C.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE PLACEMENT OF SIGNALS AND SIGNS LOADING FOR ARM OF 35' OR LESS

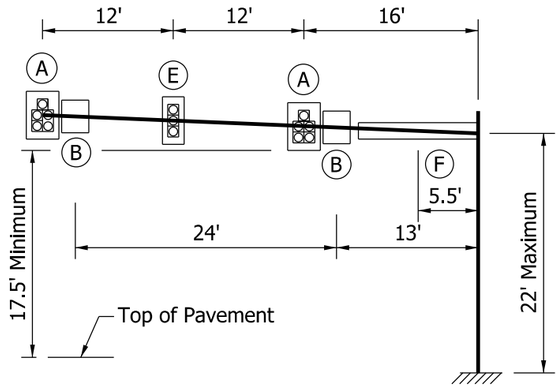
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-06

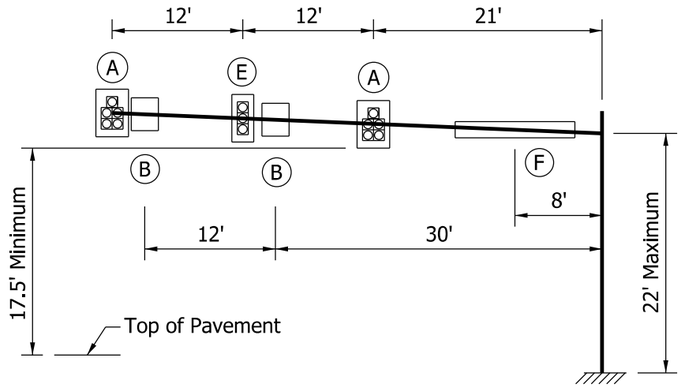
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

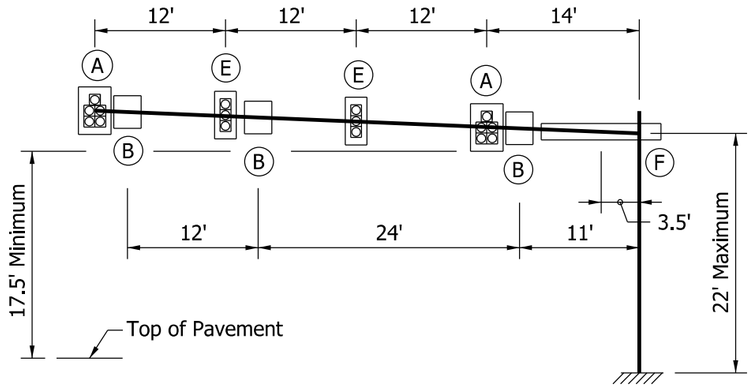
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



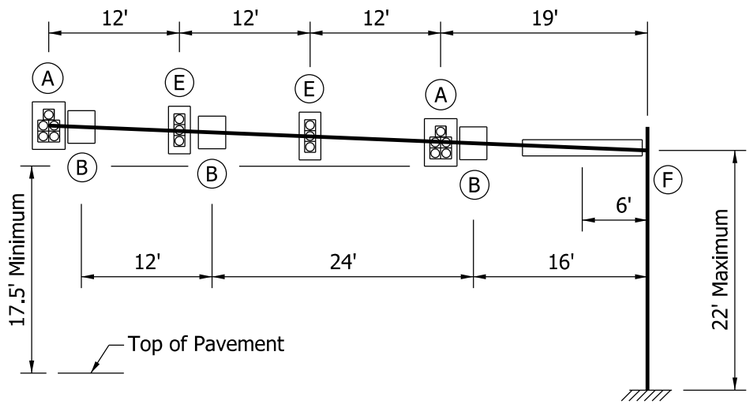
40' ARM



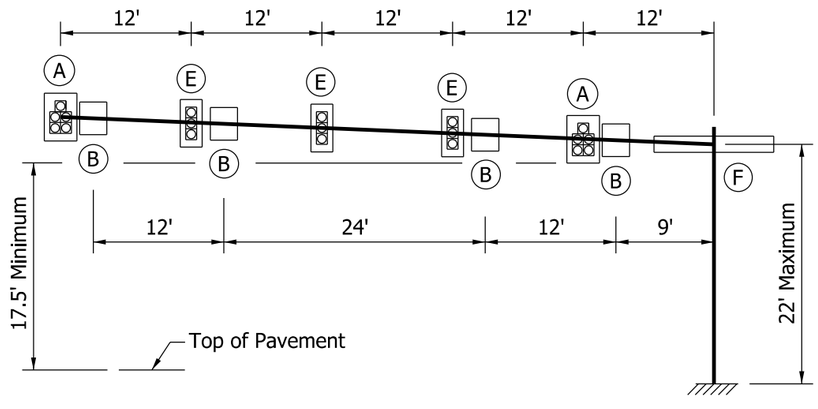
45' ARM



50' ARM



55' ARM



60' ARM

NOTES:

1. See Standard Drawing E 805-TSCS-06 for Legend.
2. The structure arms and pole are designed for the above loading conditions. Foundation types B and D are designed for arms having length of greater than 35 ft to 60 ft. See Standard Drawings E 805-TSCS-16 and -18 for foundation types B and D.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE PLACEMENT OF SIGNALS AND SIGNS LOADING FOR ARM OF GREATER THAN 35' TO 60'

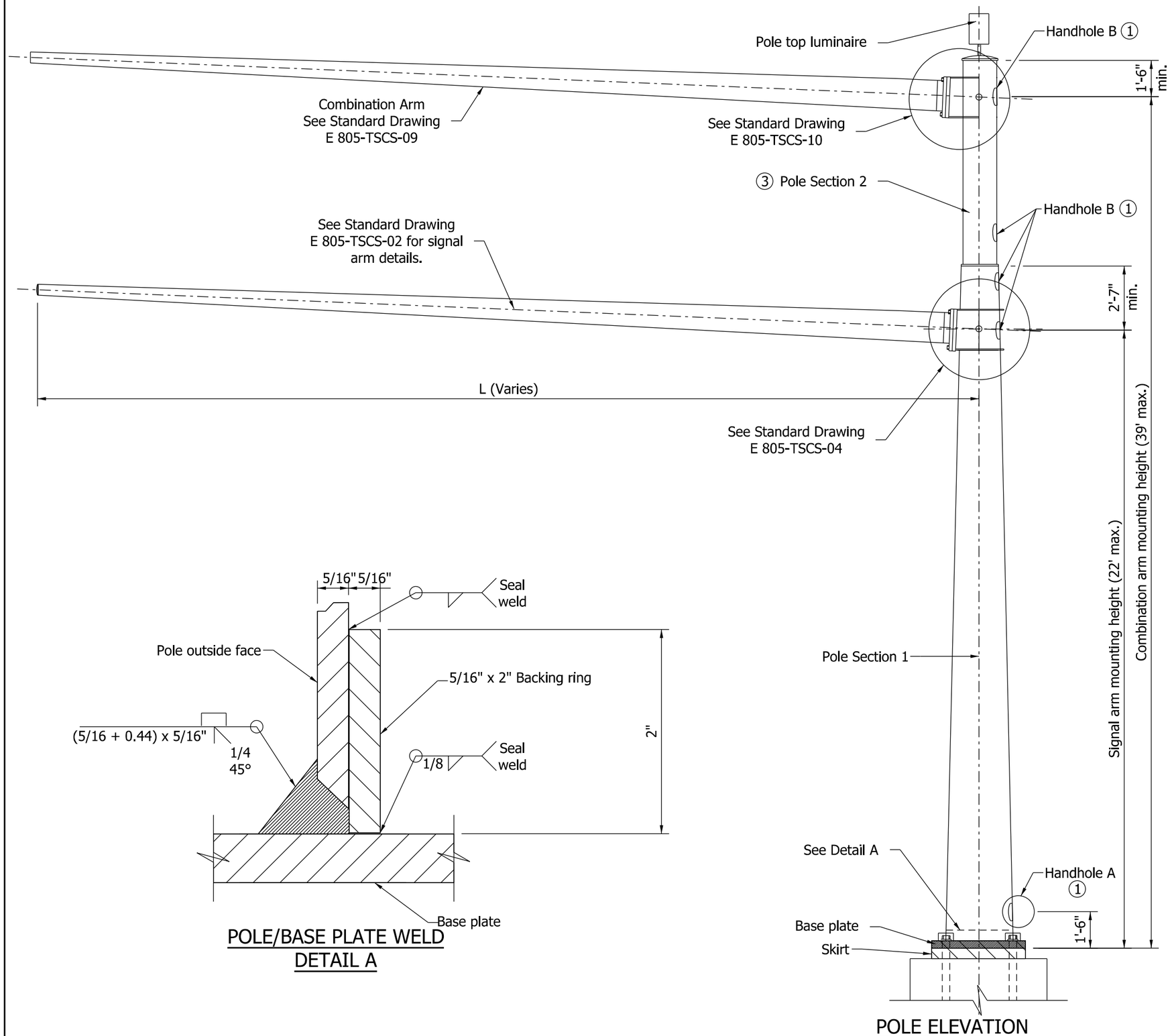
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-07

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



POLE ELEVATION

POLE/BASE PLATE WELD
DETAIL A

NOTES:

(1) See Standard Drawing E 805-TSCS-05 for handhole details.

2. See Standard Drawing E 805-SGGR-01 to -03 for grounding details.

(3) Base diameter of Pole Section 2 shall be equal to top diameter of Pole Section 1.

VERTICAL CLEARANCE CRITERIA:

Maintain 40'-0" minimum clearance from top of pavement to the camera lens.

POLE DIMENSIONS

CANTILEVER ARM LENGTH L	POLE SECTION 1		POLE SECTION 2	
	BASE DIAMETER	WALL THICKNESS	BASE DIAMETER	WALL THICKNESS
15' to 35'	17"	5/16"	See Note (3)	1/8"
>35' to 60'	24"	5/16"	See Note (3)	1/8"

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE COMBINATION POLE ELEVATION, DIMENSIONS, AND BASE PLATE WELD DETAIL

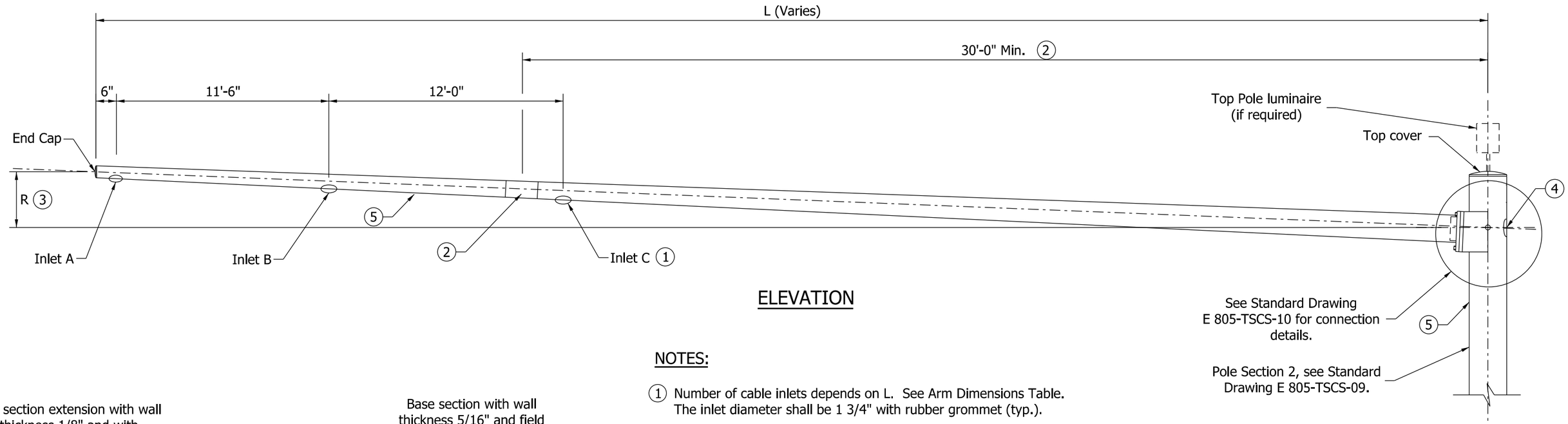
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-08

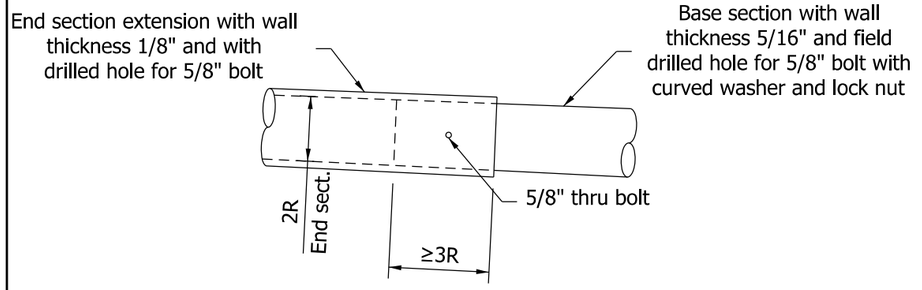
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

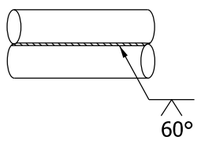
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



ELEVATION



(2) OPTIONAL ARM SPLICE DETAIL



(5) TYPICAL SEAM WELD

NOTES:

(1) Number of cable inlets depends on L. See Arm Dimensions Table. The inlet diameter shall be 1 3/4" with rubber grommet (typ.).

(2) Optional splice can be used for arm length of greater than 40 ft. Field assembly shall achieve a snug tight joint having overlap not less than 1.5 times the inside dimension of the end section.

(3) Arm rise R is measured in the undeflected position without vertical loads on the arm.

(4) See Standard Drawing E 805-TSCS-05 for handhole details.

(5) If seam welds are used, the weld location for the arms shall be along the bottom, and on the side of the pole as shown.

ARM DIMENSIONS TABLE

L	ARM DIAMETER AT POLE	ARM WALL THICKNESS	R (3)	CABLE INLETS (1)
15'	5 1/2"	1/8"	7 1/2"	A
20'	5 1/2"	1/8"	10"	A
25'	7"	1/8"	1'-0 1/2"	A
30'	8"	1/8"	1'-3"	A, B
35'	8"	1/8"	1'-5 1/2"	A, B
40'	9"	1/8"	1'-8"	A, B, C
45'	10"	1/8"	1'-10 1/2"	A, B, C
50'	11"	1/8"	2'-1"	A, B, C
55'	11"	1/8"	2'-3 1/2"	A, B, C
60'	12"	1/8"	2'-6"	A, B, C

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE COMBINATION ARM DIMENSIONS & DETAILS

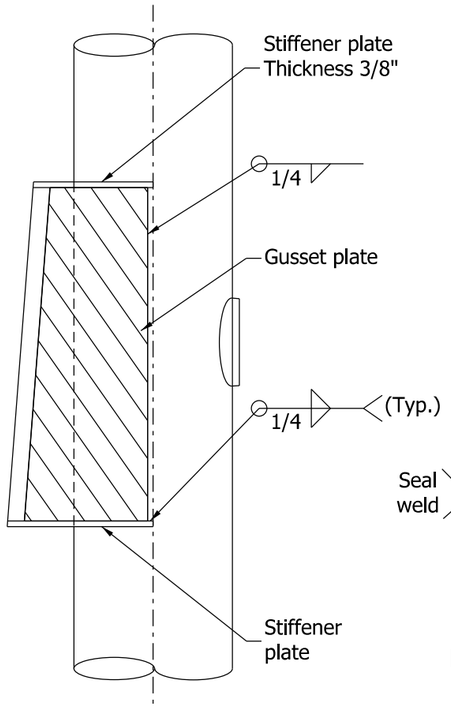
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-09

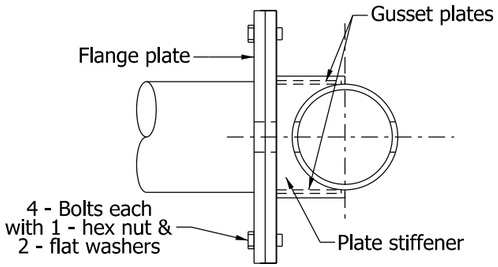
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



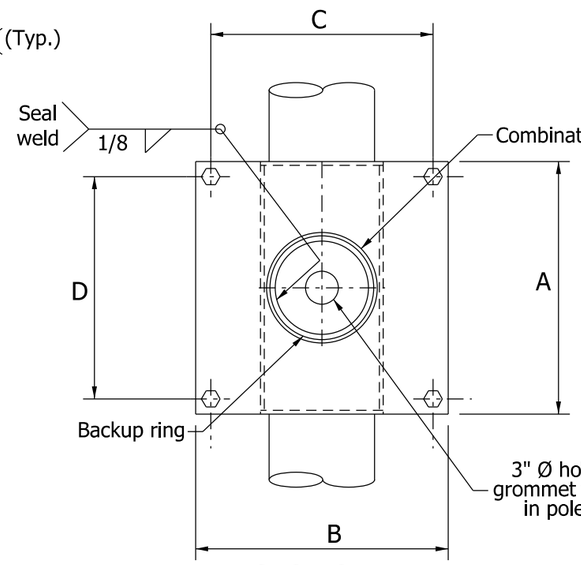
ELEVATION OF GUSSET PLATES



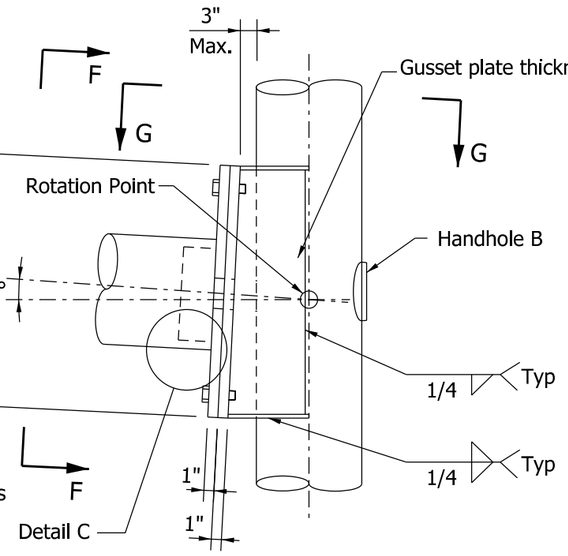
SECTION G-G

NOTES:

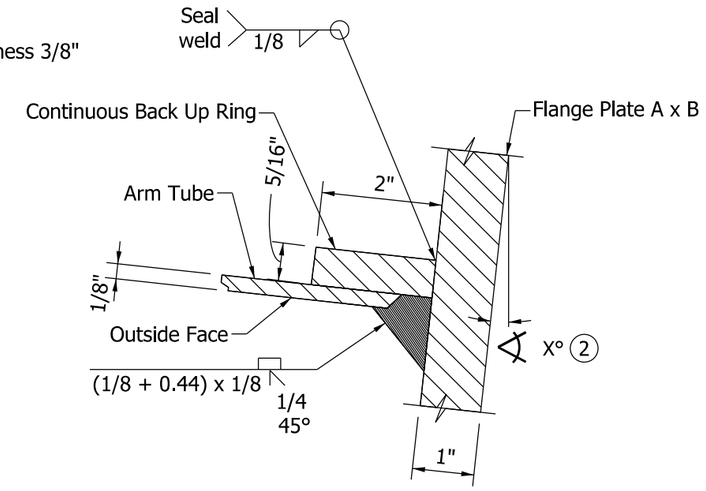
1. See Standard Drawing E 805-TSCS-05 for handhole details.
2. The required combination arm rise shall be built into the gusset plate at the angle X. The angle X is described as arc tan R/L, where R is the combination arm rise and L is the arm length. Both R and L vary and are listed in the Arm Dimensions Table on Standard Drawing E 805-TSCS-02.



SECTION F-F

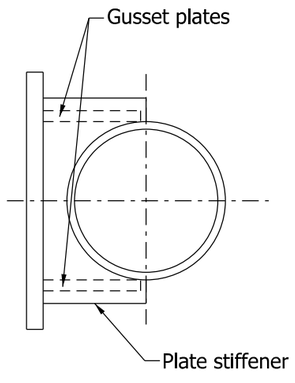


ELEVATION



DETAIL C - ARM WELD

COMBINATION ARM CONNECTION DETAIL



TOP OF GUSSET PLATES

PLATES AND BOLTS FOR COMBINATION ARM CANTILEVER				
ARM LENGTH	FLANGE PLATE A x B	BOLT PATTERN C x D	FLANGE PLATE THICKNESS	BOLT
15' TO 35'	20" x 20"	17" x 17"	1"	7/8" - 9 UNC x 3.5" LONG
>35' TO 60'	25" x 25"	22" x 22"	1"	7/8" - 9 UNC x 3.5" LONG

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM CONNECTION DETAILS

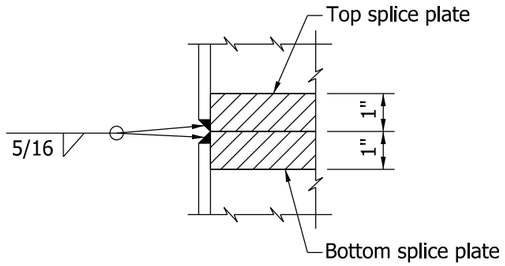
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-10

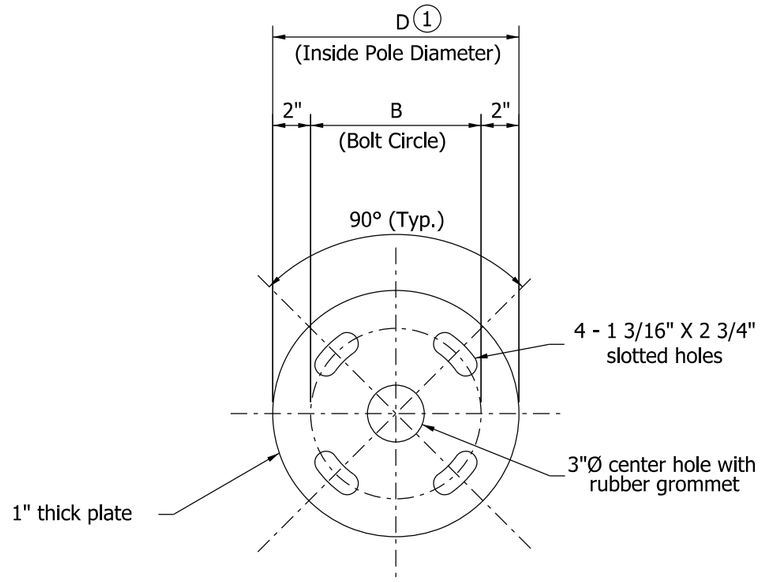
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



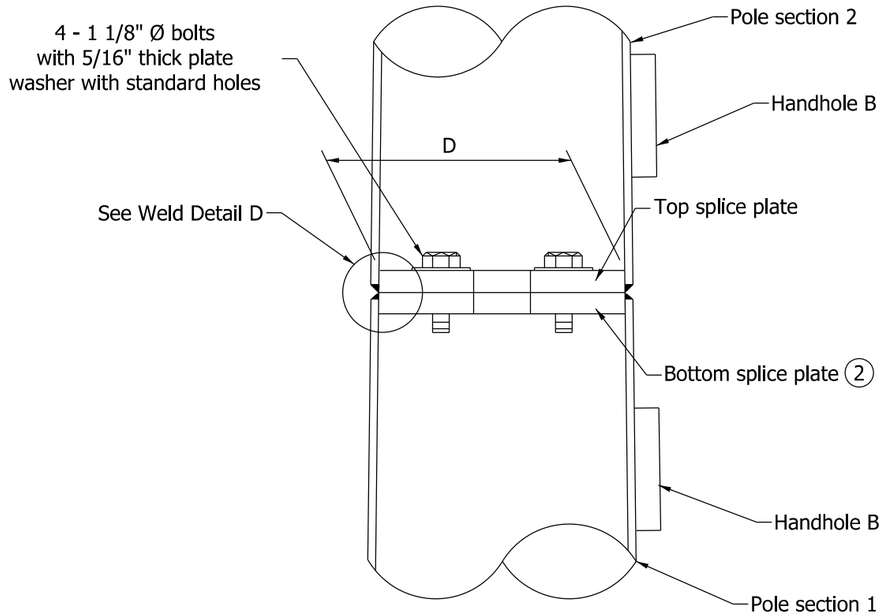
WELD DETAIL D



TOP SPLICE PLATE

NOTES:

1. See Standard Drawing E 805-TSCS-08 for pole dimensions.
2. See Standard Drawings E 805-TSCS-03 and -12 for bottom splice plate details.
3. Diameter at the bottom of Pole Section 2 shall match the diameter at the top of Pole Section 1.



ELEVATION

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION POLE SPLICE DETAILS
FOR ARMS 35' OR LESS

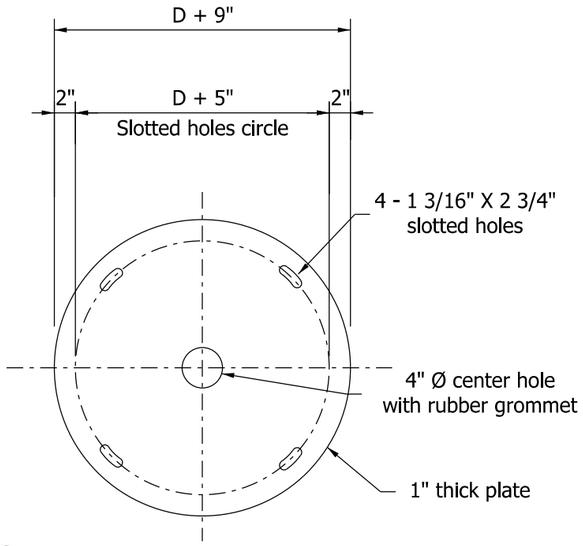
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-11

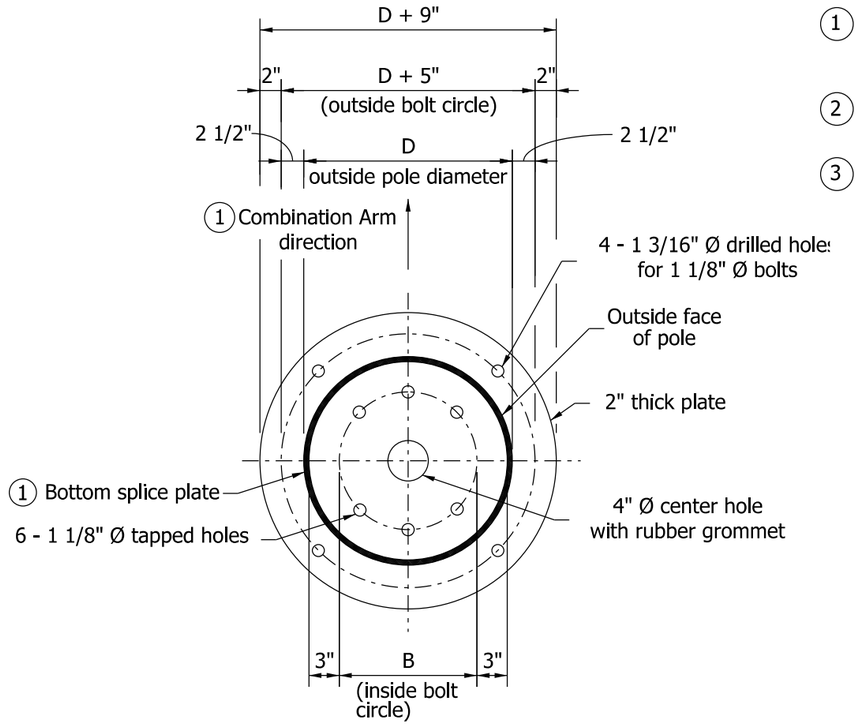
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

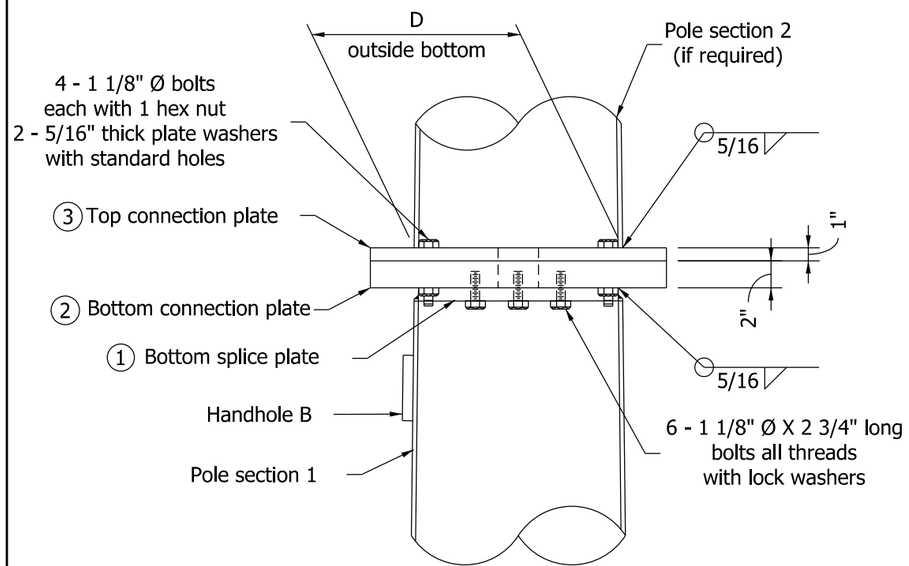
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



③ TOP CONNECTION PLATE



② BOTTOM CONNECTION PLATE



ELEVATION

NOTES:

1. Orient bottom splice and bottom connection plates with combination arm as shown on the bottom splice plate detail on Standard Drawings E 805-TSCS-03 and -11.
2. All plate dimensions shall be based upon the outside diameter D at the top of pole section 1.
3. Diameter at bottom of pole section 2 shall match the diameter at the top of pole section 1.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE COMBINATION POLE SPLICE DETAILS FOR ARM OF GREATER THAN 35' TO 60'

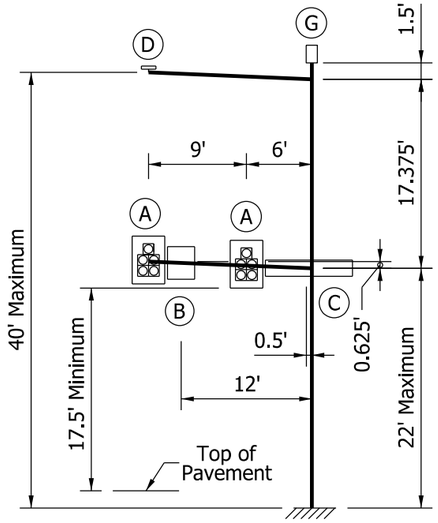
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-12

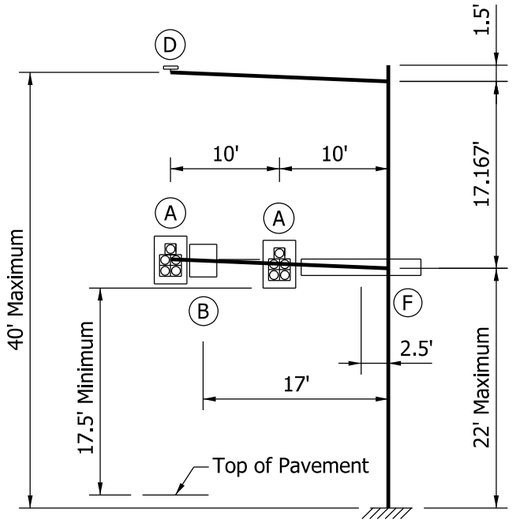
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

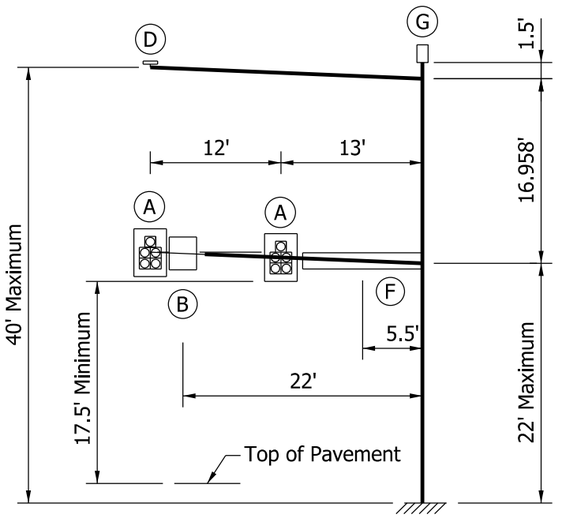
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



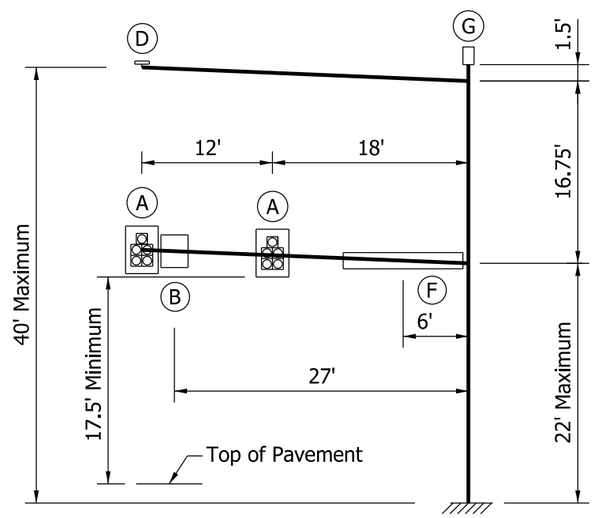
15' ARM



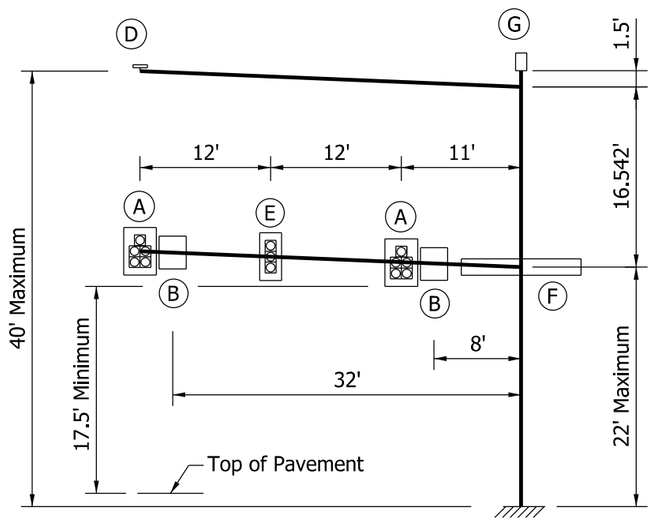
20' ARM



25' ARM



30' ARM



35' ARM

LEGEND	
DEVICE	DESCRIPTION
A	12" - 5 Section Signal Head With Backplates
B	36" x 30" Regulatory Sign
C	18" x 96" Street Name Sign
D	1 - Mounted Camera
E	12" - 3 Section Signal Head With Backplates
F	18" x 132" Street Name Sign
G	Top Pole Luminaire

NOTE:

1. The structure arms and pole are designed for the above loading conditions. Foundation types A and C are designed for arms having length of 35 ft or less. See Standard Drawings E 805-TSCS-15 and -17 for foundation types A and C.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE COMBINATION ARM LOADING FOR ARM OF 35' OR LESS

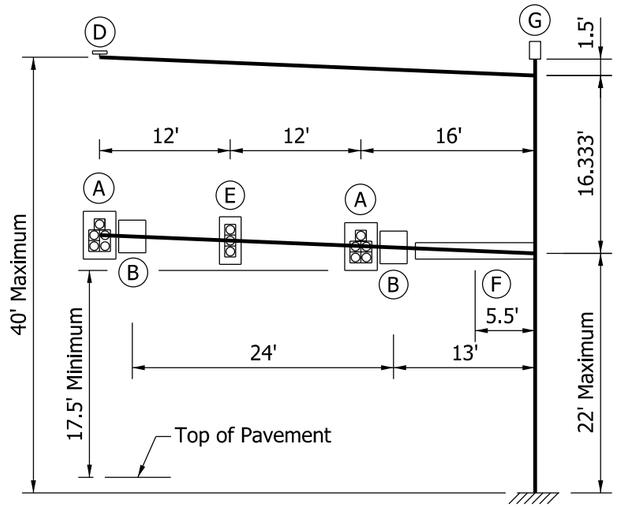
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-13

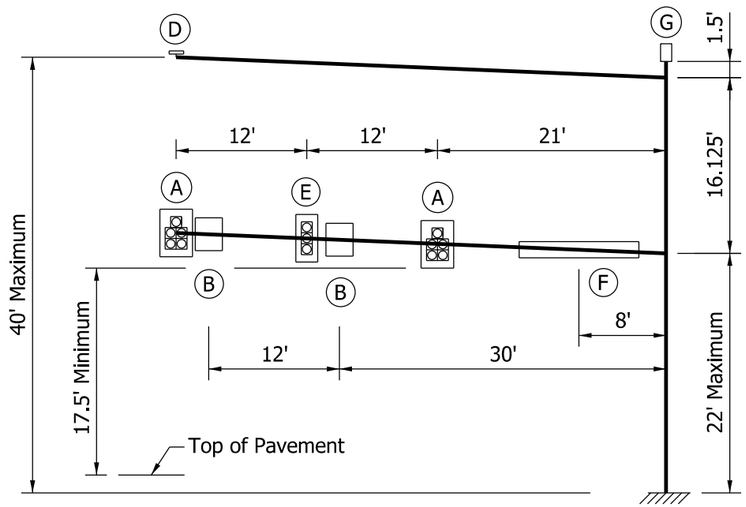
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

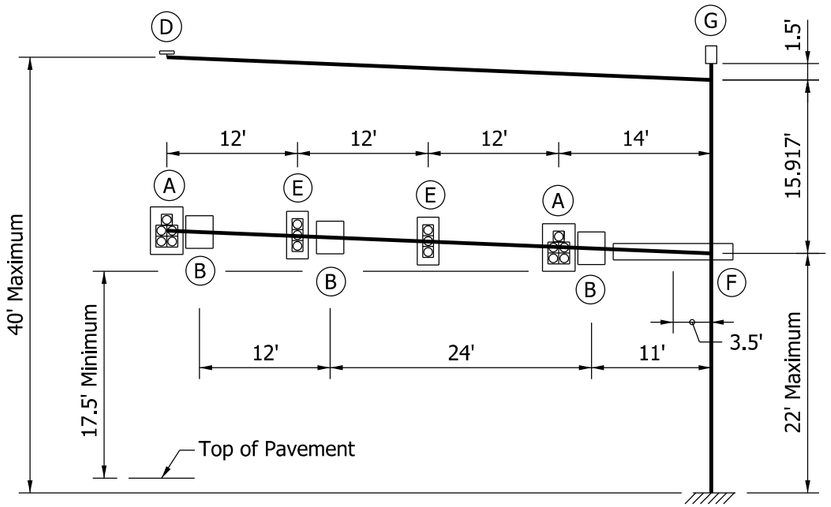
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



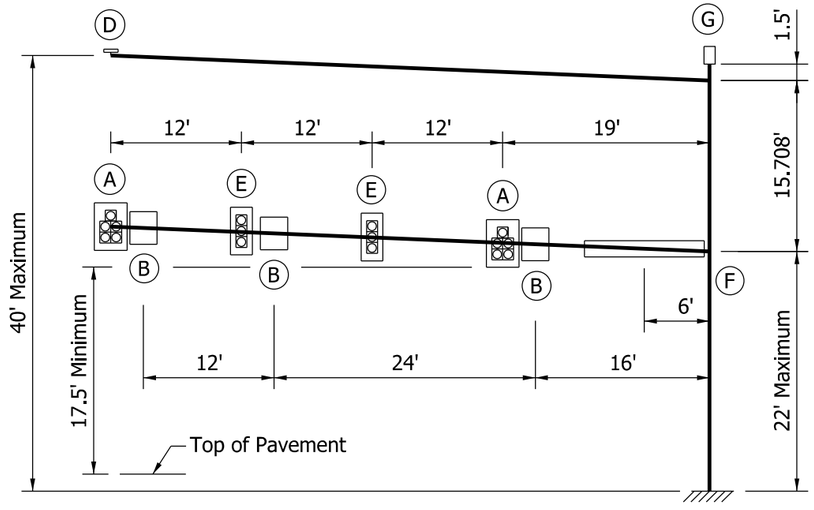
40' ARM



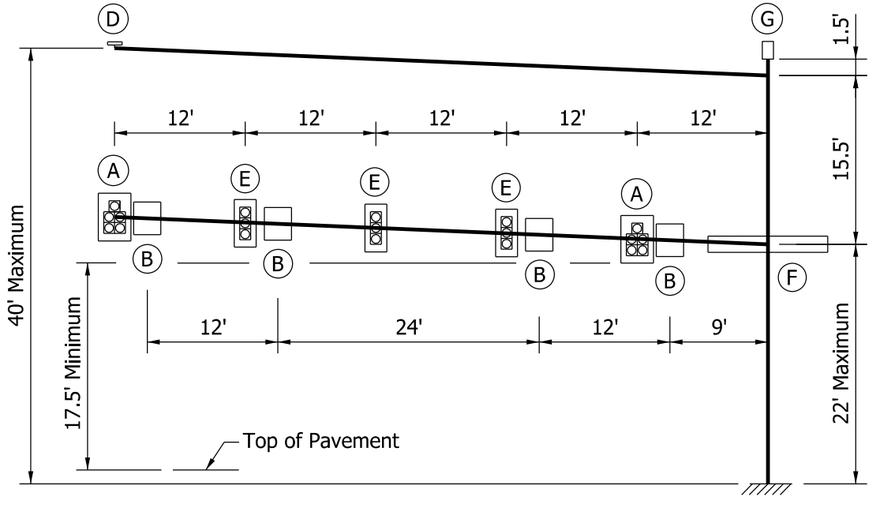
45' ARM



50' ARM



55' ARM



60' ARM

NOTES:

1. See Standard Drawing E 805-TSCS-13 for Legend.
2. The structure arms and pole are designed for the above loading conditions. Foundation types B and D are designed for arms having length of greater than 35 ft to 60 ft. See Standard Drawings E 805-TSCS-16 and -18 for foundation types B and D.

INDIANA DEPARTMENT OF TRANSPORTATION

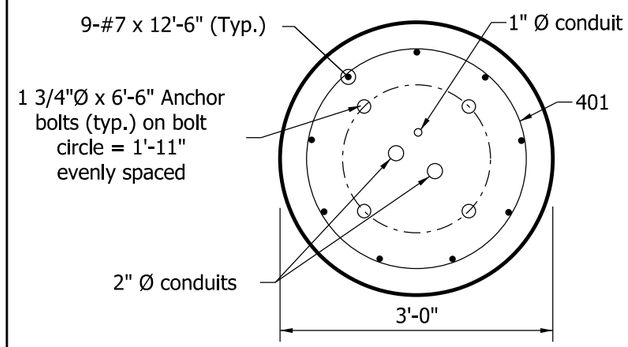
TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM LOADING
FOR ARM OF GREATER THAN 35' TO 60'
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-14

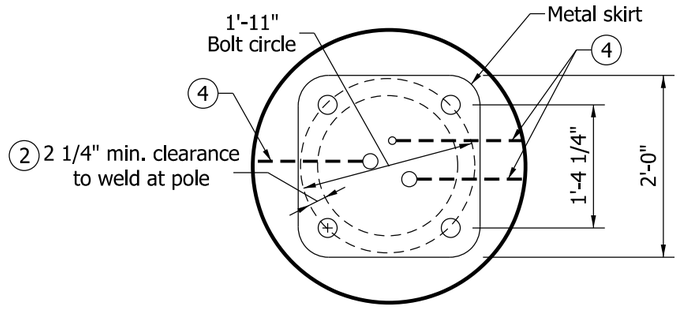
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

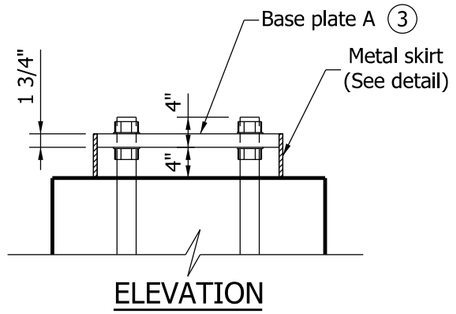
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



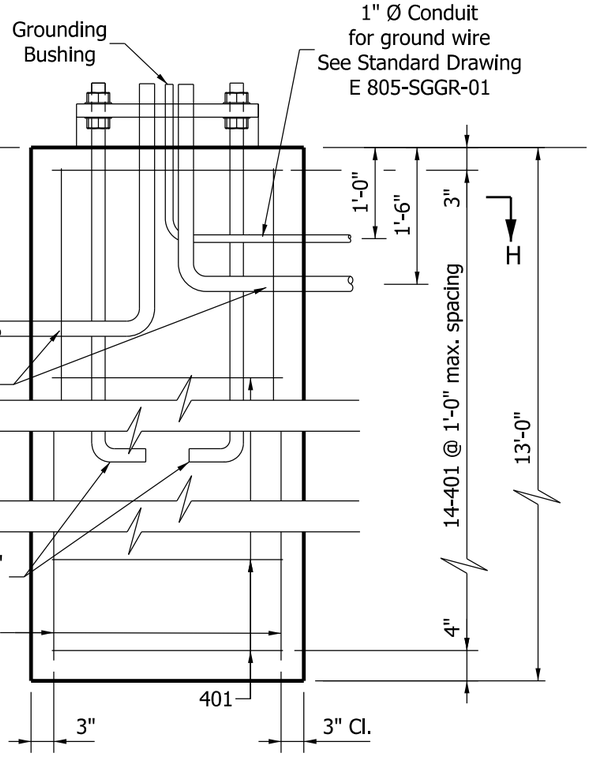
SECTION H-H



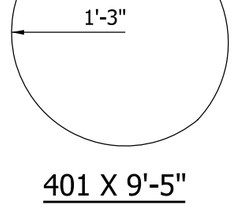
PLAN



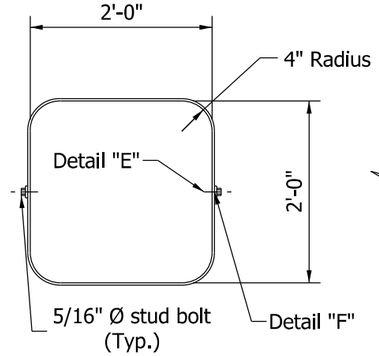
ELEVATION

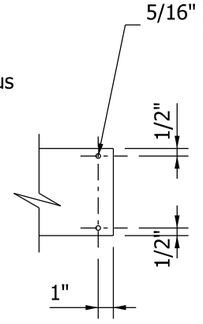


SHAFT SECTION

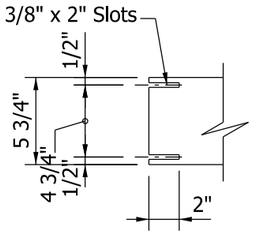


401 X 9'-5"



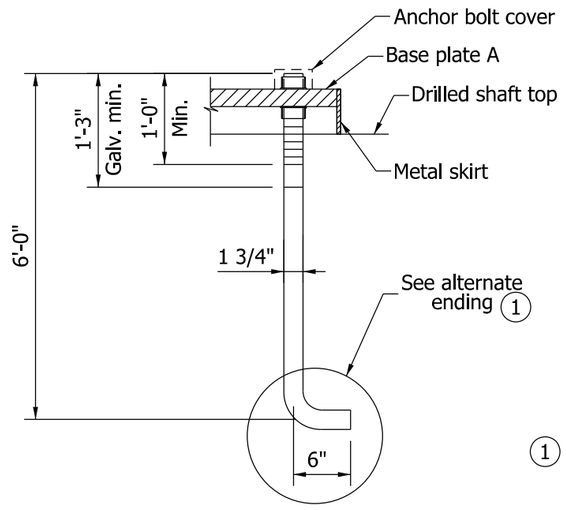


DETAIL E



DETAIL F

METAL SKIRT DETAIL



ANCHOR BOLT A DETAIL

NOTES:

1. Alternate 6" x 6" x 1/2" square washer with hex nut welded to lower end may be substituted for bent anchor bolt.
2. Bolt circle, b, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
3. See Standard Drawing E 805-TSCS-03 for base plate A details.
4. A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduit.

BILL OF MATERIALS DRILLED SHAFT TYPE A

REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH (ft.)	WEIGHT (lbs.)
#7	9	12'-6"	
Total #7			230
401	14	9'-5"	
Total #4			88
Total Reinforcing Bars			318
CONCRETE			
Concrete, Class A			3.4 CYS

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE DRILLED SHAFT FOUNDATION TYPE A FOR ARM OF 35' OR LESS

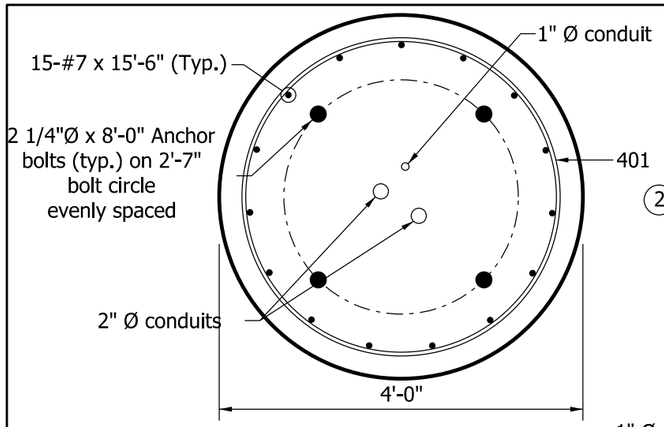
SEPTEMBER 2012

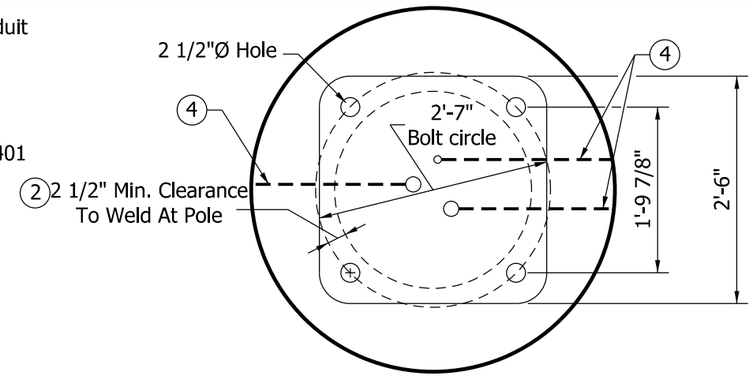
STANDARD DRAWING NO. E 805-TSCS-15

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE





PLAN

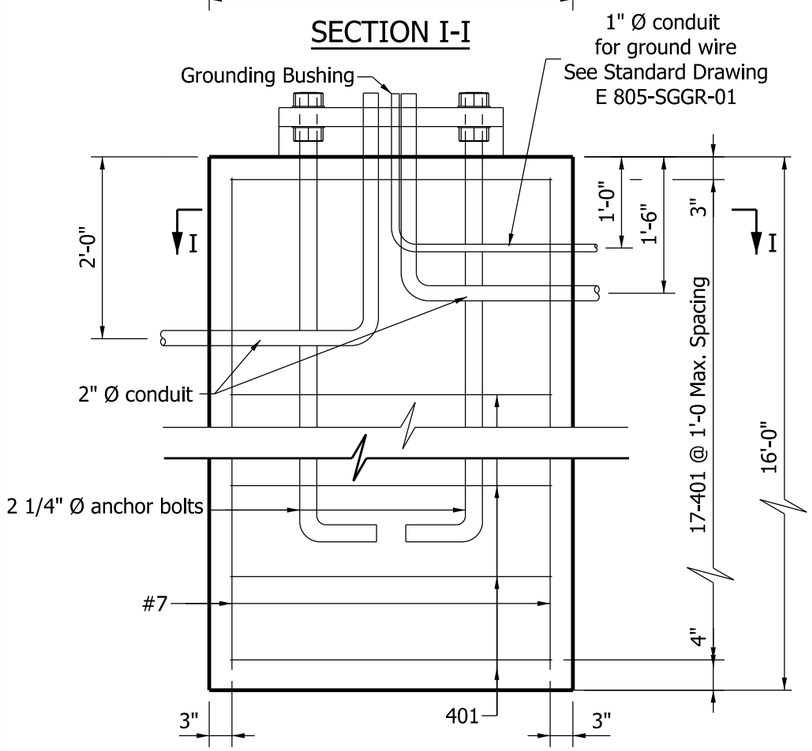
NOTES:

1. Alternate 8" x 8" x 1/2" square plate tapped and welded to the anchor bolt may be substituted for bent anchor bolt.
2. Bolt circle, b, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
3. See Standard Drawing E 805-TSCS-03 for base plate B details.
4. A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

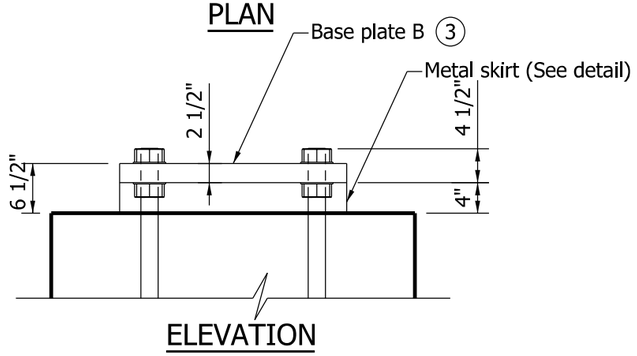
BILL OF MATERIALS DRILLED SHAFT TYPE B

REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
#7	15	15'-6"	
Total #7			475
401	17	12'-6"	
Total #4			142
Total Reinforcing Bars			617
CONCRETE			
Concrete, Class A			7.5 CYS

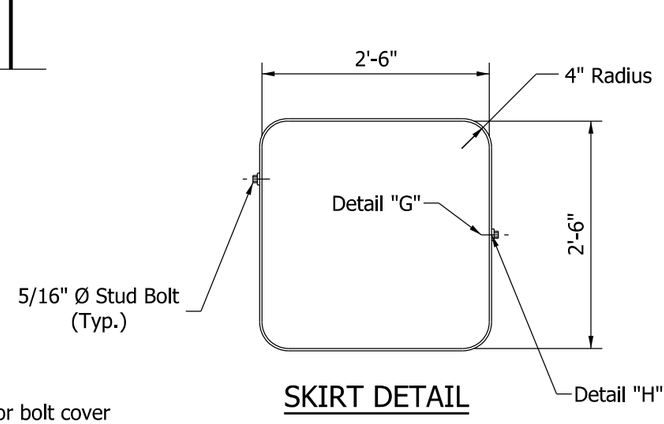
SECTION I-I



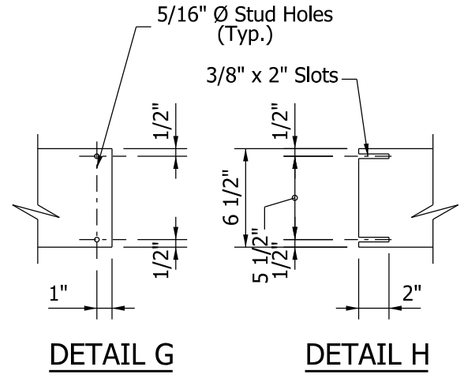
SHAFT SECTION



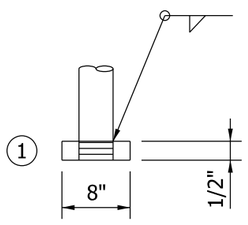
ELEVATION

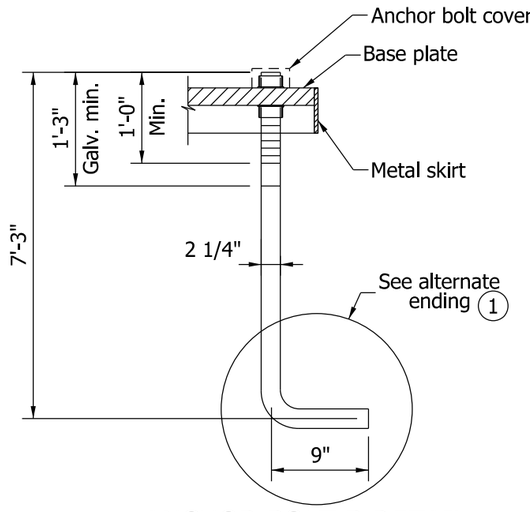


SKIRT DETAIL

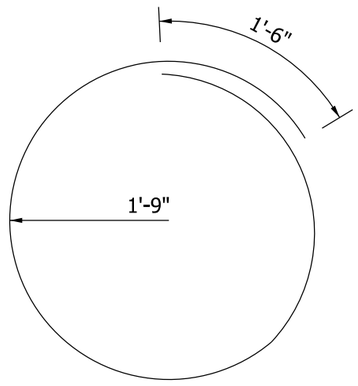


DETAIL G DETAIL H





ANCHOR BOLT B DETAIL



401 X 12'-6"

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
DRILLED SHAFT FOUNDATION TYPE B
FOR ARM OF GREATER THAN 35' TO 60'

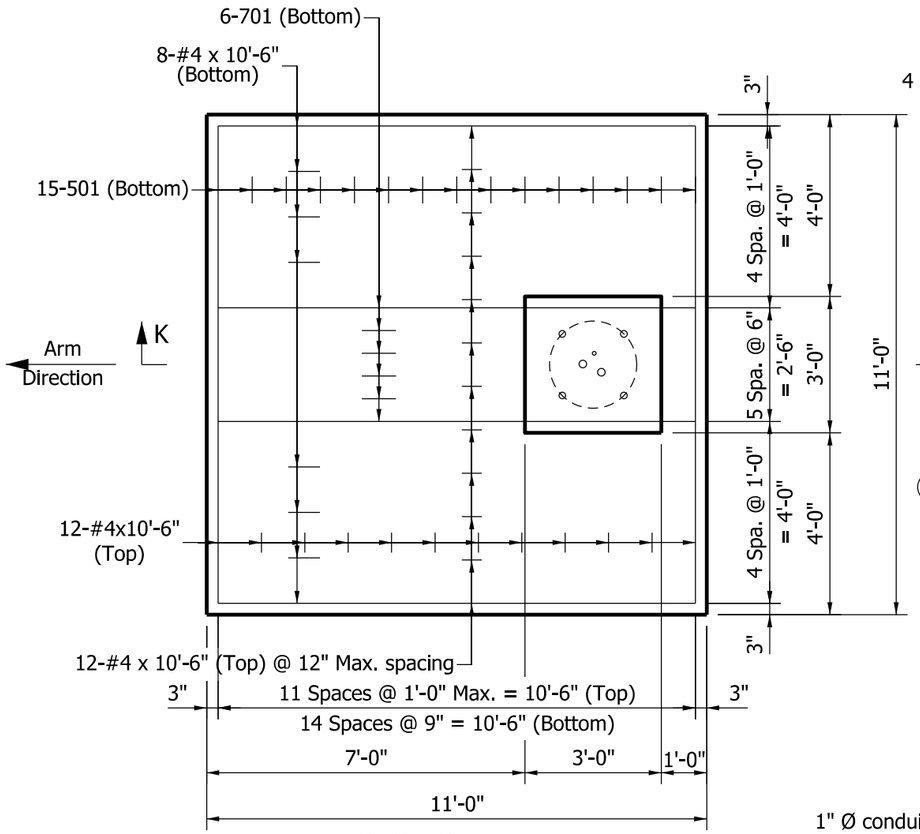
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-16

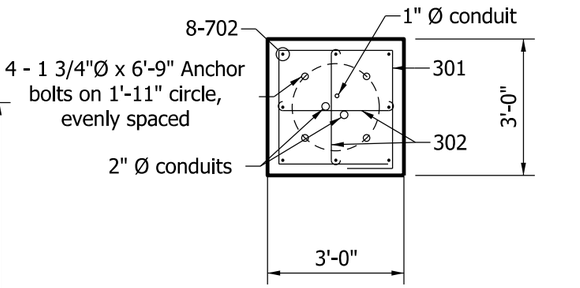
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

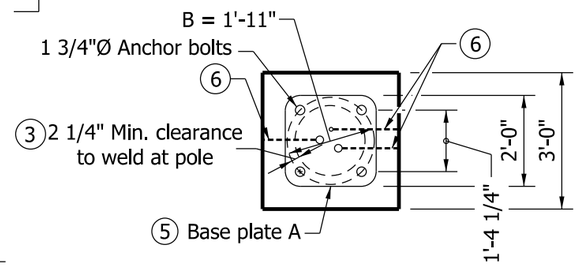
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



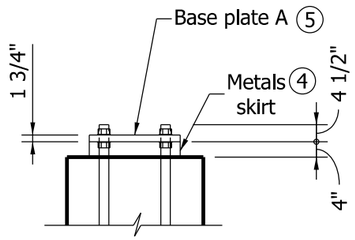
SECTION L-L



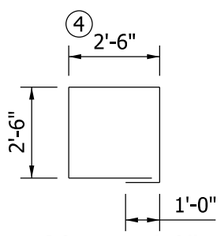
SECTION J-J



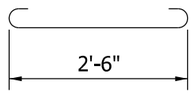
PLAN



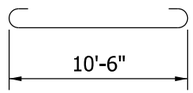
ELEVATION



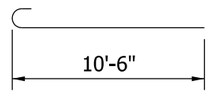
301 x 11'-0"



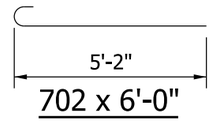
302 x 3'-4"



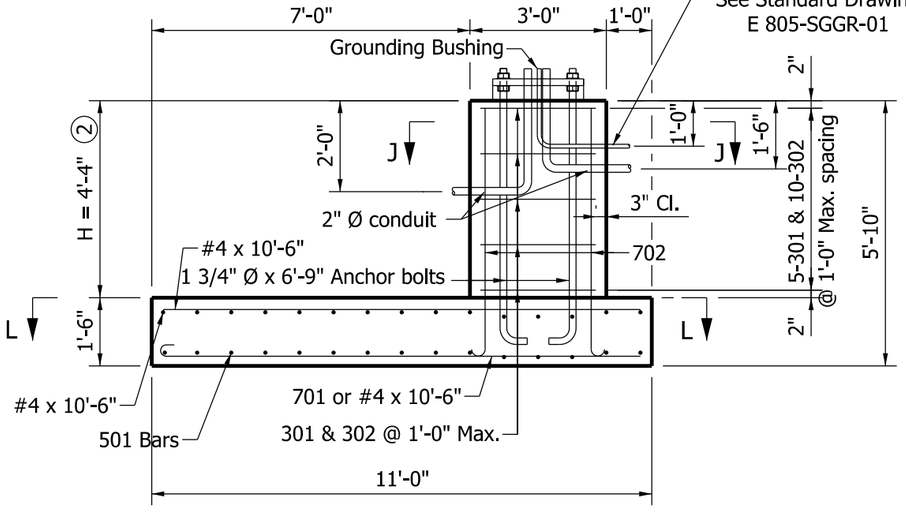
501 x 11'-8"



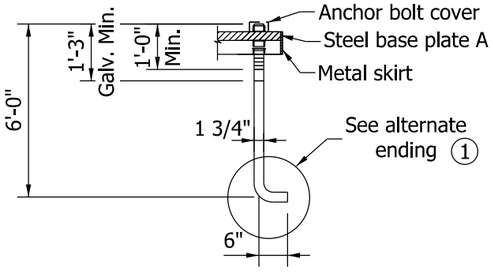
701 x 11'-4"



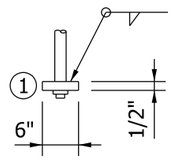
702 x 6'-0"



SECTION K-K



ANCHOR BOLT C DETAIL



NOTES:

1. Alternate 6" x 6" x 1/2" square washer with hex nut welded to lower end may be substituted for the bend in the anchor bolt.
2. Minimum H required is 4 ft. soil cover over the entire footing area.
3. Bolt circle, B, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
4. See Standard Drawing E 805-TSCS-15 for metal skirt details.
5. See Standard Drawing E 805-TSCS-03 for base plate A details.
6. A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

BILL OF MATERIALS SPREAD FOOTING TYPE C

REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
701	6	11'-4"	
702	8	6'-0"	
Total #7			237
501	15	11'-8"	
Total #5			183
#4	32	10'-6"	
Total #4			224
301	5	11'-0"	
302	10	3'-4"	
Total #3			33
Total Reinforcing Bars			677
CONCRETE			
Concrete, Class A			8.2 CYS

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
SPREAD FOOTING FOUNDATION TYPE C
FOR ARM OF 35' OR LESS

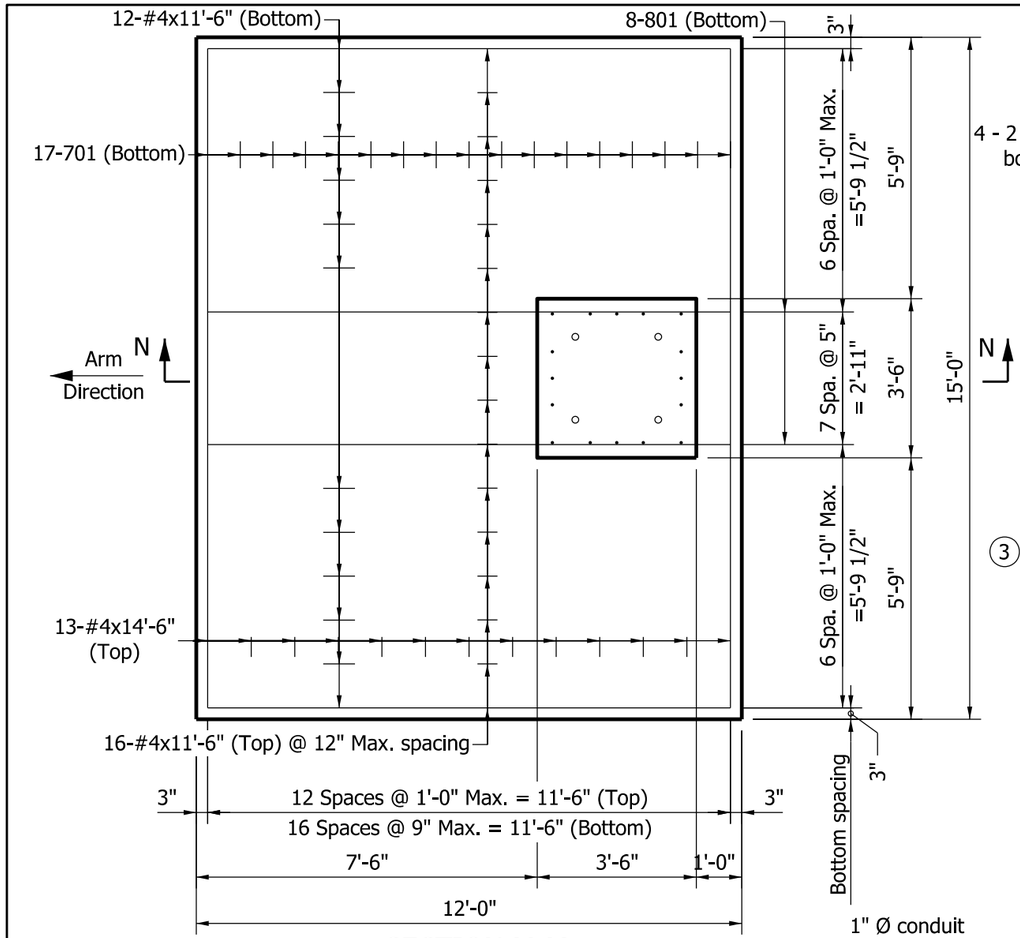
SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-17

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

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



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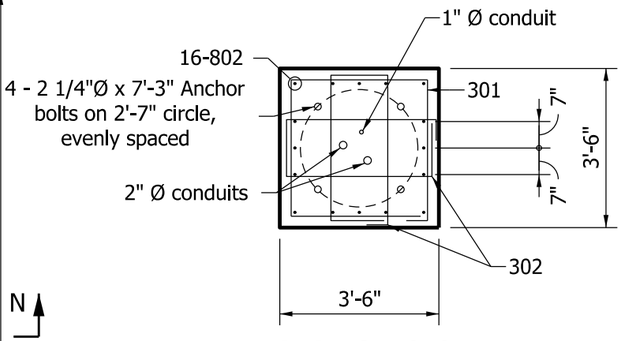
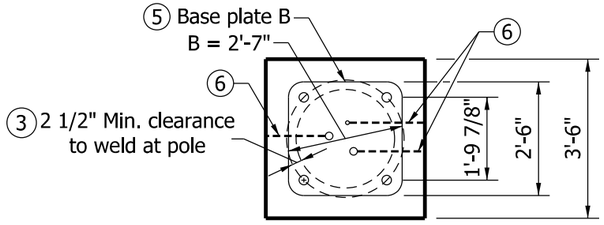
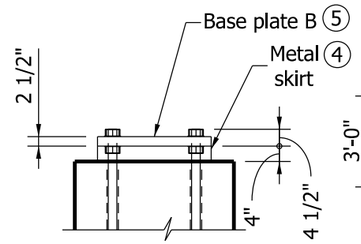


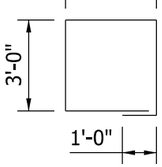
SECTION O-O



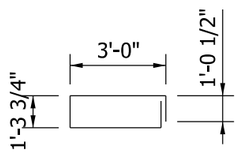
PLAN



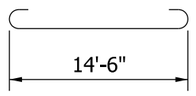
ELEVATION



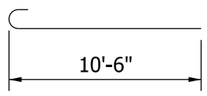
301 x 13'-0"



302 x 9'-8"

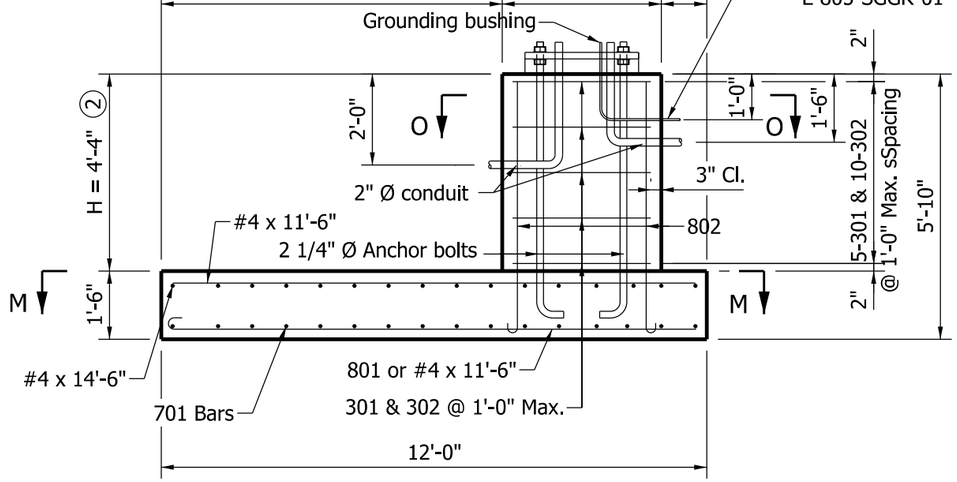


701 x 16-2"

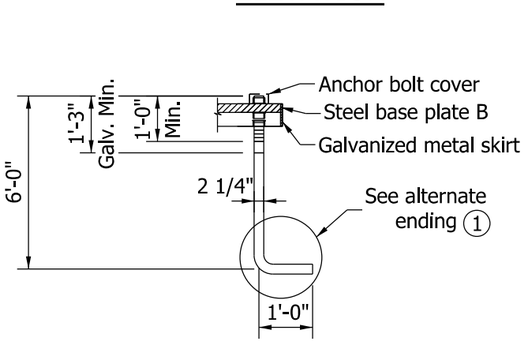


801 x 11'-5"

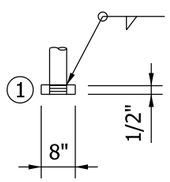
802 x 6'-1"



SECTION N-N



ANCHOR BOLT D DETAIL



NOTES:

1. Alternate 8" x 8" x 1/2" square plate tapped and welded to anchor bolt may be substituted for the bent anchor bolt.
2. Minimum H required is 4 ft. soil cover over the entire footing area.
3. Bolt circle, B, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
4. See Standard Drawing E 805-TSCS-16 for metal skirt details.
5. See Standard Drawing E 805-TSCS-03 for base plate B details.
6. A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

BILL OF MATERIALS SPREAD FOOTING TYPE D

REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
801	8	11'-5"	
802	16	6'-1"	
Total #8			504
701	17	16'-2"	
Total #7			562
#4	13	14'-6"	
#4	28	11'-6"	
Total #4			341
301	5	13'-0"	
302	10	9'-8"	
Total #3			61
Total Reinforcing Bars			1468
CONCRETE			
Concrete, Class A			12.0 CYS

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE SPREAD FOOTING FOUNDATION TYPE D FOR ARM OF GREATER THAN 35' TO 60'

SEPTEMBER 2012

STANDARD DRAWING NO. E 805-TSCS-18

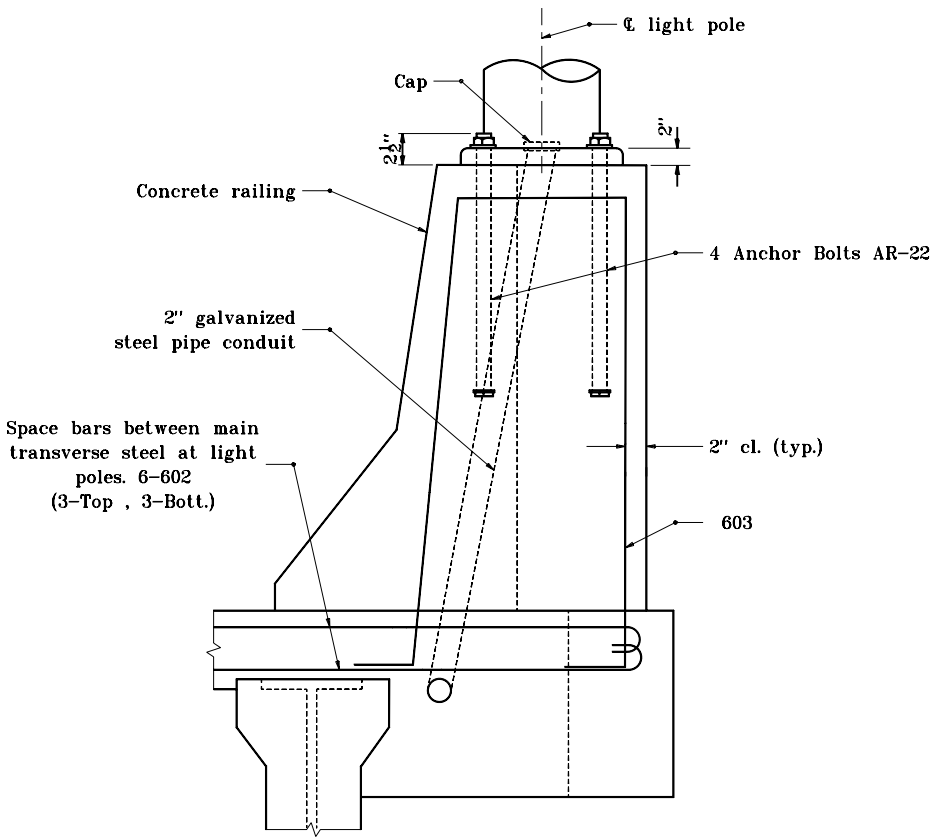
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

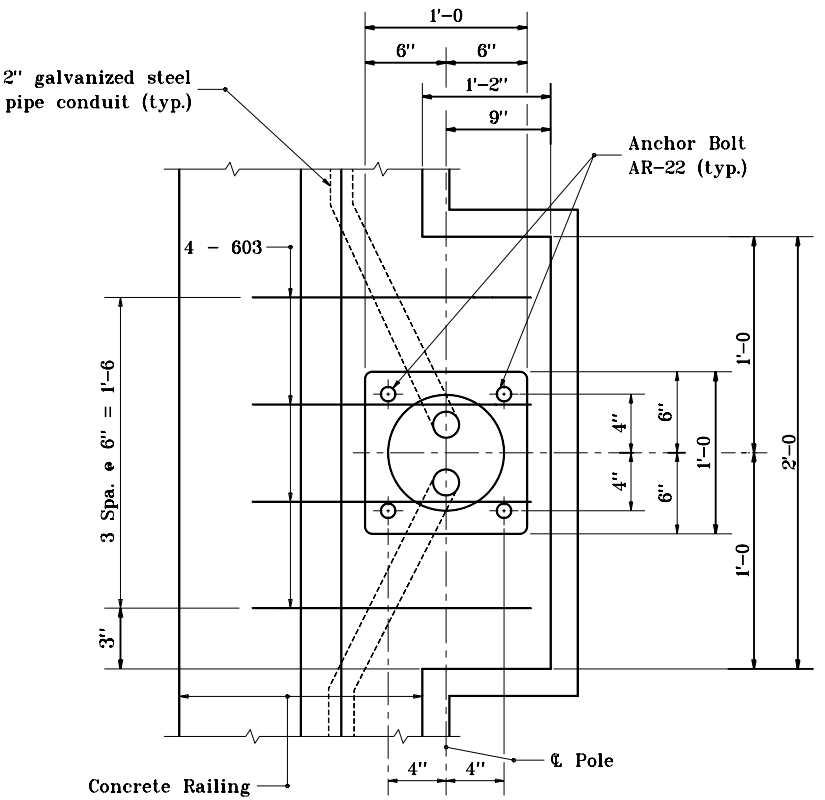
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

GENERAL NOTES

1. See Standard Drawing E 807-BLIT-03 for bending diagrams.



SECTION



The bolt circle diameter is approximately 11½".

PLAN

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE LIGHTING DETAILS

SEPTEMBER 1997

STANDARD DRAWING NO. **E 807-BLIT-01**

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

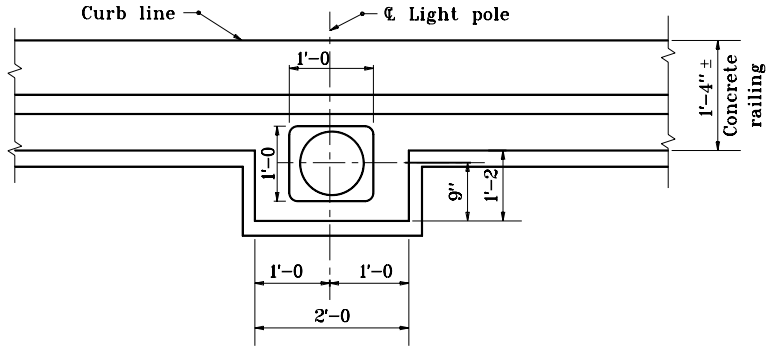
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

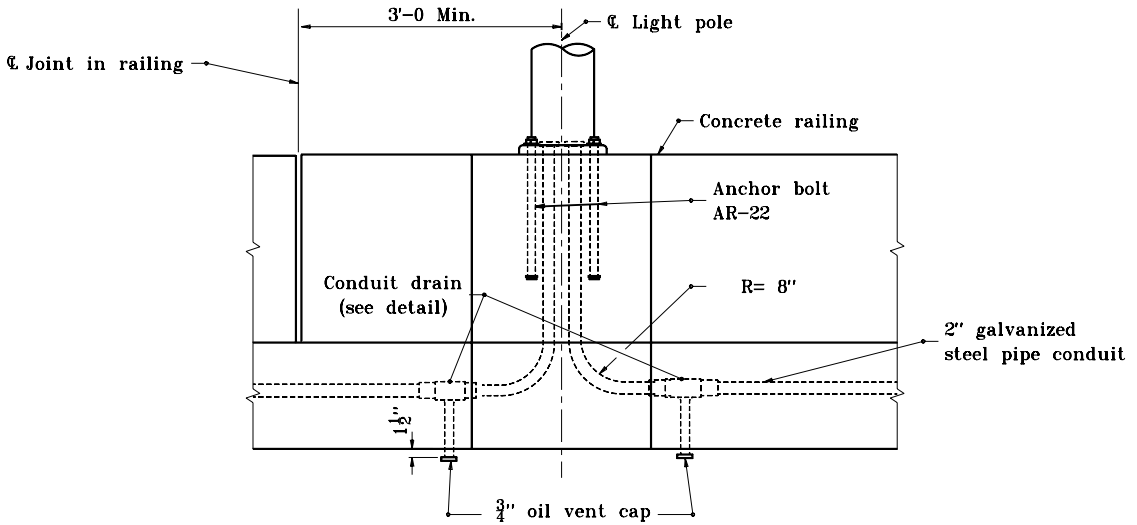
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

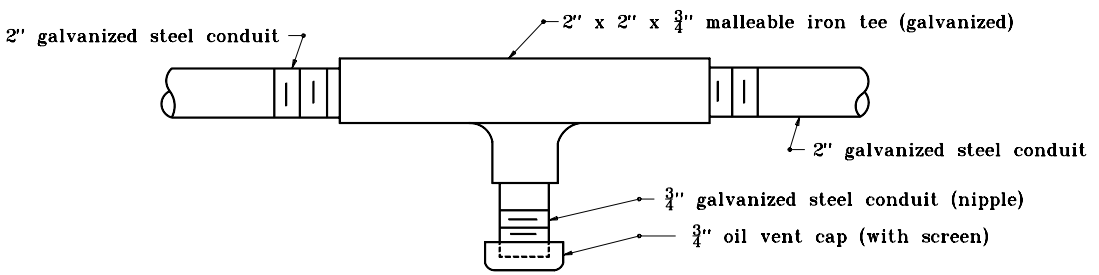
ORIGINALLY APPROVED 9-01-97



PLAN



TYPICAL ELEVATION



CONDUIT DRAIN DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE LIGHTING DETAILS

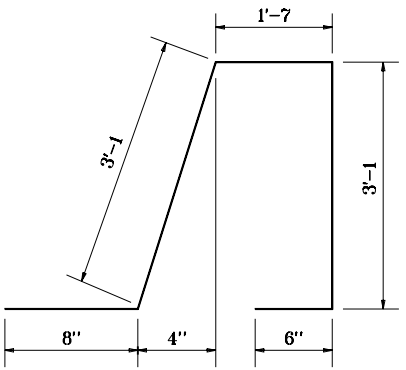
SEPTEMBER 1994

STANDARD DRAWING NO. **E 807–BLIT–02**

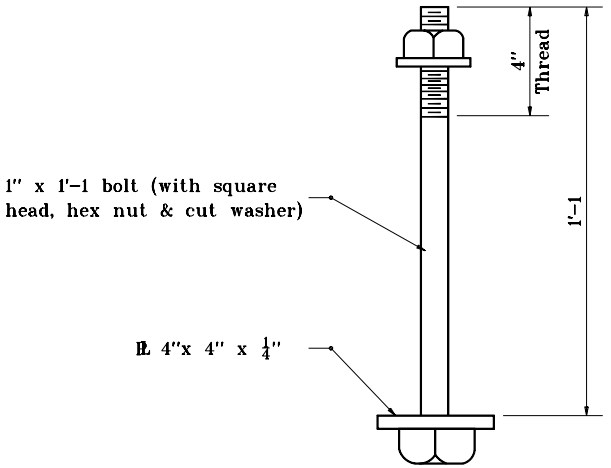
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-30-94

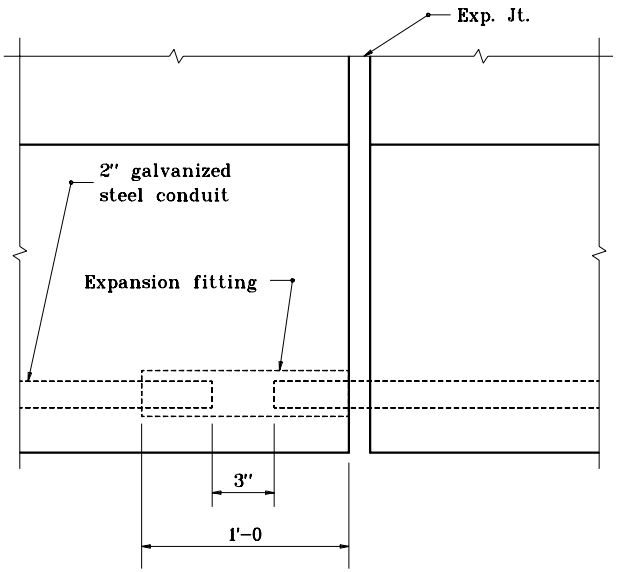


603 x 8'-11

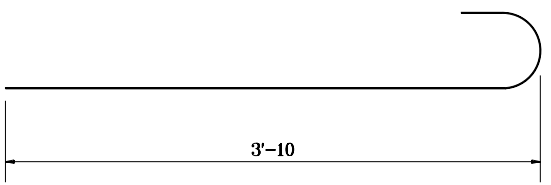


Galvanize thread, hex nut & cut washer.

ANCHOR BOLT AR-22



EXPANSION SLEEVE



602 x 4'-8

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE LIGHTING DETAILS

SEPTEMBER 1997

STANDARD DRAWING NO. **E 807-BLIT-03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	9-01-97

GENERAL NOTES

1. See General Plan for location of light posts.
2. See Bill of Materials for reinforcing steel.
3. Ream and cap all ends.
4. Carry conduit 2'–0 beyond shoulder line.
5. Bars 602 and 603 shall be epoxy coated.
6. Mast arm shall be truss type.
7. Vertical contraction joints in the railing shall be located a minimum of 3'–0 from the centerline of the light pole.

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE LIGHTING DETAILS

SEPTEMBER 1997

STANDARD DRAWING NO. **E 807–BLIT–04**

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

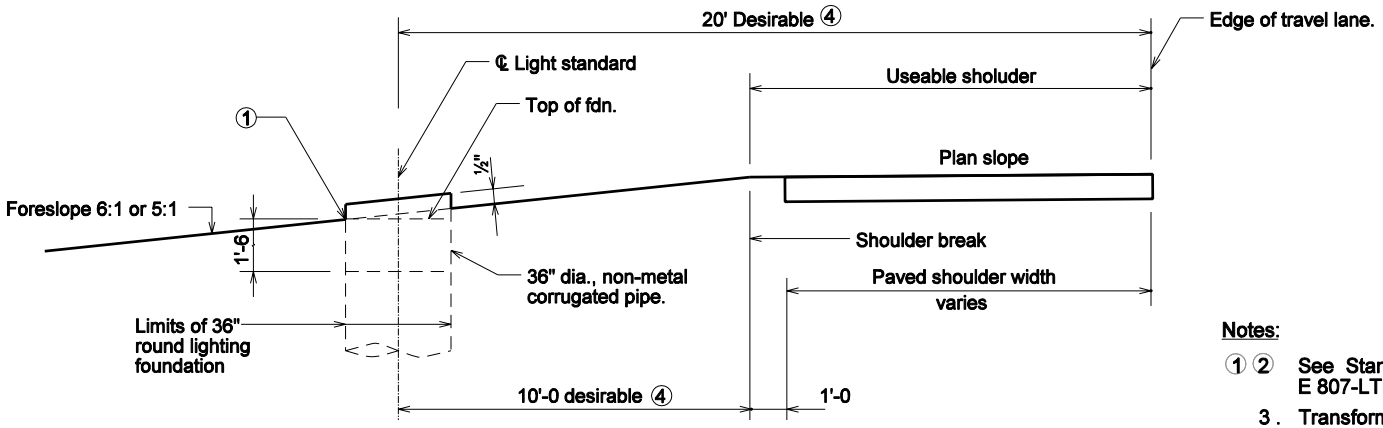
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 9-01-97



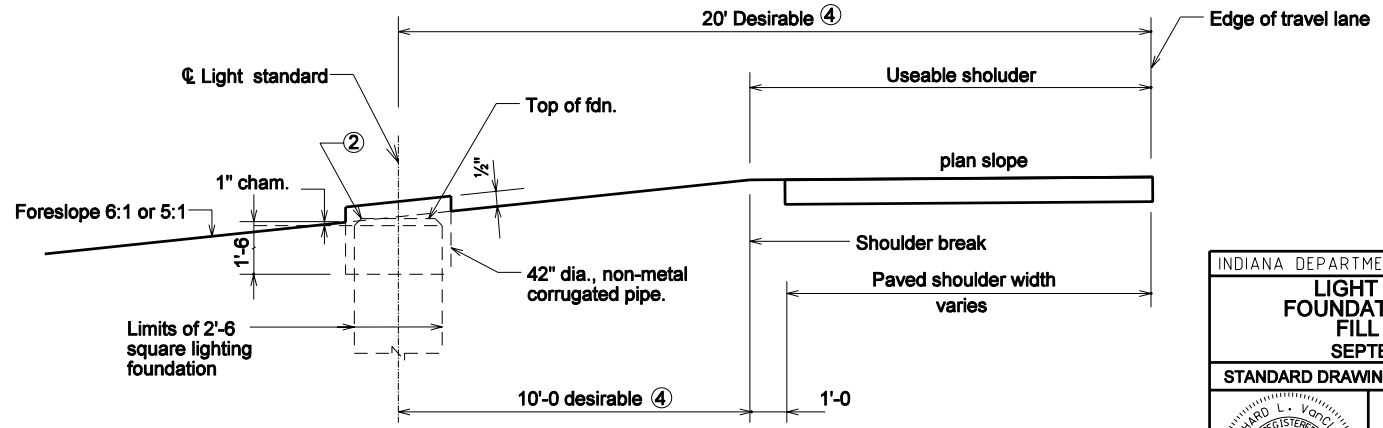
ELEVATION, FILL SECTION, 6:1 OR 5:1 SLOPE, ROUND FOUNDATION

Notes:

①② See Standard Drawing E 807-LTFD-05 General Notes.

3. Transformer base door shall face the right-of-way line.

4 Use which ever gives the greatest offset distance from the edge of the travel lane.



ELEVATION, FILL SECTION, 6:1 OR 5:1 SLOPE, SQUARE FOUNDATION

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD FOUNDATION GRADING FILL SECTION

SEPTEMBER 2005

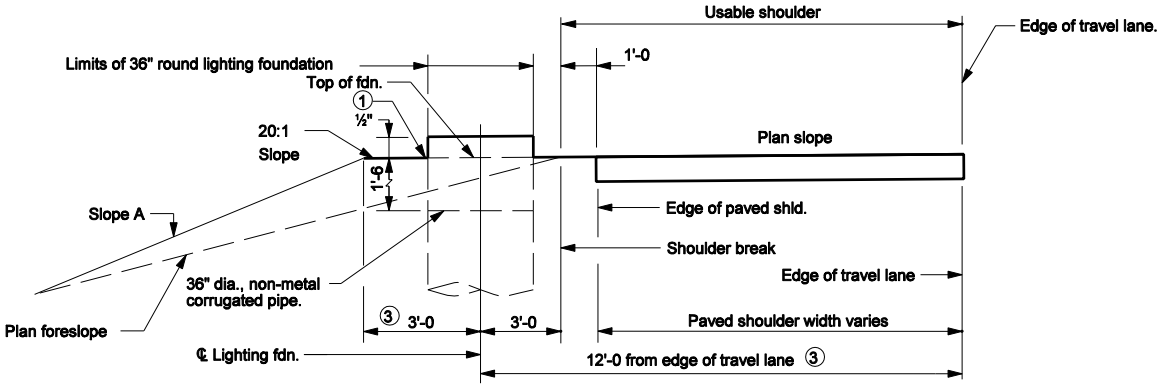
STANDARD DRAWING NO. E 807-LTFD-02

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



ELEVATION, 4:1 OR 3:1 SLOPE

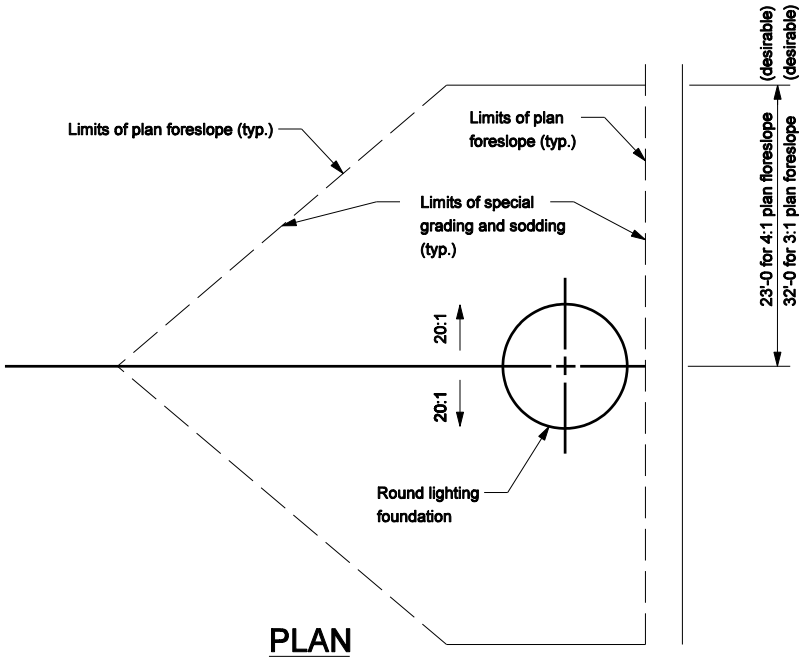
Notes:

① See Standard Drawing E 807-LTFD-05 for General Notes.

2. Transformer base door shall face the right-of-way line.

③ Use which ever gives the greatest offset distance from the edge of the travel lane.

Plan foreslope	A
4:1	3:1 Desirable
3:1	2.5:1 Desirable



PLAN

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD ROUND FDN. TNT. FILL SECTION FORESLOPE 4:1 OR 3:1

September 2005

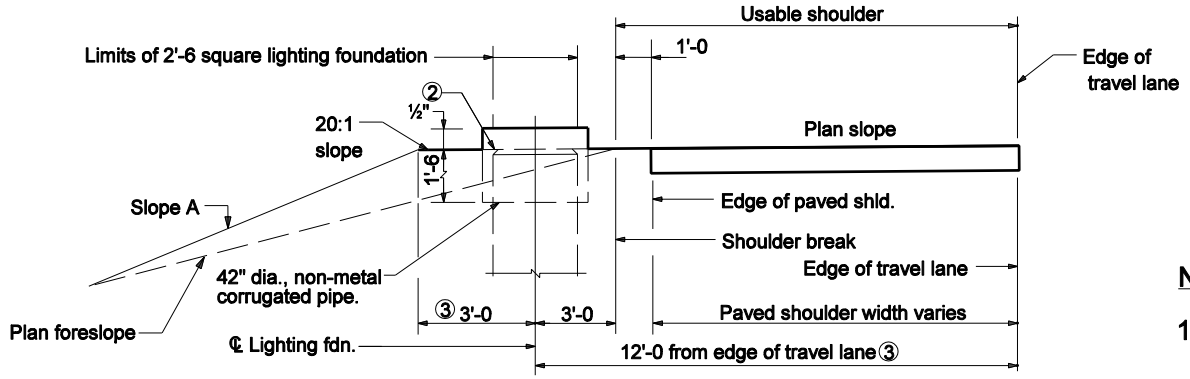
STANDARD DRAWING NO. E 807-LTFD-03

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

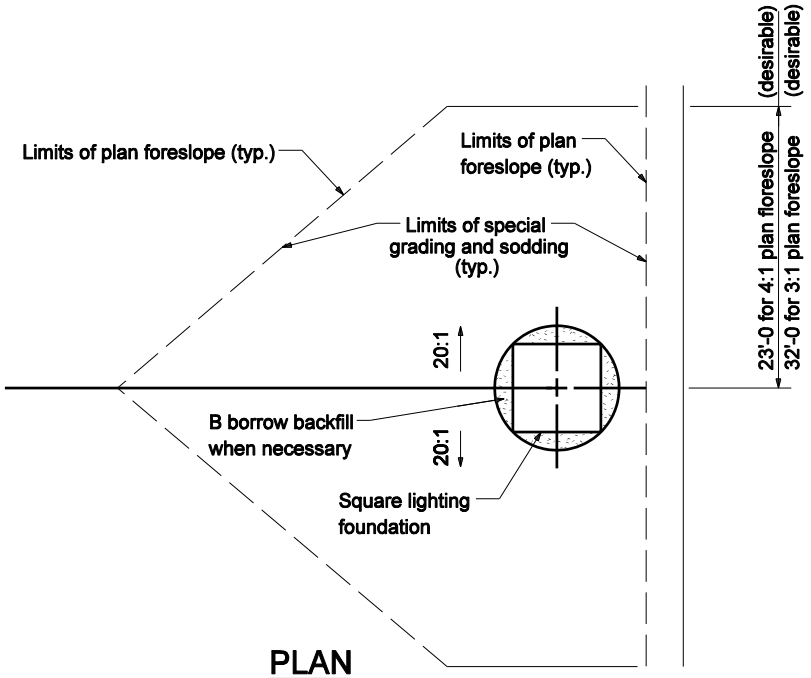
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



ELEVATION 4:1 OR 3:1 SLOPE



PLAN

Notes:

1. Transformer base door shall face the right-of-way line.

② See Standard Drawing E 807-LTFD-05 for General Notes.

3. Use whichever gives the greatest offset distance from the edge of the travel lane.

Plan foreslope	A
4:1	3:1 Desirable
3:1	2.5:1 Desirable

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD SQUARE FDN. TMT. FILL SECTION FORESLOPE 4:1 OR 3:1

SEPTEMBER 2005

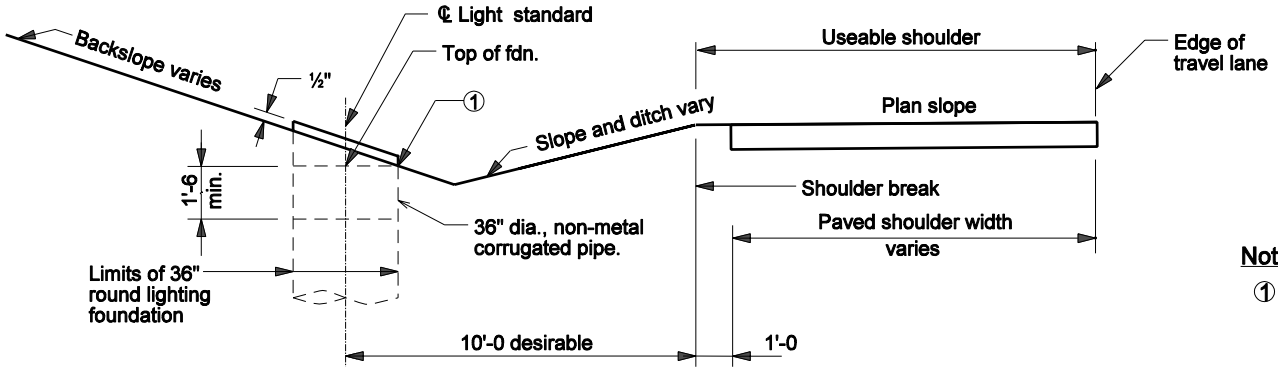
STANDARD DRAWING NO. E 807-LTFD-03A

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

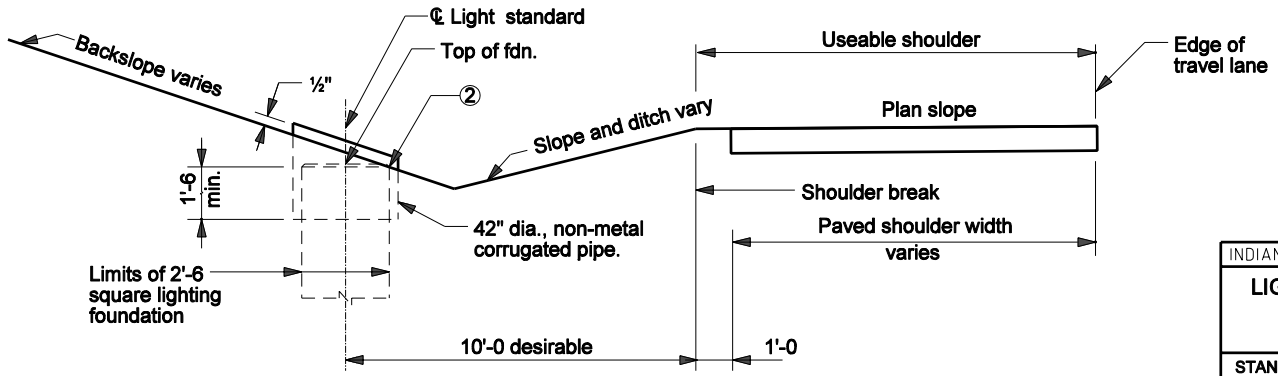
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



ELEVATION, CUT SECTION, ROUND FOUNDATION



ELEVATION, CUT SECTION, SQUARE FOUNDATION

Notes:

①② See Standard Drawing E 807-LTFD-05 for General Notes.

3. Transformer base door shall face roadway.

4. Foundation shall not be installed in ditch flow line.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD FOUNDATION GRADING CUT SECTION

SEPTEMBER 2005

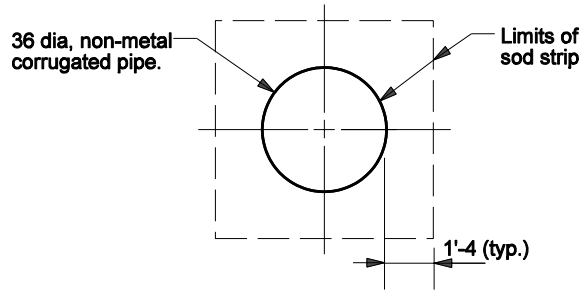
STANDARD DRAWING NO. E 807-LTFD-04

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

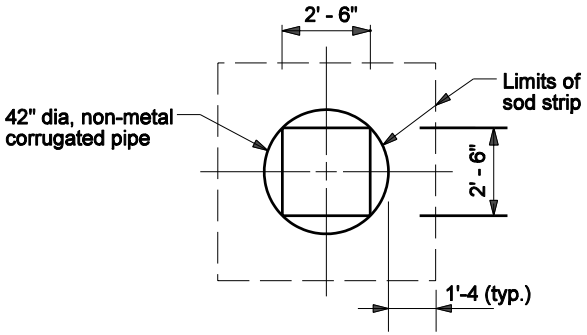
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

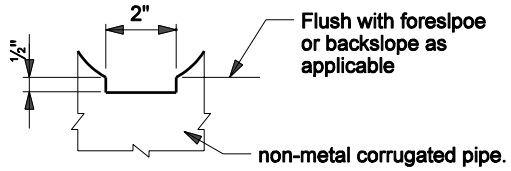
/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



PLAN, ROUND FOUNDATION



PLAN, SQUARE FOUNDATION



DRAINAGE NOTCH

Notes:

1. Drainage notch shall follow the slope of the ground.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD FOUNDATION GRADING DETAILS

SEPTEMBER 2005

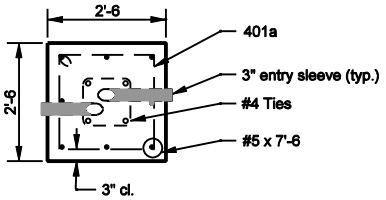
STANDARD DRAWING NO. E 807-LTFD-04A

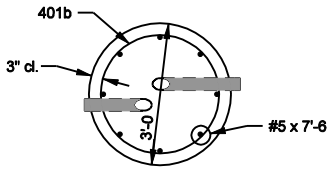
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

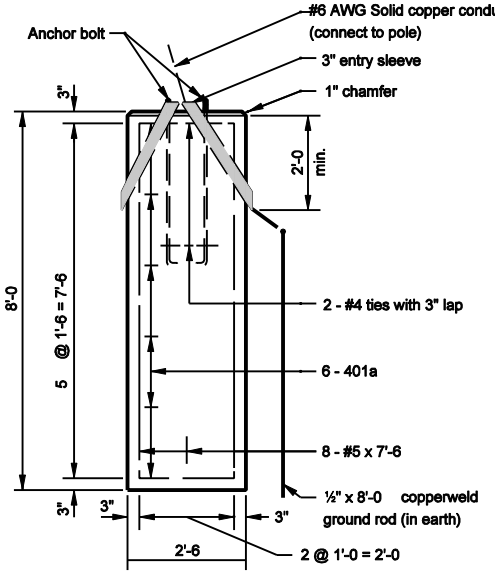
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-01-05
DESIGN STANDARDS ENGINEER DATE

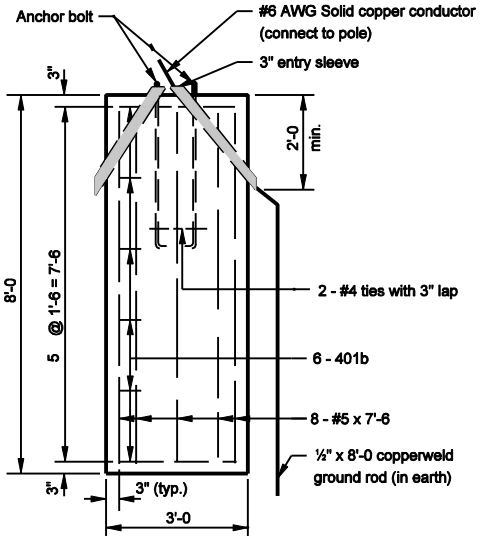
/s/ Richard K. Smutzer 9-01-05
CHIEF HIGHWAY ENGINEER DATE



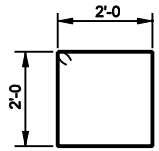




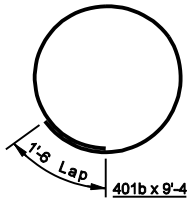
SQUARE FOUNDATION DETAIL



ROUND FOUNDATION DETAIL



401a x 8'-10



401b x 9'-4

GENERAL NOTES

① Top of lighting foundation shall be flush with foreslope at this point.

② Base of chamfer at top of lighting foundation shall be flush with foreslope at this point.

3. See Standard Drawing E 801-LTFD-04A for plan views of pipe placement and sodding.

4. Low exposd end of pipe shall have drainage notch as shown on Standard Drawing E 807-LTFD-04A.

5. Arrows shall be engraved on top of foundation to indicate direction of cable duct run.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT FOUNDATION

SEPTEMBER 2002

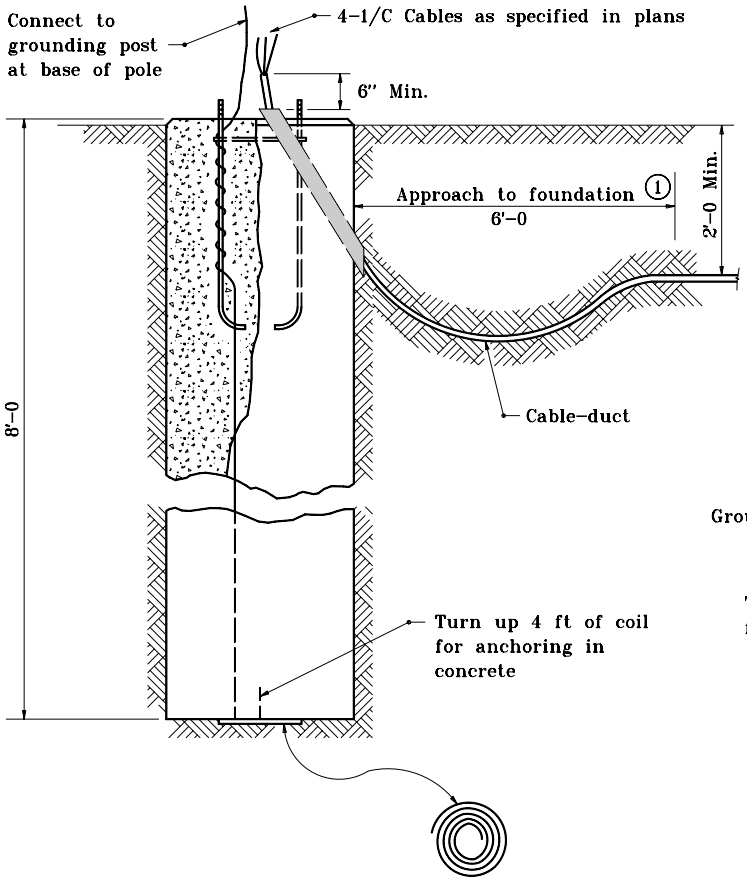
STANDARD DRAWING NO. E 807-LTFD-05

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

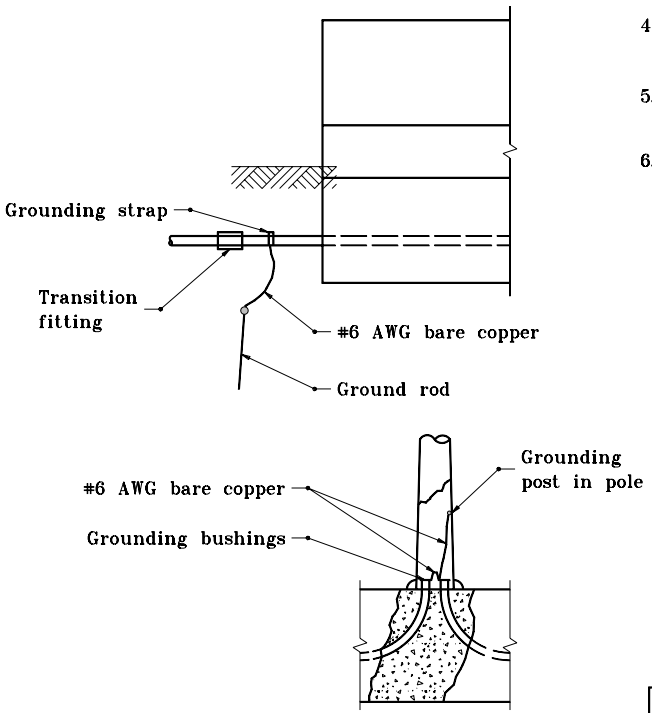
DESIGN STANDARDS ENGINEER

/s/ Richard L. VonCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE



DETAIL OF COIL



BRIDGE GROUNDING

GENERAL NOTES

(1) The 6 ft approach to foundation shall be trenched.

2. Bottom of trench shall be graded so as to provided a smooth, uniform ramp to the entry sleeve of the foundation.

3. Each cable-duct shall have its own entry sleeve. There shall be at least two entry sleeves per footing.

4. Coil to be of #6 AWG copper approximately 15 ft long.

5. Place felt between concrete and coil to prevent bonding.

6. Coil method of grounding may be used with precast foundation.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT FOUNDATION

SEPTEMBER 2000

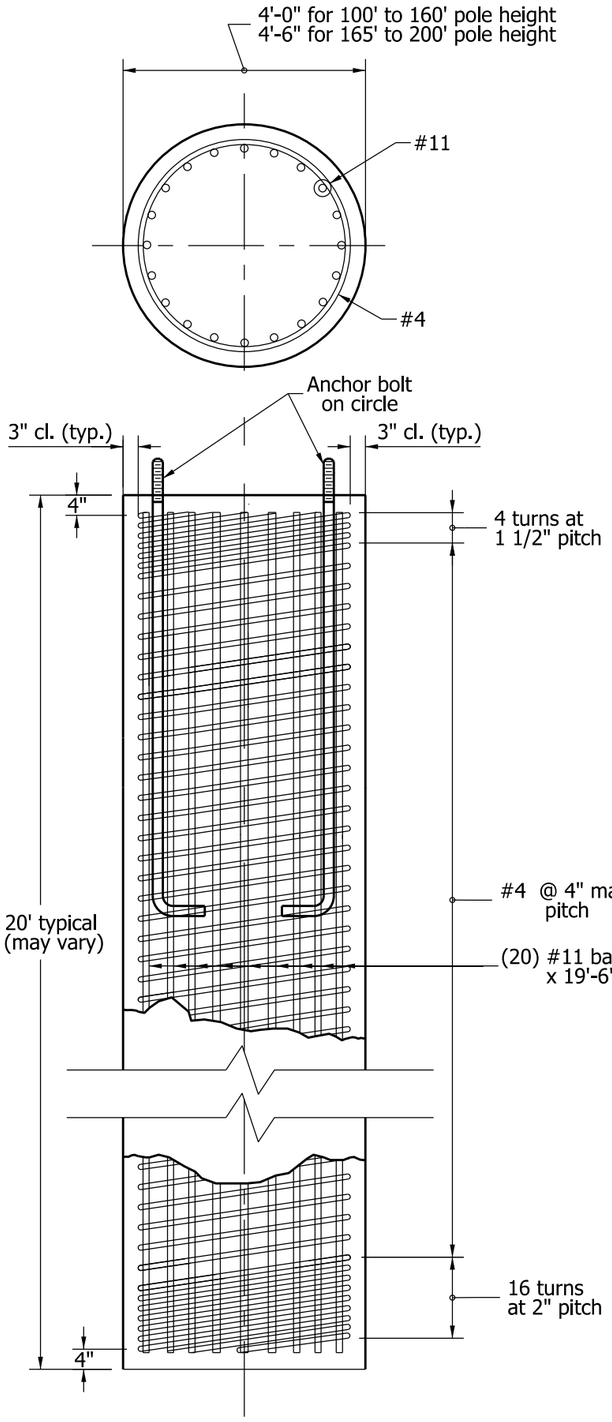
STANDARD DRAWING NO. **E 807-LTFD-06**

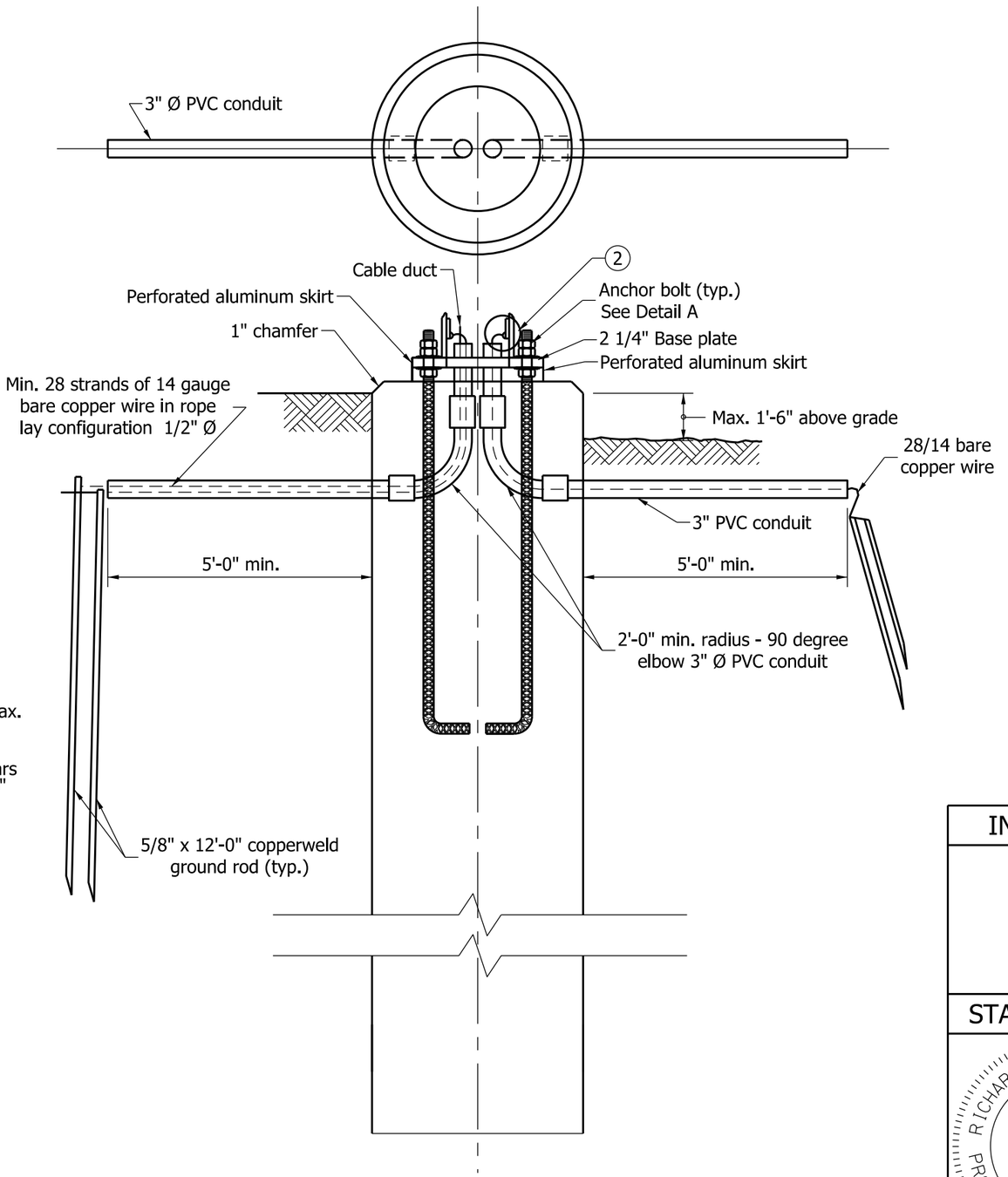
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-01-00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-01-00
CHIEF HIGHWAY ENGINEER — DATE

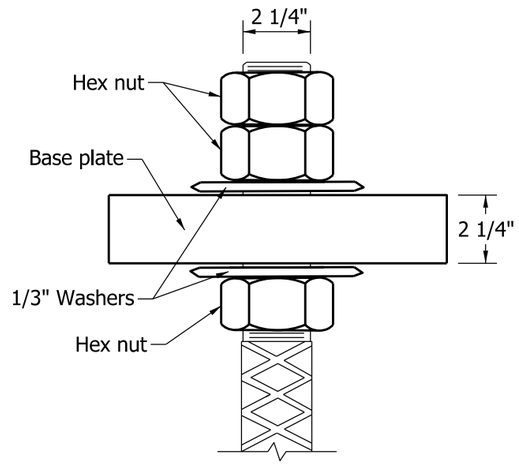




NOTES:

1. An arrow or arrows shall be imprinted onto the top of the foundation to indicate the direction of the cable-duct run.

(2) See Standard Drawing E807-LTLR-02 for details.



DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

HIGH MAST TOWER FOUNDATION

SEPTEMBER 2010

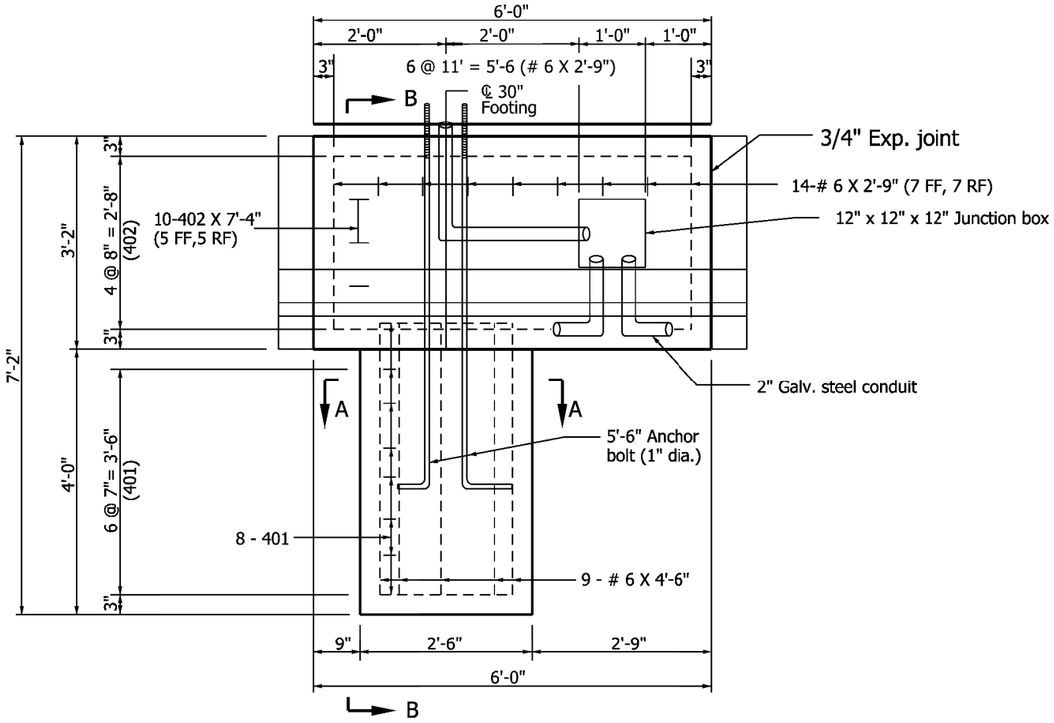
STANDARD DRAWING NO. E 807-LTFD-07

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

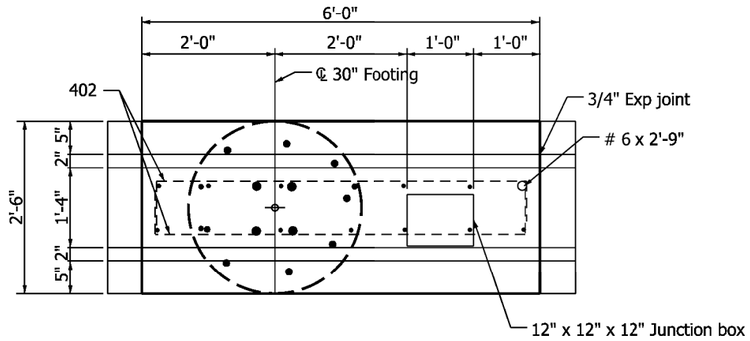
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



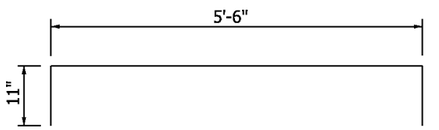
ELEVATION



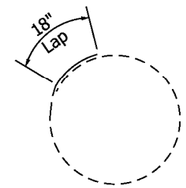
PLAN

Notes:

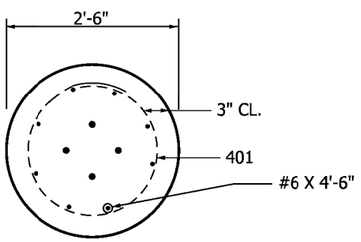
1. The 2" galvanized steel conduit and junction box can be installed in the median shoulder. The junction box must be in front of the light foundation.
2. Field cut reinforcing bars to accomodate juncton box.



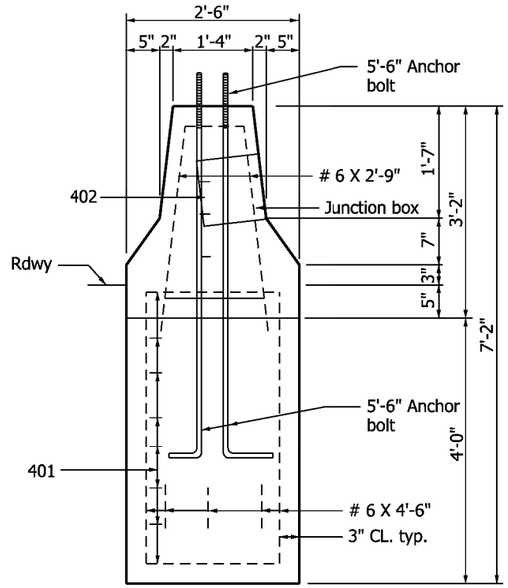
402 X 7'-4"



401 X 7'-9"



SECTION A-A



SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION

CONVENTIONAL LIGHT FOUNDATION FOR 33" CONCRETE MEDIAN WALL INSTALLATION SEPTEMBER 2009

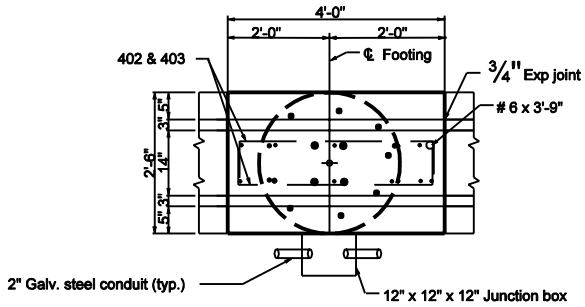
STANDARD DRAWING NO. E 807-LTFD-09

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

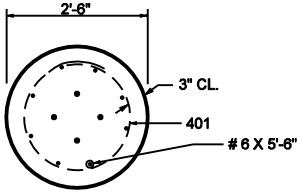
DESIGN STANDARDS ENGINEER

/s/ Richard L.VanCleave 09/01/09
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER DATE



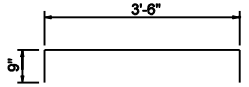
PLAN



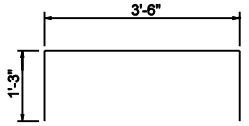
SECTION A-A

Notes:

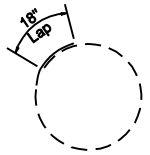
1. Junction box shall meet the following specifications:
   a. Material: Polymer concrete
   b. Color: Concrete gray
   c. Cover rating: 20,000 lbs.



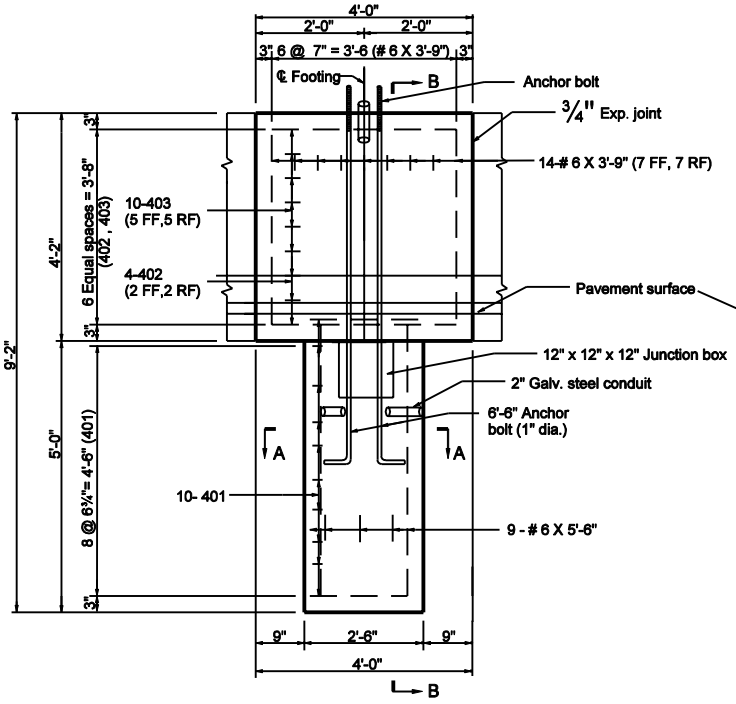
403 X 5'-0"



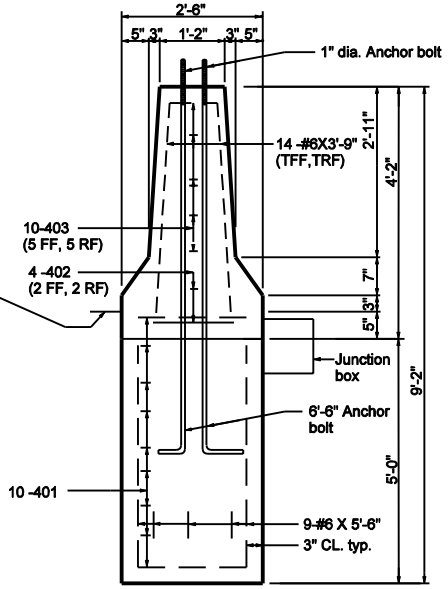
402 X 6'-0"



401 X 8'-10"



ELEVATION



SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION

CONVENTIONAL LIGHT FOUNDATION FOR 45" CONCRETE MEDIAN WALL INSTALLATION.

SEPTEMBER 2002

STANDARD DRAWING NO. E 807-LTFD-10

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

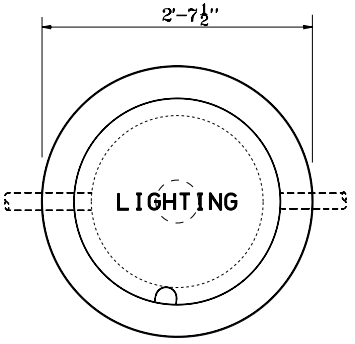
DESIGN STANDARDS ENGINEER

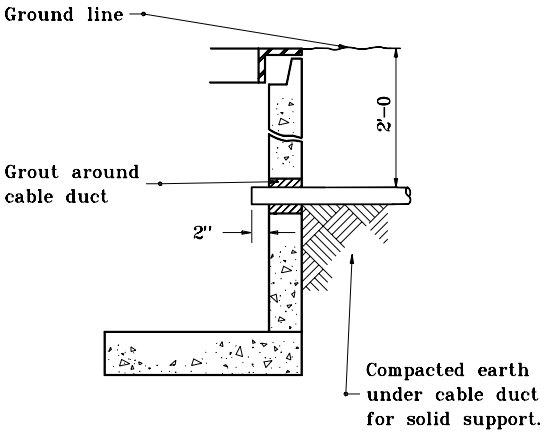
/s/ Richard L VanCleave — DESIGN STANDARDS ENGINEER — 9-03-02 DATE

/s/ Richard K. Smutzer — CHIEF HIGHWAY ENGINEER — 9-03-02 DATE

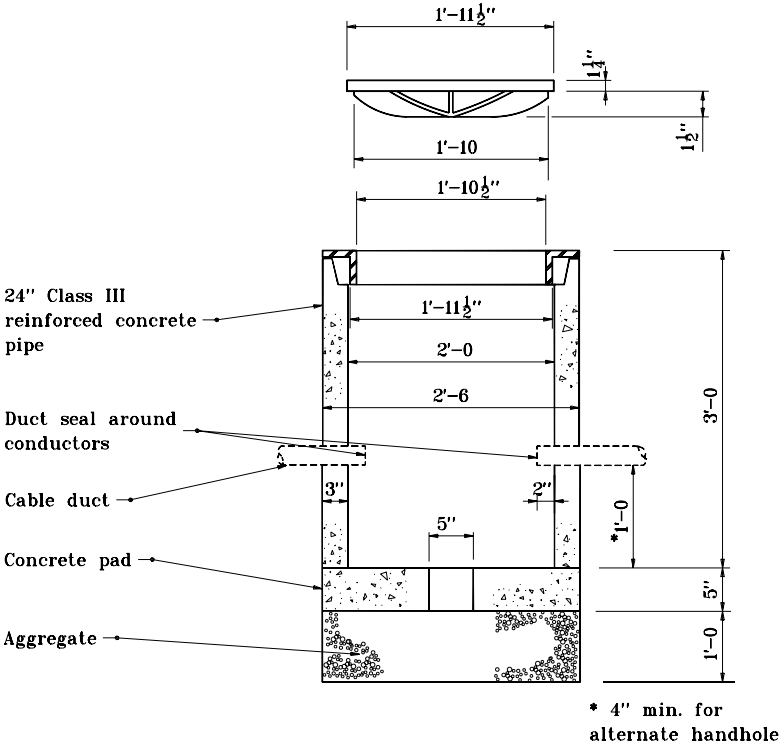
GENERAL NOTES

1. Alternate handhole minimum size shall be 1'–7 x 2'–6 x 1'–10 depth with 2 in. lid thickness.
2. Approximate weight for cast iron ring and cover shall be 320 lb.





CABLE DUCT ENTERING HANDHOLE



* 4" min. for alternate handhole

STREET & ALLEY TYPE HANDHOLE

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT HANDHOLE DETAILS

MARCH 1995

STANDARD DRAWING NO. **E 807–LTHH–01**

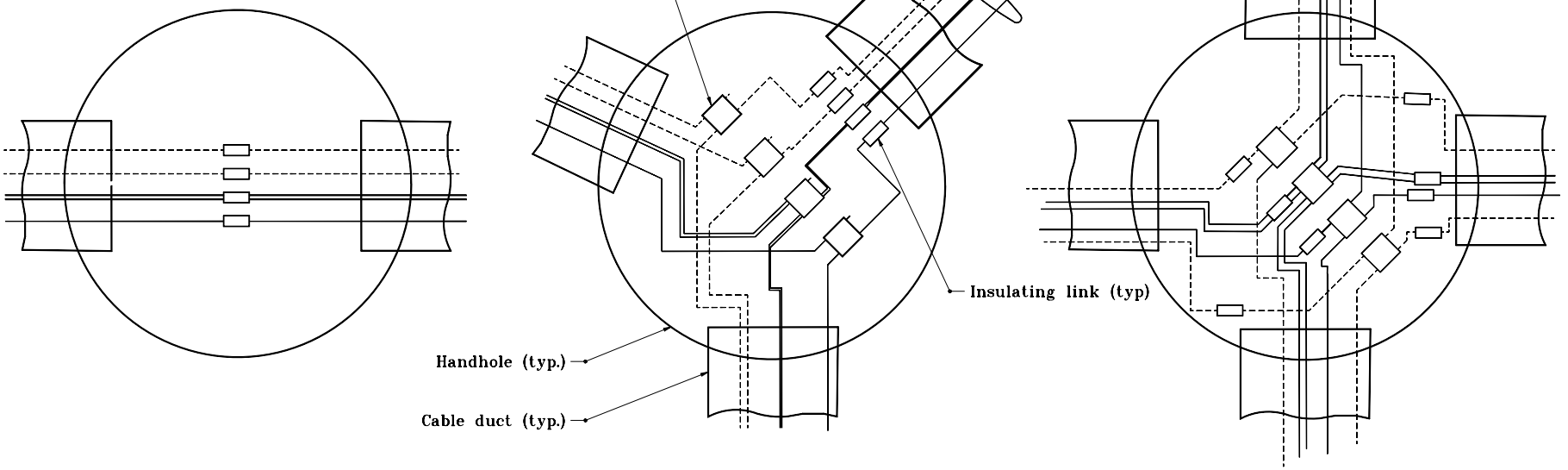
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	7-27-99
/s/ Anthony L. Uremovich — DESIGN STANDARDS ENGINEER	7-27-99 — DATE
/s/ Firooz Zandi — CHIEF HIGHWAY ENGINEER	7-27-99 — DATE
ORIGINALLY APPROVED	3-01-95

GENERAL NOTES

1. For multiple compression fitting and insulating link details, see Standard Drawing No. E 803-SNWR-04.



Type A **Type B** **Type C**

HANDHOLE CONNECTION DIAGRAM

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT HANDHOLE CONNECTIONS

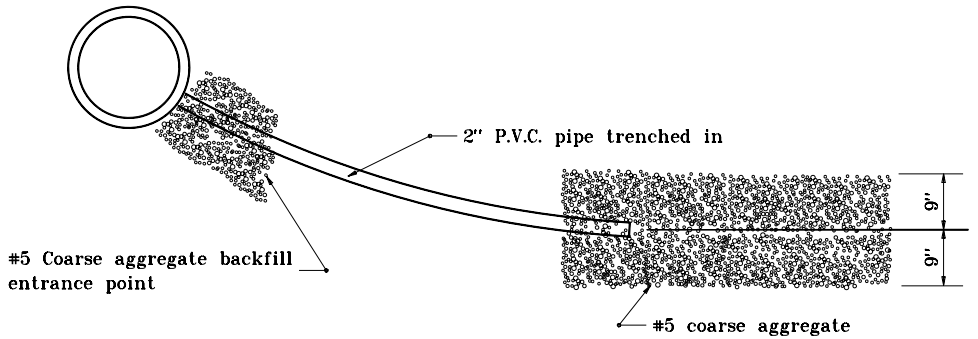
MARCH 1995

STANDARD DRAWING NO. **E 807-LTHH-02**

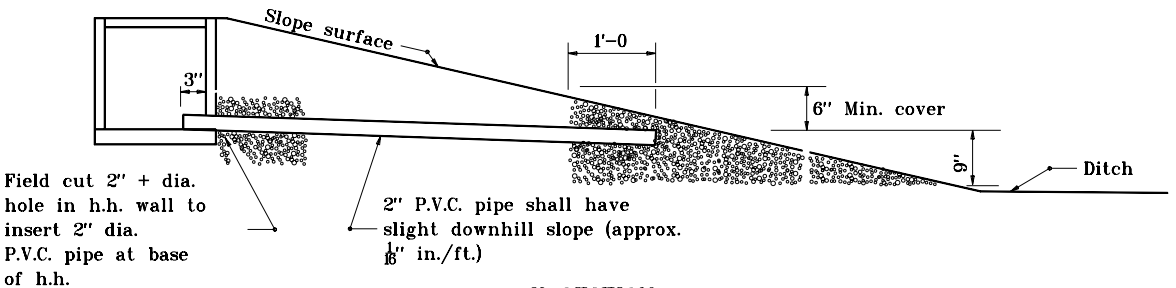
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	3-01-95

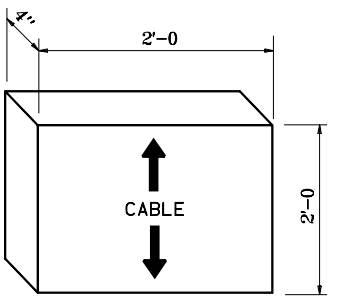


PLAN VIEW



X-SECTION

HANDHOLE DRAIN DETAIL



CABLE MARKER

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT HANDHOLE DRAIN & CABLE MARKER

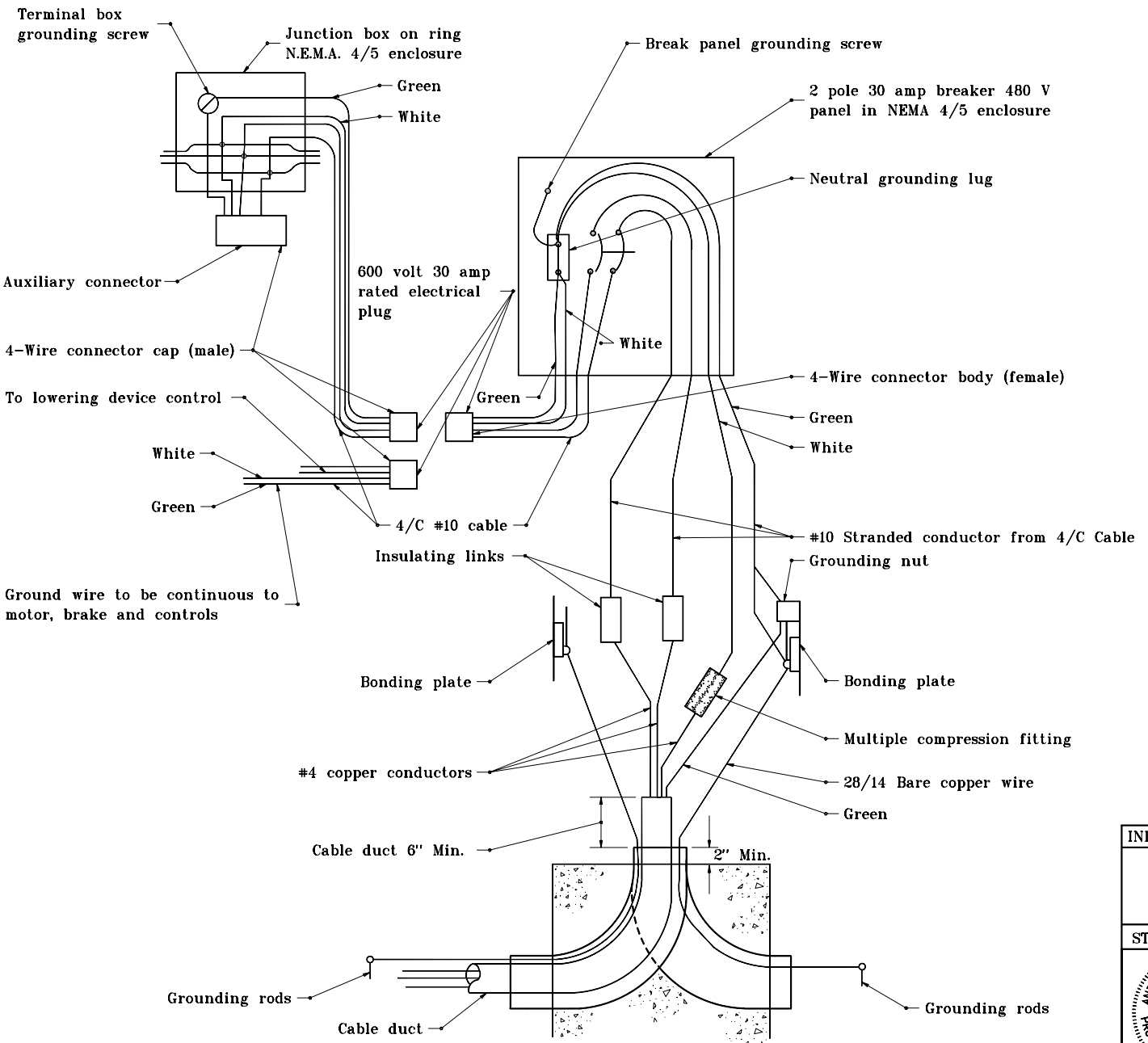
MARCH 1995

STANDARD DRAWING NO. **E 807-LTHH-03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95



WIRING DIAGRAM

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER BOTTOM LATCH

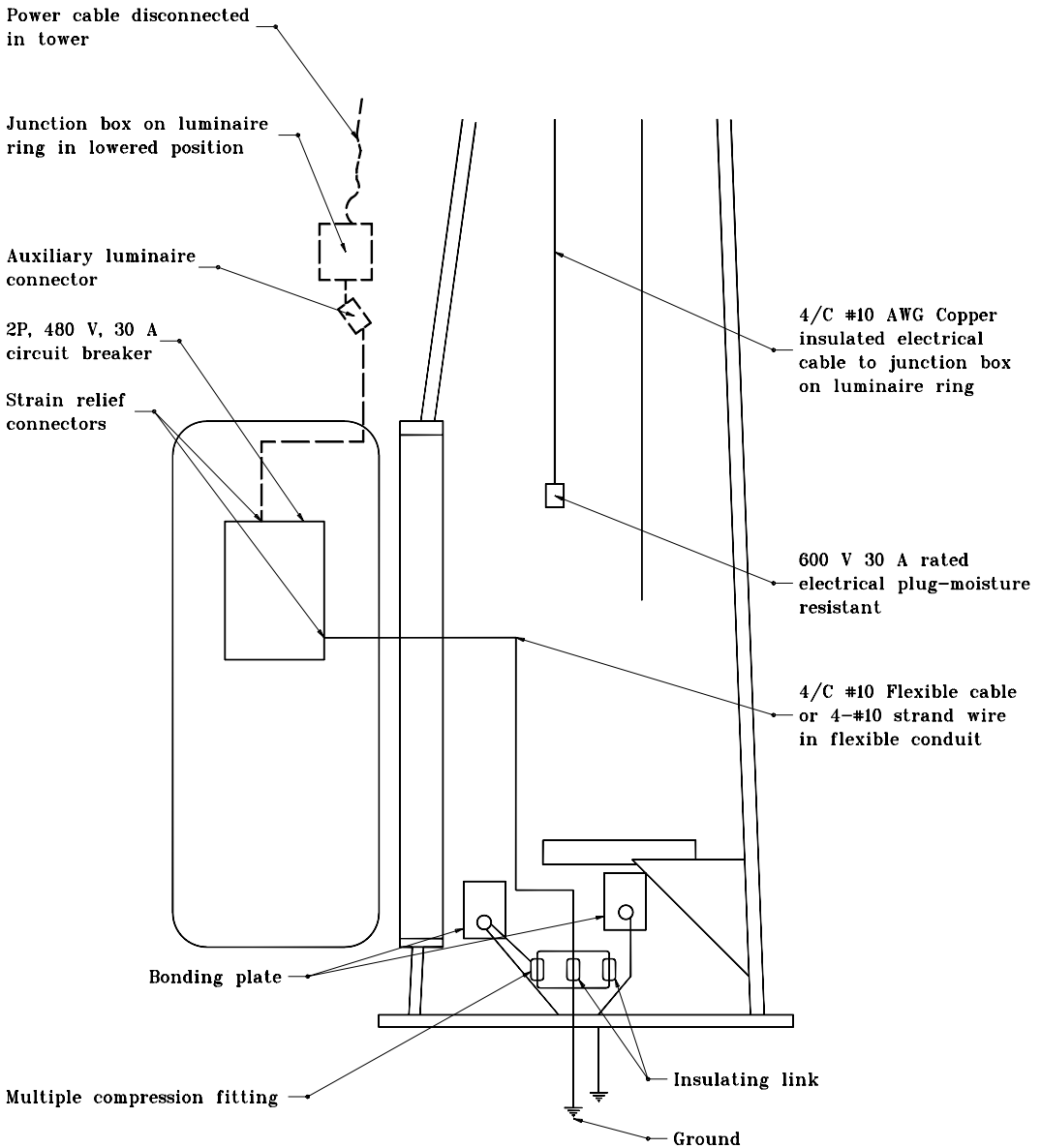
MARCH 1995

STANDARD DRAWING NO. **E 807-LTHI-01**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	3-01-95



DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER BOTTOM LATCH

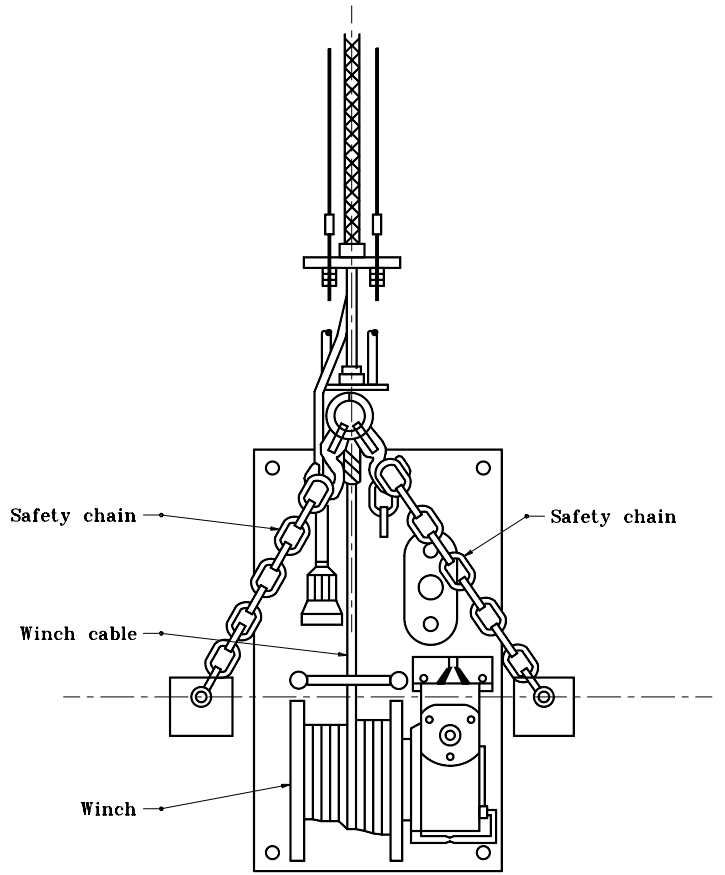
MARCH 1995

STANDARD DRAWING NO. **E 807–LTHI–02**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95



BOTTOM LATCH

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER DETAILS – BOTTOM LATCH

JANUARY 1999

STANDARD DRAWING NO. **E 807-LTHI-03**

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

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1-04-99
DESIGN STANDARDS ENGINEER — DATE

/s/ Donald W. Lucas 1-04-99
CHIEF HIGHWAY ENGINEER — DATE

Source Sheet: None

ITEM DESRIPTIONS

(1) Hitch pin

(2) 3/4" dia. reversible electric motor 120 V, 11.5 A, 350 RPM

(3) Reversing drum switch

(4) Control cord 20 ft. length

(5) Wiring housing

(6) Plug to mate to connector in pole base or transformer secondary

(7) Torque limiter coupling

(8) 3/4" dia. steel shaft

(9) Ballbearing pillowblock

(10) 5/8" hex socket crank shaft coupling

(11) Connector to motor from 120 V transformer secondary

(12) Stepdown trnsformer 120 V secondary, 1.5 kVA for 240 V, 277 V, & 480 V; 2.0 kVA for 208 V

(13) 1/2" carry handle

(14) Plug to connector in pole base from transformer primary

(15) NEMA 4-circuit-breaker enclosure field mounted to pole handhole door

(16) 1/2" dia. mounting bolt, 4 req'd.

(17) 0.25 in. thick steel winch plate zinc electroplate finish

(18) Power unit mounting bracket, 0.25 in. thick steel zinc electroplate finish

(19) 5 ft. power supply cord and connector

(20) Winch 30:1 gear ratio internal drag brake

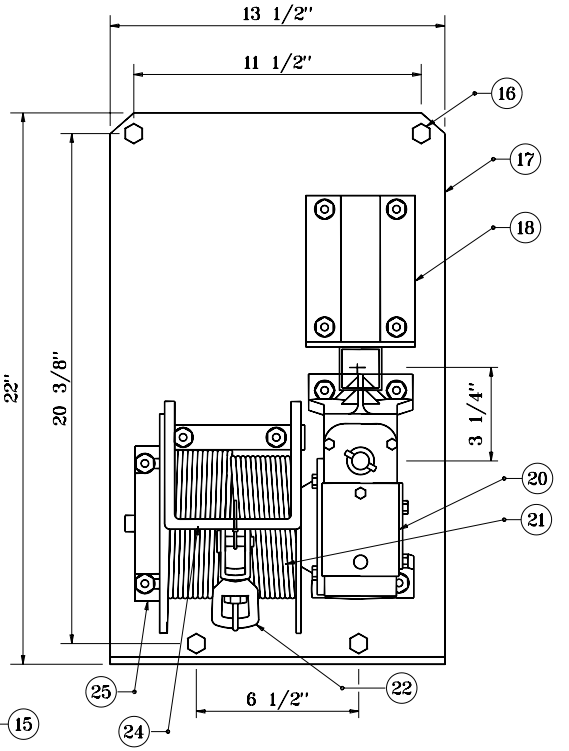
(21) 5/16" dia. 7 x 19 wire rope. Length is pole height + 6 ft. stainless steel

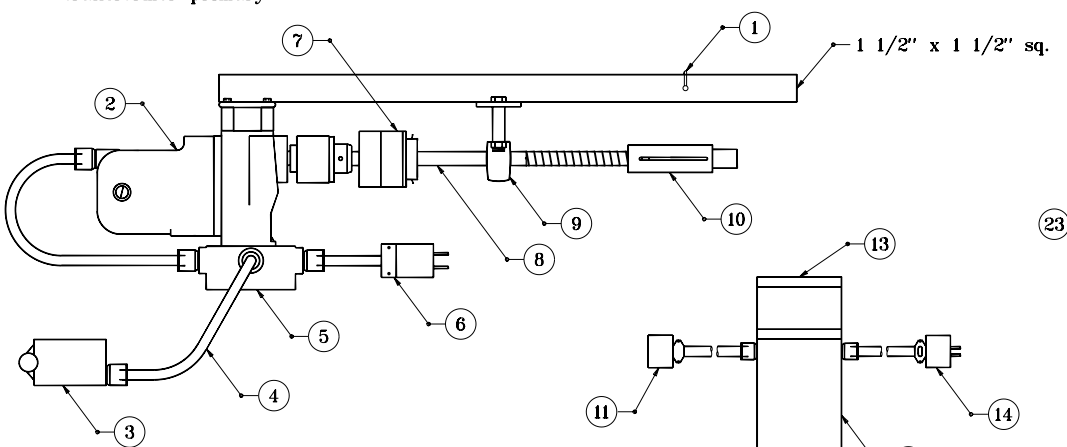
(22) Forged steel swivel, 11,000 psi ultimate strength

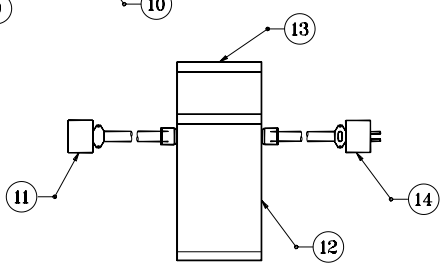
(23) Cord grip

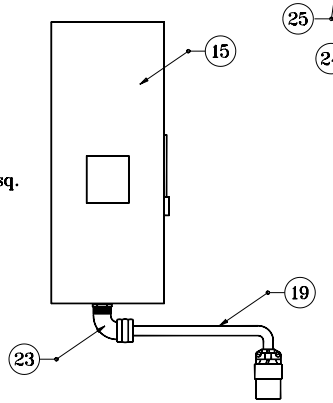
(24) Winch cable guard

(25) Winch outboard support









INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER DETAILS - BOTTOM LATCH

JANUARY 1999

STANDARD DRAWING NO E 807-LTHI-03A

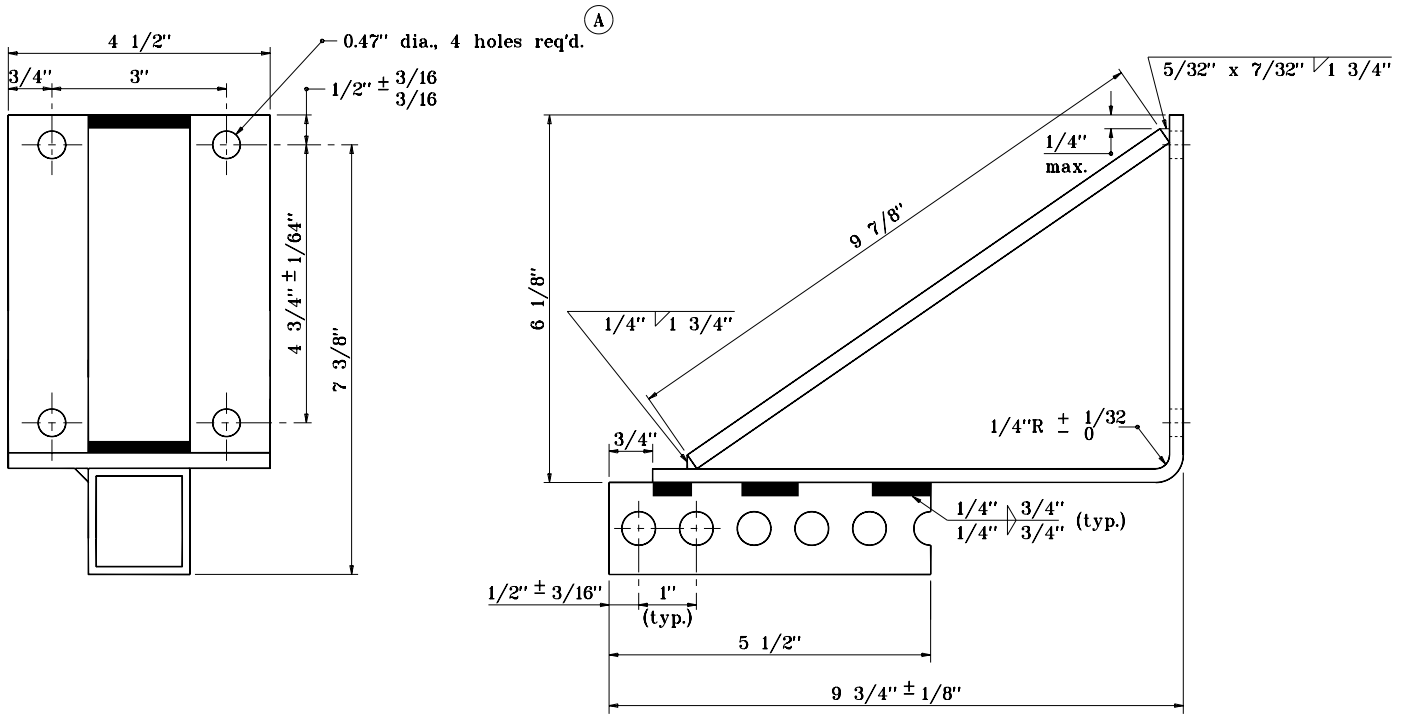
ANTHONY L. URENOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1-04-99
DESIGN STANDARDS ENGINEER — DATE

/s/ Donald W. Lucas 1-04-99
CHIEF HIGHWAY ENGINEER — DATE

Source Sheet: None



(A) Tolerances: 0 ± 1/32", angles ± 1/2" unless noted

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER DETAILS – BOTTOM LATCH

JANUARY 1999

STANDARD DRAWING NO. E 807-LTHI-03B

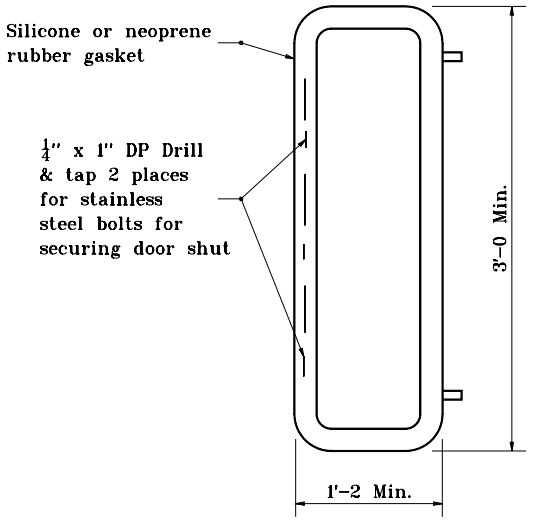
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

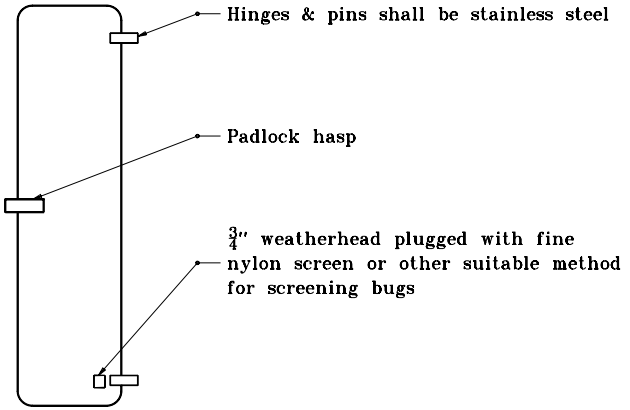
/s/ Anthony L. Uremovich 1-04-99
DESIGN STANDARDS ENGINEER — DATE

/s/ Donald W. Lucas 1-04-99
CHIEF HIGHWAY ENGINEER — DATE

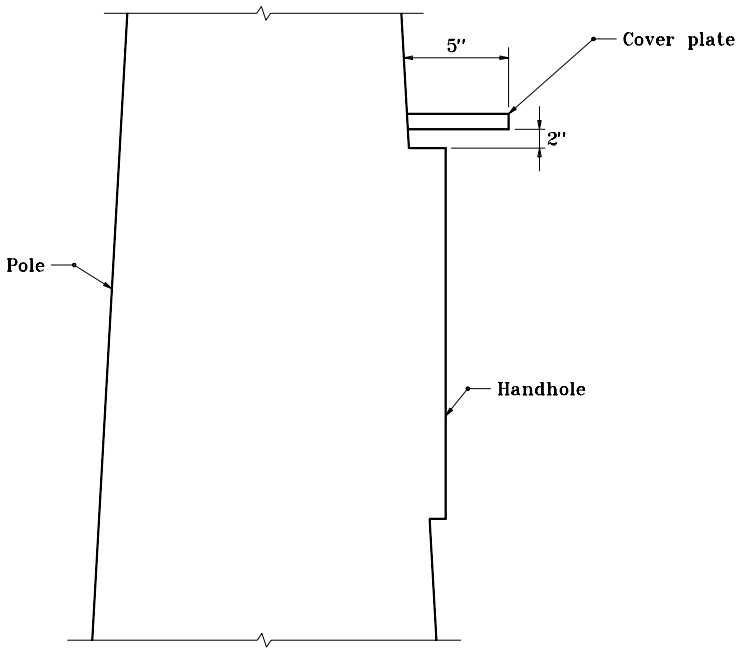
Source Sheet: None

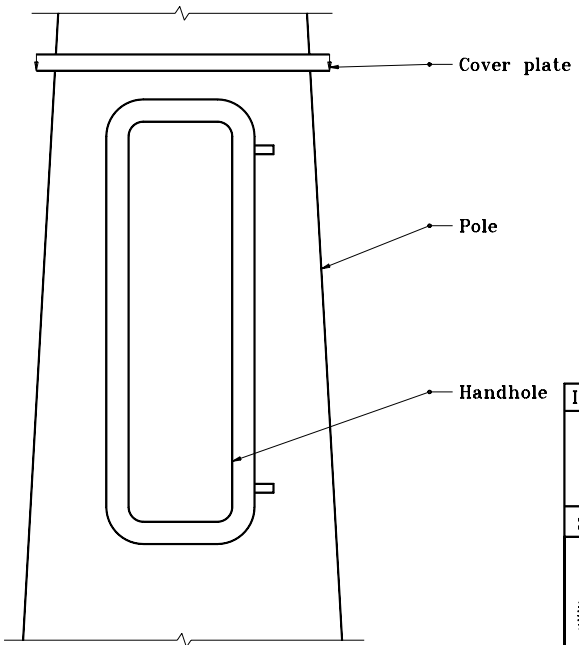


HANDHOLE FRAME DETAIL



HANDHOLE COVER DETAIL





COVER PLATE

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER BOTTOM LATCH

MARCH 1995

STANDARD DRAWING NO. **E 807-LTHI-04**

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

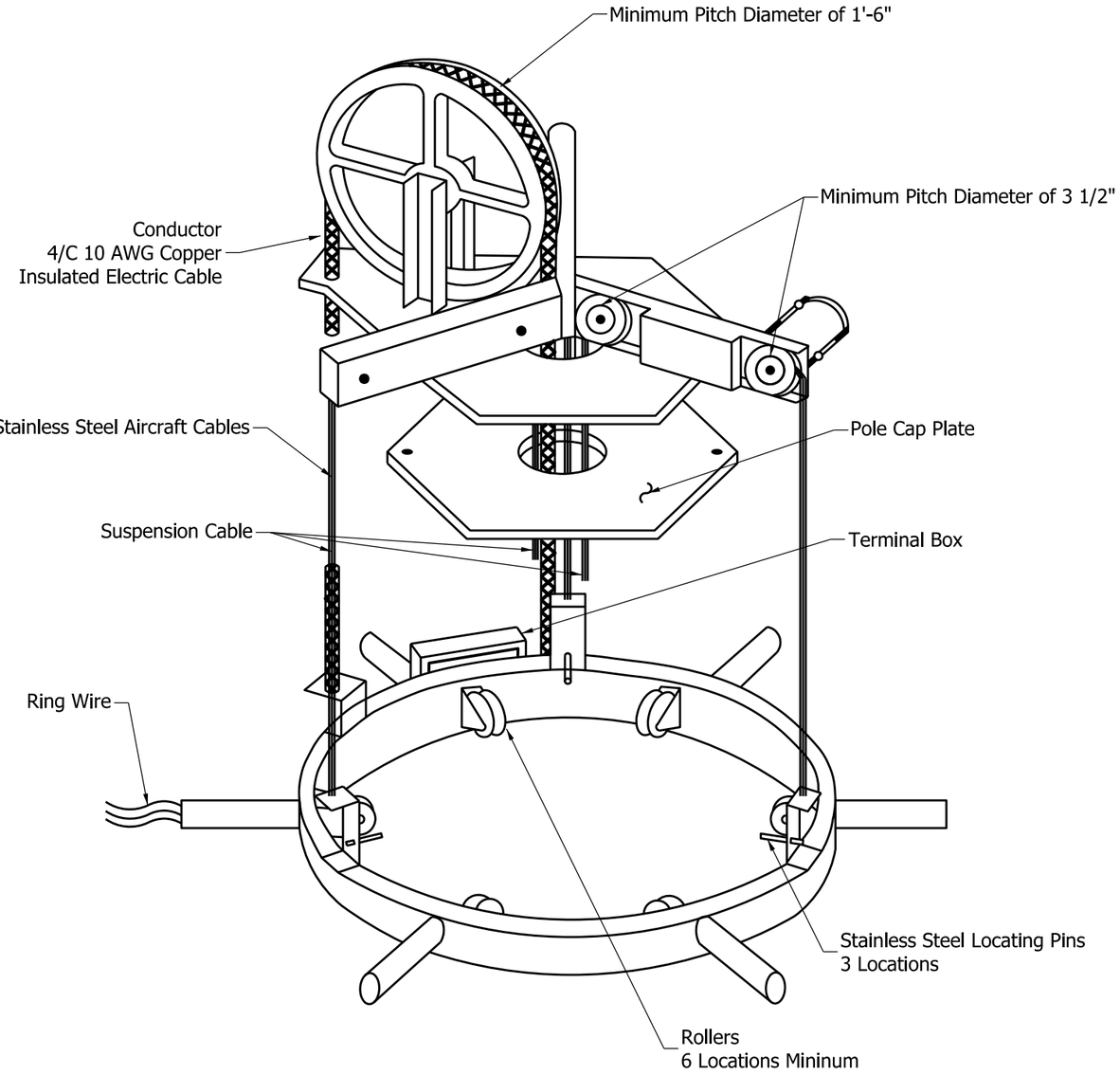
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



RING ASSEMBLY

INDIANA DEPARTMENT OF TRANSPORTATION

HIGHWAY ILLUMINATION TOWER
DETAILS BOTTOM LATCH

SEPTEMBER 2010

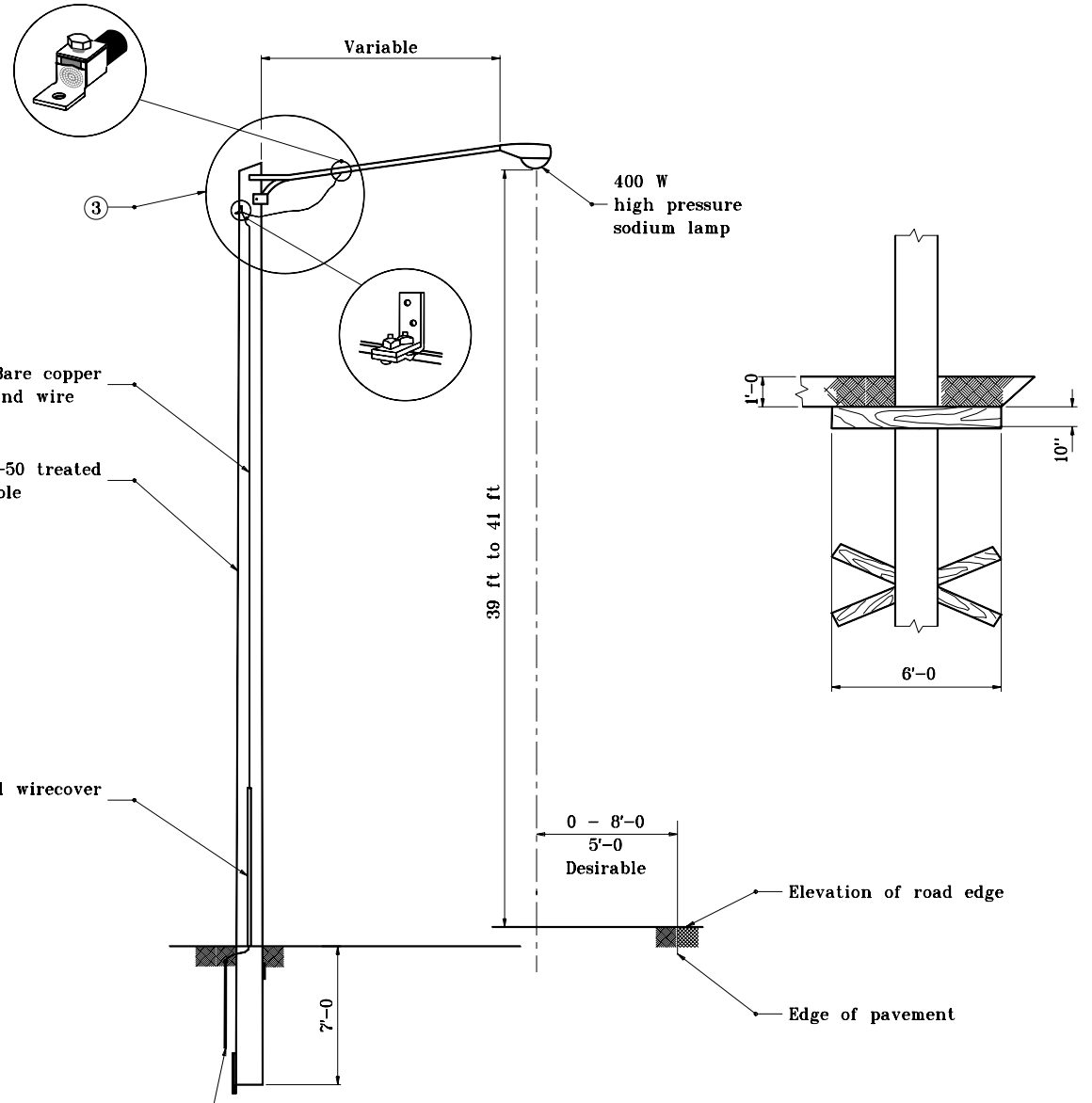
STANDARD DRAWING NO. E 807-LTHI-05

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



GENERAL NOTES

1. Install 2" x 10" x 6'–0 treated plank 1'–0 below ground surface with inner face directly against pole outer face to be placed against undisturbed earth as near as practicable.

2. Pole key anchor and plank stabilizer to be installed at each major change of overhead line direction and at each end of lighting distribution.

(3) See Section on Standard Drawing E 807–LHTI–07.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY HIGHWAY ILLUMINATION DETAILS

JANUARY 2000

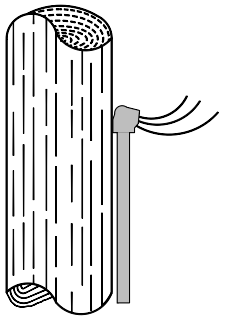
STANDARD DRAWING NO. **E 807–LTHI–06**

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

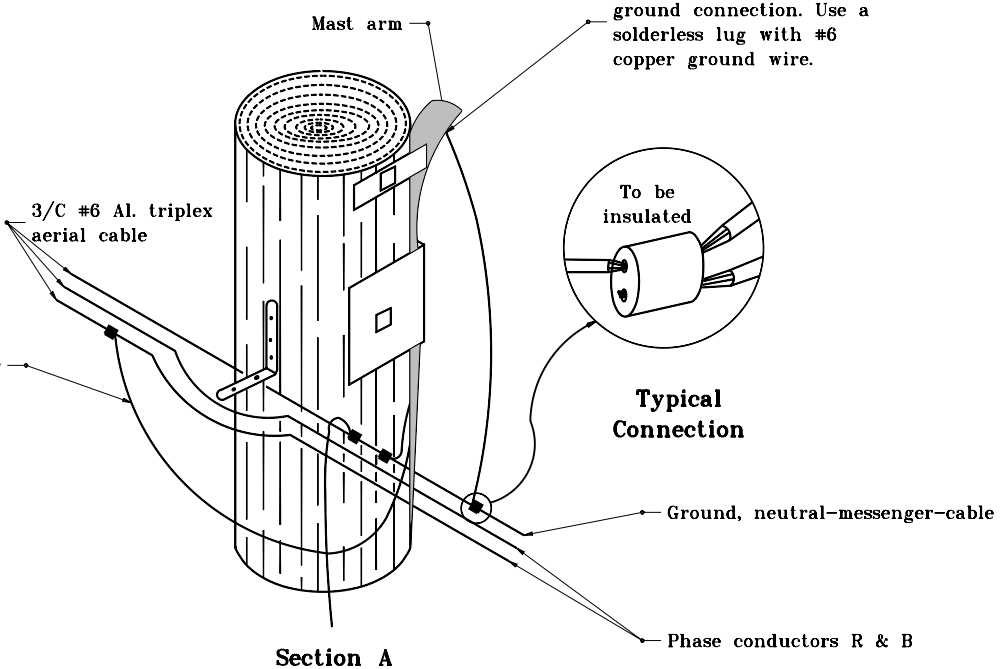
DESIGN STANDARDS ENGINEER

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

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

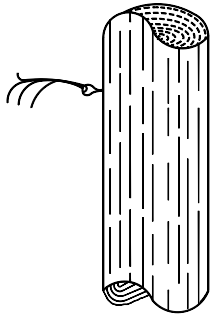


Conduit Riser

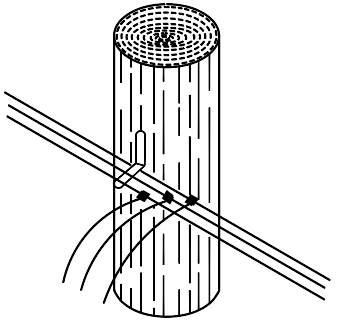


Typical Connection

Section A
Typical Aerial Luminaire Connection with Ground



Aerial Cable Termination



Typical Circuit Connection to Aerial Cable

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY HIGHWAY ILLUMINATION DETAILS

JANUARY 2000

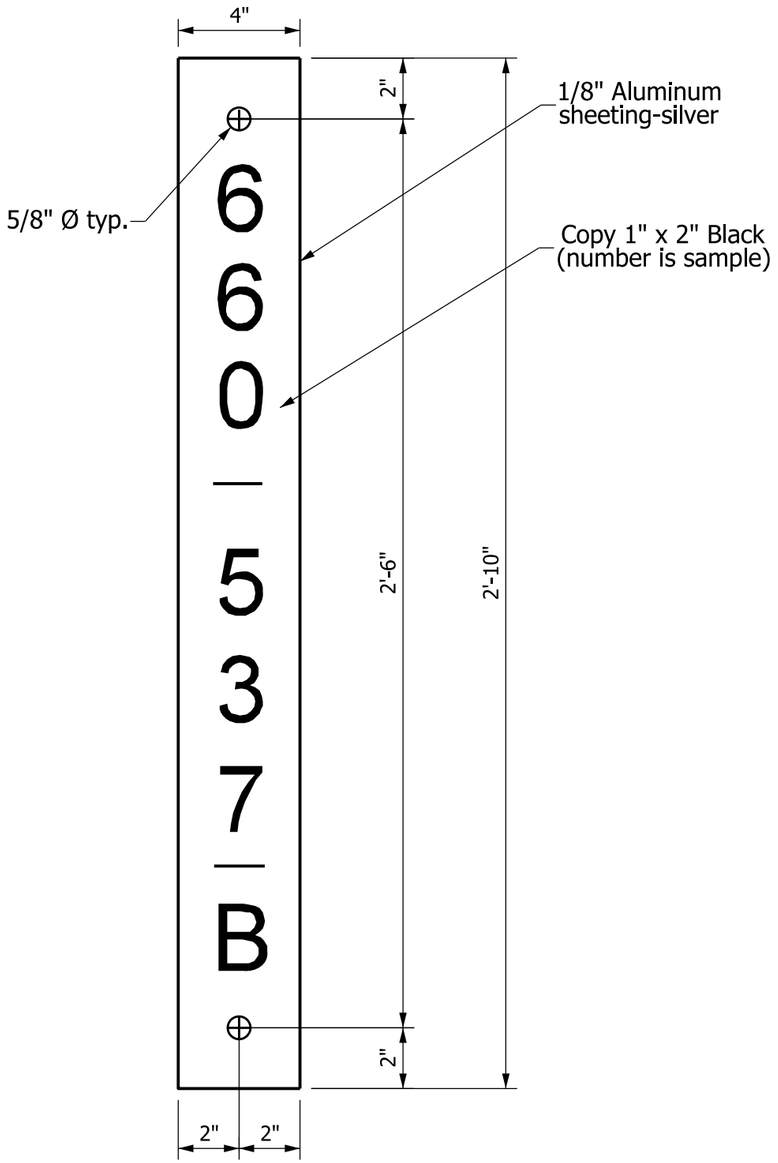
STANDARD DRAWING NO. **E 807-LTHI-07**

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

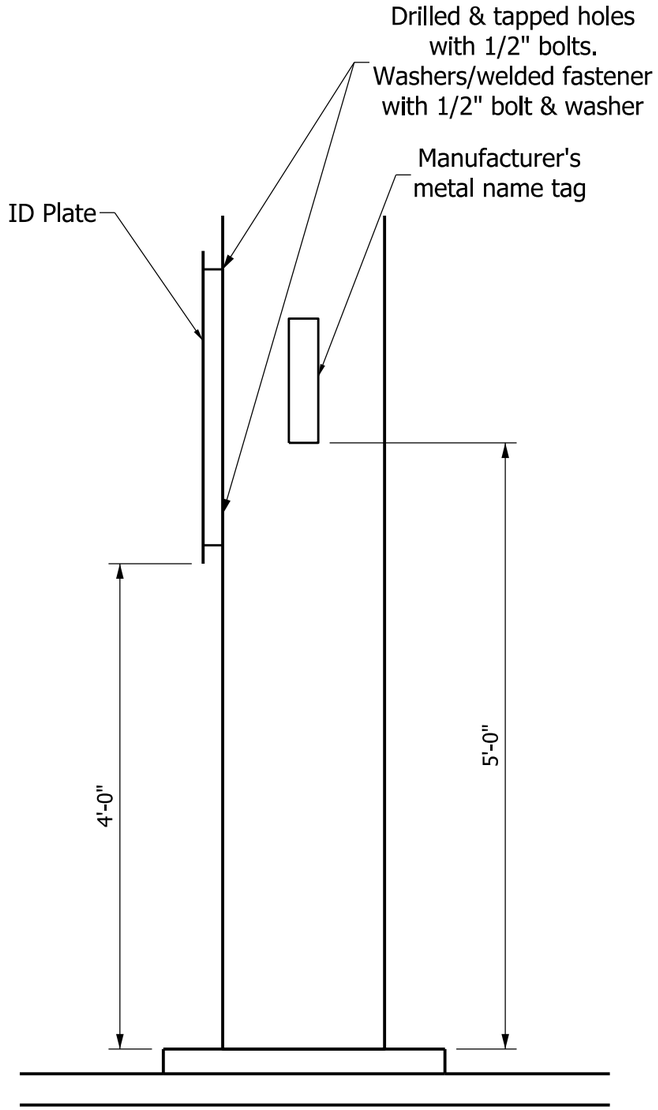
DESIGN STANDARDS ENGINEER

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

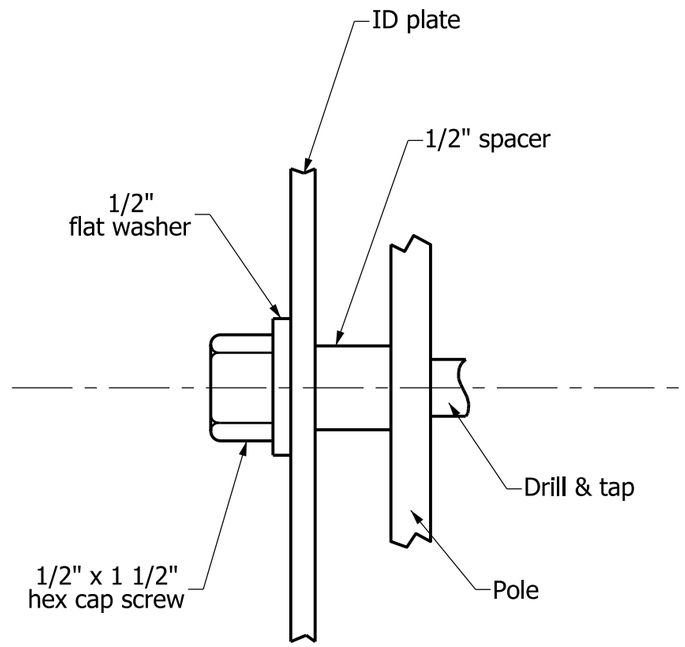
/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER — DATE



ID PLATE DETAIL



HIGH MAST POLE



MOUNTING DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

HIGH MAST POLE
ID PLATES

SEPTEMBER 2010

STANDARD DRAWING NO. E 807-LTHM-01

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

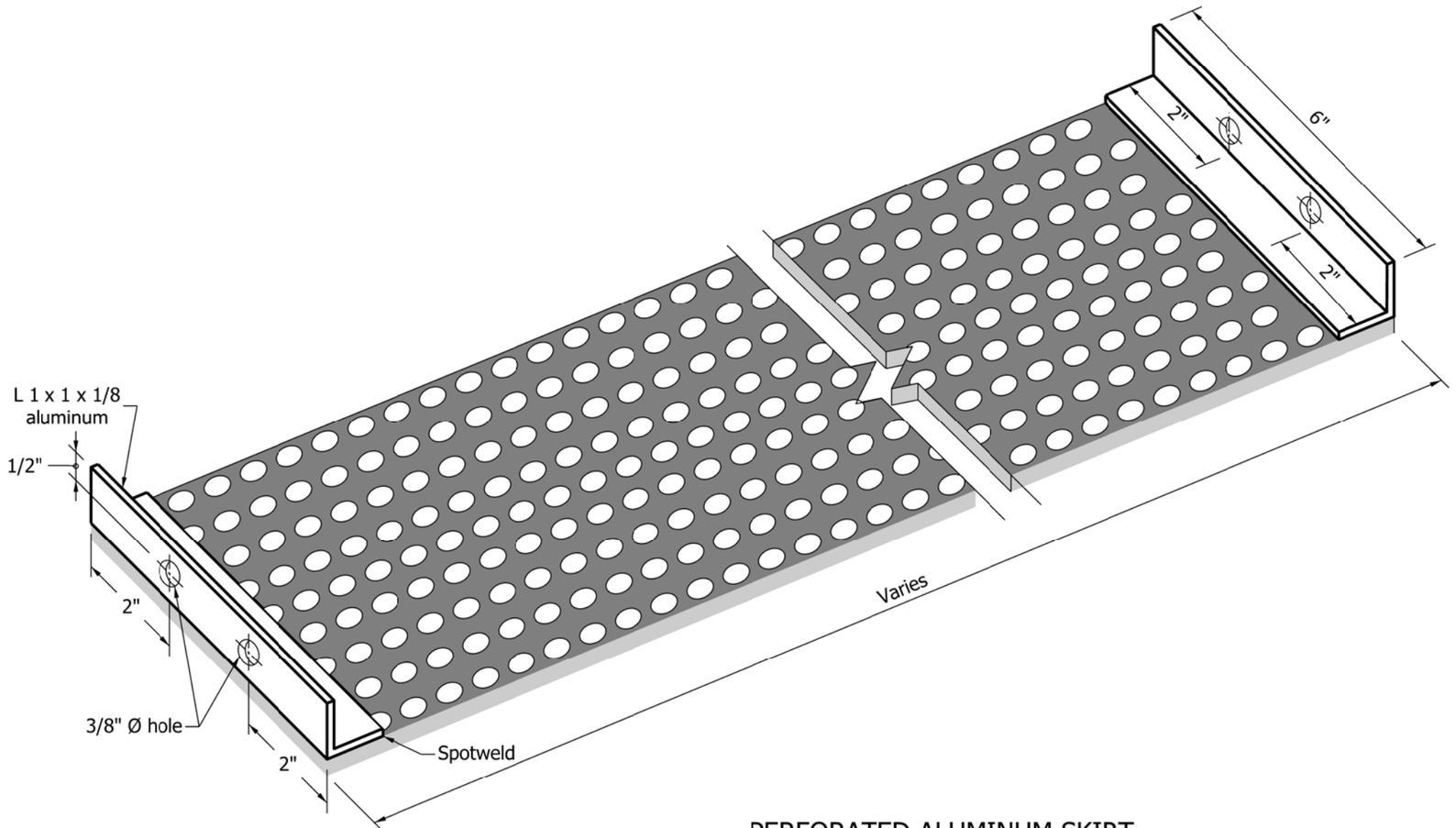
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave *09/01/10*
DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller *09/01/10*
CHIEF HIGHWAY ENGINEER — DATE

NOTES:

1. Holes shall be 3/8" dia., 1/2" outer circle, staggered.
2. The base plate of the high mast pole and exposed anchor bolts shall be enclosed by the aluminum skirt.



PERFORATED ALUMINUM SKIRT

INDIANA DEPARTMENT OF TRANSPORTATION

HIGH MAST POLE
PERFORATED ALUMINUM SKIRT

SEPTEMBER 2010

STANDARD DRAWING NO. E 807-LTHM-02

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

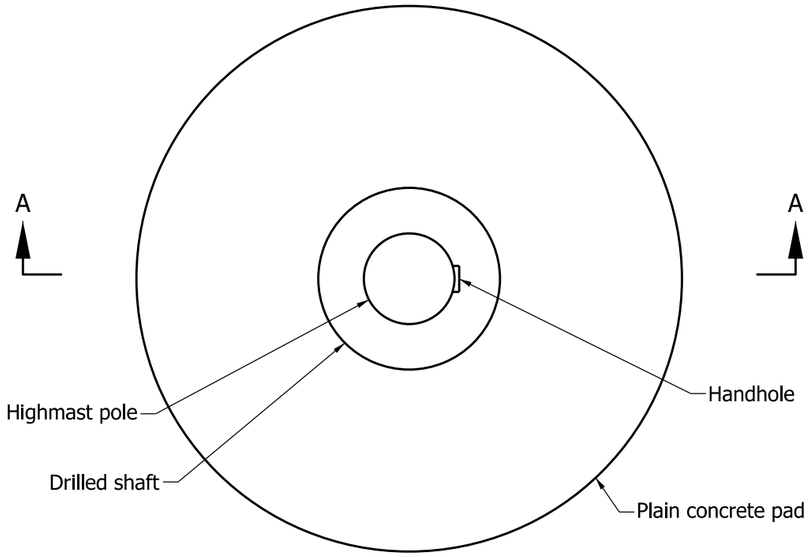
DESIGN STANDARDS ENGINEER

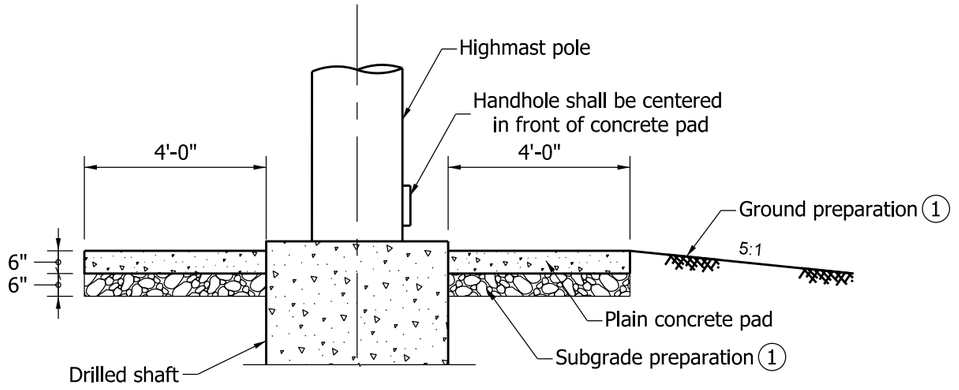
/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. See Standard Drawing E 807-LTHM-04 for Subgrade and ground preparation requirements.
2. The slope grading around the concrete pad shall be as shown unless otherwise directed.





SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING HIGH MAST POLE
CONCRETE PAD

SEPTEMBER 2010

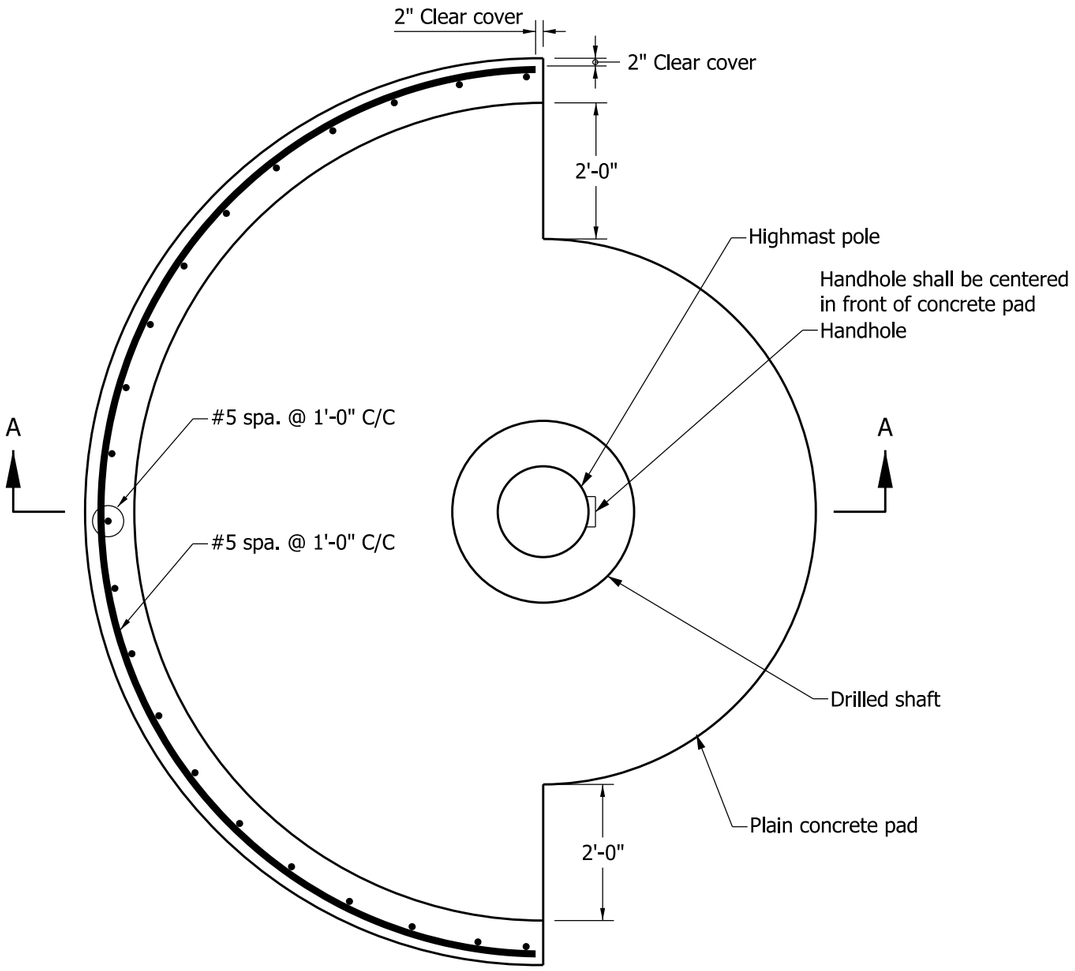
STANDARD DRAWING NO. E 807-LTHM-03

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

DESIGN STANDARDS ENGINEER

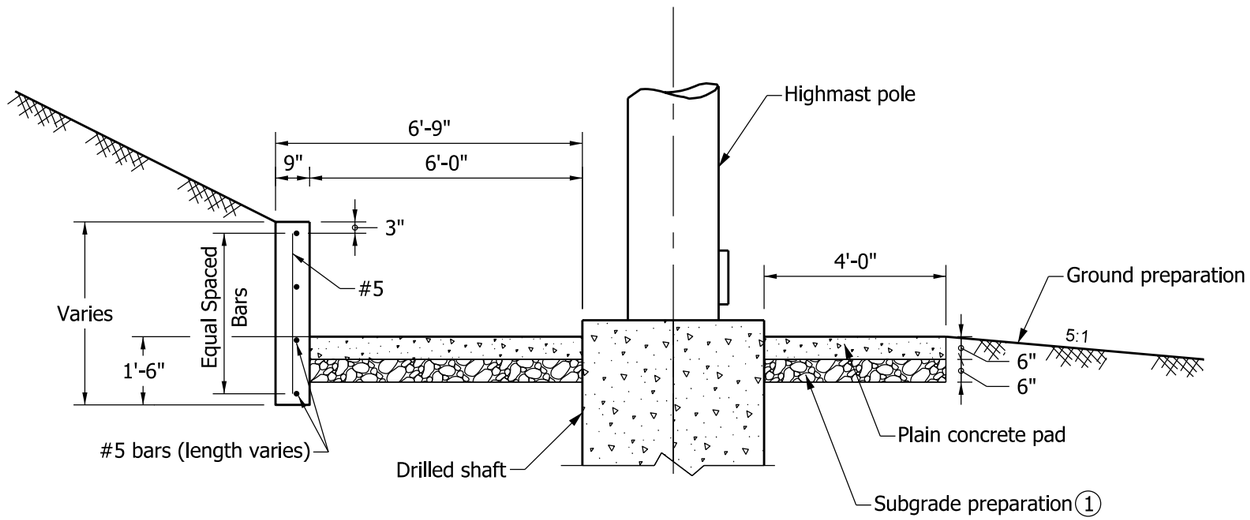
/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE



NOTES:

1. After excavation, the ground shall be compacted by means of a portable vibratory roller. Soft soil which does not compact shall be removed. All excavated material shall be replaced with compacted aggregate No. 53.
2. See Standard Drawing E 807-LTHM-03 for concrete pad where no retaining wall is required.
3. See Standard Drawing E 703-BRST-01 for bar bending details.
4. All reinforcing bars shall be epoxy coated.



SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING HIGH MAST POLE
CONCRETE PAD
WITH RETAINING WALL

SEPTEMBER 2010

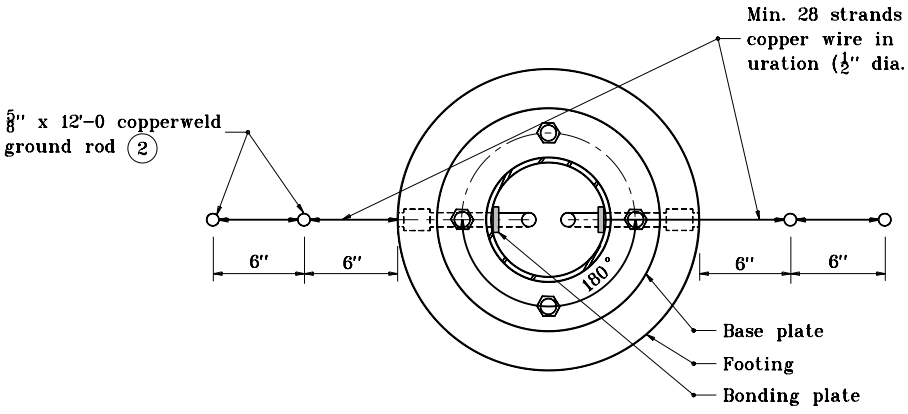
STANDARD DRAWING NO. E 807-LTHM-04

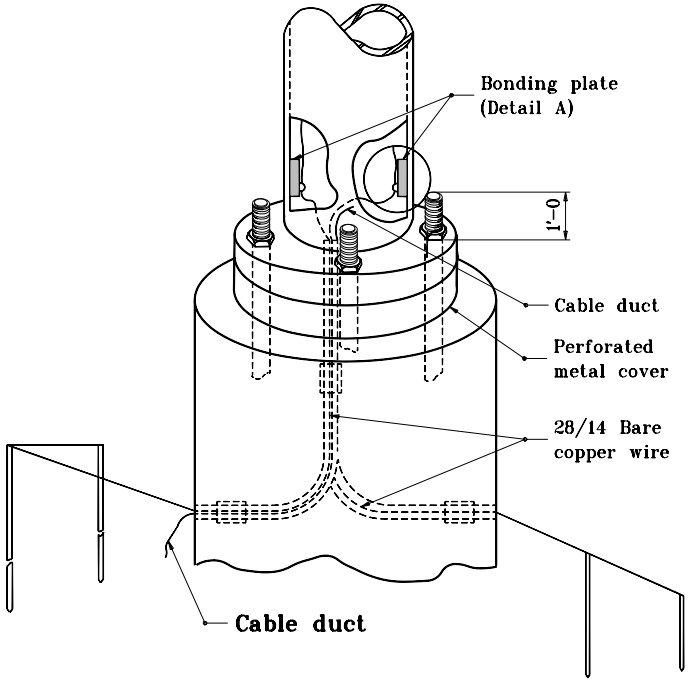
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE





GENERAL NOTES

1. Shop drawings shall be submitted on lightning rod and connection details. Drawings are for informational purposes only. Only one lightning rod is required per structure.

(2) Grounding rod must be located a min. of 6 ft from base at a min. of 2 ft below grade.

For bonding plate detail, see Standard Drawing No. E 807-LTLR-02.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTNING ROD TYPICAL DETAILS

MARCH 1995

STANDARD DRAWING NO. **E 807-LTLR-01**

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

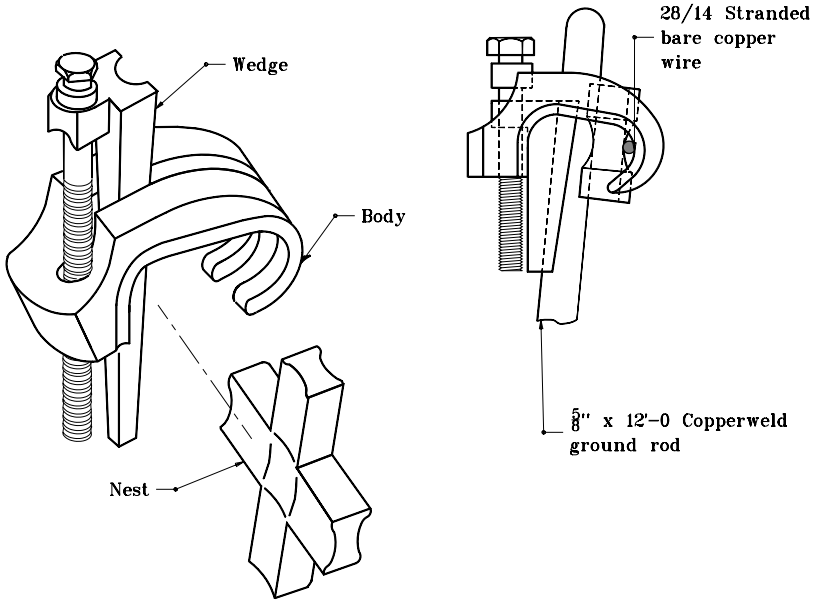
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 7-27-99

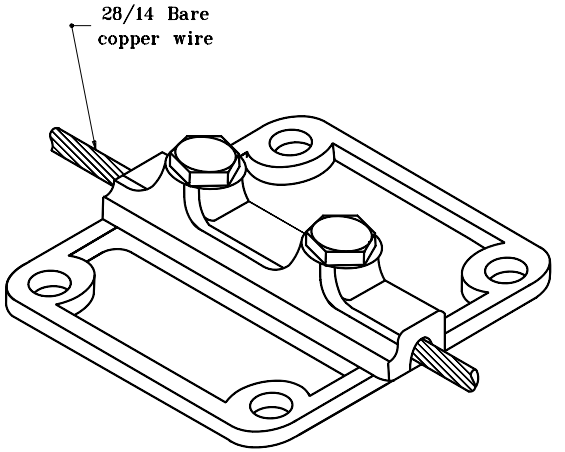
/s/ Anthony L. Uremovich 7-27-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 7-27-99
CHIEF HIGHWAY ENGINEER DATE

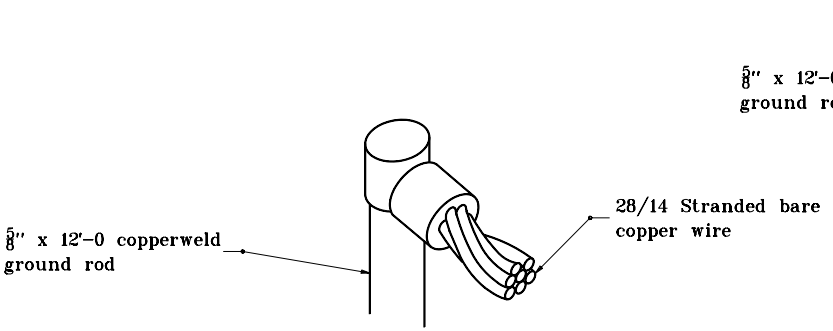
ORIGINALLY APPROVED 3-01-95



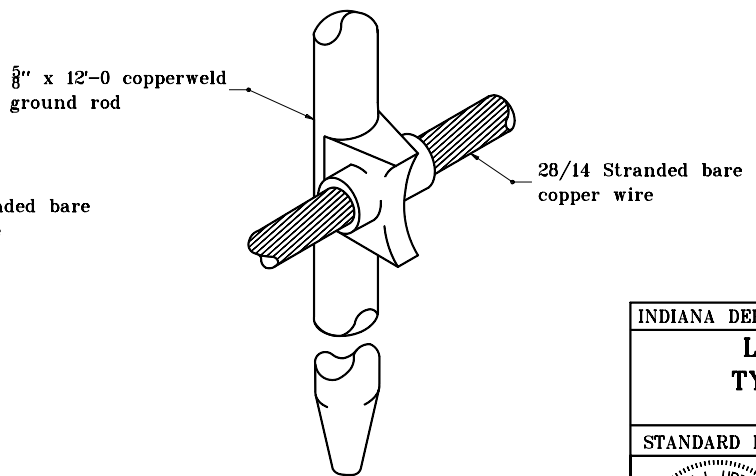
GROUNDING GRID CONNECTOR



BONDING PLATE
(DETAIL A)



TOP CONNECTION



SIDE CONNECTION

THERMOWELD PROCESS

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTNING ROD TYPICAL DETAILS

MARCH 1995

STANDARD DRAWING NO. **E 807-LTLR-02**

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

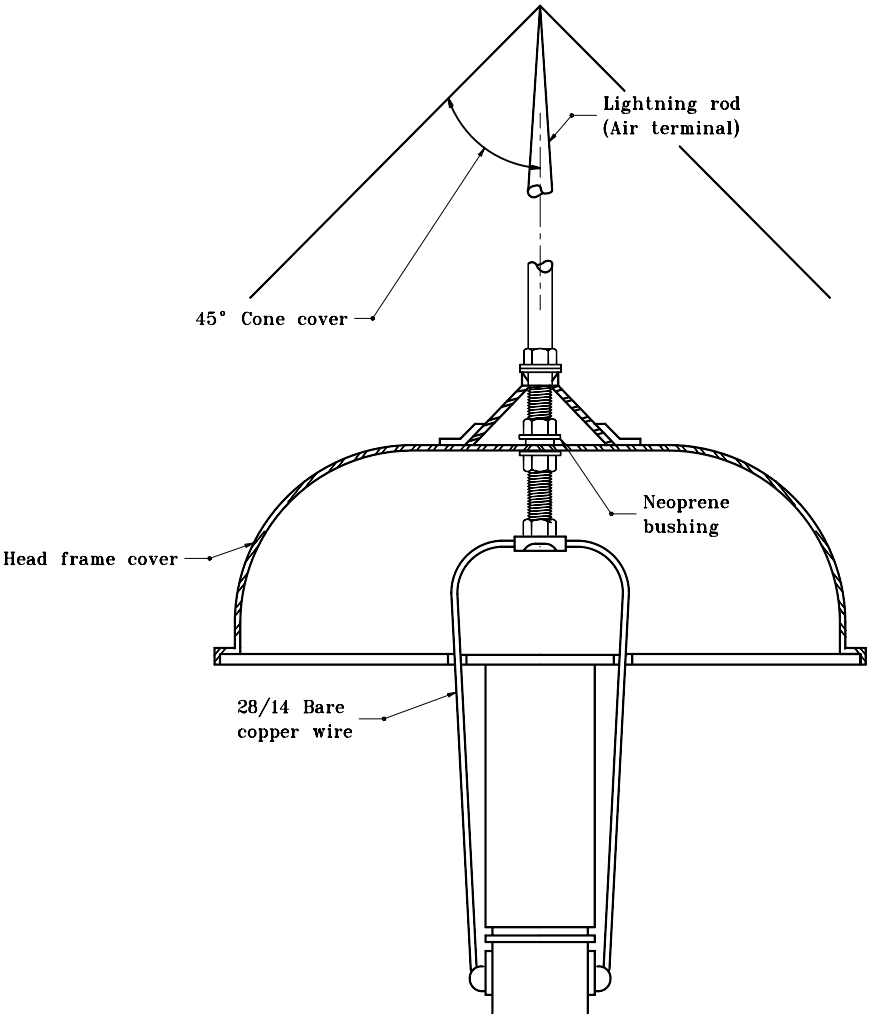
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



CENTER HOOD MOUNT

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTNING ROD TYPICAL DETAILS

MARCH 1995

STANDARD DRAWING NO. **E 807-LTLR-03**

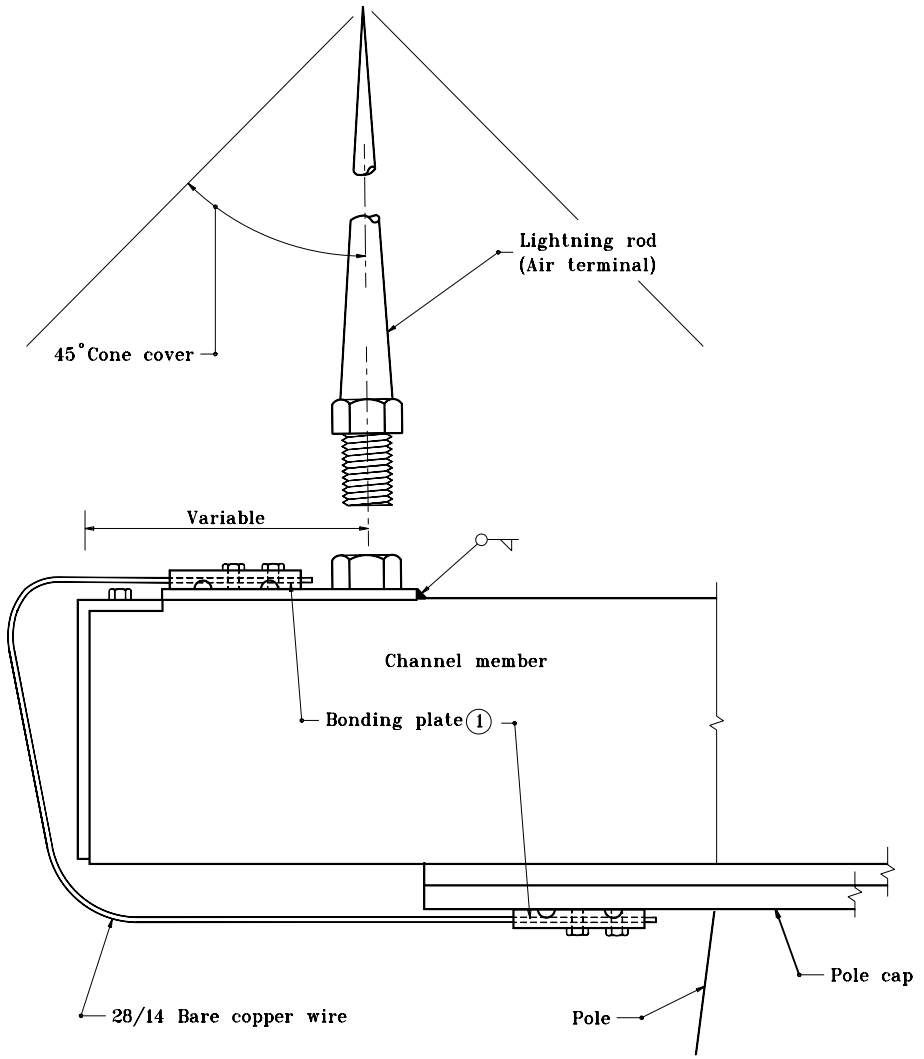
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	3-01-95

NOTES

(1) See Standard Drawing E 807-LTLR-02 for Detail A.



CHANNEL MOUNT

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTNING ROD TYPICAL DETAILS

MARCH 1995

STANDARD DRAWING NO. E 807-LTLR-04

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95

POLE DATA SCHEDULE

POLE HEIGHT (E.M.H.)	POLE SHAFT DATA						BASE PLATE			ANCHOR BOLT		
	No. of Sec.	Sec.	Minimum Diameter in inches		Min. Wall Thickness in inches	Section Length in Feet	Size in inches	Bolt Circle (in.)	Thick-ness (in.)	No. Req'd.	Diameter (in.)	Length (in.)
			Base	Top								
100'	2	A	24.50	17.16	0.250	52.42	37.50	31.50	2.25	6	2.25	90
		B	18.00	10.88	0.1875	50.89						
105'	3	A	21.50	18.14	0.3125	23.98	37.50	31.50	2.25	6	2.25	90
		B	19.00	13.23	0.1875	41.21						
		C	14.00	7.55	0.1875	46.07						
110'	3	A	22.50	19.13	0.3125	24.10	37.50	31.50	2.25	6	2.25	90
		B	20.00	13.72	0.1875	44.84						
		C	14.50	7.85	0.1875	47.50						
115'	3	A	23.50	20.11	0.3125	24.23	37.50	31.50	2.25	6	2.25	90
		B	21.00	14.21	0.1875	48.48						
		C	15.00	8.15	0.1875	48.93						
120'	3	A	26.00	22.07	0.3125	28.05	37.50	31.50	2.25	6	2.25	90
		B	23.00	16.18	0.1875	48.73						
		C	17.00	9.95	0.1875	50.36						
125'	3	A	25.00	21.09	0.3750	27.92	37.50	31.50	2.25	6	2.25	90
		B	22.00	14.70	0.1875	52.11						
		C	15.50	8.25	0.1875	51.79						
130'	3	A	25.00	20.11	0.3750	34.94	37.50	31.50	2.25	6	2.25	90
		B	21.00	14.21	0.1875	48.48						
		C	15.00	7.55	0.1875	53.21						
135'	3	A	26.00	20.11	0.3750	42.09	37.50	31.50	2.25	6	2.25	90
		B	21.00	14.21	0.1875	48.48						
		C	15.00	7.85	0.1875	51.07						
140'	3	A	26.80	20.60	0.3750	44.29	37.50	31.50	2.25	6	2.25	90
		B	21.50	14.21	0.1875	52.05						
		C	15.00	7.95	0.1875	50.36						
145'	3	A	27.00	20.60	0.4375	45.72	39.50	33.50	2.25	8	2.25	90
		B	21.50	14.21	0.1875	52.05						
		C	15.00	7.45	0.1875	53.93						
150'	3	A	28.00	20.60	0.4375	52.86	39.50	33.50	2.25	8	2.25	90
		B	21.50	14.21	0.1875	52.05						
		C	15.00	7.75	0.1875	51.79						
155'	4	A	28.50	24.04	0.4375	31.87	39.50	33.50	2.25	8	2.25	90
		B	25.00	19.13	0.1875	41.96						
		C	20.00	14.21	0.1875	41.34						
		D	15.00	7.93	0.1875	50.54						

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING HIGH MAST POLE
POLE DATA SCHEDULE (1 of 2)
POLE HEIGHTS 100' - 155'
SEPTEMBER 2010

STANDARD DRAWING NO. E 807-LTPD-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

POLE DATA SCHEDULE

POLE HEIGHT (E.M.H.)	POLE SHAFT DATA						BASE PLATE			ANCHOR BOLT		
	No. of Sec.	Sec.	Minimum Diameter in inches		Min. Wall Thickness in inches	Section Length in Feet	Size in inches	Bolt Circle (in.)	Thick-ness (in.)	No. Req'd.	Diameter (in.)	Length (in.)
			Base	Top								
160'	4	A	28.80	25.02	0.4375	27.00	39.50	33.50	2.25	8	2.25	90
		B	26.00	19.62	0.1875	45.59						
		C	20.50	13.72	0.1875	48.42						
		D	14.50	7.53	0.1875	49.82						
165'	4	A	29.50	25.51	0.5000	28.49	46	40.00	2.25	8	2.25	90
		B	26.50	19.62	0.1875	49.17						
		C	20.50	13.72	0.1875	48.42						
		D	14.50	7.53	0.1875	49.82						
170'	4	A	30.50	25.02	0.5000	39.14	46	40.00	2.25	8	2.25	90
		B	26.00	20.11	0.1875	42.09						
		C	21.00	14.21	0.1875	48.48						
		D	15.00	7.83	0.1875	51.25						
175'	4	A	31.00	25.02	0.5000	42.71	46	40.00	2.25	8	2.25	90
		B	26.00	19.62	0.1875	45.59						
		C	20.50	13.72	0.1875	48.42						
		D	14.50	7.63	0.1875	49.11						
180'	4	A	32.00	25.02	0.5000	49.85	46	40.00	2.25	8	2.25	90
		B	26.00	19.13	0.1875	49.10						
		C	20.00	13.23	0.1875	48.35						
		D	14.00	7.93	0.1875	43.39						
185'	4	A	32.50	26.00	0.5000	46.41	46	40.00	2.25	8	2.25	90
		B	27.00	20.11	0.1875	49.23						
		C	21.00	14.21	0.1875	48.48						
		D	15.00	7.73	0.1875	51.96						
190'	5	A	33.00	28.95	0.6250	28.92	48	42.00	2.25	12	2.25	90
		B	30.00	24.04	0.1875	42.59						
		C	25.00	19.13	0.1875	41.96						
		D	20.00	14.21	0.1875	41.34						
		E	15.00	7.90	0.1875	50.71						
195'	5	A	33.50	28.95	0.6250	32.50	48	42.00	2.25	12	2.25	90
		B	30.00	24.04	0.1875	42.59						
		C	25.00	19.13	0.1875	41.96						
		D	20.00	14.21	0.1875	41.34						
		E	15.00	7.70	0.1875	52.14						
200'	5	A	34.00	28.89	0.6250	36.51	48	42.00	2.25	12	2.25	90
		B	30.00	23.55	0.2188	46.09						
		C	24.50	18.63	0.1875	41.90						
		D	19.50	13.72	0.1875	41.27						
		E	14.50	7.56	0.1875	49.55						

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING HIGH MAST POLE
POLE DATA SCHEDULE (2 of 2)
POLE HEIGHTS 160' - 200'
SEPTEMBER 2010

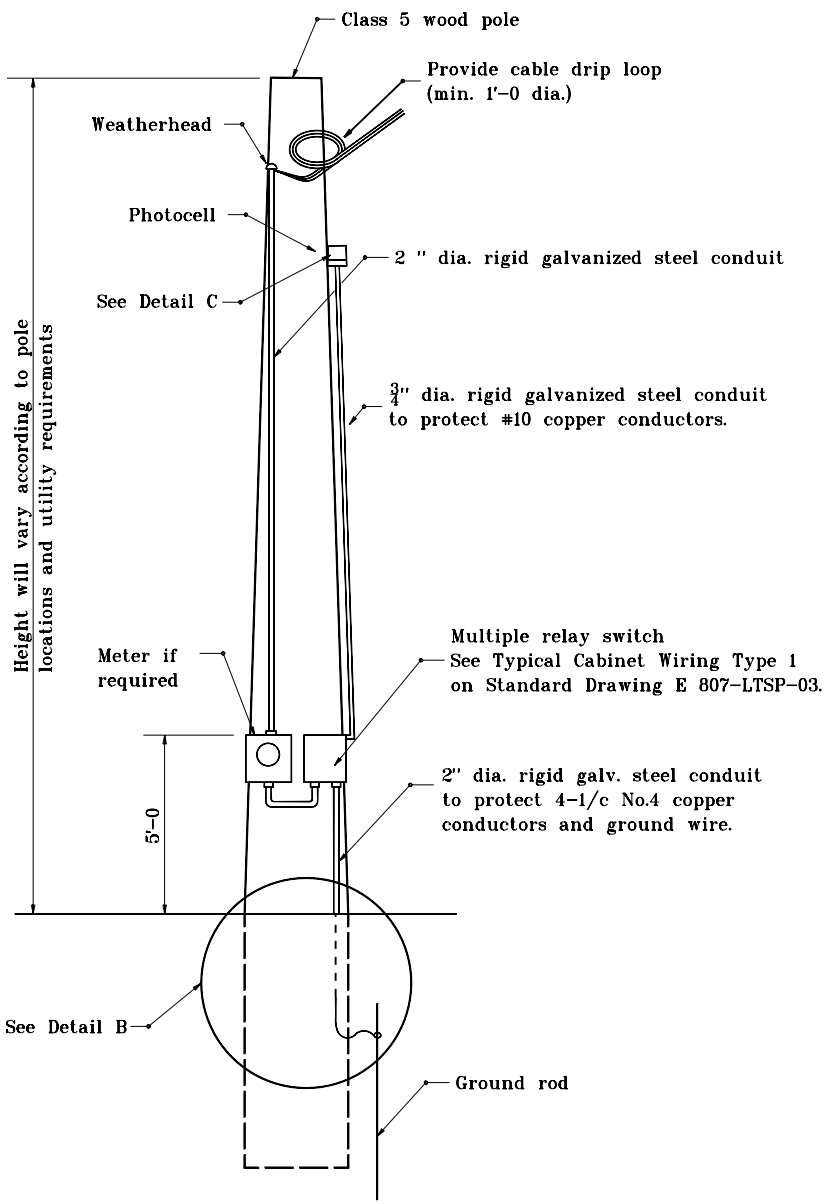
STANDARD DRAWING NO. E 807-LTPD-02

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

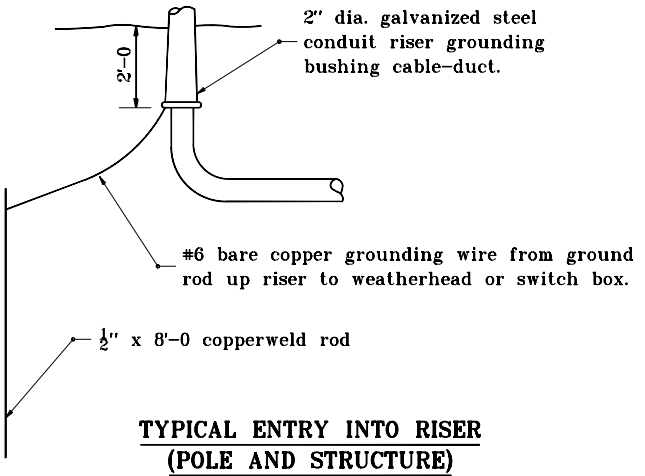
DESIGN STANDARDS ENGINEER

/s/ Richard L. Vancleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

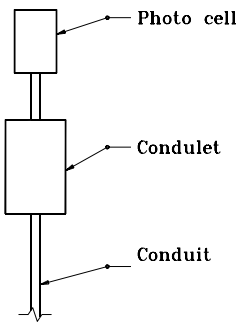


SERVICE POINT
TYPE I



TYPICAL ENTRY INTO RISER
(POLE AND STRUCTURE)

DETAIL B



DETAIL C

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT SERVICE POINT DETAILS

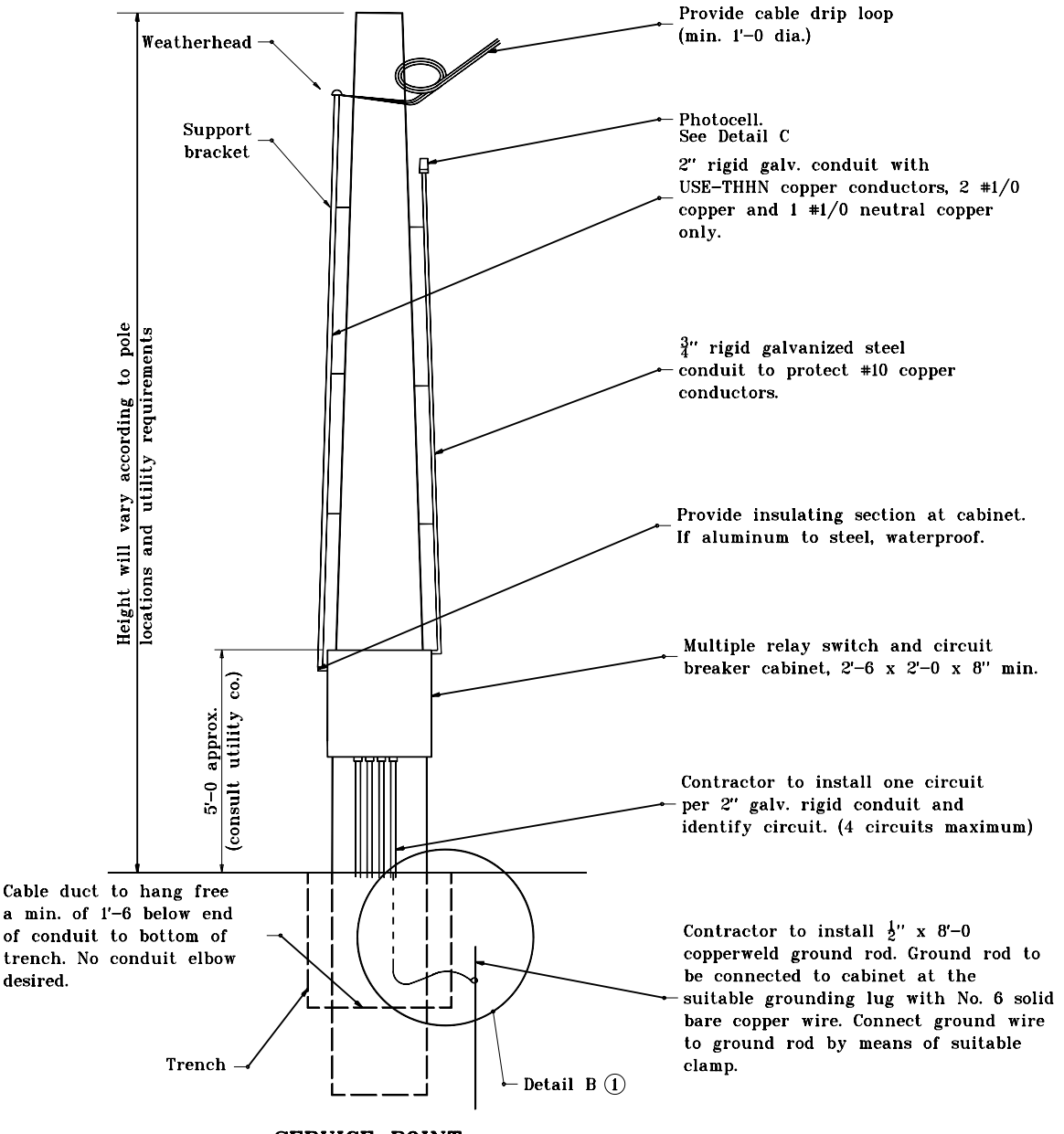
SEPTEMBER 1998

STANDARD DRAWING NO. **E 807-LTSP-01**

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

DESIGN STANDARDS ENGINEER

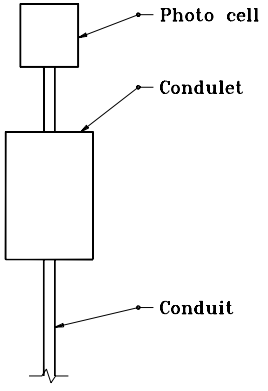
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	9-01-98



SERVICE POINT TYPE II

Notes:

(1) See Standard Drawing E 807-LTSP-01 for Detail B.



DETAIL C

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT SERVICE POINT DETAILS

JANUARY 2000

STANDARD DRAWING NO. **E 807-LTSP-02**

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

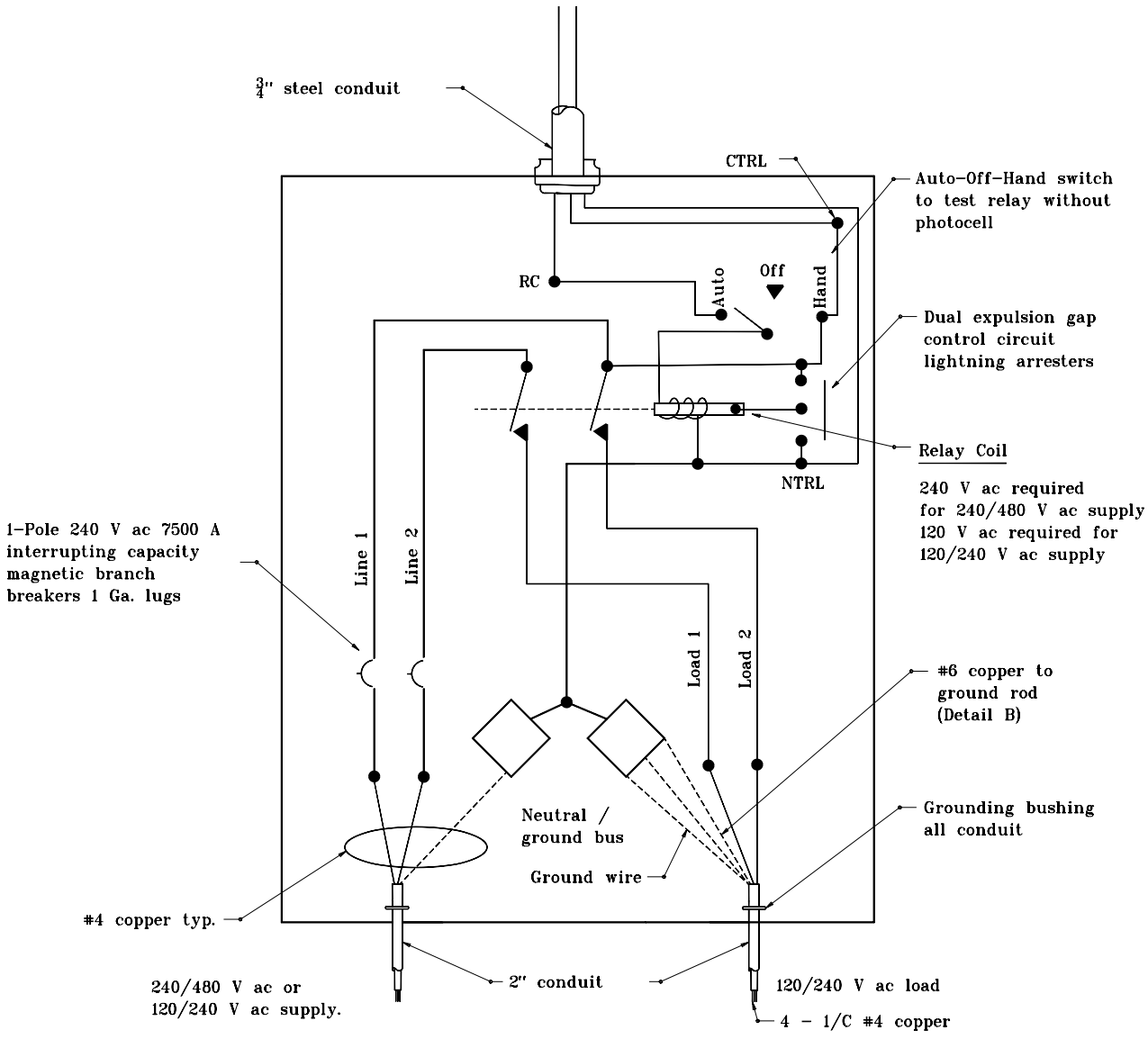
DESIGN STANDARDS ENGINEER

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

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

GENERAL NOTES

To Photo Control:
240 V ac required for 240/480 V ac supply.
120 V ac required for 120/240 V ac supply.



TYPICAL CABINET WIRING, TYPE 1

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT SERVICE POINT DETAILS

JANUARY 2000

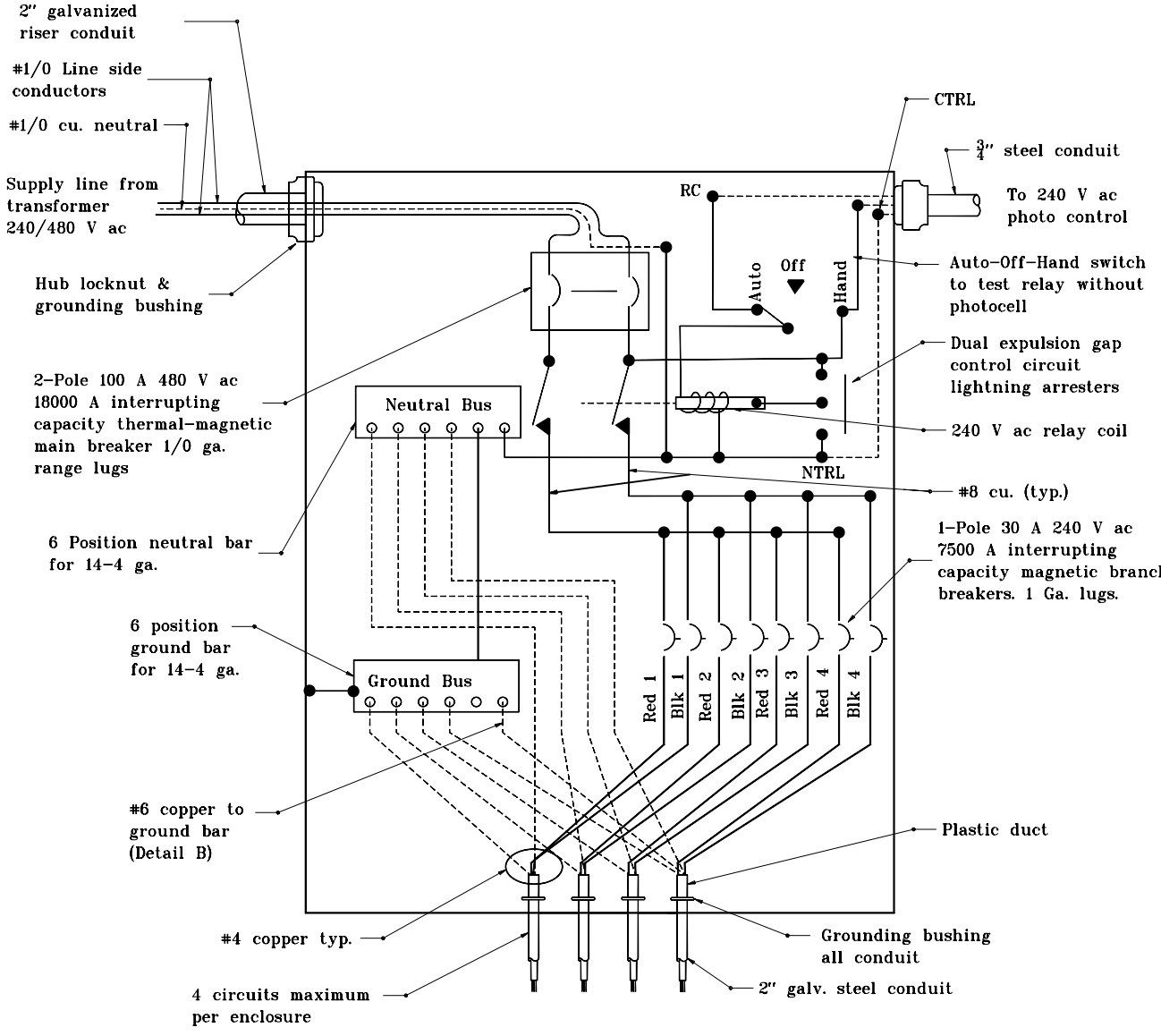
STANDARD DRAWING NO. **E 807-LTSP-03**

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



TYPICAL CABINET WIRING, TYPE II

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT SERVICE POINT DETAILS

JANUARY 2000

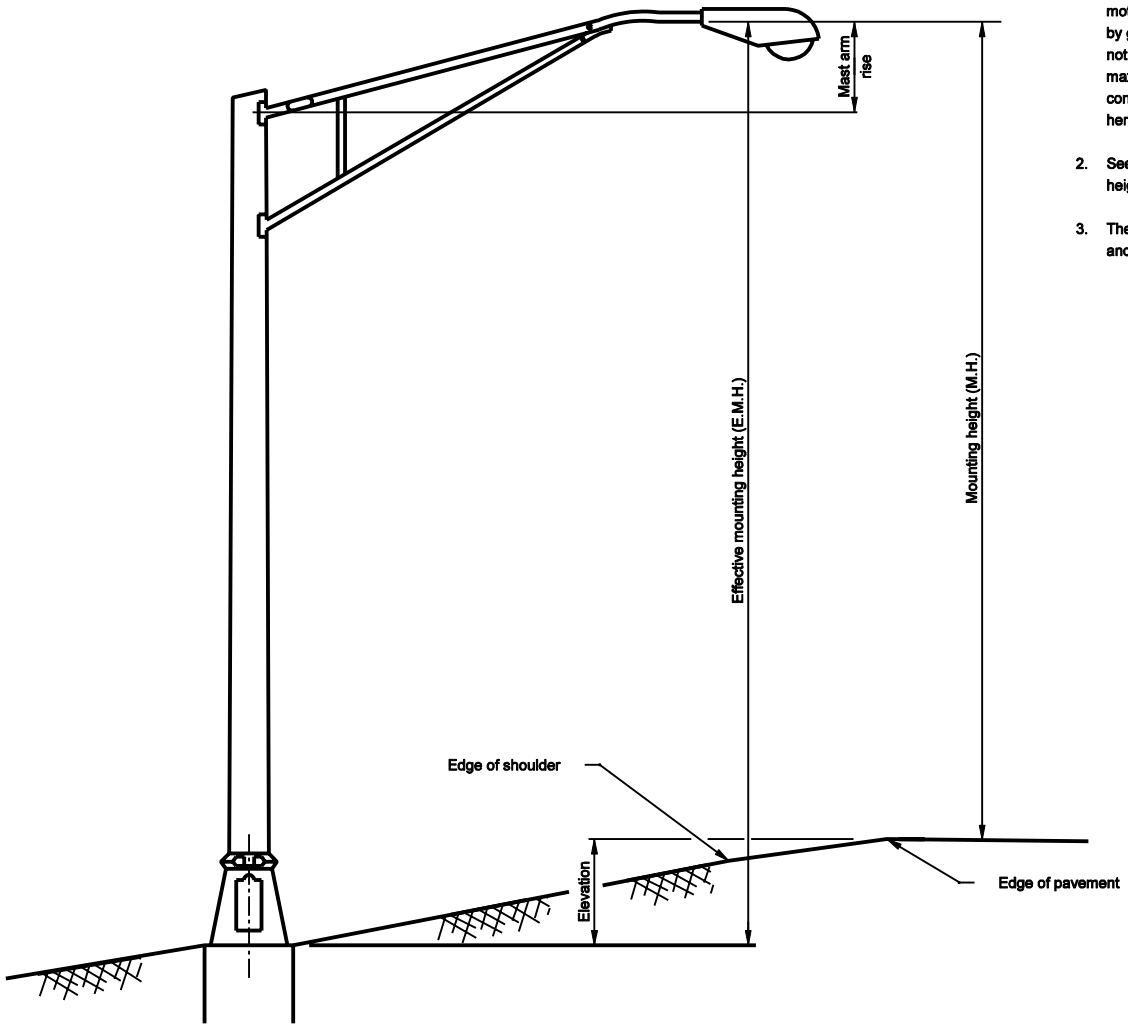
STANDARD DRAWING NO. **E 807-LTSP-04**

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



NOTES

1. Standard Drawings E 807-LTFD-02 through -04 represent the maximum roadside slope normally encountered without guardrail protection. If motorists are protected from the light standard by guardrail, the treatments found herein are not required. These drawings indicate the maximum slopes permissible on the fill. Any conditions more severe than those represented here shall be graded as directed.

2. See Standard Drawing E 807-LTST-02 for mounting heights and dimensions of corresponding components.

3. The front of the foundation shall face the roadway and the back shall face the right-of-way line.

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHT STANDARD FOUNDATION

SEPTEMBER 2002

STANDARD DRAWING NO. E 807-LTST-01

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-03-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smulzer 9-03-02
CHIEF HIGHWAY ENGINEER DATE

FOR ROADWAY INSTALLATION (TRANSFORMER BASE)					
E.M.H. (FT.)	ARM LENGTH (FT.)	SHAFT			BASE PLATE
		BASE DIAMETER (IN.)	TOP DIAMETER (IN.)	THICKNESS (IN.)	BOLT CIRCLE (IN.)
25	5	8	4.5	0.188	11 1/2"
25	10	8	6	0.188	11 1/2"
25	15	8	6	0.188	11 1/2"
25	20	10	6	0.188	14 1/2"
25	25	10	6	0.250	14 1/2"
30	5	8	4.5	0.188	11 1/2"
30	10	8	6	0.188	11 1/2"
30	15	8	6	0.188	11 1/2"
30	20	10	6	0.188	14 1/2"
30	25	10	6	0.250	14 1/2"
35	5	8	4.5	0.188	11 1/2"
35	10	8	6	0.188	11 1/2"
35	15	8	6	0.188	11 1/2"
35	20	10	6	0.188	14 1/2"
35	25	10	6	0.250	14 1/2"
40	5	8	6	0.188	11 1/2"
40	10	8	6	0.188	11 1/2"
40	15	8	6	0.219	11 1/2"
40	20	10	6	0.219	14 1/2"
40	25	10	6	0.312	14 1/2"
45	5	8	6	0.219	11 1/2"
45	10	8	6	0.219	11 1/2"
45	15	8	6	0.219	11 1/2"
45	20	10	6	0.250	14 1/2"
45	25	10	6	0.312	14 1/2"

FOR BRIDGE DECK INSTALLATION (ANCHOR BASE)					
E.M.H. (FT.)	ARM LENGTH (FT.)	SHAFT			BASE PLATE
		BASE DIAMETER (IN.)	TOP DIAMETER (IN.)	THICKNESS (IN.)	BOLT CIRCLE (IN.)
25	5	8	4.5	0.188	11 1/2"
25	5	8	6	0.188	11 1/2"
30	5	8	4.5	0.188	11 1/2"
30	5	8	6	0.188	11 1/2"
35	5	8	4.5	0.188	11 1/2"
35	5	8	6	0.188	11 1/2"
40	5	8	6	0.188	11 1/2"
40	5	8	6	0.219	11 1/2"
45	5	8	6	0.219	11 1/2"
45	5	8	6	0.250	11 1/2"

NOTES

1. Each anchor bolt for roadway installation shall have a diameter of 1", a total length of 4'-4" and a hook length of 4". Each washer shall be galvanized flat washer 1 1/16" I.D., 2 3/4" O.D., 1/2" thick.

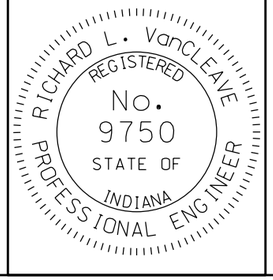
2. Each anchor bolt for a bridge deck installation shall have a diameter of 1", a total length of 3'-8", and a hook length of 4".

INDIANA DEPARTMENT OF TRANSPORTATION

ALUMINUM LIGHT POLE
WITH TRANSFORMER BASE

SEPTEMBER 2012

STANDARD DRAWING NO. E 807-LTST-02

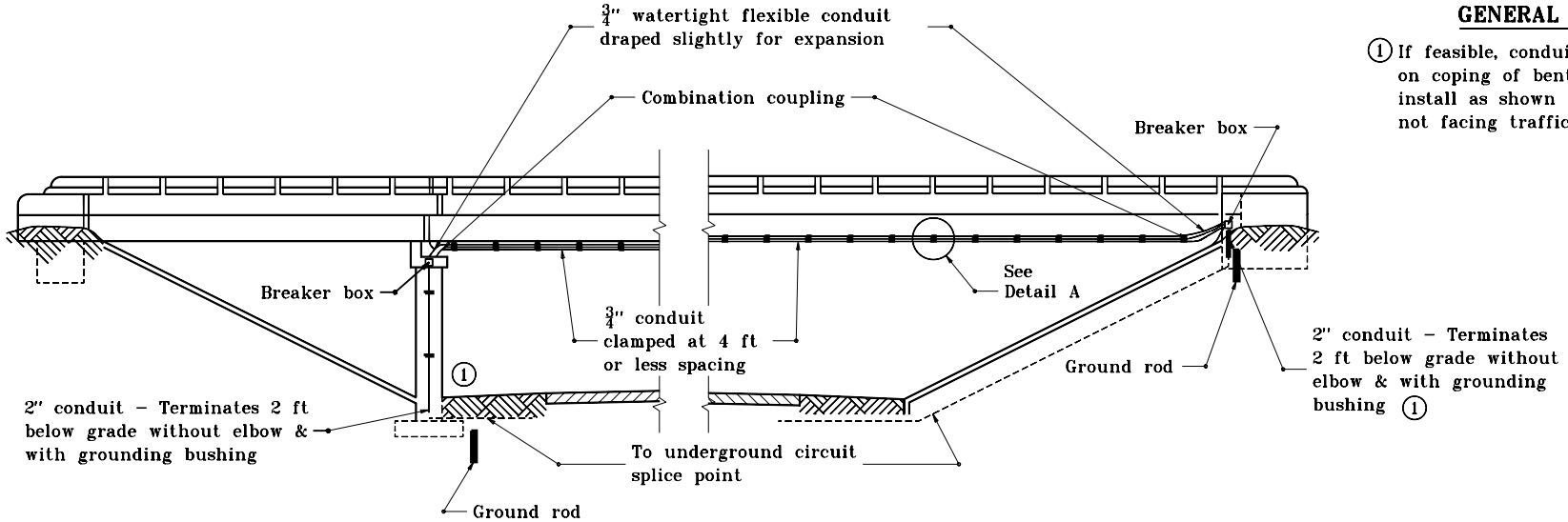


/s/ Richard L. VanCleave *09/04/12*
SUPERVISOR, ROADWAY STANDARDS DATE

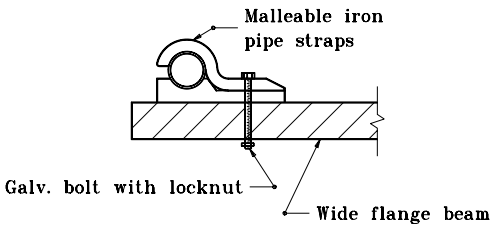
/s/ Mark A. Miller *09/04/12*
CHIEF ENGINEER DATE

GENERAL NOTES

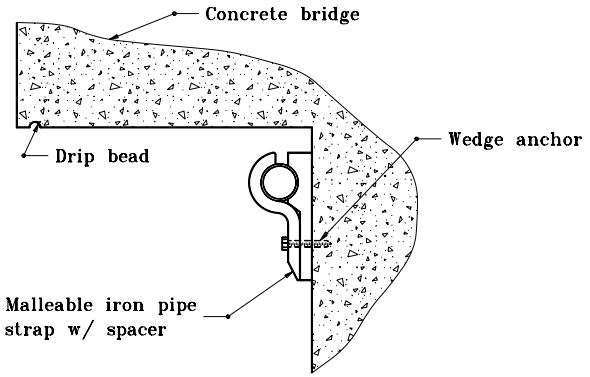
(1) If feasible, conduit to be installed on coping of bent; if not, install as shown on end of bridge not facing traffic.



ELEVATION



Steel Beam



Concrete Beam

DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS

MARCH 1995

STANDARD DRAWING NO. E 807-LTUP-01

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

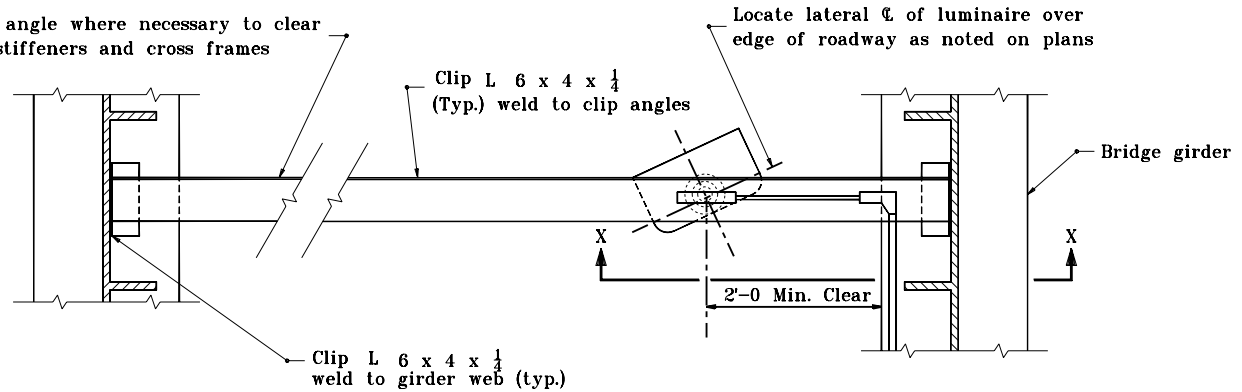
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 7-27-99

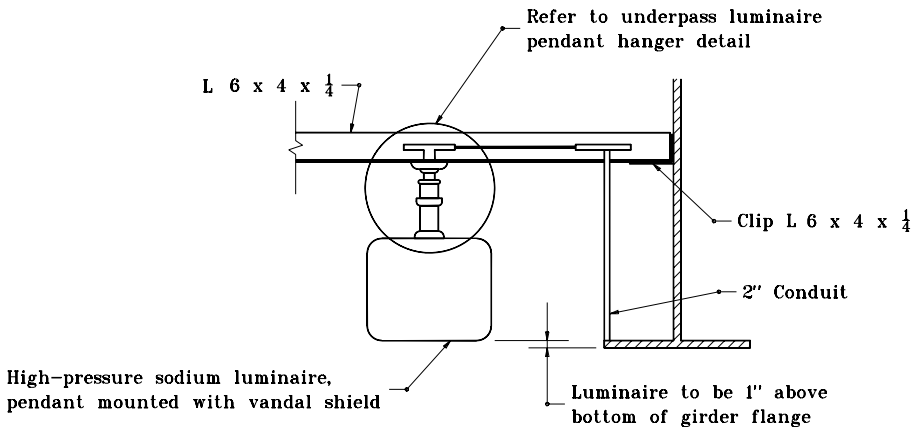
/s/ Anthony L. Uremovich 7-27-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 7-27-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



PLAN VIEW



SECTION X–X

INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS
PENDANT MOUNTING

JANUARY 2000

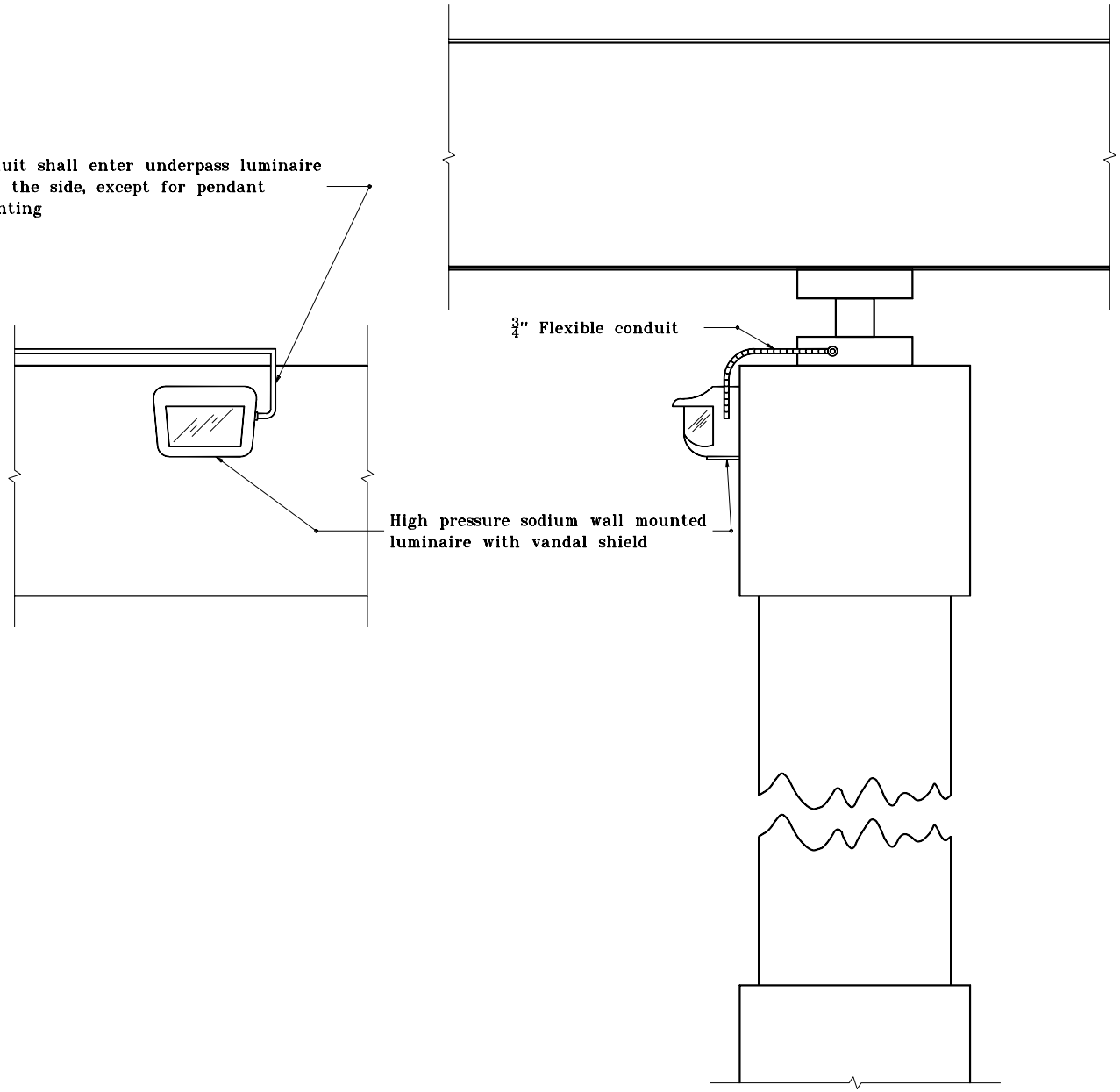
STANDARD DRAWING NO. **E 807–LTUP–02**

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

DESIGN STANDARDS ENGINEER

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

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



INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS WALL MOUNTING

MARCH 1995

STANDARD DRAWING NO. **E 807-LTUP-03**

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

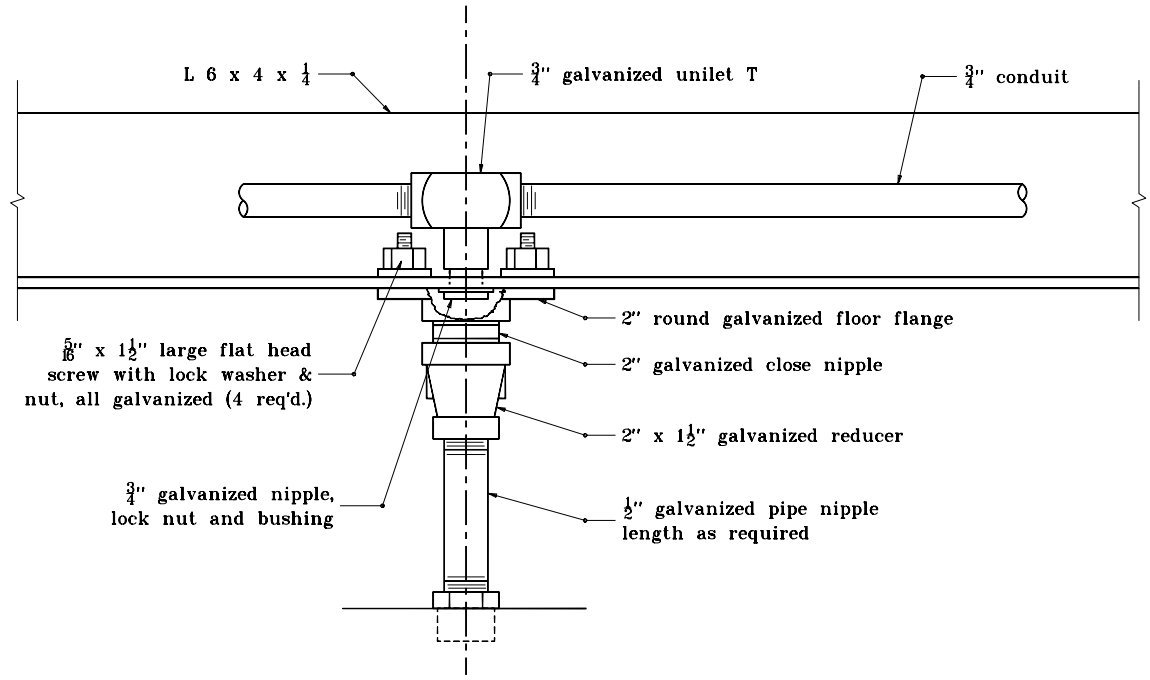
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 7-27-99

/s/ Anthony L. Uremovich 7-27-99
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 7-27-99
CHIEF HIGHWAY ENGINEER — DATE

ORIGINALLY APPROVED 3-01-95



INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS
PENDANT HANGER DETAIL

JANUARY 2000

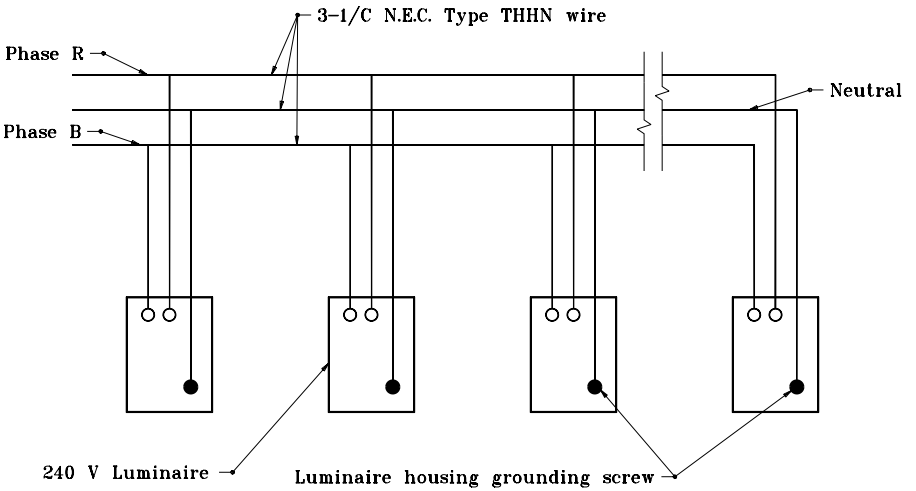
STANDARD DRAWING NO. **E 807-LTUP-04**

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

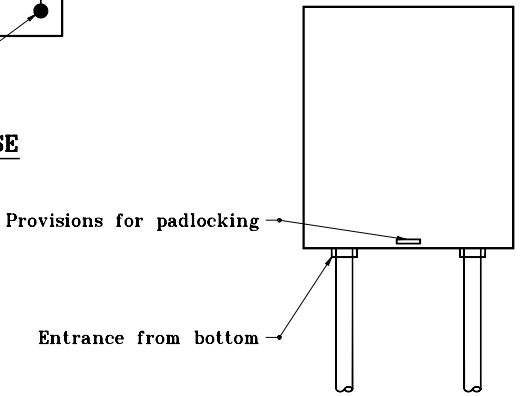
DESIGN STANDARDS ENGINEER

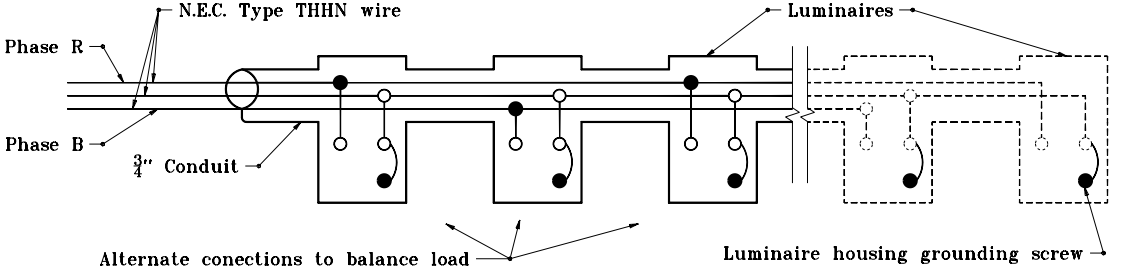
/s/ Anthony L. Uremovich — DESIGN STANDARDS ENGINEER — 1-03-00 DATE

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



FOR CONNECTION TO 240 V PHASE TO PHASE





FOR CONNECTION TO 120 V OR 240 V PHASE TO NEUTRAL

INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS

LUMINAIRE WIRING DETAIL

JANUARY 2000

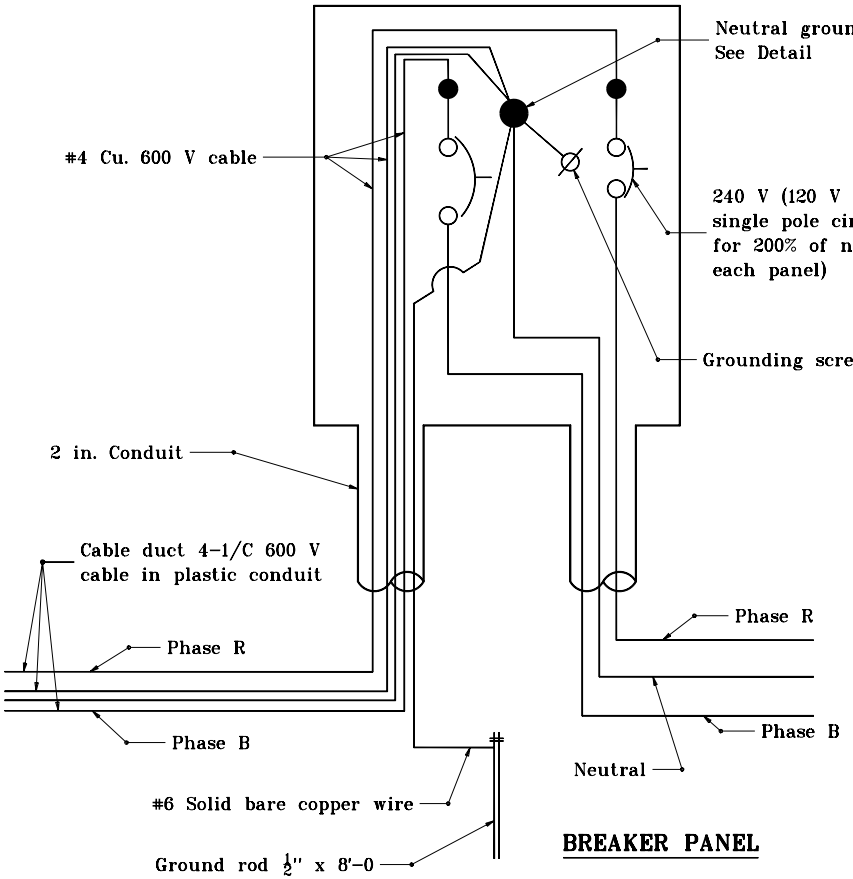
STANDARD DRAWING NO. **E 807-LTUP-05**

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

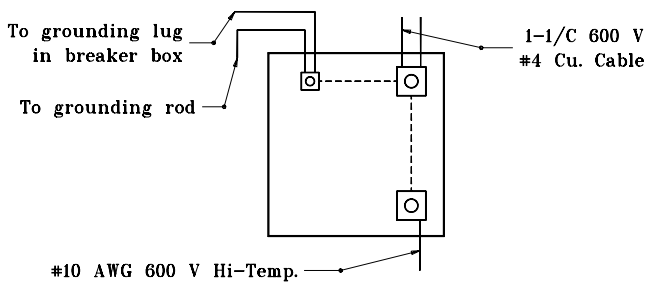
DESIGN STANDARDS ENGINEER

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

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



BREAKER PANEL



NEUTRAL GROUNDING LUG DETAIL

GENERAL NOTES

1. For all luminaire wiring from breaker panel, the last luminaire shall be #10 AWG stranded copper, 600 V.
2. Where sign illumination and underpass illumination are to be installed on the same structure, both sign and underpass luminaires may be connected to the same circuit.

INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS
CIRCUIT BREAKER WIRING DETAIL

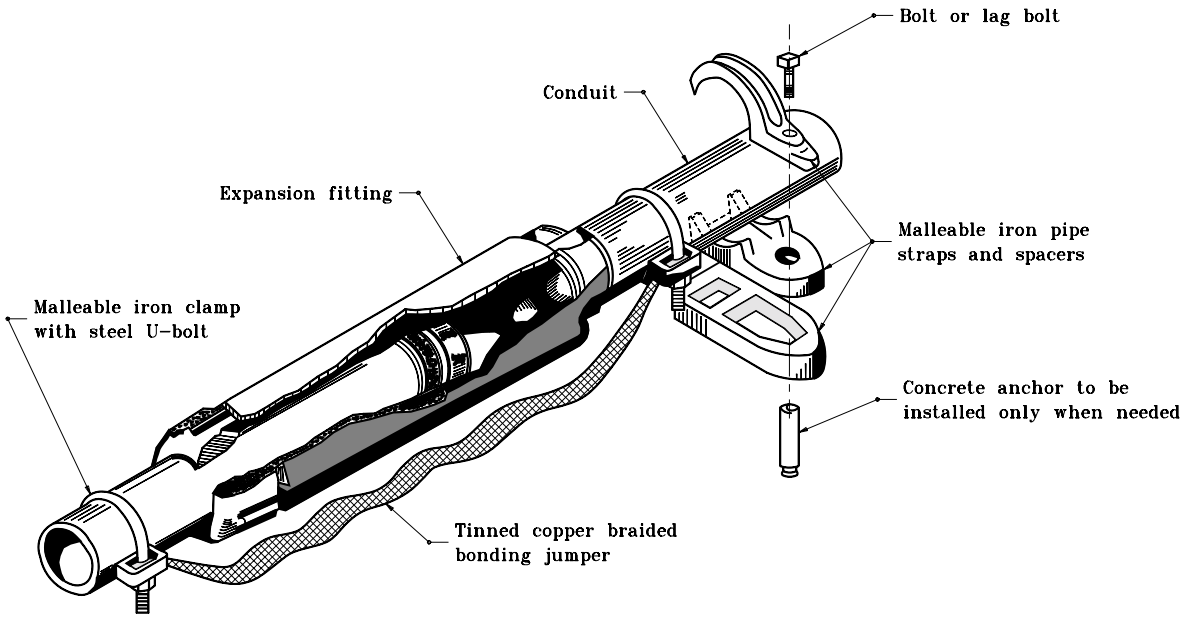
MARCH 1995

STANDARD DRAWING NO. **E 807-LTUP-06**

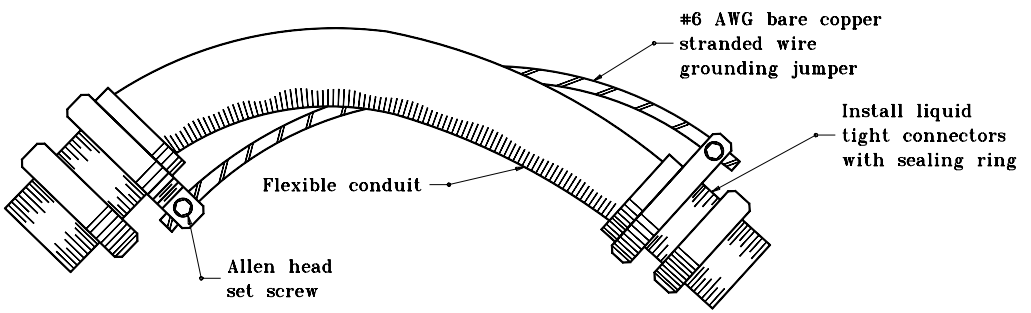
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	3-01-95



TYPICAL $\frac{3}{4}$ IN. AND 2 IN. DIAMETER EXPANSION FITTING WITH GROUNDING JUMPER



TYPICAL $\frac{3}{4}$ IN. AND 2 IN. DIAMETER FLEXIBLE CONDUIT WITH GROUNDING JUMPER

GENERAL NOTES

1. Malleable iron pipe straps to be installed immediately before and after the installed expansion fitting, to support expansion fitting and conduit.
2. Spacers shall be provided underneath the pipe strap to allow proper clearance between the bridge structure and the fitting.
3. Grounding jumper shall not be wrapped around flexible conduit, but slightly draped on one side.

INDIANA DEPARTMENT OF TRANSPORTATION

UNDERPASS LIGHTING DETAILS

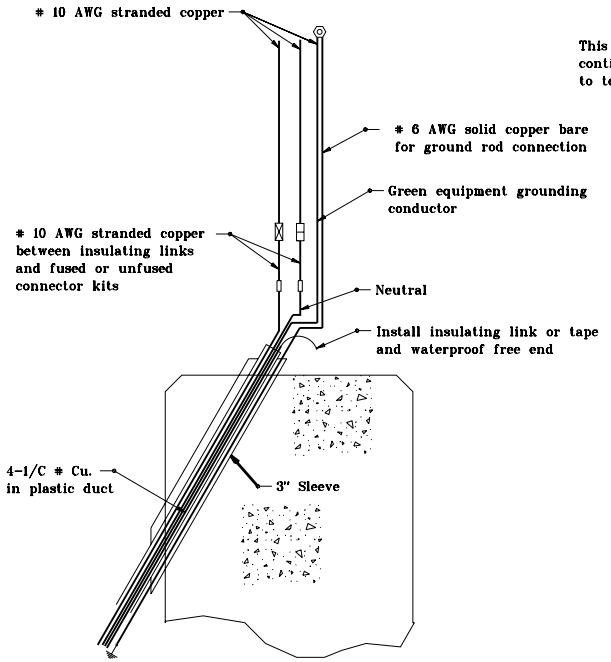
MARCH 1995

STANDARD DRAWING NO. **E 807-LTUP-07**

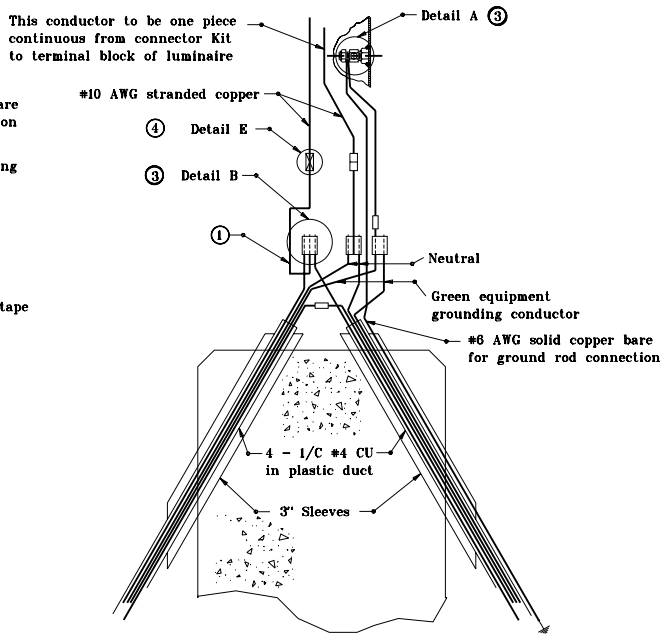
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

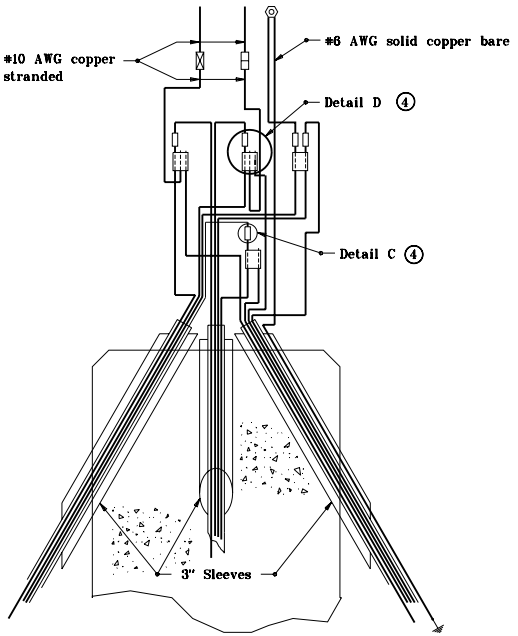
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	11-15-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	11-15-99 DATE
ORIGINALLY APPROVED	3-01-95



TYPE 1



TYPE 2



TYPE 3

CONNECTION TYPES

NOTES

(1) Allow sufficient conductor slack to permit the withdrawal of outside of pole handhole.

2. Use of inhibiting compound is mandatory for all connections.

(3) See Standard Drawing E 807-LTWR-02 for details.

(4) See Standard Drawing E 807-LTWR-03 for details.

LEGEND

- ⊙ — Grounding post
- ▯ — Self insulated splicer (insulating link)
- ⊟ — Unfused connector
- ⊠ — Fused connector
- ⊞ — Compression connector

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING WIRING DETAILS

JANUARY 1996

STANDARD DRAWING NO. E 807-LTWR-01

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

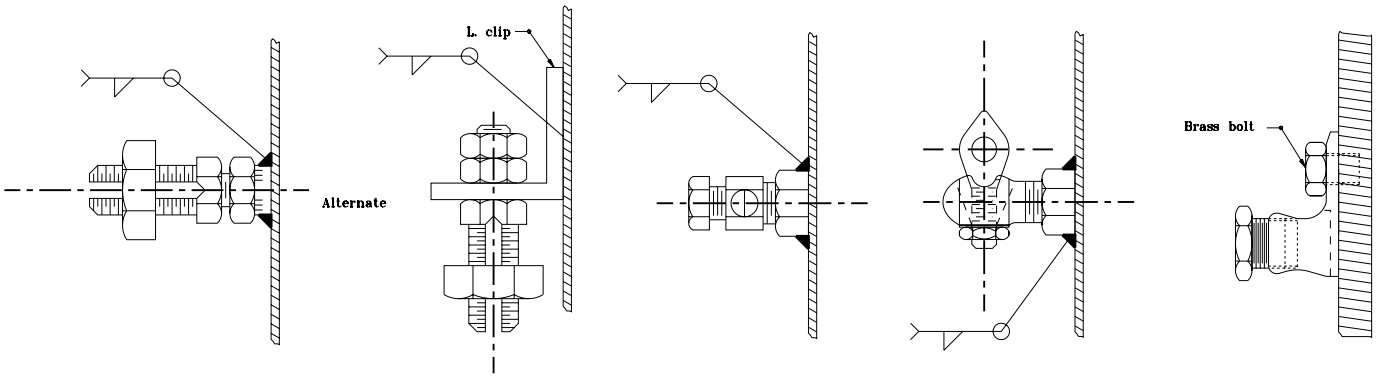
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

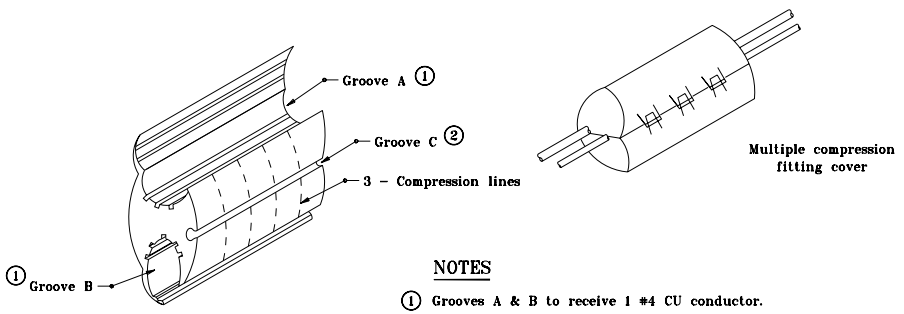
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 1-02-96



DETAIL A
ALTERNATIVE GROUNDING POSTS



NOTES

① Grooves A & B to receive 1 #4 CU conductor.

② Groove C to receive 1 #10 CU conductor.

DETAIL B
MULTIPLE COMPRESSION FITTING

LEGEND

- Grounding post
- Self insulated splicer (insulating link)
- Unfused connector
- Fused connector
- Compression connector

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING WIRING DETAILS

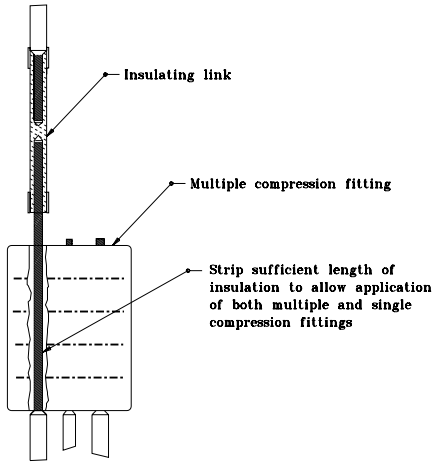
JANUARY 1996

STANDARD DRAWING NO. **E 807-LTWR-02**

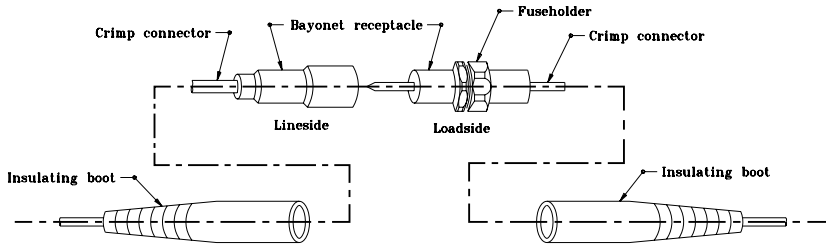
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

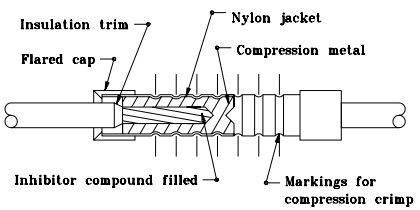
DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	1-02-96



DETAIL D



DETAIL E
BAYONET DISCONNECT CONNECTOR KIT



DETAIL C
INSULATING LINK

LEGEND

- Grounding post
- Self insulated splicer (insulating link)
- Unfused connector
- Fused connector
- Compression connector

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING WIRING DETAILS

JANUARY 1996

STANDARD DRAWING NO. **E 807-LTWR-03**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

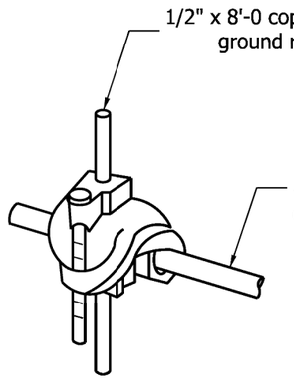
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

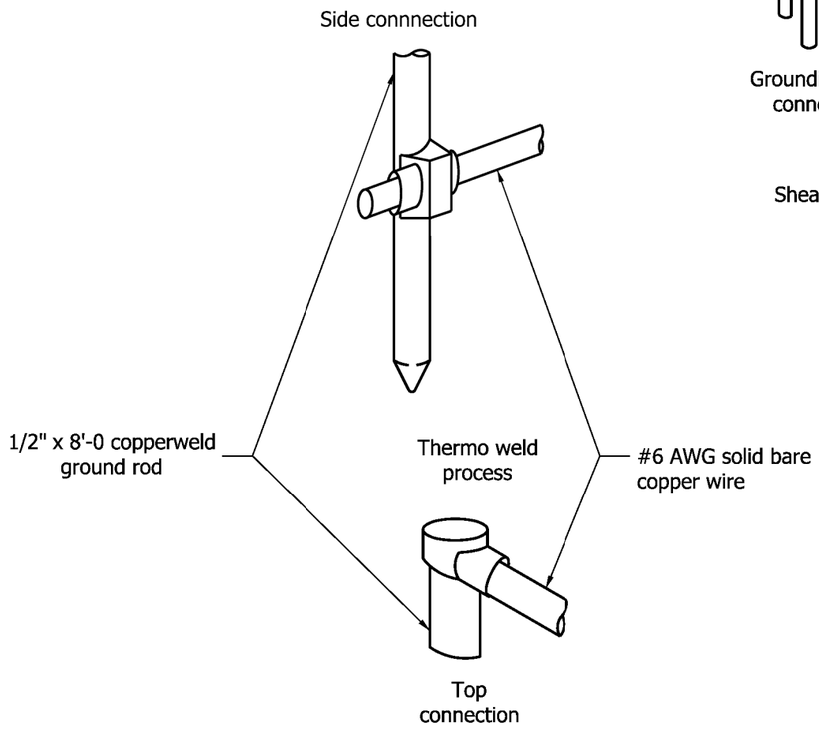
ORIGINALLY APPROVED 1-02-96

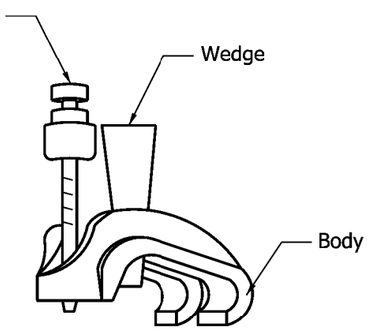
LEGEND

- Ground post
- Self insulated splicer (insulating link)
- Unfused connector
- Fused connecto
- Compression connector



Grounding grid connector





DETAIL F
TYPICAL GROUND ROD CONNECTION

INDIANA DEPARTMENT OF TRANSPORTATION

LIGHTING WIRING DETAILS

SEPTEMBER 2009

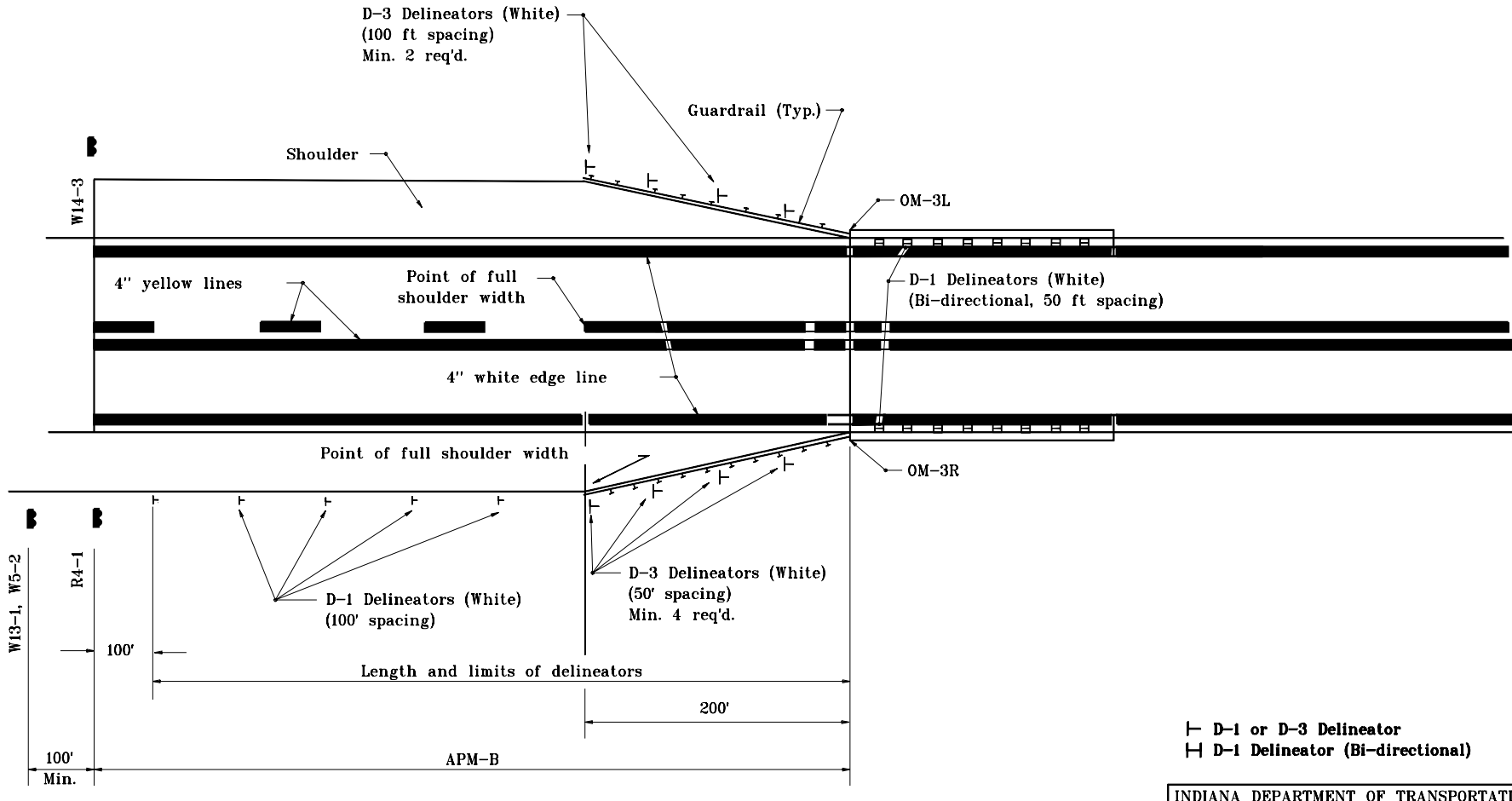
STANDARD DRAWING NO. E 807-LTWR-04

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/09
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/09
CHIEF HIGHWAY ENGINEER DATE



⊢ **D–1 or D–3 Delineator**
⊢⊣ **D–1 Delineator (Bi–directional)**

Aborted Pass Maneuver Distance

85th Percentile Speed (mph)	Distance (APM–B)
30	350 ft
35	400 ft
40	450 ft
45	500 ft
50	550 ft
55	600 ft
60	650 ft

GENERAL NOTES

1. The minimum length of the no passing zone at narrow bridges if marked, shall be the distance APM–B. If the 85th percentile speed is not known add 5 mph to the posted limit and use the appropriate distance APM–B.

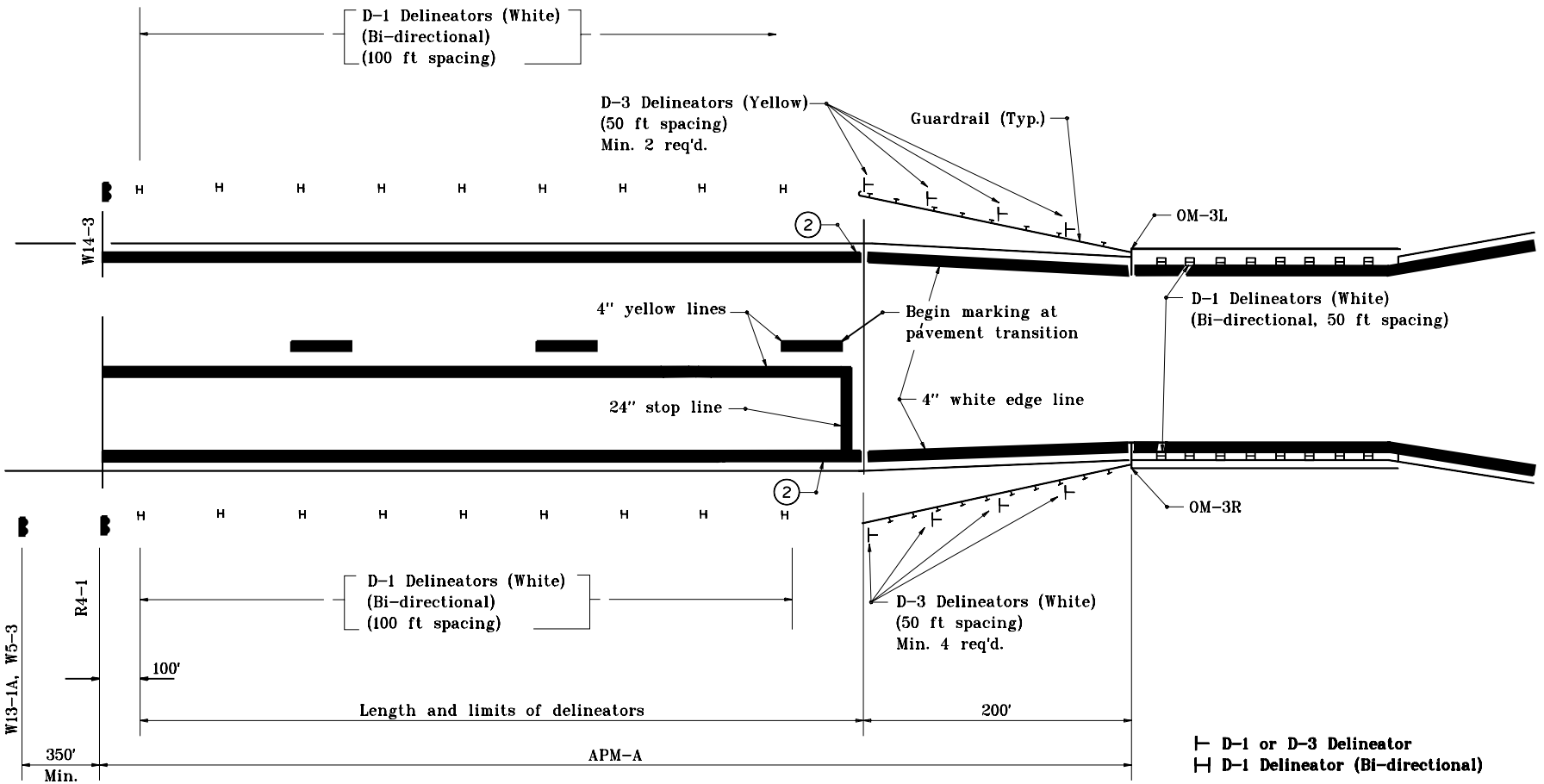
INDIANA DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL DEVICES
AT NARROW BRIDGE ON TWO LANE ROAD
JANUARY 2000

STANDARD DRAWING NO. **E 808–MKNB–01**

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



Aborted Pass Maneuver Distance

85th Percentile Speed (mph)	Distance (APM–A)
30	400 ft
35	500 ft
40	600 ft
45	700 ft
50	800 ft
55	900 ft
60	1000 ft

GENERAL NOTES

1. The minimum length of the no passing zone at one lane bridges if marked, shall be the distance APM–A. If the 85th percentile speed is known add 5 mph to the posted limit and use the appropriate distance APM–A.

(2) When pavement width does not provide adequate width for normal edge line installation, the edge lines shall be installed only on the tapers and through the narrow obstruction.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DEVICES
AT ONE LANE BRIDGE ON TWO LANE ROAD

JANUARY 2000

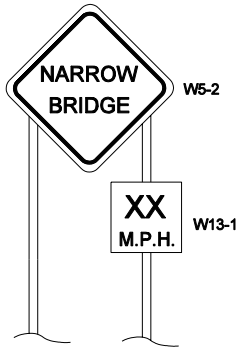
STANDARD DRAWING NO. **E 808–MKNB–02**

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

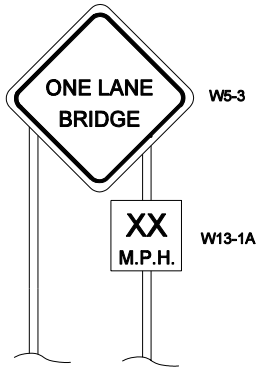
DESIGN STANDARDS ENGINEER

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

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

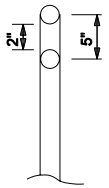


SIGNAGE REQUIRED AT NARROW BRIDGE
ON TWO LANE ROADWAY

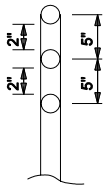


SIGNAGE REQUIRED AT ONE LANE BRIDGE
ON TWO LANE ROADWAY

D-1 delineator post with one 3" dia. white delineator



D-2 delineator post with two 3" dia. white delineators



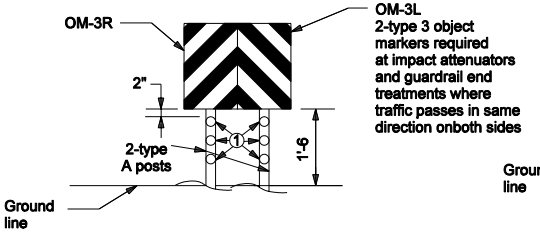
D-3 delineator post with three 3" dia. white delineators

NOTES

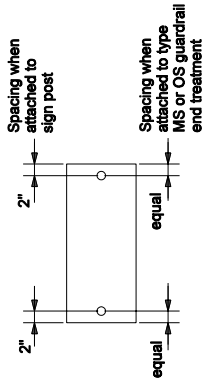
① Delineators:
OM-3L: 3 amber buttons on 5" centers
OM-3R: 3 white buttons on 5" centers

② Diagonal stripes similar in design to the Type 3 object marker, that have been applied by the manufacturer of approved impact attenuators or guardrail end treatments will be permitted in lieu of the object markers shown hereon.

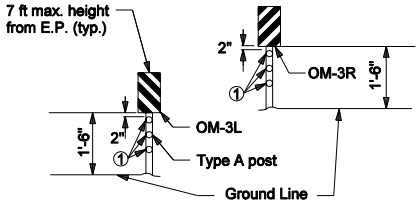
DELINEATORS WITH POSTS



TYPE 3 OBJECT MARKERS
PLACEMENT AT GUARDRAIL END TREATMENTS
AND IMPACT ATTENUATORS ②



BOLT SPACING



Type 3 object marker (R or L) shall be installed in line with the inner edge of the obstruction.

TYPE 3 OBJECT MARKER
PLACEMENT AT ONE-LANE OR NARROW
BRIDGE ON TWO LANE ROADWAY

INDIANA DEPARTMENT OF TRANSPORTATION

PLACEMENT OF TRAFFIC CONTROL DEVICES

MARCH 2005

STANDARD DRAWING NO. E 808-MKNB-03

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

GENERAL NOTES

1. No-passing zone signs are required if ADT is greater than 750 or posted speed limit is 50 mph or greater.

2. Signs of larger sizes than implied by sign designations may be used if desired.

3. A bridge or culvert, with a clear roadway of 18 ft to 22 ft inclusive, with a clear roadway of less than that of the approach pavement, or where the handrail or curb is less than 2 ft from the edge of pavement will be considered a narrow bridge. The W5-2 sign shall be installed for this condition.

4. A bridge or culvert with less than 18 ft between opposite vertical surfaces will be considered a one lane bridge. The W5-3 sign shall be installed for this condition.

5. D-3 delineators will be required if ADT is greater than 500 at a narrow bridge. D-3 delineatiors will be required if ADT is greater than 250 at a one lane bridge.

6. The minimum length of the no-passing zone at a narrow bridge shall be the distance APM - B. If the 85th percentile speed is not known, add 5 mph to the posted speed limit and use the appropriate distance APM - B.

7. The minimum length of the no-passing zone at a one lane bridge shall be the distance APM - A. If the 85th percentile speed is not known, add 5 mph to the posted speed limit and use the appropriate distance APM - A.

8. Where guardrail is installed, delineators shall be installed at the back side of the guardrail. Where the guardrail run ends and additional delineators are required, they shall be installed a minimum of 2 ft from the edge of the shoulder.

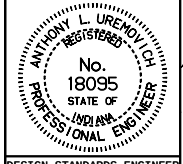
9. Type 3 object markers may not be required at all four corners of a culvert. Two type 3 object markers shall be installed back-to-back on a single post at the incoming side of the culvert. If delineators may be placed such that there is a 25 ft diagonal distance between the delineators on the opposite side of the roadway, D-3 delineator spacing may be increased to 100 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

PLACEMENT OF TRAFFIC CONTROL DEVICES

JANUARY 2000

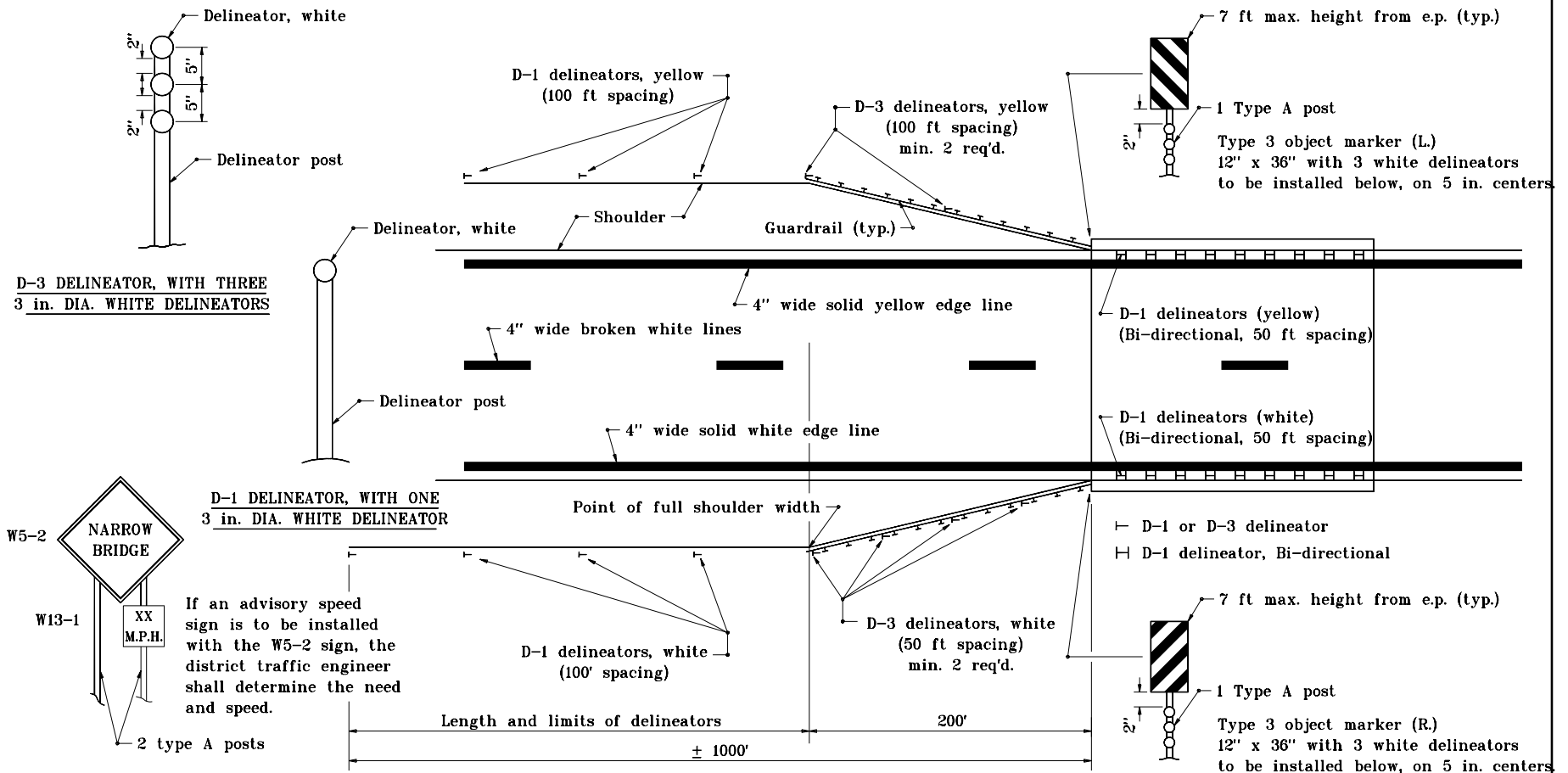
STANDARD DRAWING NO **E 808-MKNB-04**



DESIGN STANDARDS ENGINEER

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

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



GENERAL NOTES

1. No-passing zone pavement markings shall not be placed on dual lane divided or 4 lane undivided highways.

2. A bridge which is not a narrow bridge but which does not have full approach shoulder width carried across the bridge, shall have D-1 delineators on the approach. The W-5 sign and type 3 object markers shall not be installed.

3. See Standard Drawing E 808-MKNB-04 for additional general notes.

4. See Standard Drawing E 808-MKNB-03 for traffic control devices.

5. The inside edge of the type 3 object marker shall be in line with the inner edge of the obstruction.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DEVICES
NARROW BRIDGE DIVIDED HIGHWAY

MAY 1998

STANDARD DRAWING NO. **E 808-MKNB-05**

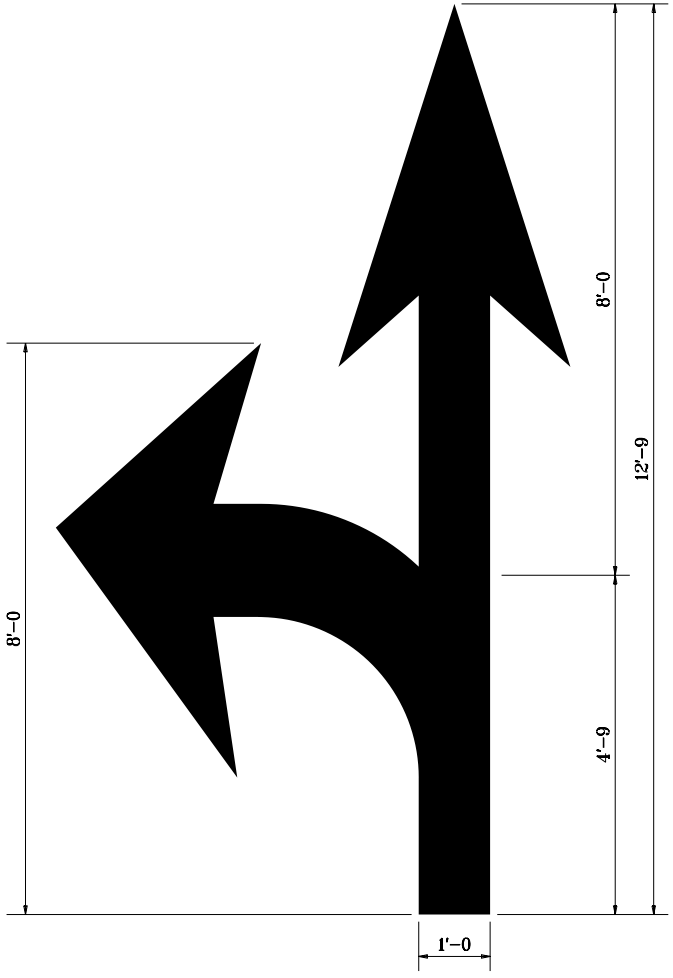
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

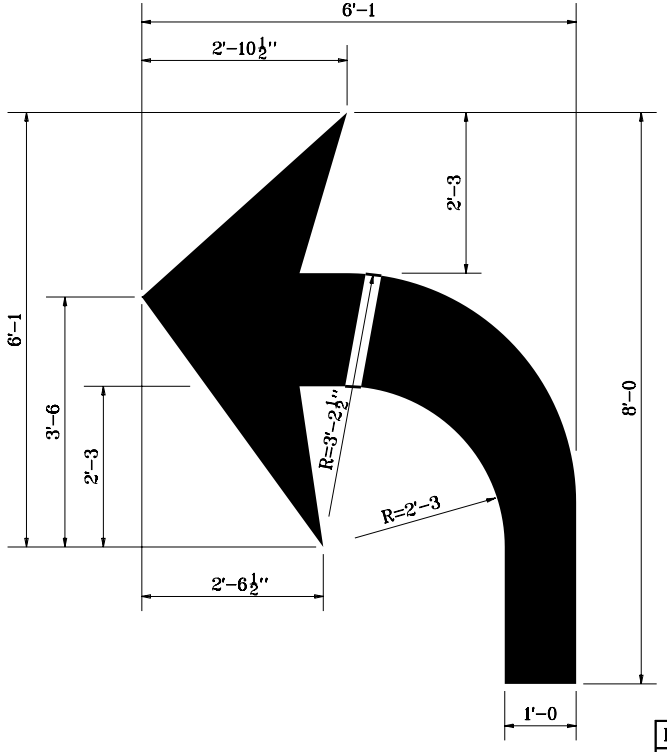
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	5-01-98

GENERAL NOTES

1. The tip of the lane indication arrow closest to the stop line shall be 20 ft in advance of the nearest edge of the stop line.





INDIANA DEPARTMENT OF TRANSPORTATION

TRANSVERSE MARKINGS

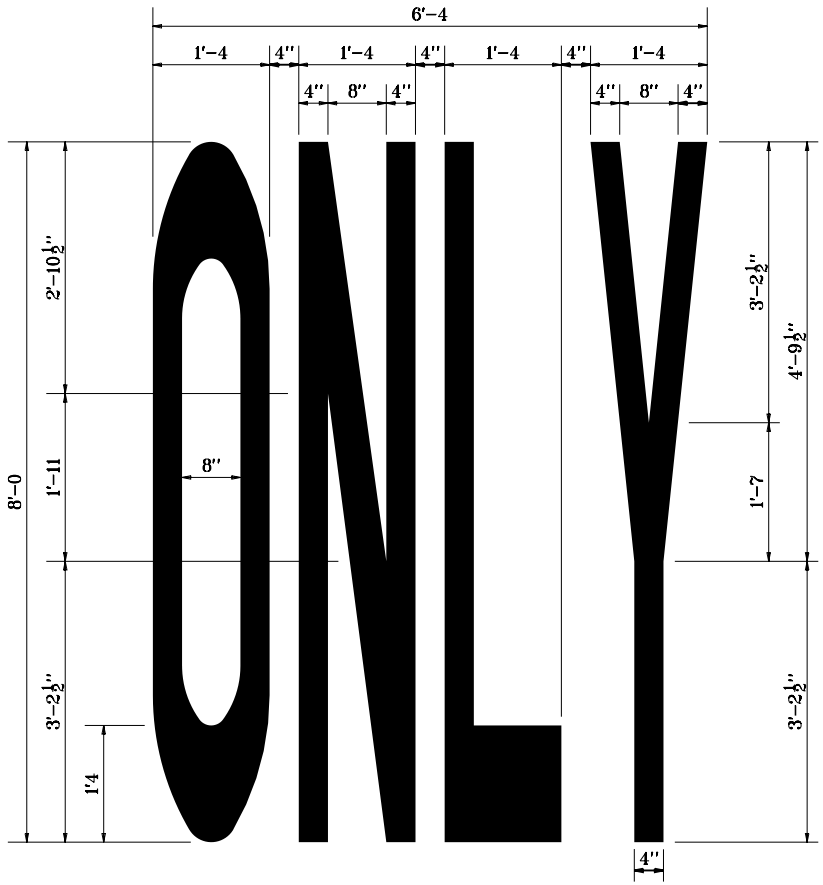
MARCH 1995

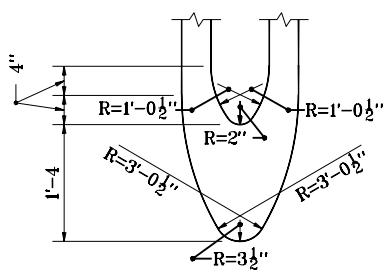
STANDARD DRAWING NO **E 808–MKPM–02**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	7-27-99
/s/ Anthony L. Uremovich DESIGN STANDARDS ENGINEER	7-27-99 DATE
/s/ Firooz Zandi CHIEF HIGHWAY ENGINEER	7-27-99 DATE
ORIGINALLY APPROVED	3-01-95





DETAILS FOR "O"

GENERAL NOTES

1. The top edge of the word ONLY shall be located in advance of the back edge of the lane indication arrow, at least 4 times the height of the characters for posted speeds ≤ 45 mph but not more than 10 times the height of the characters for posted speeds > 45 mph.

2. Horizontal strokes are 1'-4 wide. Vertical strokes are 4" wide.

INDIANA DEPARTMENT OF TRANSPORTATION

TRANSVERSE MARKINGS

JANUARY 2000

STANDARD DRAWING NO **E 808-MKPM-03**

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

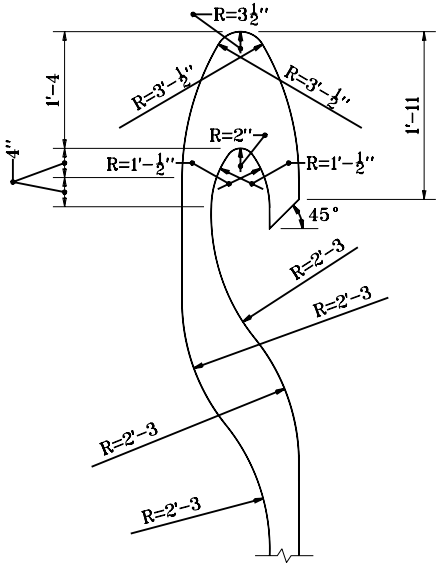
DESIGN STANDARDS ENGINEER

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

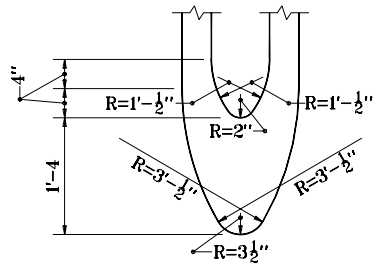
/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER DATE

GENERAL NOTES

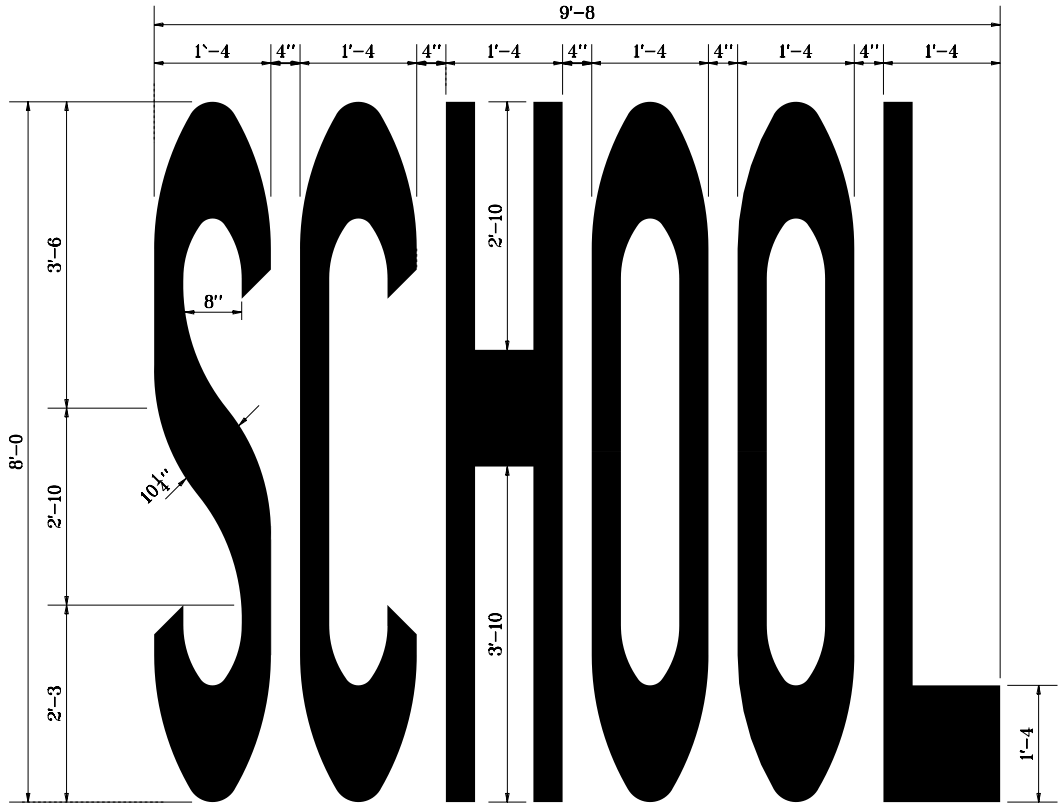
1. Horizontal strokes are 1'-4 wide.
   Vertical strokes are 4" wide.



DETAILS FOR "C,G,S"



DETAILS FOR "O"

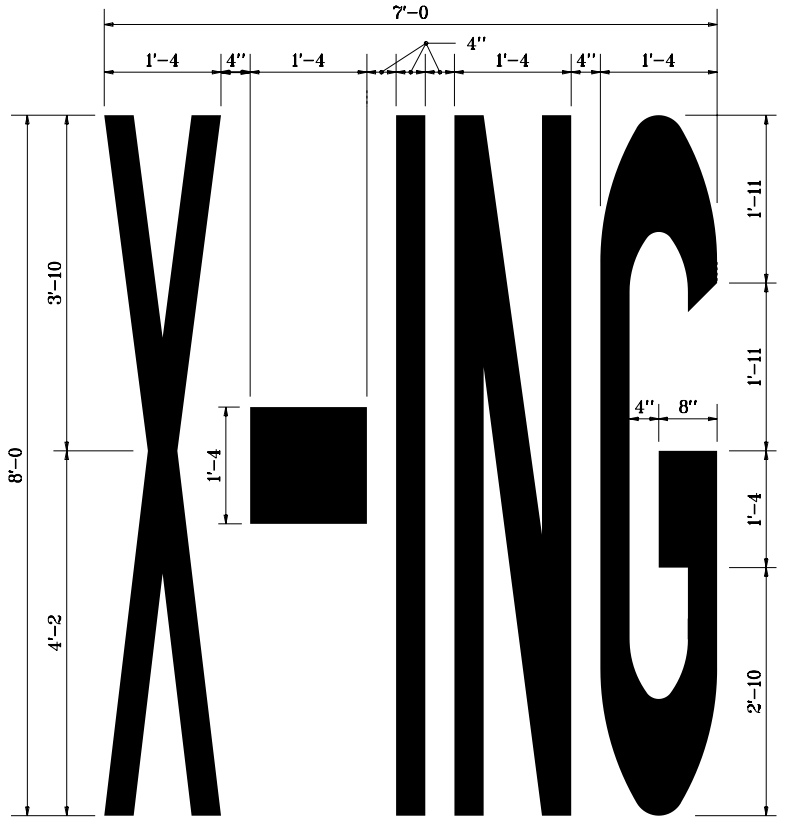


INDIANA DEPARTMENT OF TRANSPORTATION	
TRANSVERSE MARKINGS	
MARCH 1995	
STANDARD DRAWING NO **E 808-MKPM-04**	
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER	DETAILS PLACED IN THIS FORMAT 7-27-99
	/s/ Anthony L. Uremovich 7-27-99
	DESIGN STANDARDS ENGINEER — DATE
	/s/ Firooz Zandi 7-27-99
	CHIEF HIGHWAY ENGINEER — DATE
DESIGN STANDARDS ENGINEER	ORIGINALLY APPROVED 3-01-95

GENERAL NOTES

1. Horizontal strokes are 1'–4 wide. vertical strokes are 4" wide.

2. See Standard Drawing E 807–MKPM–04 for Details for "G".



INDIANA DEPARTMENT OF TRANSPORTATION

TRANSVERSE MARKINGS

JANUARY 2000

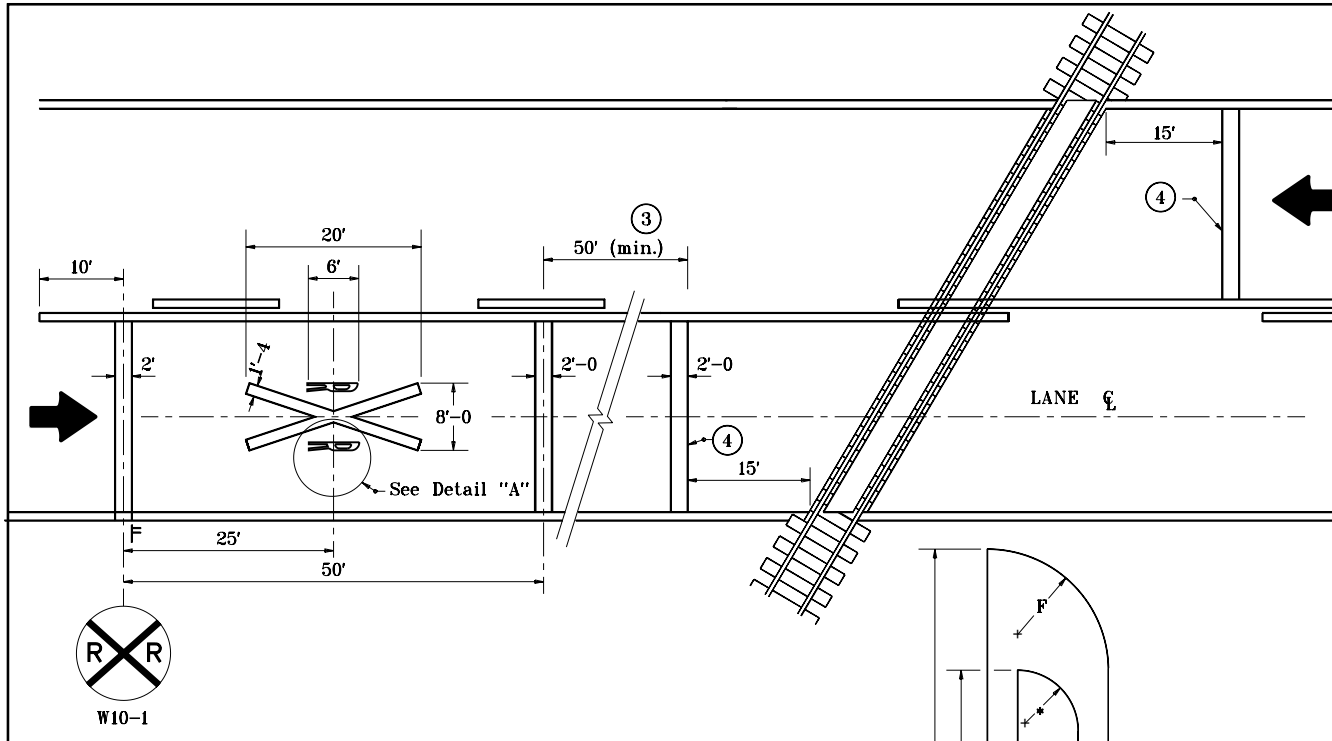
STANDARD DRAWING NO. **E 808–MKPM–05**

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

DESIGN STANDARDS ENGINEER

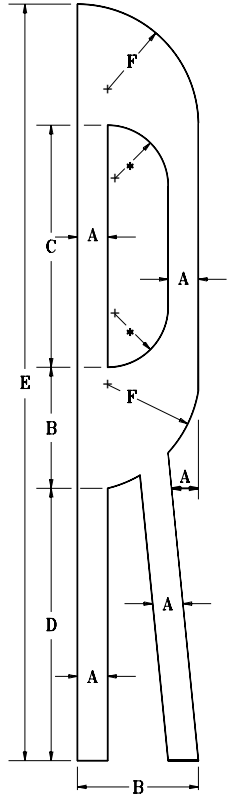
/s/ Anthony L. Uremovich 1–03–00
DESIGN STANDARDS ENGINEER — DATE

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



STOPPING SIGHT DISTANCE (3)

DESIGN SPEED (mph)	Distance, ft
30	200
35	275
40	325
45	400
50	475
55	575
60	650



A = $2\frac{3}{4}$"
B = $11\frac{1}{2}$"
C = 1'-11
D = 2'-1
E = 6'-0
F = $11\frac{1}{2}$"
* = $5\frac{3}{4}$" R

DETAIL "A"

GENERAL NOTES

1. For 2-way left-turn lanes, the center lane shall be discontinued across the railroad crossing and marked as a flush median or as a 1-way left-turn lane.
2. For a multi-lane highway, the tranverse lines shall be extended across all approach lanes, and the individual railroad crossing symbols provided in each lane.

(3) Stopping sight distance in rural areas; variable in urban areas, but not less than 50 ft. See Stopping Sight Distance Table.

(4) Stop line is approximately 8 ft from gate (if present).

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING FOR RAILROAD CROSSINGS

JANUARY 2000

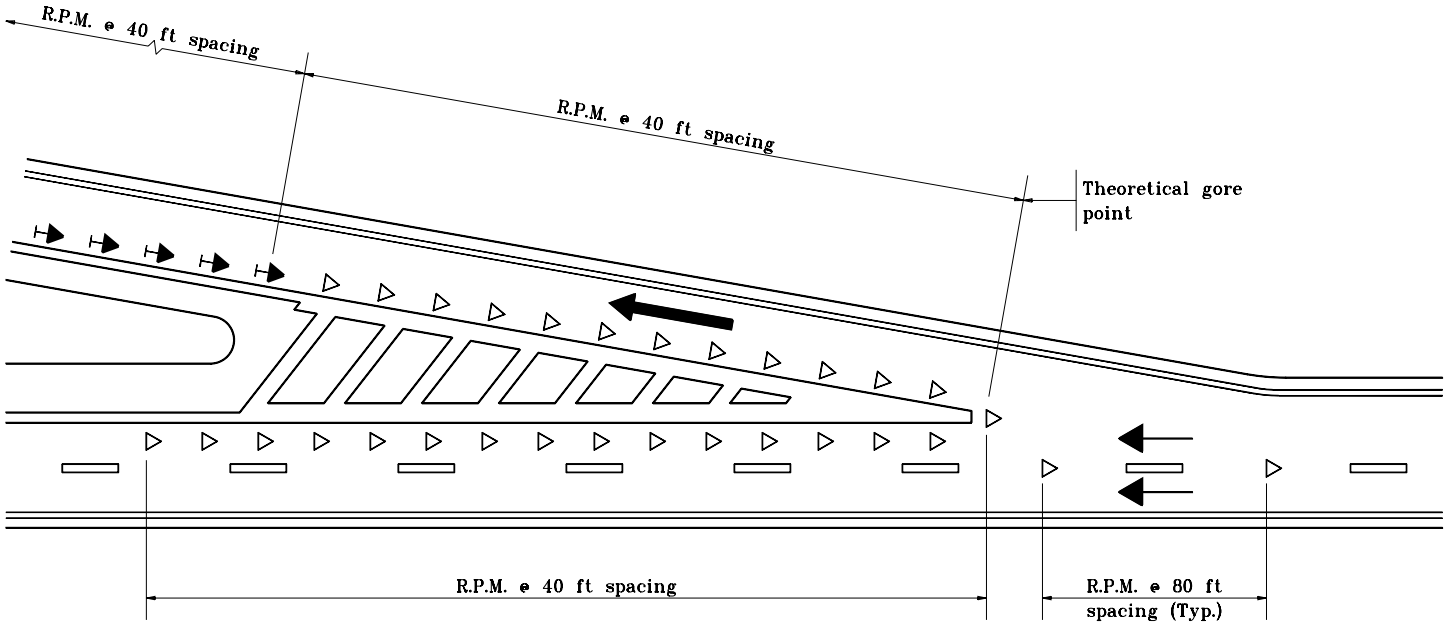
STANDARD DRAWING NO. E 808-MKPM-07

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



LEGEND

- One-way white marker
- Two-way yellow/red marker
- Lane line

TYPICAL EXIT RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (GORE AREA) DETAIL A

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

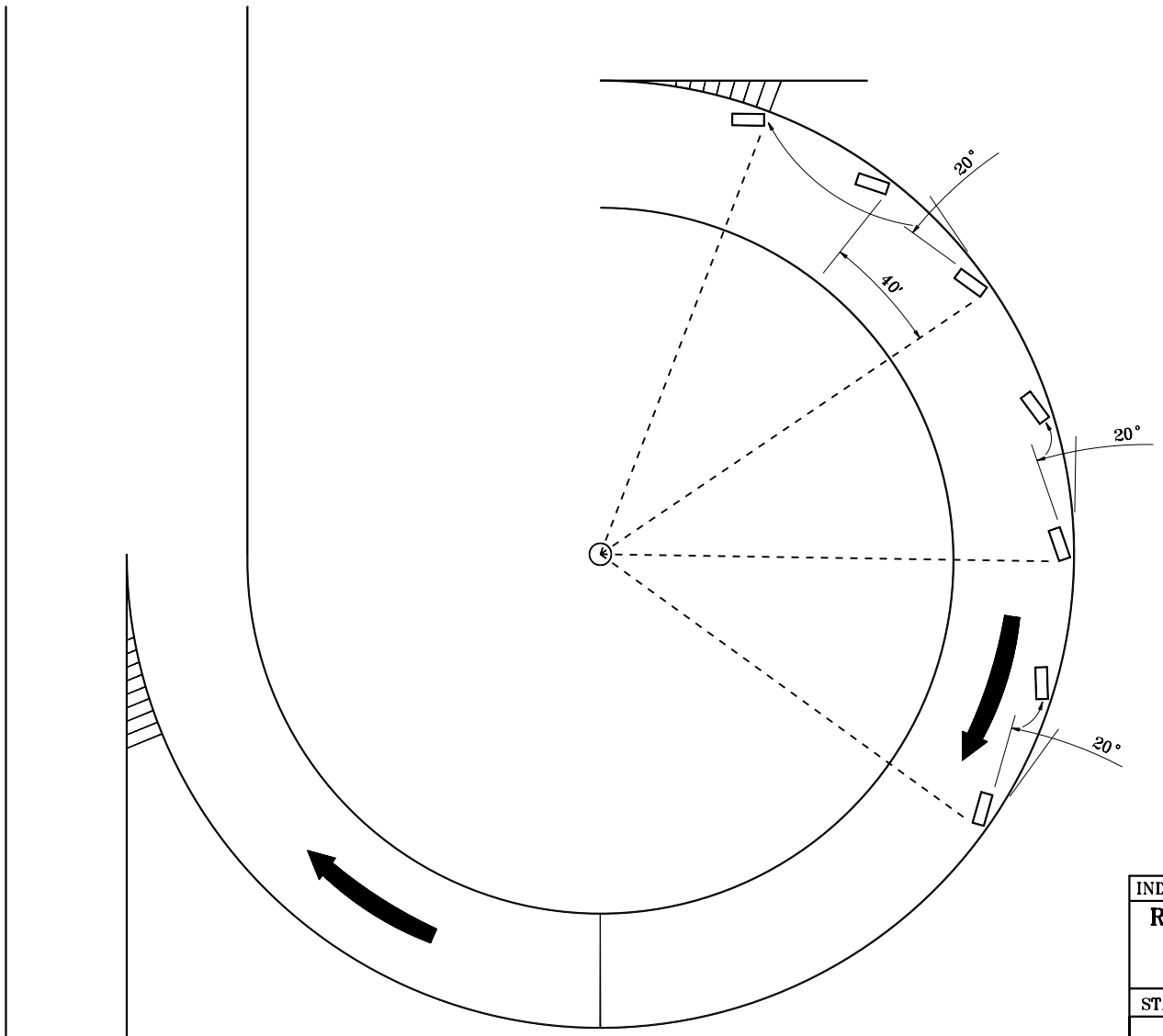
MARCH 1995

STANDARD DRAWING NO. **E 808-MKRM-01**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	3-01-95



TYPICAL LOOP RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS
DETAIL B

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

MARCH 1995

STANDARD DRAWING NO. **E 808-MKRM-02**

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

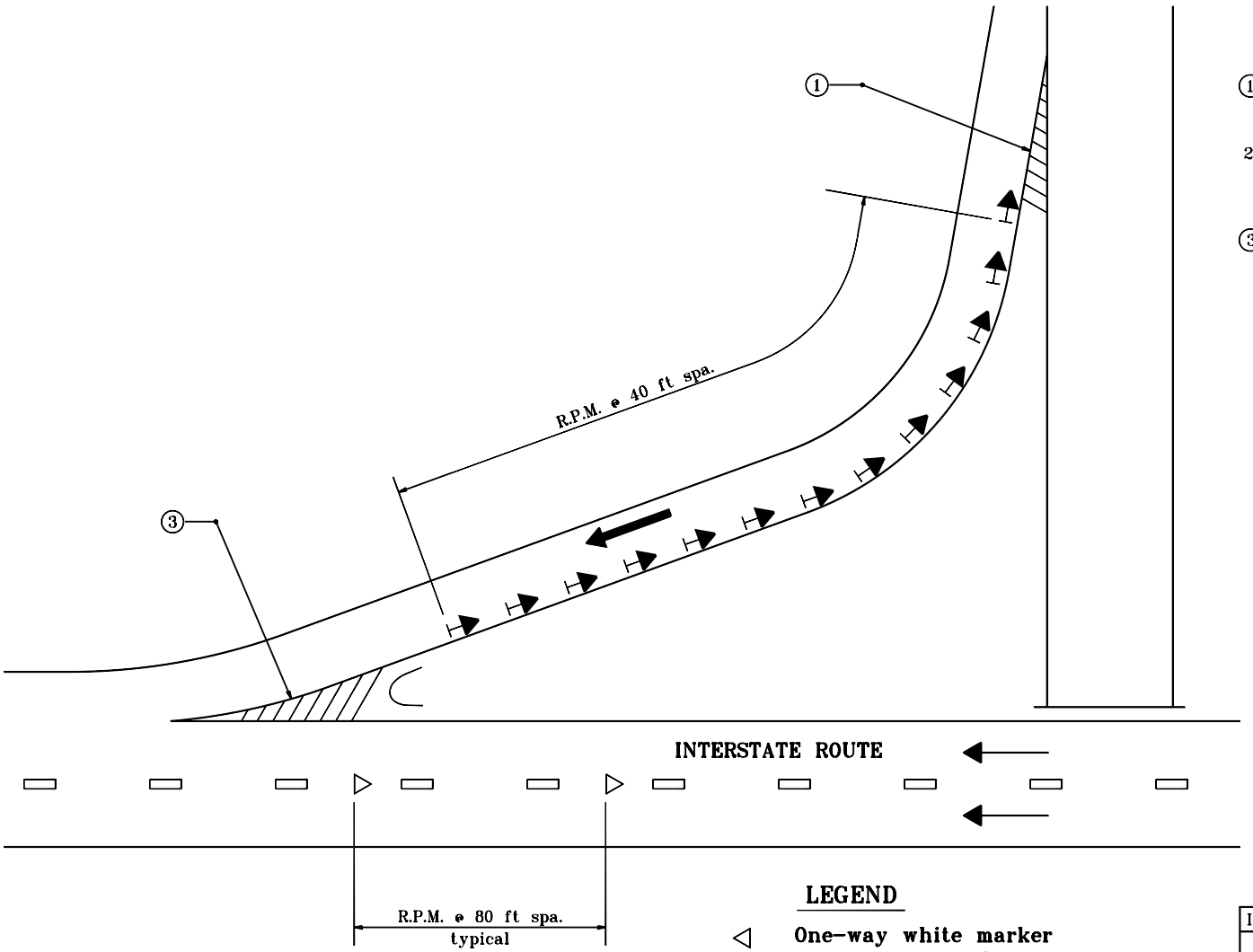
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



NOTES

1. See Standard Drawing E 808-MKRM-01 for Detail A.
2. If ramp has reverse curves, see Standard Drawing 808-MKRM-04 for Detail D.
3. See Standard Drawing E 808-MKRM-07 for Detail G and Standard Drawing E 808-MKRM-08 for Detail H.

LEGEND

- One-way white marker
- Two-way yellow/red marker
- Lane line

TYPICAL ENTRANCE RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (CLOVERLEAF INTERCHANGE)

DETAIL C

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

JANUARY 2000

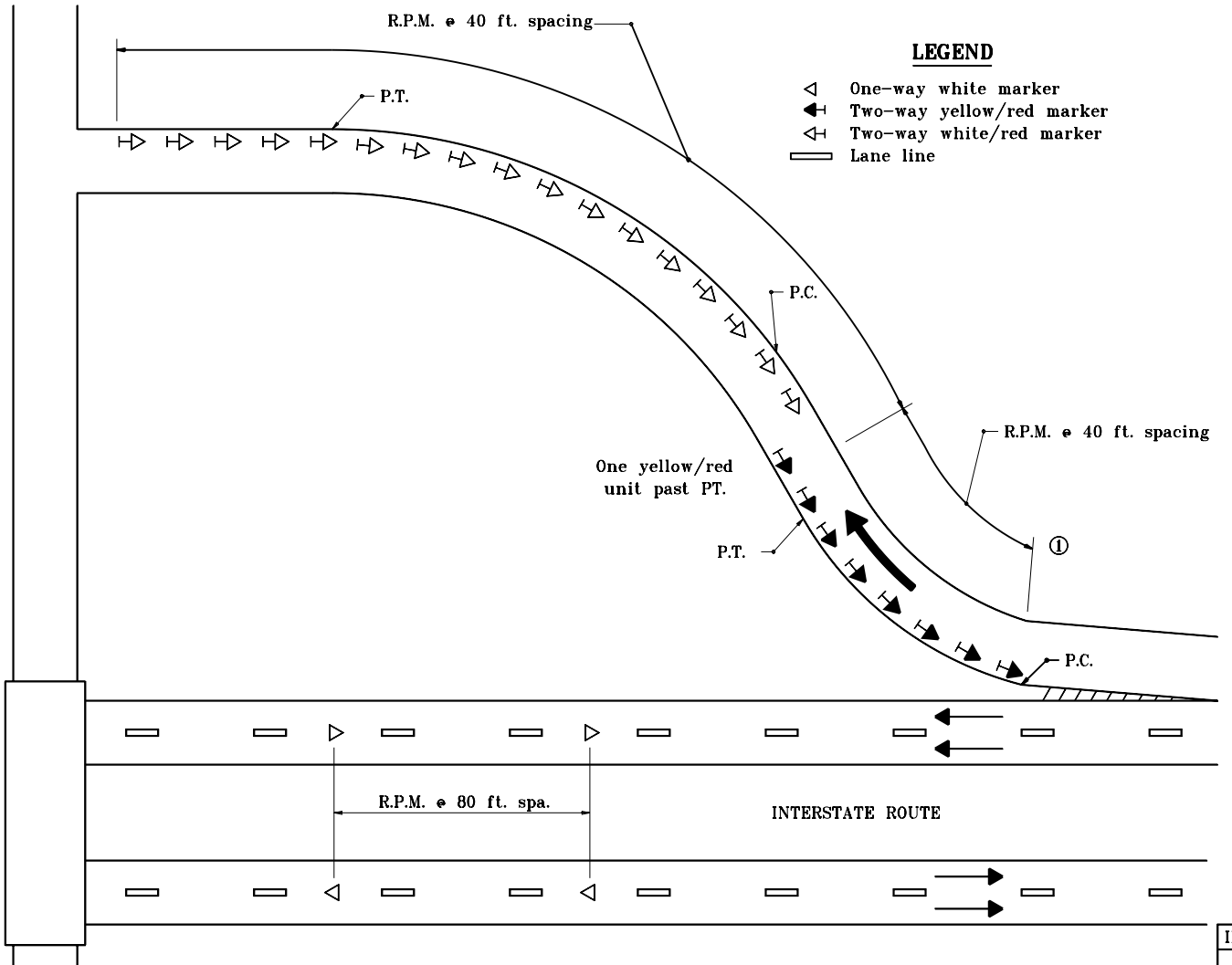
STANDARD DRAWING NO **E 808-MKRM-03**

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



LEGEND

- One-way white marker
- Two-way yellow/red marker
- Two-way white/red marker
- Lane line

NOTE

① See Standard Drawing E 808-MKRM-01 for Detail A.

TYPICAL EXIT RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (DIAMOND OR PARCLO INTERCHANGE)
DETAIL D

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

JANUARY 2000

STANDARD DRAWING NO **E 808-MKRM-04**

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

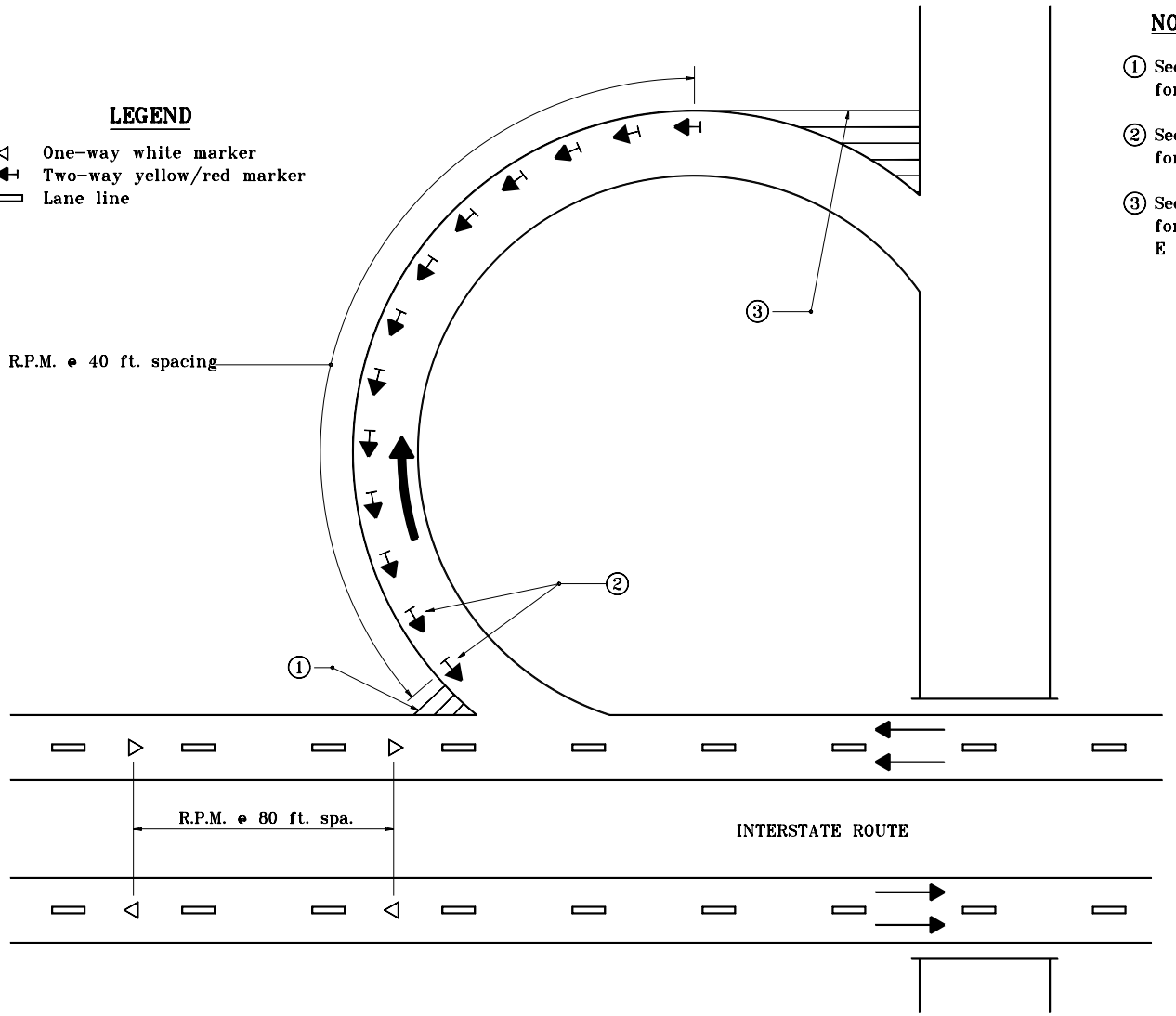
/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER — DATE

LEGEND

- One-way white marker
- Two-way yellow/red marker
- Lane line

NOTES

1. See Standard Drawing E 808-MKRM-01 for Detail A.
2. See Standard Drawing E 808-MKRM-02 for Detail B.
3. See Standard Drawing E 808-MKRM-07 for Detail G and Standard Drawing E 808-MKRM-08 for Detail H.



TYPICAL EXIT RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (CLOVERLEAF INTERCHANGE)
DETAIL E

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

JANUARY 2000

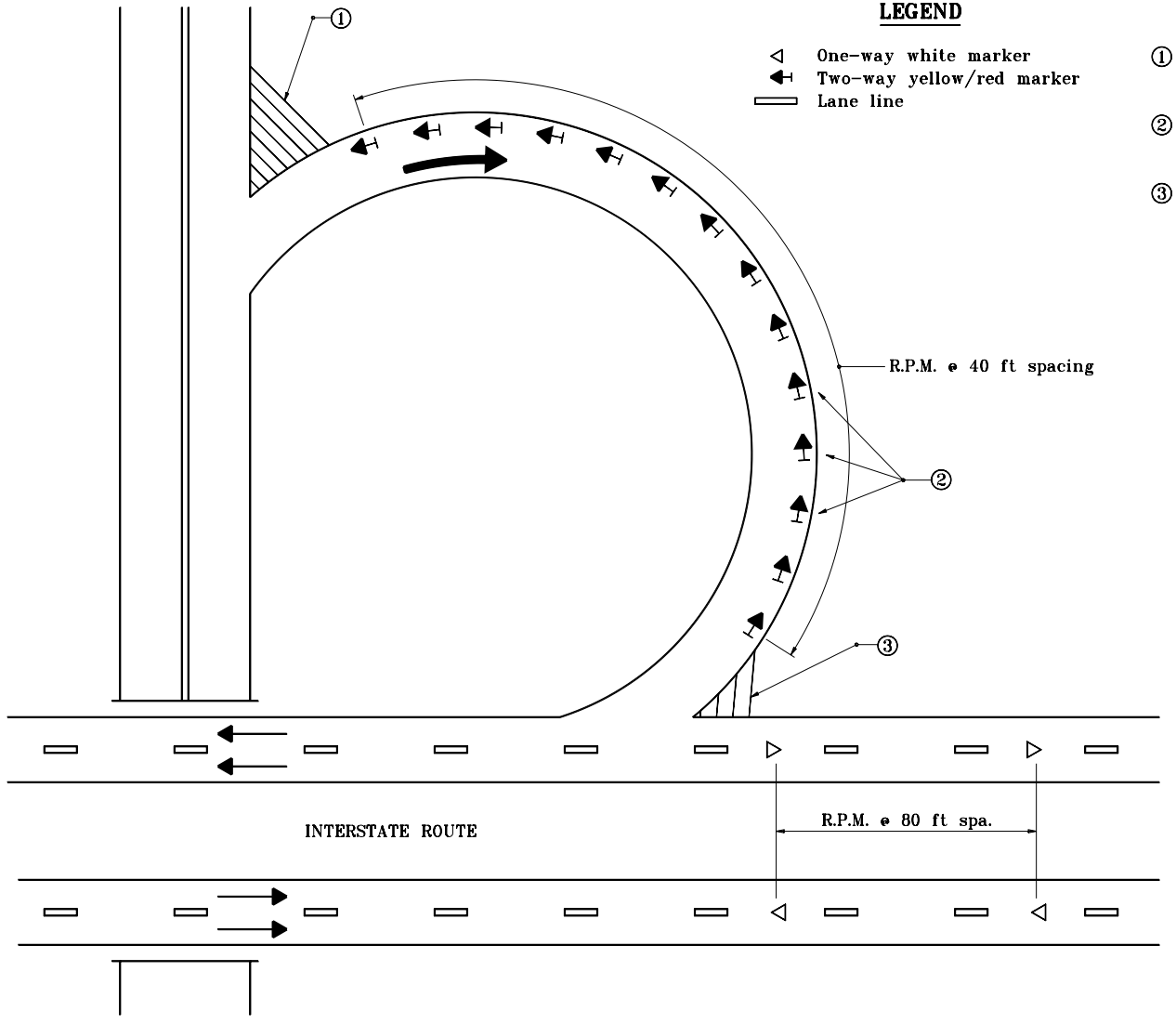
STANDARD DRAWING NO. **E 808-MKRM-05**

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



LEGEND

- One-way white marker
- Two-way yellow/red marker
- Lane line

NOTES

① See Standard Drawing E-808-MKRM-01 for Detail A.

② See Standard Drawing E-808-MKRM-02 for Detail B.

③ See Standard Drawing E-808-MKRM-07 for Detail G and Standard Drawing E-808-MKRM-08 for Detail H.

TYPICAL EXIT RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (CLOVERLEAF INTERCHANGE)
DETAIL F

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

JANUARY 2000

STANDARD DRAWING NO **E 808-MKRM-06**

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

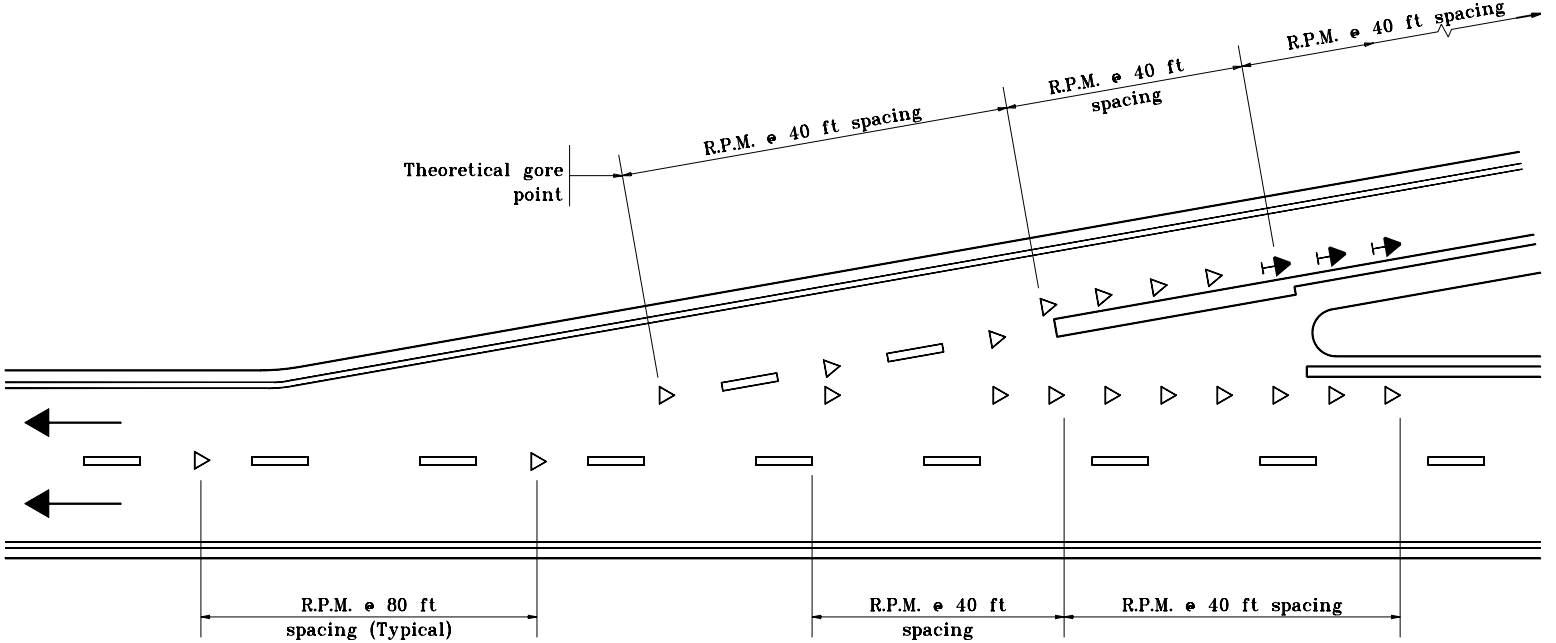
DESIGN STANDARDS ENGINEER

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

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

LEGEND

◁ One-way white marker
◀ Two-way yellow/red marker
Lane line



TYPICAL ENTRANCE RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (GORE AREA)
DETAIL G

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

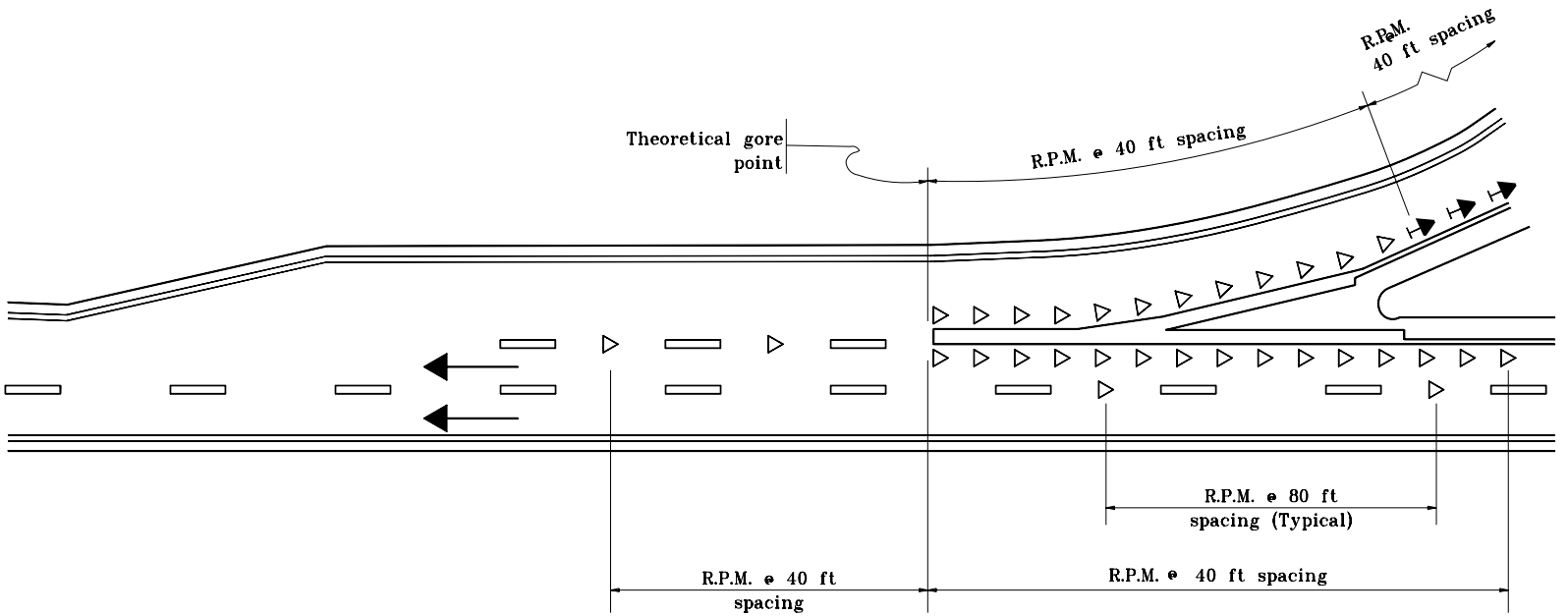
MARCH 1995

STANDARD DRAWING NO. **E 808-MKRM-07**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich, DESIGN STANDARDS ENGINEER	11-15-99
/s/ Firooz Zandi, CHIEF HIGHWAY ENGINEER	11-15-99
ORIGINALLY APPROVED	3-01-95



LEGEND

- One-way white marker
- Two-way yellow/red marker
- Lane line

TYPICAL ENTRANCE RAMP SHOWING LOCATIONS OF RAISED PAVEMENT MARKERS (GORE AREA)
DETAIL H

INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS TYPICAL LOCATIONS

MARCH 1995

STANDARD DRAWING NO **E 808-MKRM-08**

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

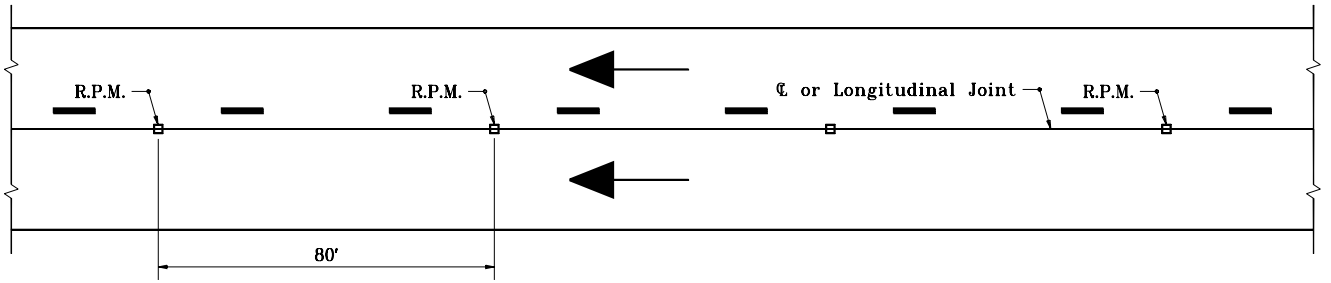
DESIGN STANDARDS ENGINEER

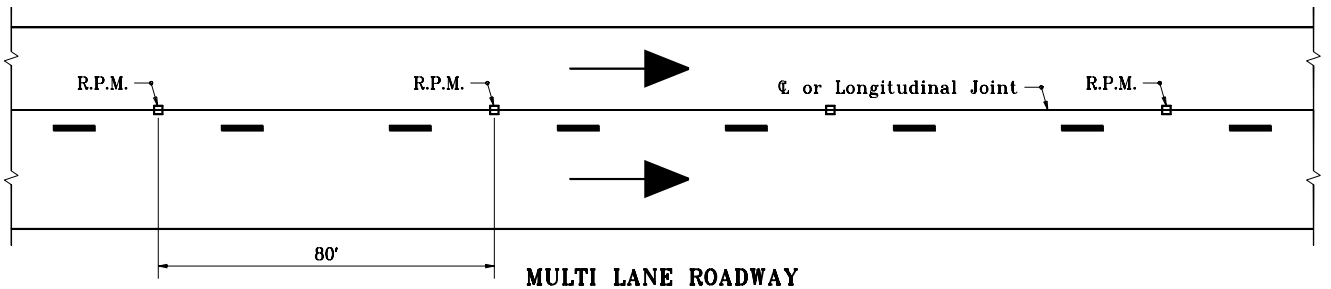
DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

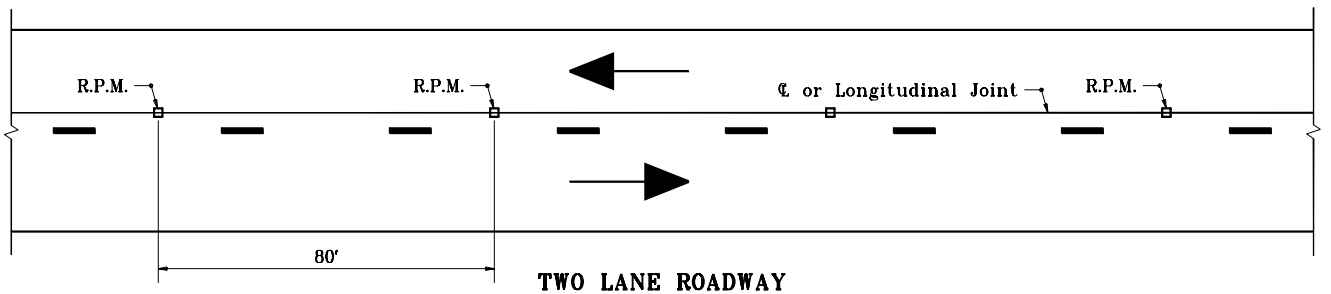
/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95

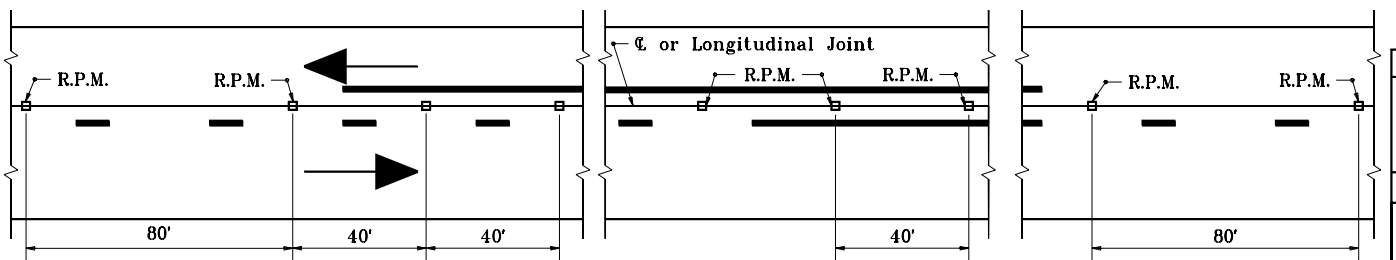




MULTI LANE ROADWAY



TWO LANE ROADWAY
TANGENT SECTION



TWO LANE ROADWAY
NO PASSING ZONE

INDIANA DEPARTMENT OF TRANSPORTATION

PLACEMENT OF SNOWPLOWABLE RAISED PAVEMENT MARKERS

MARCH 1995

STANDARD DRAWING NO **E 808-MKRM-09**

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

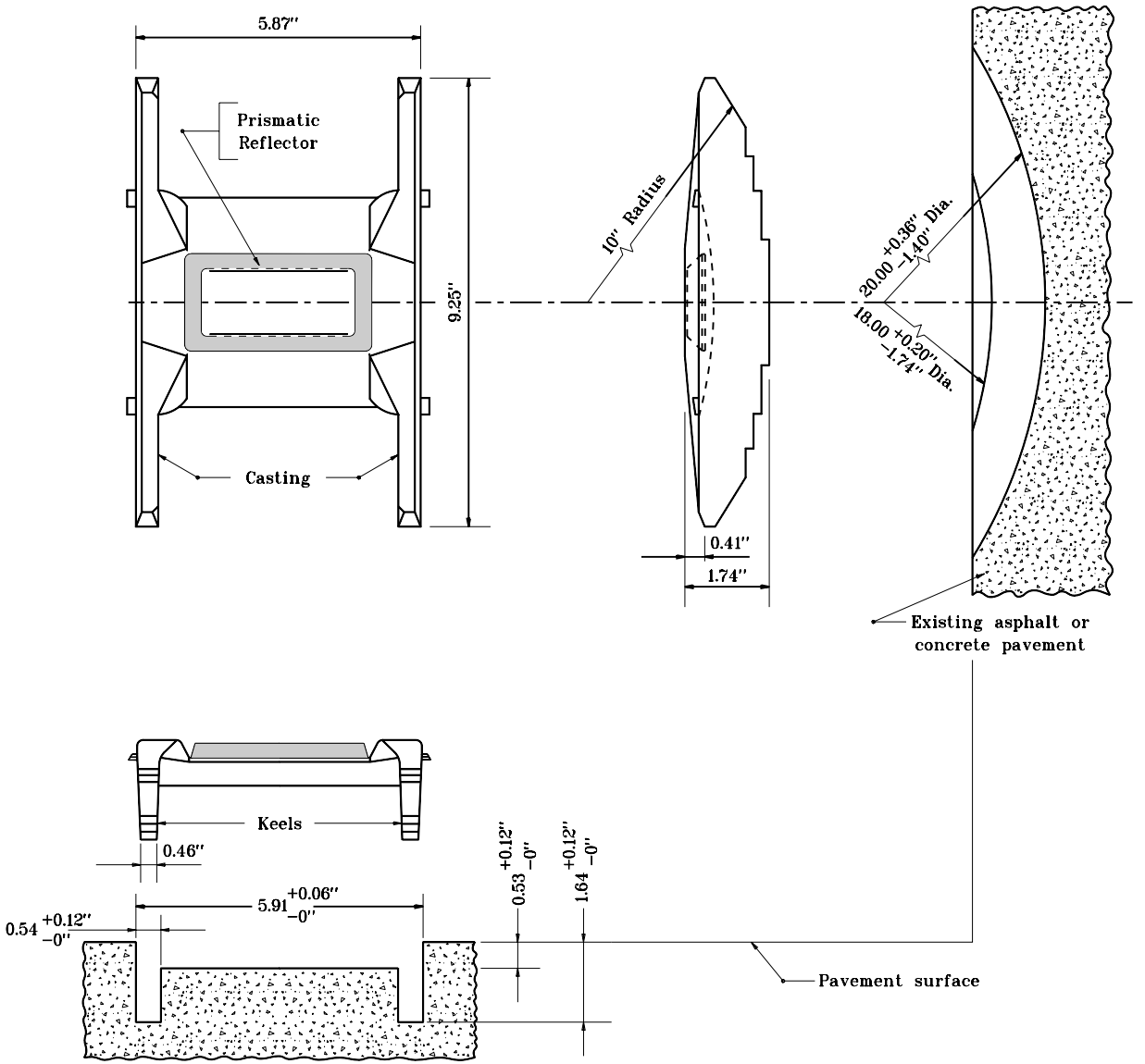
DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 3-01-95



INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKER CAST METAL BASE, TYPE 1

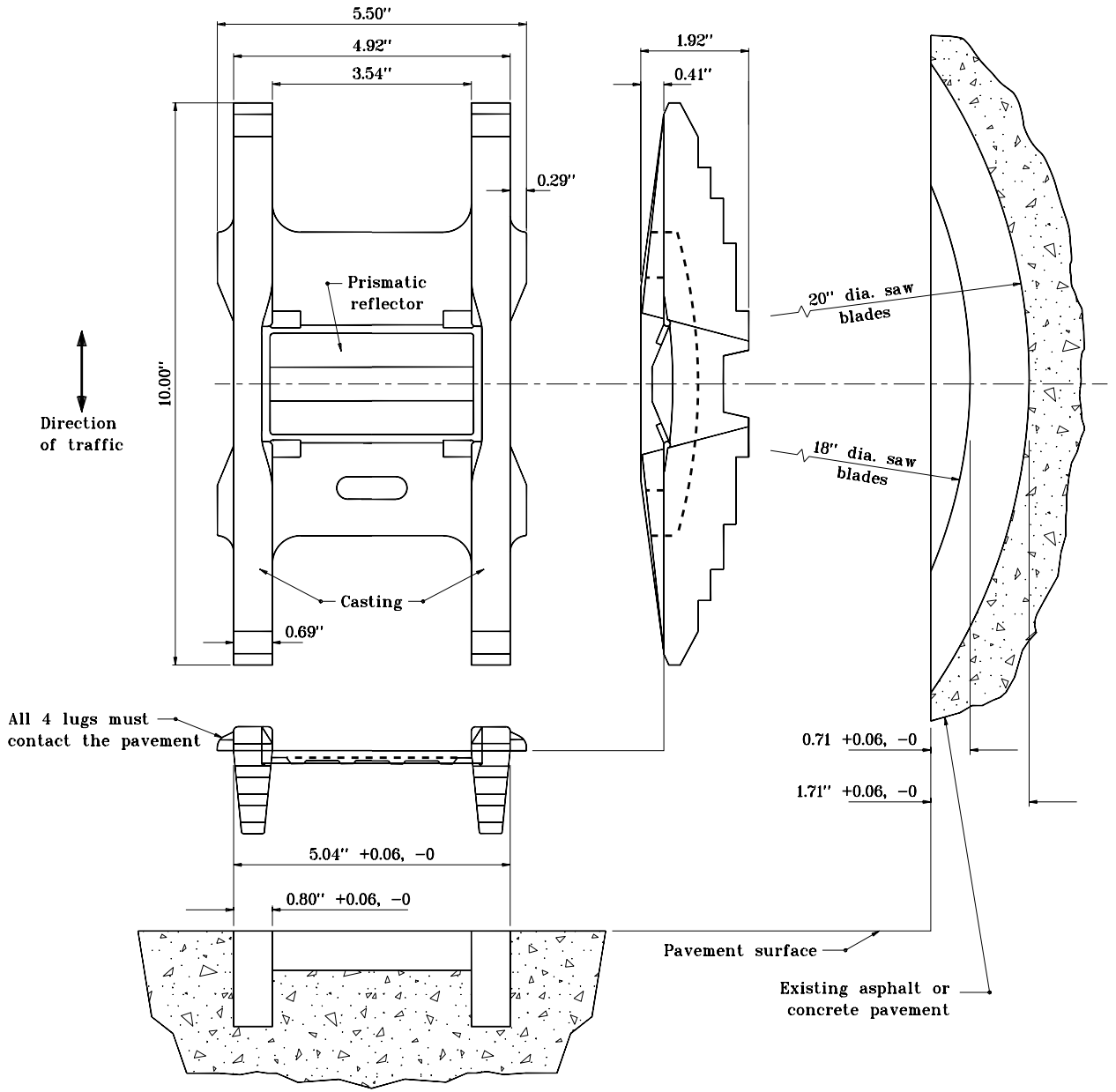
SEPTEMBER 1998

STANDARD DRAWING NO. **E 808-MKRM-10**

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

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	9-01-98



INDIANA DEPARTMENT OF TRANSPORTATION

RAISED PAVEMENT MARKERS CAST METAL BASE, TYPE 2

JANUARY 2000

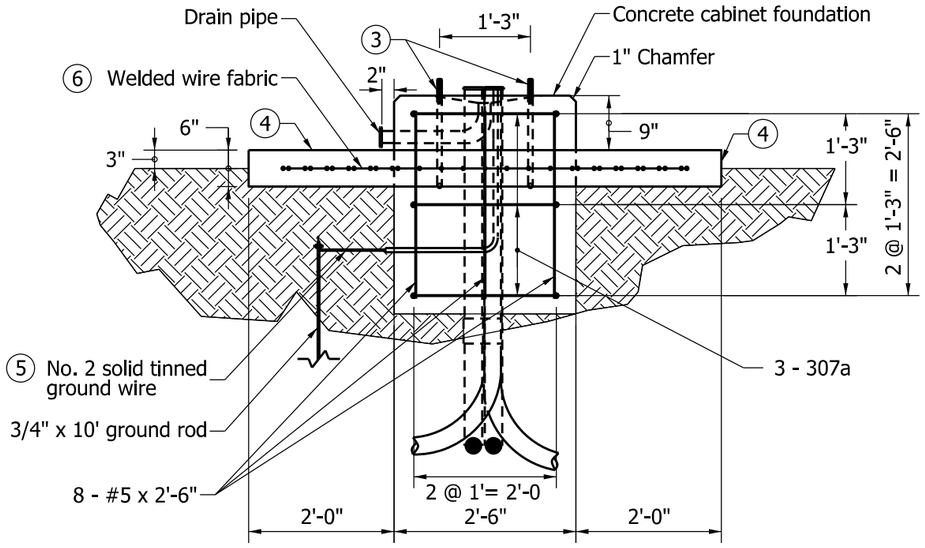
STANDARD DRAWING NO. **E 808-MKRM-11**

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

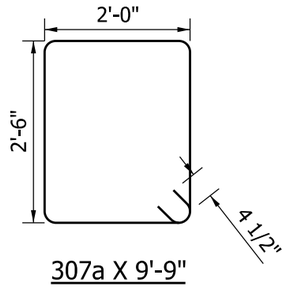
DESIGN STANDARDS ENGINEER

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

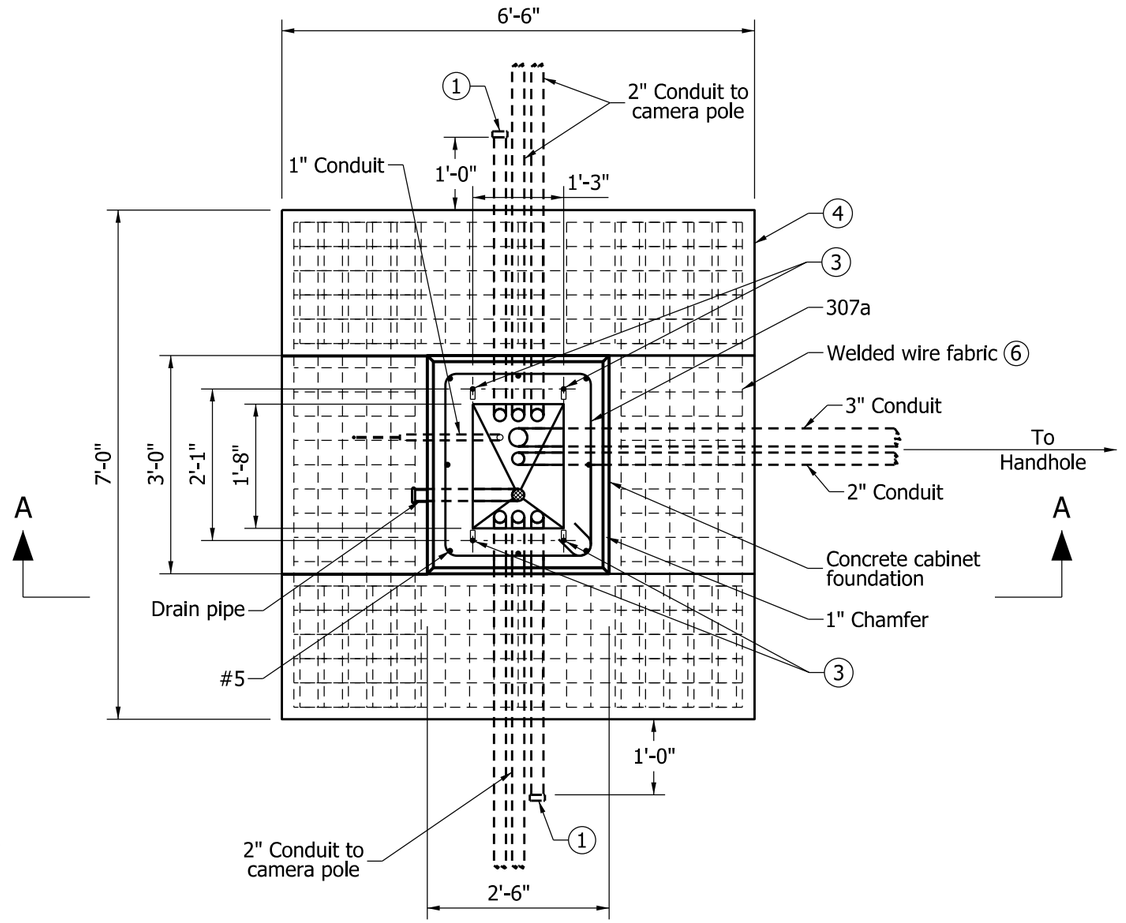
/s/ Firooz Zandi 1-03-00
CHIEF HIGHWAY ENGINEER — DATE



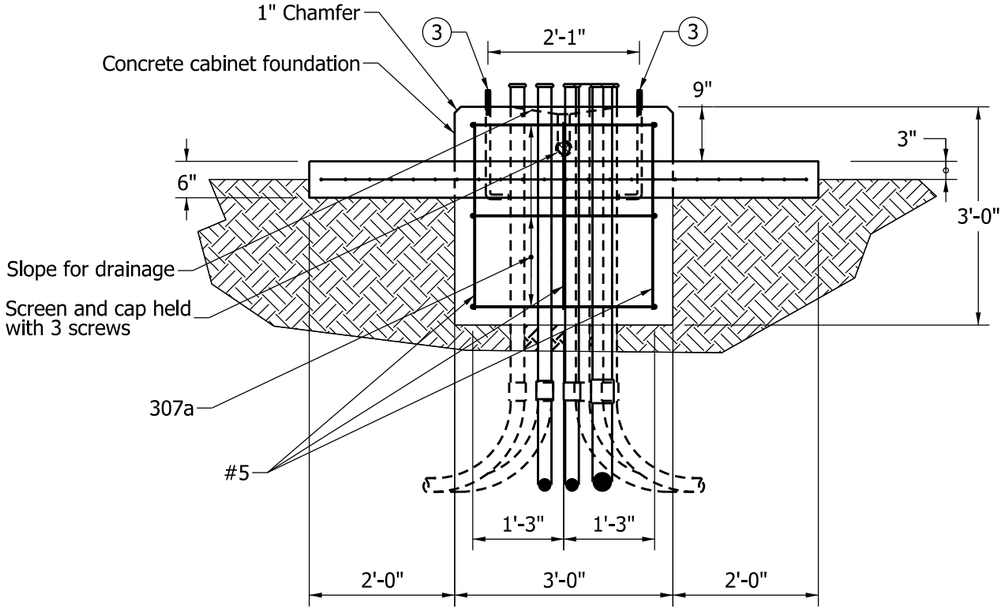
SECTION A-A



307a X 9'-9"



PLAN VIEW



SIDE VIEW

NOTES:

1. 2" conduit capped off for future use.
2. Direction and actual location of conduit may vary due to service point and camera pole placement.
3. 3/4" x 18" anchor bolt as shown on Standard Drawing E 805 SGPB-01.
4. Concrete footpad shall be sloped to drain outward.
5. Bind ground rod to foundation using No. 2 solid tinned ground wire.
6. Welded wire fabric shall be 6 x 6 W6 x W6.

INDIANA DEPARTMENT OF TRANSPORTATION

ITS CONTROLLER CABINET FOUNDATION VIRTUAL WEIGH-IN-MOTION (VWIM)

SEPTEMBER 2012

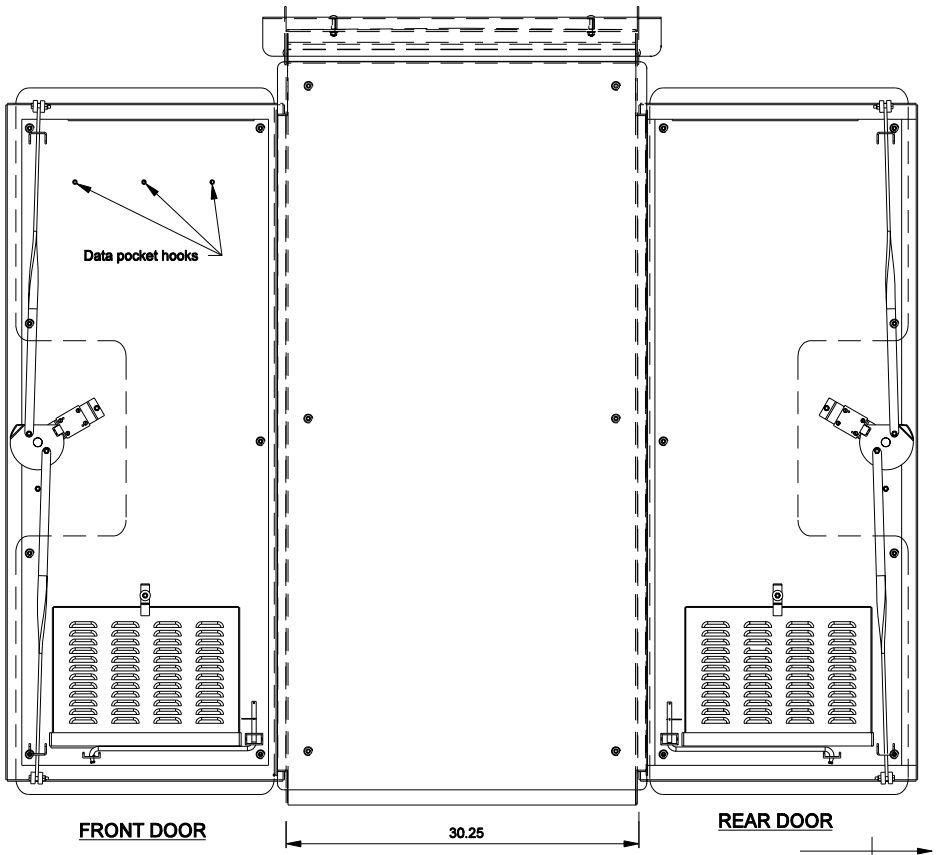
STANDARD DRAWING NO. E 809-ICCF-01

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

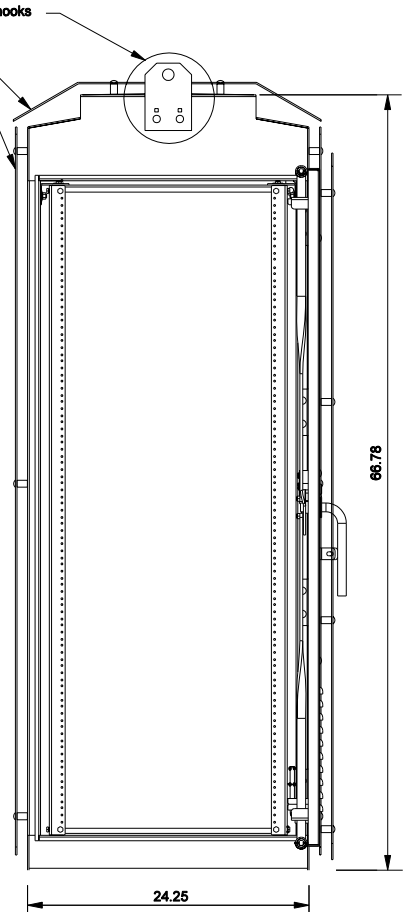
/s/ Richard L. Van Cleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

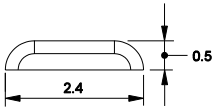
CABINET EXTERIOR



SIDE VIEW

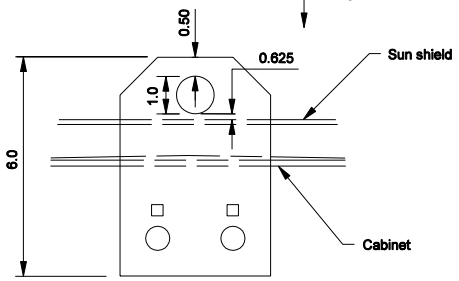


REAR VIEW
WITH DOOR OPEN



DEPTH = 1/8 "

DOOR FILTER
LOUVRE DETAIL



DETAIL A
NTS

NOTES:

1. See Standard Drawings E 809-ITCS-01A thru -07 for additional ITS cabinet details.

All dimensions are in inches

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET DETAIL

MARCH 2006

STANDARD DRAWING NO. E 809-ITSC-01

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

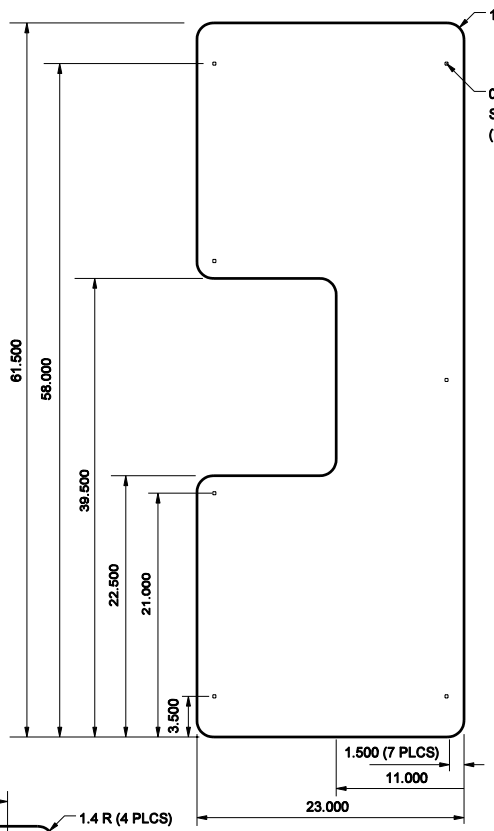
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

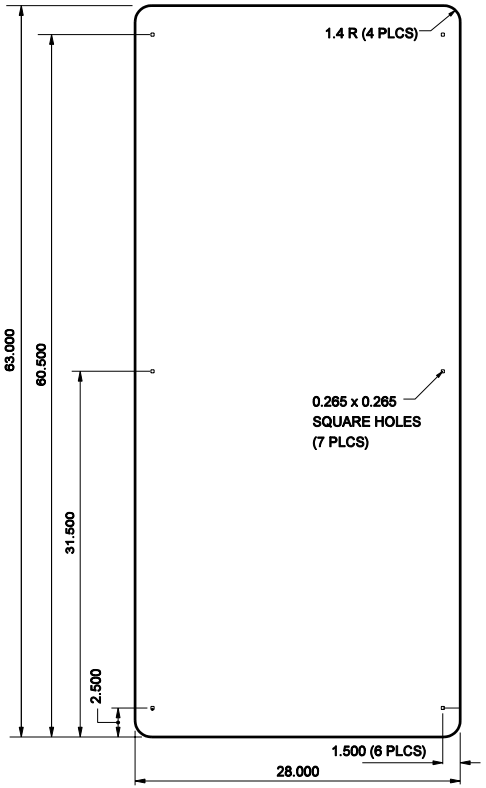
/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE

NOTES:

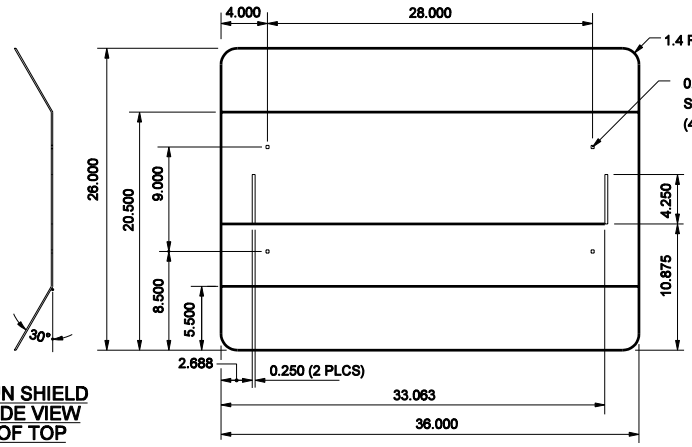
1. See Standard Drawings E 809-ITCS-01 or 02 thru -07 for additional ITS cabinet details.



SUN SHIELD DOOR



SUN SHIELD SIDE



SUN SHIELD TOP VIEW

SUN SHIELD SIDE VIEW OF TOP

Sun Shield Notes:

1. Corner cuts are 45-degree cuts, 1/2 " back
2. All sun shield shall use a 1" spacer

All dimensions are in inches

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET DETAIL

MARCH 2006

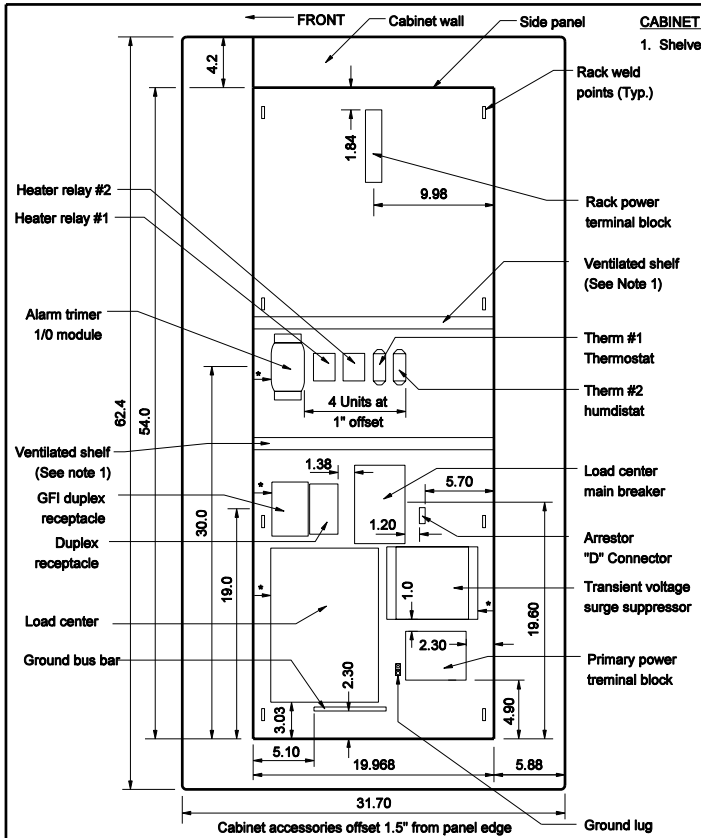
STANDARD DRAWING NO. E 809-ITSC-01A

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

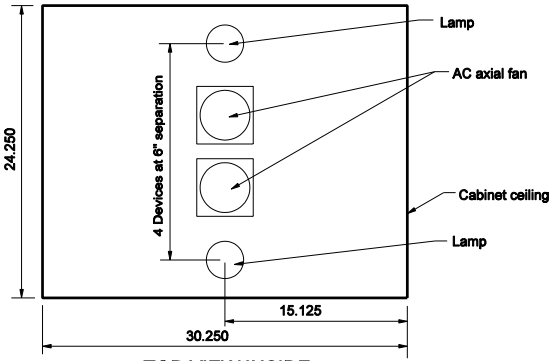
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



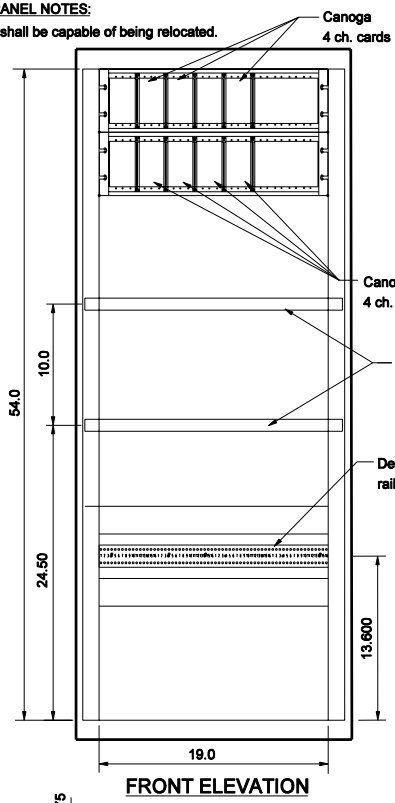
CABINET SIDE PANEL
POWER DISTRIBUTION



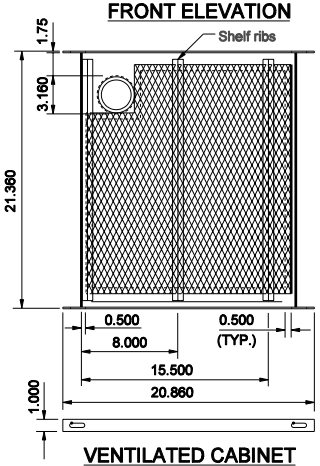
TOP VIEW INSIDE

CABINET PANEL NOTES:

1. Shelves shall be capable of being relocated.



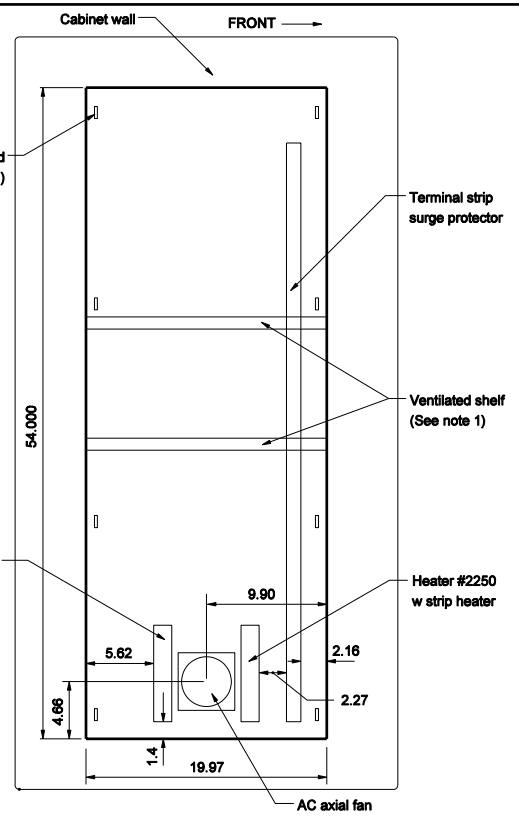
FRONT ELEVATION



VENTILATED CABINET
SHELF BOTTOM VIEW

VENTILATED SHELF NOTES:

1. Tack weld screen to bottom of shelf.
2. Tack weld ribs over screen to bottom of shelf in locations shown.
3. Press bushing in from top of shelf.
4. Material Notes:
   Shelf frame-0.125 alum.
   screen-0.125 expanded alum.w/0.5" mesh
   ribs - 0.125 x 0.625 x 0.625 alum. angle



CABINET SIDE PANEL
HEATER

NOTES:

1. See Standard Drawings E 809-ITCS-01, -01A or -03 thru -07 for additional ITS cabinet details.

All dimensions are in inches

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET SCHEMATIC

MARCH 2006

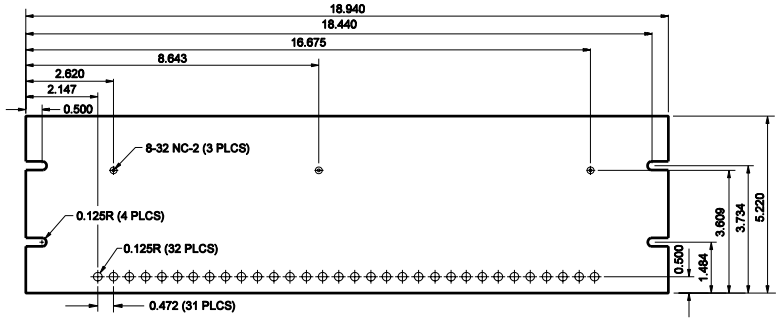
STANDARD DRAWING NO. E 809-ITSC-02

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

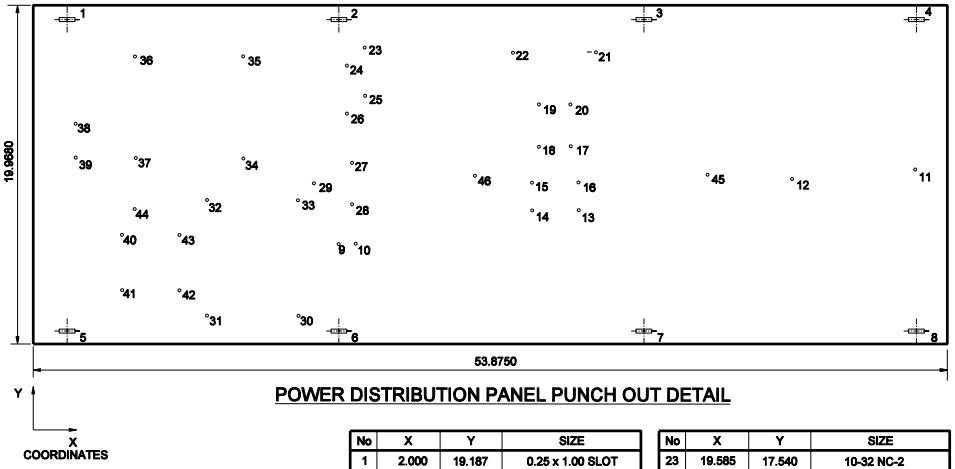
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



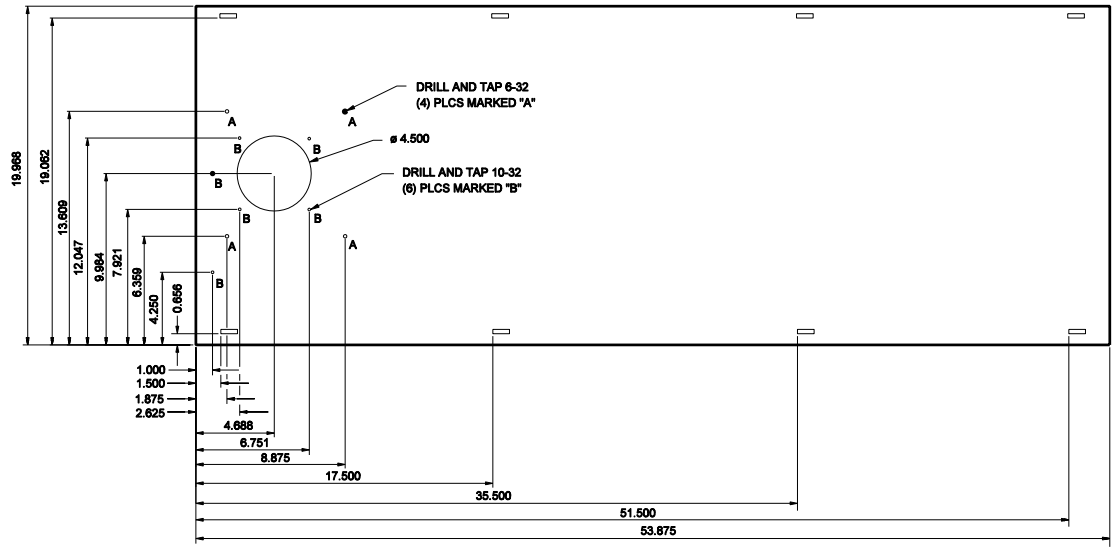
DETECTOR CARD DIN RAIL DETAIL



POWER DISTRIBUTION PANEL PUNCH OUT DETAIL

No	X	Y	SIZE
1	2.000	19.187	0.25 x 1.00 SLOT
2	18.000		
3	36.000		
4	52.000	19.187	
5	2.000	0.781	
6	18.000		
7	36.000		
8	52.000	0.781	0.25 x 1.00 SLOT
9	18.000	6.000	0.125 DIA
10	19.000	6.000	0.125 DIA
11	52.000	10.234	8-32 NC-2
12	44.688	9.734	
13	32.180	7.950	
14	29.430	7.950	
15	29.430	9.600	
16	32.180	9.600	
17	31.740	11.708	
18	29.870	11.708	
19	29.870	14.175	
20	31.740	14.175	
21	33.250	17.234	
22	28.375	17.234	8-32 NC-2

No	X	Y	SIZE
23	19.585	17.540	10-32 NC-2
24	18.522	16.478	
25	19.585	14.728	
26	18.522	13.665	
27	18.803	10.736	
28	18.803	8.336	
29	16.553	9.536	
30	15.608	1.750	
31	10.250	1.750	
32	10.250	8.550	
33	15.608	8.550	
34	12.428	11.000	
35	12.428	17.000	
36	6.053	17.000	
37	6.053	11.000	
38	2.500	13.000	
39	2.500	11.000	
40	5.250	6.500	
41	5.250	3.250	
42	8.625	3.250	
43	8.625	6.500	
44	6.000	8.000	10-32 NC-2
45	39.750	10.000	8-32 NC-2
46	26.00	10.000	8-32 NC-2



HEATER PANEL PUNCH OUT DETAILS

All dimensions are in inches

INDIANA DEPARTMENT OF TRANSPORTATION

CABINET PUNCH OUT DETAILS

MARCH 2006

STANDARD DRAWING NO. E 809-ITSC-03

NOTES:

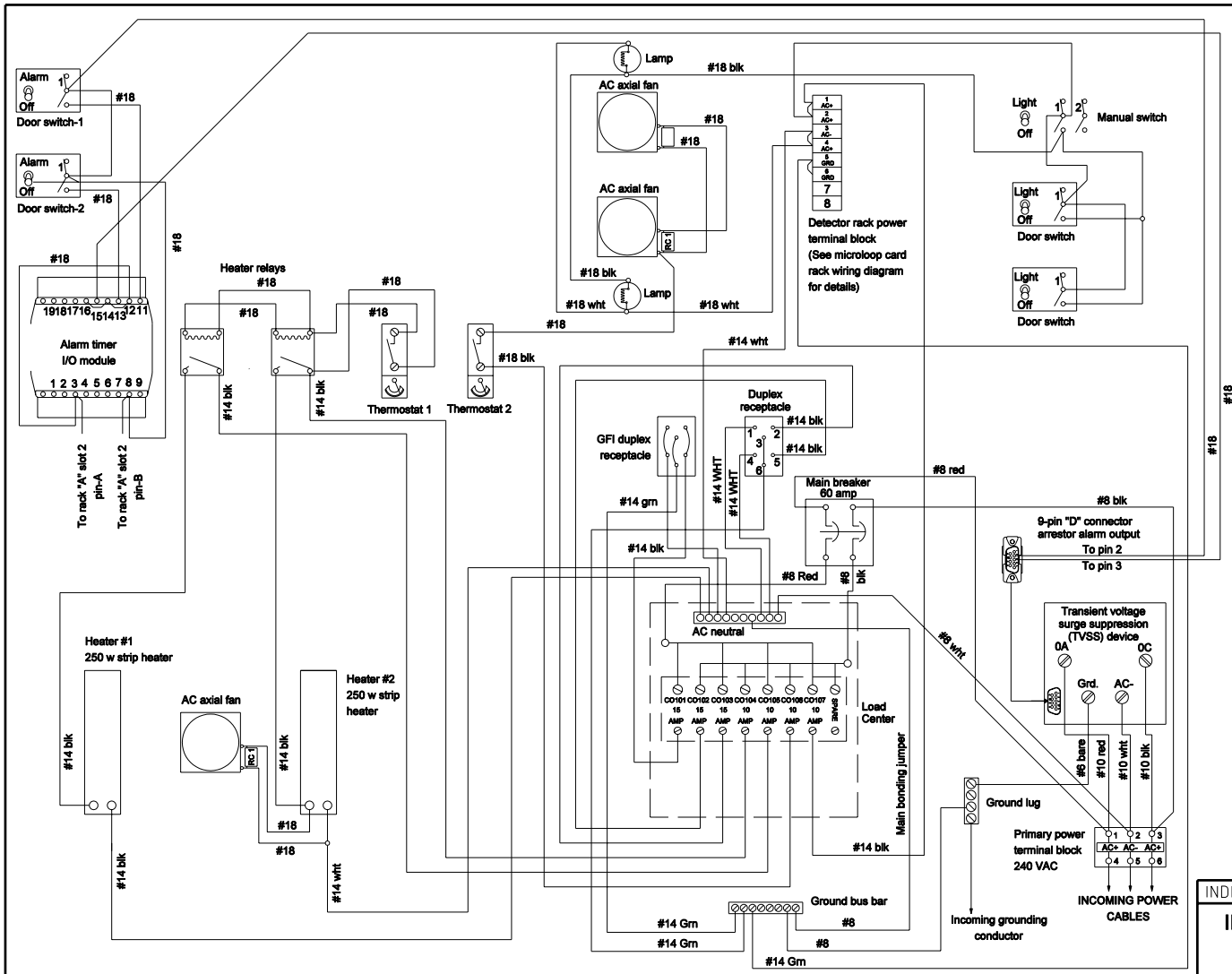
1. See Standard Drawings E 809-ITCS-01 thru -02 or -03 thru -07 for additional ITS cabinet details.

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



NOTES:

1. See Standard Drawings E 809-ITCS-01 thru -03 or -05 thru -07 for additional ITS cabinet details.
2. Minimum wire diameter indicated on connections between components.

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET SCHEMATIC

MARCH 2006

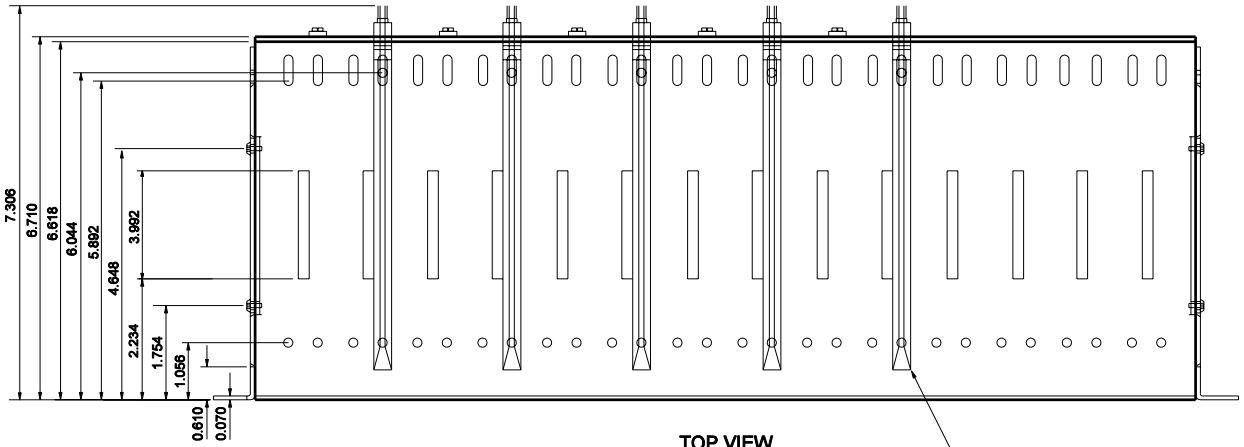
STANDARD DRAWING NO. E 809-ITSC-04

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

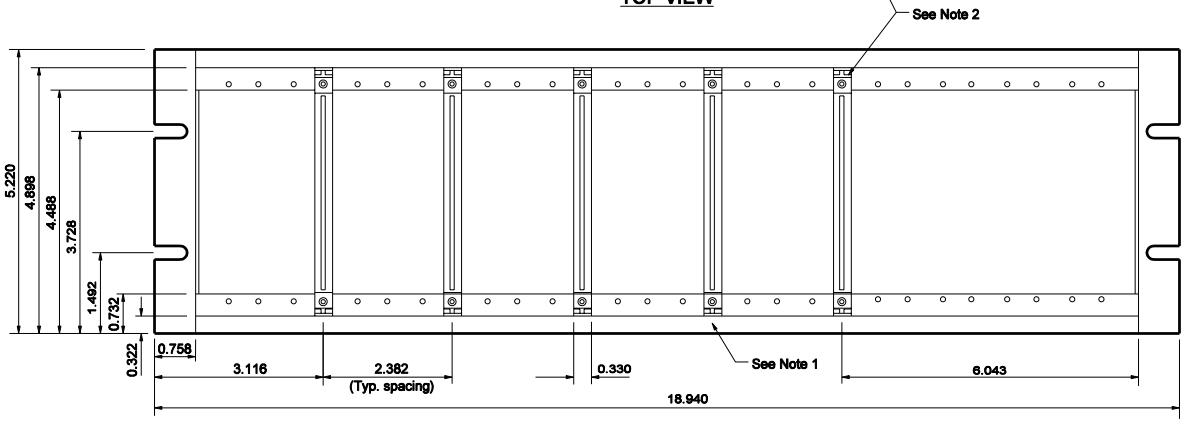
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

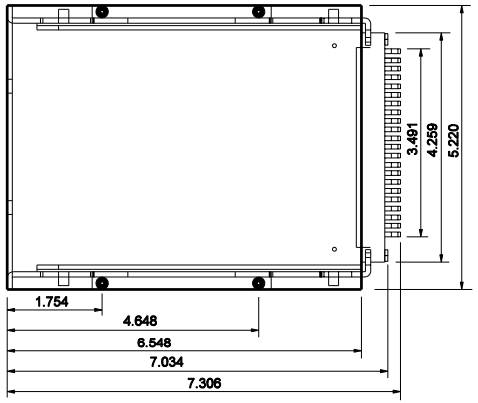
/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



TOP VIEW



FRONT VIEW



SIDE VIEW

NOTES:

1. Apply marker tape to front lip of input file chassis, top and bottom.
2. Card guides must line up with edge card connectors.
3. No card guide keys are to be installed in this assembly.
4. Depth does not include wiring.
5. See Standard Drawings E 809-ITCS-01 thru -04 or -06 thru -07 for additional ITS cabinet details.

All dimensions are in inches

INDIANA DEPARTMENT OF TRANSPORTATION

DETECTOR CARD RACK DETAIL

MARCH 2006

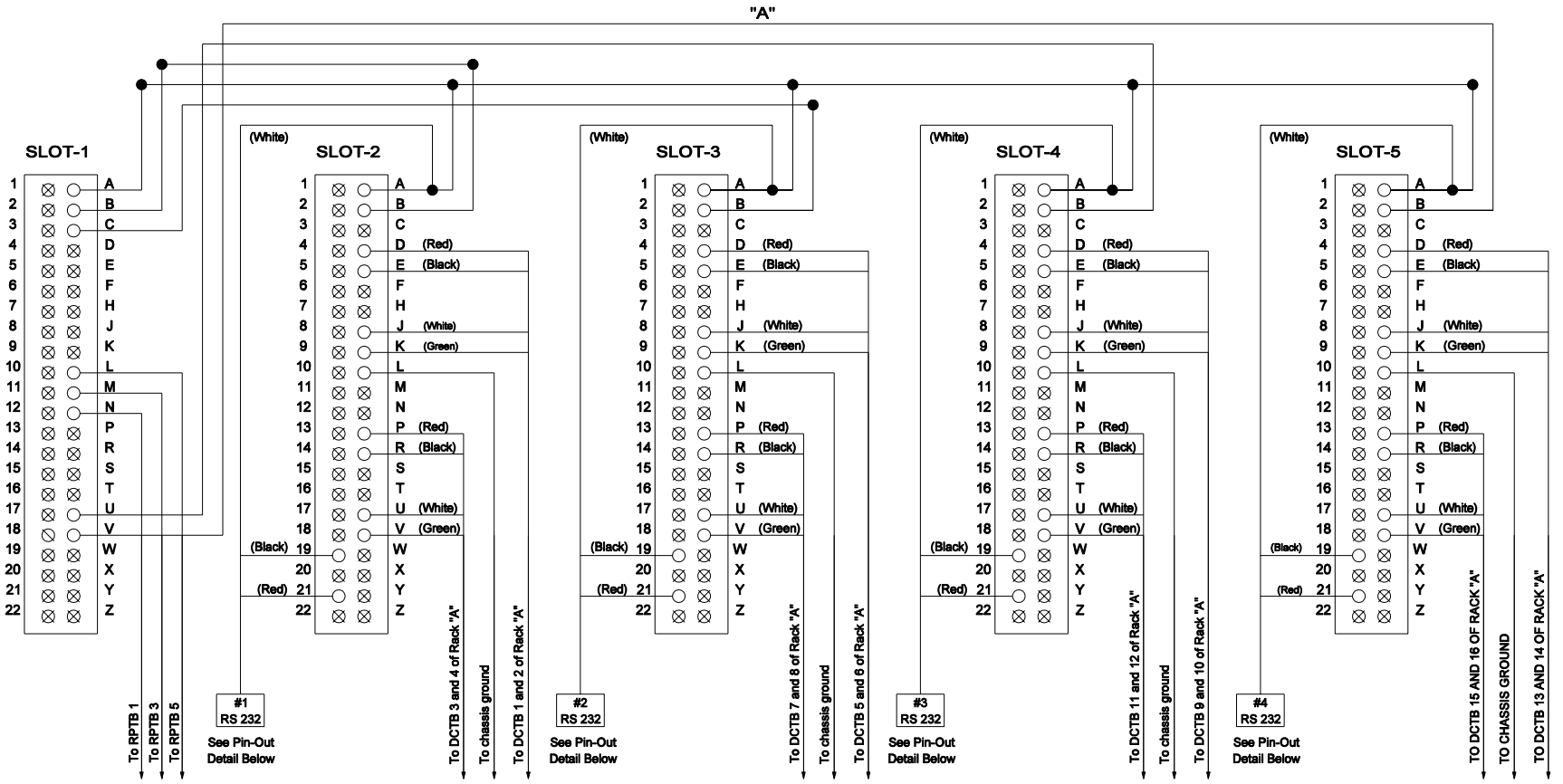
STANDARD DRAWING NO. E 809-ITSC-05

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE



PINS ON BACK OF CARD RACKGROUP "A" SHOWN. 4-SLOT RACK GROUPS "B", "C", "D" NOT SHOWN.

NOTES:

1. See Standard Drawings E 809-ITCS-01 thru-05 or -06A and -07 for additional ITS cabinet details.

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET MICROLOOP CARD RACK WIRING DIAGRAM

MARCH 2006

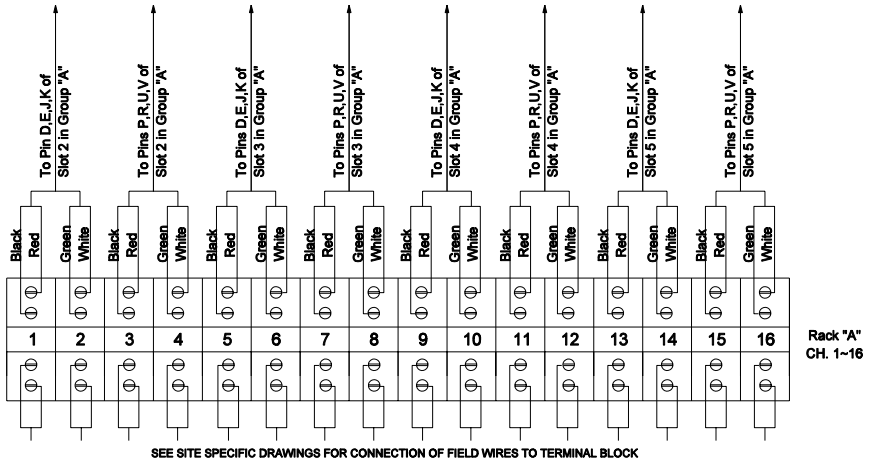
STANDARD DRAWING NO. E 809-ITSC-06

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — 3-01-06
DESIGN STANDARDS ENGINEER — DATE

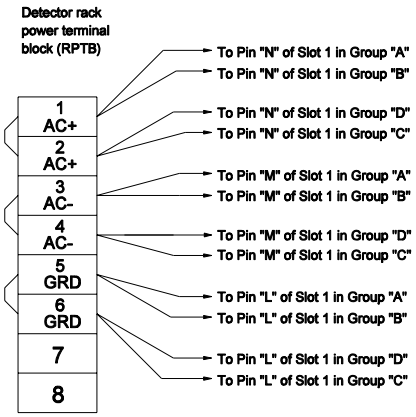
/s/ Richard K. Smutzer — 3-01-06
CHIEF HIGHWAY ENGINEER — DATE



SEE SITE SPECIFIC DRAWINGS FOR CONNECTION OF FIELD WIRES TO TERMINAL BLOCK

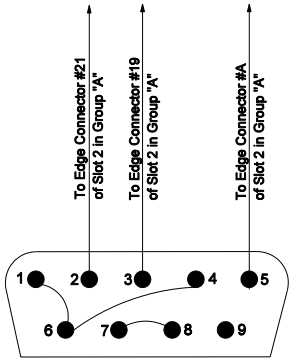
DETECTOR CARD DIN RAIL
TERMINAL BLOCKS (DCTB)

(16-BLOCK DIN RAIL GROUPS "B", "C", "D" NOT SHOWN)



NOTES:

1. Cables from rack to field terminal block shall be two pair twisted with a sheild on each pair.
2. Field terminal blocks shall be Entrelec #0115-271.22
3. Cables from rack to field terminal blocks shall be 10' in length with extra coiled P on end of rack.
4. Slot 1 for rack power module. Slots 2 through 5 are for canoga channel cards.
5. See Standard Drawings E 809-ITSC-01 thur -06 or -07 for additional ITS cabinet details.



#1 RS232

PIN-OUT DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

INDOT ITS CABINET MICROLOOP CARD RACK WIRING DIAGRAM

MARCH 2006

STANDARD DRAWING NO. E 809-ITSC-06A

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave — 3-01-06
DESIGN STANDARDS ENGINEER — DATE

/s/ Richard K. Smutzer — 3-01-06
CHIEF HIGHWAY ENGINEER — DATE

CABINET LIGHT
ON
○
OFF

RACK A	RACK B	RACK C	RACK D

Above tags are one each for a total of 4 tags.
RACK A, RACK B, RACK C, and RACK D

GFI RECEPTACLE	EQUIPMENT #1 RECEPTACLE #2

MAIN BREAKER

GFI	RECEP #1	RECEP #2	HEATER #1	HEATER #2	CABINET FANS	DETECTOR RACKS	SPARE

SURGE SUPPRESSOR

HEATER #2	HEATER #1

HEATER 1 and HEATER 2 are 1 tag Each.

HEATER RELAY #2	HEATER RELAY #1	HEATING THERMO STAT	COOLING FAN THERMO STAT

RACK A	RACK B	RACK C	RACK D

ALARM I/O MODULE

NOTES:

1. See Standard Drawings E 809-ITCS-01 thru -06A for additional ITS cabinet details.

INDIANA DEPARTMENT OF TRANSPORTATION

ENGRAVED TAG DETAIL

MARCH 2006

STANDARD DRAWING NO. E 809-ITSC-07

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

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-06
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-06
CHIEF HIGHWAY ENGINEER DATE