

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	I	18

INDEX OF SHEETS

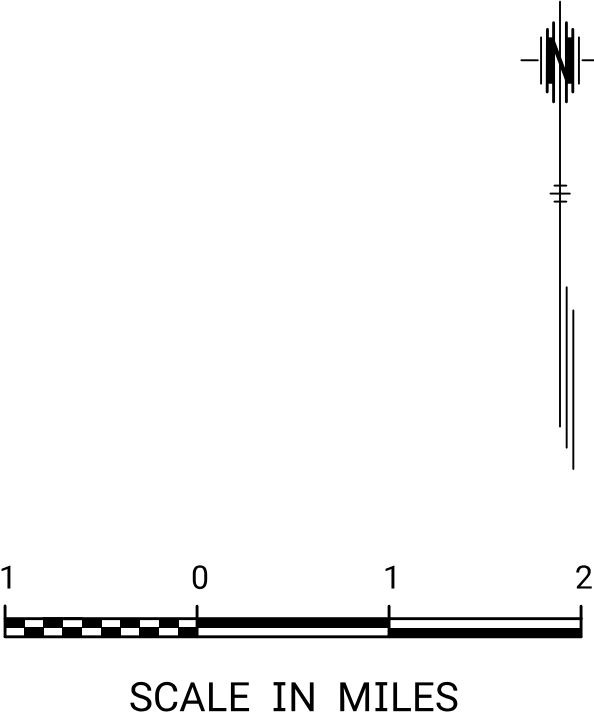
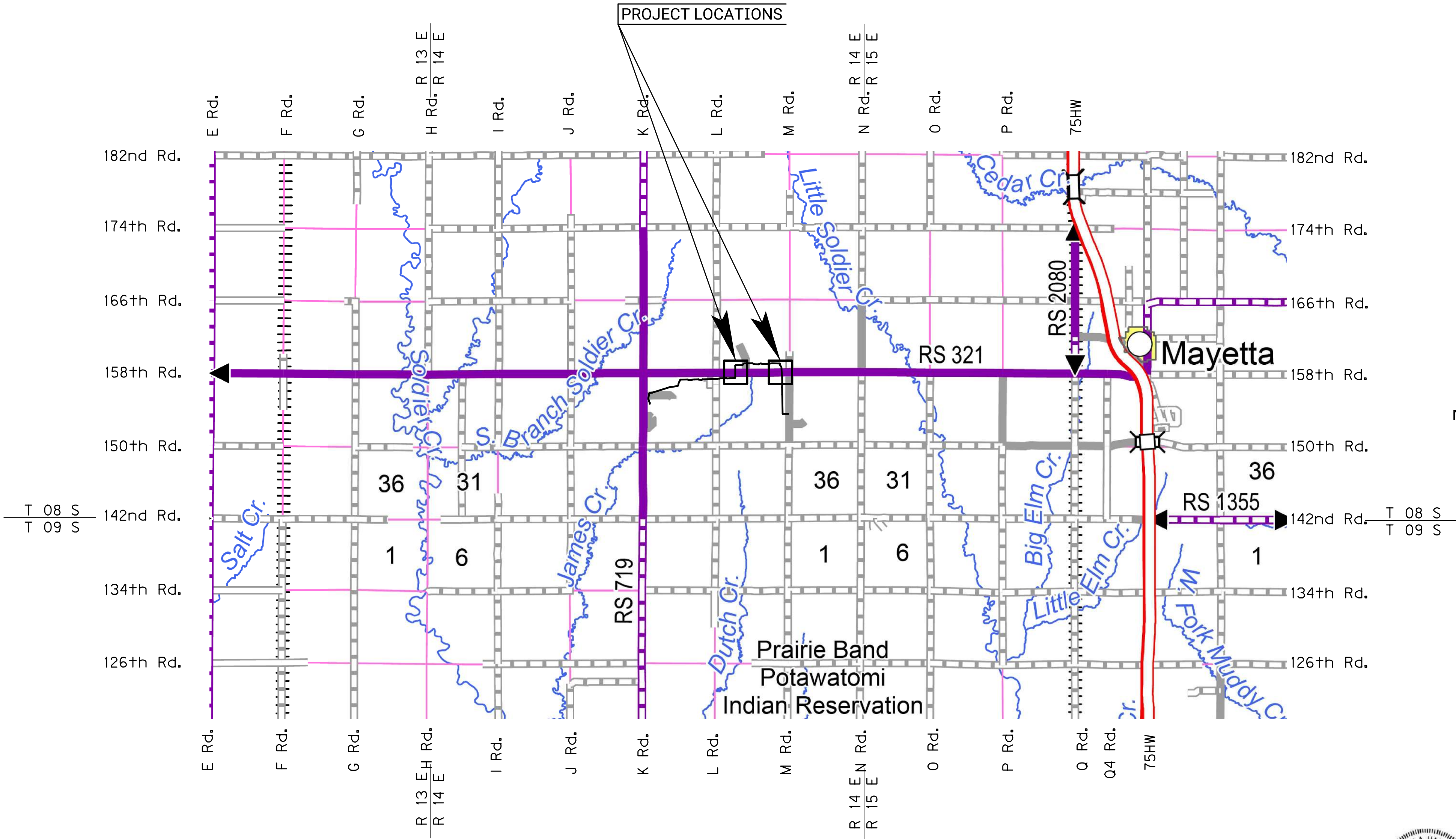
- 1 TITLE
- 2 GENERAL NOTES
- 3 PLAN SHEETS (WEST CROSSWALK)
- 4 PLAN SHEETS (EAST CROSSWALK)
- 5 PLAN DETAIL SHEET
- 6 PEDESTRIAN FLASHER SYSTEM DETAIL (WEST CROSSWALK)
- 7 PEDESTRIAN FLASHER SYSTEM DETAIL (EAST CROSSWALK)
- 8 TRAFFIC SIGNAL INSTALLATION DETAILS
- 9 PAVEMENT MARKING DETAILS
- 10 PAVEMENT MARKING SUMMARY OF QUANTITIES
- 11-18 TRAFFIC CONTROL

2023 TRAIL CROSSWALK INSTALLATION  
PRAIRIE BAND POTAWATOMI NATION  
JACKSON COUNTY, KANSAS

FLASHING CROSSWALK INSTALLATION  
PAVEMENT MARKINGS

BY	DATE
JAH	12/2022
JAH	01/2023
JAH	01/2023

SURVEYED	CADD TECHNICIAN	DESIGNED	SQUAD



NOTE: THE LATEST EDITION OF KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, ALONG WITH ANY ADDENDUMS, SHALL BE UTILIZED FOR THIS PROJECT

PLANS PREPARED BY  
FINNEY & TURNIPSEED  
TRANSPORTATION AND CIVIL ENGINEERING, L.L.C.  
TOPEKA, KANSAS



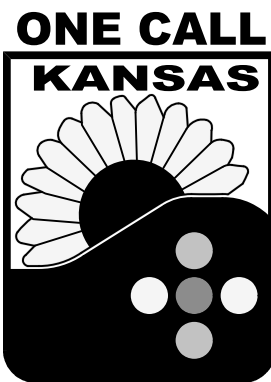
RECOM. FOR APPROVAL-DATE

PRAIRIE BAND POTAWATOMI NATION

CONVENTIONAL SIGNS	
COUNTY LINE .....	CENTER LINE OF PROJECT .....
CITY LIMITS .....	TERRACE .....
STATE OR NATIONAL LINE .....	CULVERTS .....
TOWNSHIP, SECTION or GRANT LINE .....	DROP INLET & STORM SEWER .....
PROPERTY LINE .....	ACCESS CONTROL .....
HIGHWAY FENCE .....	POWER POLE .....
EXISTING FENCE .....	TELEPHONE POLE .....
GUARDRAIL .....	MARSH .....
CONSTRUCTION LIMITS .....	HEDGE .....
RIGHT OF WAY LINE .....	TREES .....
TRAVELED WAY .....	PROFILE ELEVATION .....
RAILROADS .....	STREAM or CREEK .....

Drawn By : J. HARRINGTON  
File : Cross Walk Only - General Notes.dgn

KANSAS ONE-CALL:  
**1-800-DIG-SAFE**  
(1-800-344-7233)



Protect yourselves and your property against underground utility damage and liability.

Find out where the underground utility lines might be buried before you dig.

Anyone digging in Kansas must call before digging. The person who is doing the work is responsible for calling KOC. If the owner contracts with a professional excavator to do the excavation then the professional excavator is responsible for calling KOC.

You (the digger) will need to provide information about the work site when you call. This is a FREE service.

CALL BEFORE YOU DIG  
IT'S THE LAW.  
[Chapter 66.--PUBLIC UTILITIES  
Article 18.--UTILITY DAMAGE PREVENTION]

**NON-EMERGENCY UTILITY OWNER CONTACTS**

**Water**

Jackson County Rural Water District #3  
411 New York Avenue  
Holton, KS 66436  
Doug Savage  
(785)851--0088  
Kyle Ingels  
(785)364--7578  
rwdmgr@giantcomm.net

**Water**

Pottawatomie County Rural Water District #4  
6005 Camp Creek Road  
Belvue, KS 66407  
Office: (785)456--7935  
Cell: (785)456--4184  
rwd4pt@gmail.com

**Prairie Band Potowatomi Nation- Fiber Optic, Sewer, Water**

16281 Q Road  
Mayetta, KS 66509  
Shawn Kelly  
(785)260--1205

**Giant Communication**

418 West 5th St.  
Holton, KS 66436  
Travis Peek  
(785)851--1134

GENERAL NOTES

SPECIFICATIONS:

Specifications for this project shall be the Kansas Department of Transportation Standard Specifications for State Road and Bridge Construction where applicable and the Special Provisions. Specifically, the flasher system installation shall be constructed according to Section 814 of the Standard Specifications, as modified by these plans. As listed in Section 814 the electrical work shall be performed in accordance with The National Electric Code, The National Electric Safety Code, The Regulations of the National Board of Fire Underwriter, The Rural Utility Service, The Illumination Engineers Society, The Standards of the American Society for Testing and Materials, The American Accommodation Policy, Any Local Ordinances, and Details in the Contract Documents.

REPLACING DAMAGED IMPROVEMENT:

Replace all sidewalks, curbs, gutters, pavements and other improvements removed or damaged during installations of the lighting systems or traffic signals. Replace or reconstruct the removed or damaged improvements with the same type and quality of material originally used. If part of an existing slab of concrete pavement or square of sidewalk is removed or damaged, replace the entire slab or square. This work shall be subsidiary to other item of the contract.

CERTIFICATION OF CONTRACTOR PERSONNEL:

All flasher system installation work shall be done by, or in the presence of and under the responsible charge of an employee of the Contractor who holds a Level II Traffic Signal Field Technician or Level II Traffic Signal Construction Technician certification which has been granted by the International Municipal Signal Association (IMSA), or an equivalent certification approved by the Project Engineer. Proof of certification must be readily available to the Project Engineer.

MATERIAL LIST:

The Contractor shall submit a materials list before the commencement of construction. Most materials are are given in the plans, however the Contractor shall verify all materials stated in the plans are in supply and give a certification letter assuring that these are the materials that will be used in the installation. If the Contractor wishes to use materials in place of what is shown in the plans, those materials must be on that list. Any additional materials to those shown in the plans, but required for installation, must be itemized on the material list.

PERMANENT PAVEMENT MARKINGS:

Traffic shall be temporarily guided with a flagger during the removal of the existing pavement markings and the installation of the new pavement markings. The work shall be done to leave one lane open while the other lane is removed or striped. Pavement Marking Material shall fall under KDOT's list of Intersection Grade Pavement Markings. The Contractor shall submit the specific type with the materials list before beginning construction.

INCIDENTAL GRADING AND SEEDING:

The incidental site grading and restoration as well as seeding, fertilizing and mulching of the disturbed area shall be subsidiary to other items in the contract. This includes any disturbed areas due to trenching the power service lines or areas adjacent to the pedestrian flasher footings. Permanent Seeding mixtures shall be as follows:

200 PLS/Acre Fertilizer (13-13-13)  
0.5 PLS/Acre Seed (Lovington Blue Grama Grass)  
4.5 PLS/Acre Seed (Treated Buffalograss)  
45 PLS/Acre Seed (Perennial Ryegrass)  
2.6 PLS/Acre Seed (Prairie Junegrass)  
6.3 PLS/Acre Seed (El Reno Side Oats Grama Grass)  
45 PLS/Acre Seed (Fescue)(Tall)(Endophyte-Free)  
6 PLS/Acre Seed (Barton Western Wheatgrass)

EROSION CONTROL:

The Contractor shall use Best Management Practices to prevent the erosion of soil that was disturbed due to construction. This may include protecting stockpiles that accumulated from footing excavations or trenches. Protecting stockpile shall be done with a perimeter of biologs or by placing a ditch check down stream. If any disturbed area is to be left for more than 14 days, it shall recieve Temporary Seeding and Mulching. The Temporary Seeding Mix shall be as follows:

150 PLS/Acre Fertilizer (15-30-15)  
20 PLS/Acre Seed (Canada Wild Rye)  
45 PLS/Acre Seed (Grain Oats)  
34 PLS/Acre Seed (Sterile Wheatgrass)

Due to the small project area and limited disturbances, all Erosion Control is subsidiary to other bid items of the contract.

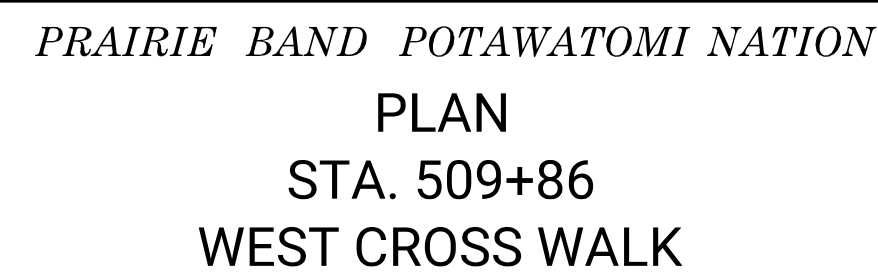
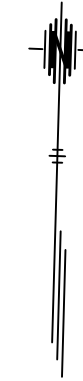
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	2	18

PRAIRIE BAND POTAWATOMI NATION			
GENERAL NOTES			
DESIGNED DESIGN CK.	DETAILED DETAIL CK.	QUANTITIES QUAN.CK.	



NW Cor. Sec. 26, T8S, R14E, & P.I. at Sta. 586+28.88  
 1.) Found bar with cap 2" below asphalt surface  
 2.) Top 24" CMP S.E. quadrant L & 158th 57.32' S.E.  
 3.) Top 30" CMP N.E. quadrant L & 158th 54.70' N.E.  
 4.) North Edge Asphalt Sidewalk 65.66' S.  
 5.) N: 371, 318.60 , E: 1,925, 851.50

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	3	18

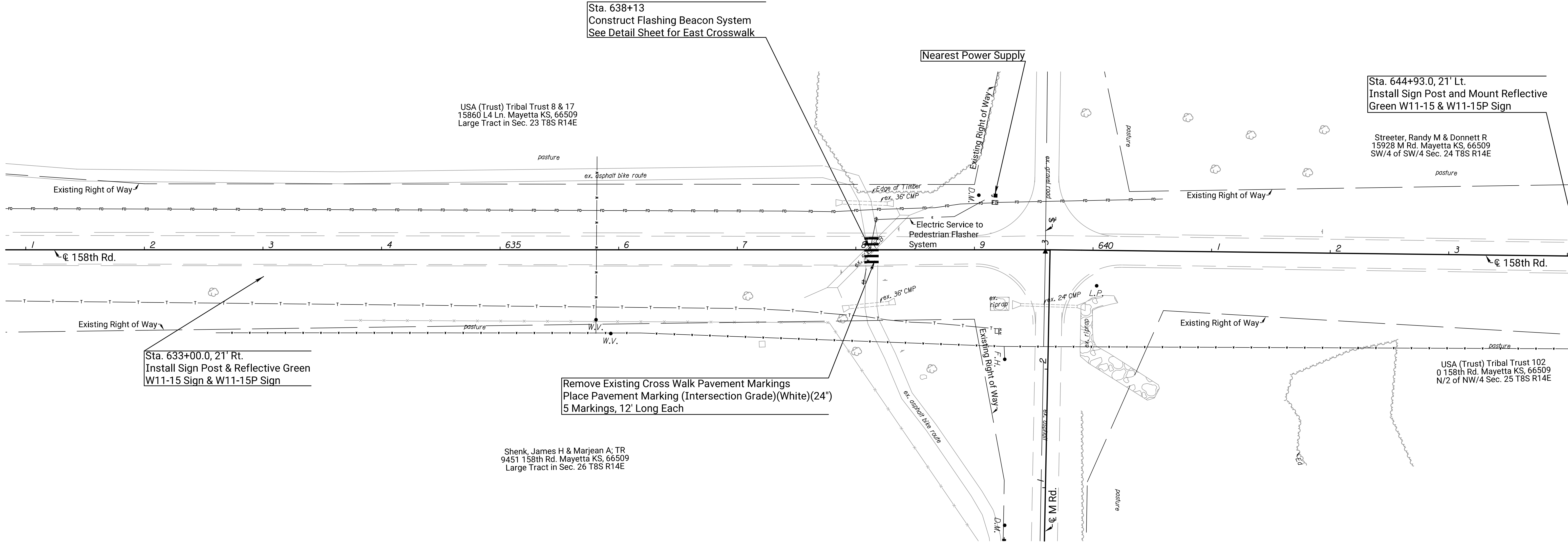


℄ P.I. Sta. 613+00.37  
1.) Not Set  
2.) N: 371,402.85 , E: 1,928,521.66

Reference Point= ℄ Sta. 621+17.33, 51.16' Lt.  
1.) Set bar with cap 2" below vegetated surface  
2. Top East End 18" CMP 23.44' S.  
3. Southeast Corner Fence Post 33.15' S.W.  
4. South Edge Asphalt Sidewalk 4.60' N.  
5.) N: 371,480.49 , E: 1,929,236.23

℄ P.I. Sta. 639+63.77  
1.) Not Set  
2.) N: 371,501.34 , E: 1,931,183.24

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	4	18

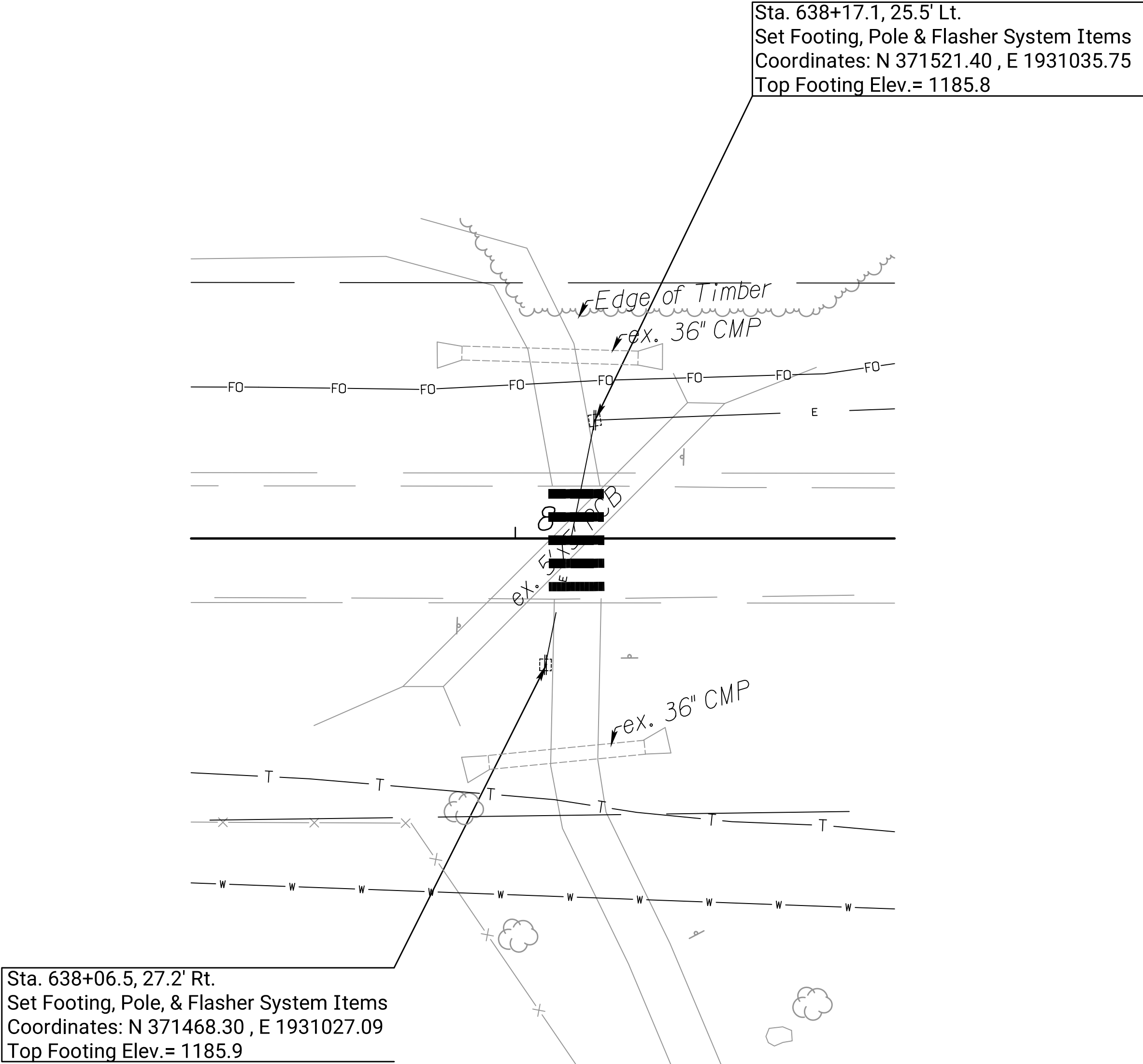
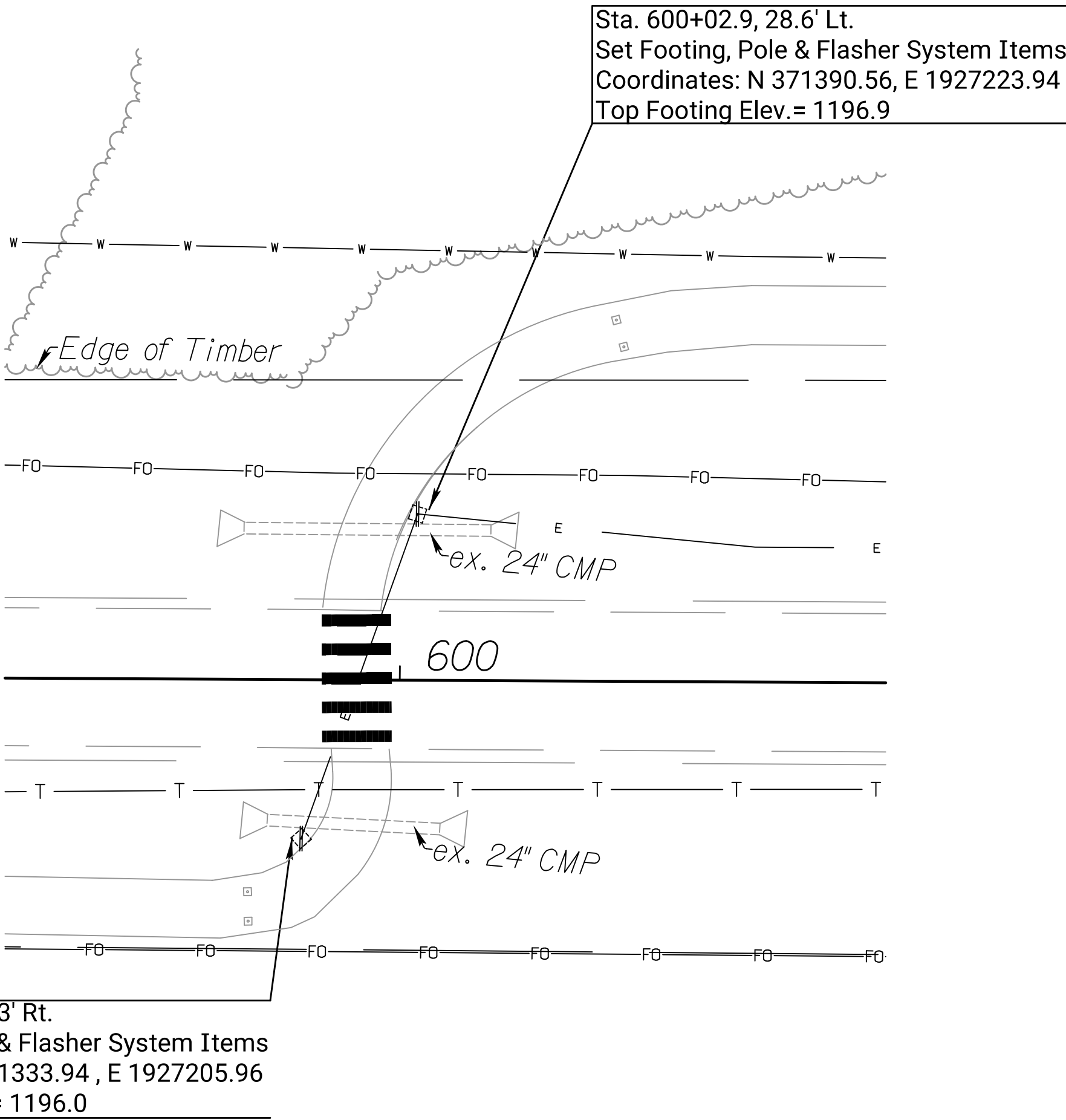


NOTE: Crosswalk Pavement Markings shall be placed parallel to the direction of traffic flow. The line placement is determined by lane line, center line, and wheel path in such a manner as to minimize traffic wear.

BM #2: "O" in Open on Fire Hydrant  
Sta. 639+25.54, 92.32' Rt., Elev.= 1193.21

PRAIRIE BAND POTAWATOMI NATION  
PLAN  
STA. 638+13  
EAST CROSS WALK

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	5	18



NOTE: Set top of footing to the elevations shown or 2 inches above the adjacent ground.  
The face of the footing shall set adjacent to the face of the trail.

CAUTION: Take care not to damage the adjacent CMPs when excavating for the footings.

FLASHER SYSTEM NOTES:

The Bid Item "Pedestrian Flasher System" will include all the maerial, equipment, and labor to make a crosswalk system (2 poles with each having components) operational with a 120v AC power source. This includes, but not limited to, poles, bases, signs, beacons, radios, mounting hardware, wiring, concrete, reinforcement, and any other incidentals.

Control cabinet to be NEMA 4 rated with lockable clasps. Controller to allow a five (5) second delay from the time the vehicle flashers start to the time the pedestrian flashers start and then allow 17 seconds of flashing for the pedestrian to cross the road.

Rectangular Rapid Flashing Beacon (RRFB) shall meet or exceed FHWA standards. RRFB will be SAE J595 Class One Certified and flash in a yellow wigwag pattern. Housing color may be as per manufacture. Banding to be stainless steel or zinc-plated steel.

All signs shall be diamond grade sheeting on 0.08" aluminum panel.

The lightbar bracket shall be constructed from 3/16" galvanized steel and shall be able to be mounted to all specified pole types.

The lightbar assembly shall open for access to and wiring connections to the LED indicators. LED indicators shall be rated to MIL-STD-810F, Method 506.4 for ingress protection.

The flash duration of the LED indicators shall be adjustable in-the-field to one second increments.

The system shall provide configurable night time intensity settings and shall be able to enable and disable low ambient light dimming. Flash duration and other in-the-field adjustable settings shall be automatically broadcast to all units in the system, except channel selection which shall be configured on each unit.

The Push Button & R10-25 may be mounted separate or a assembly product may be used. Alternate products may be used with approval from the Project Engineer. The Push Button must be audible and ADA Compliant.

POWER SERVICE CONNECTION NOTES:

Meter box to be furnished by and installed by the Contractor.

The meter, circuit breaker assembly or Type A meter pedestal, entrance junction box, and remote power safety switch or regulator shall be mounted on a steel frame constructed of channel steel. The frame shall not be secured to the controller cabinet, but anchored to the base with channel steel. These to be of an approved design. Conduit and Cable from the meter shall enter the signal system controller through the base of the pedestal footing.

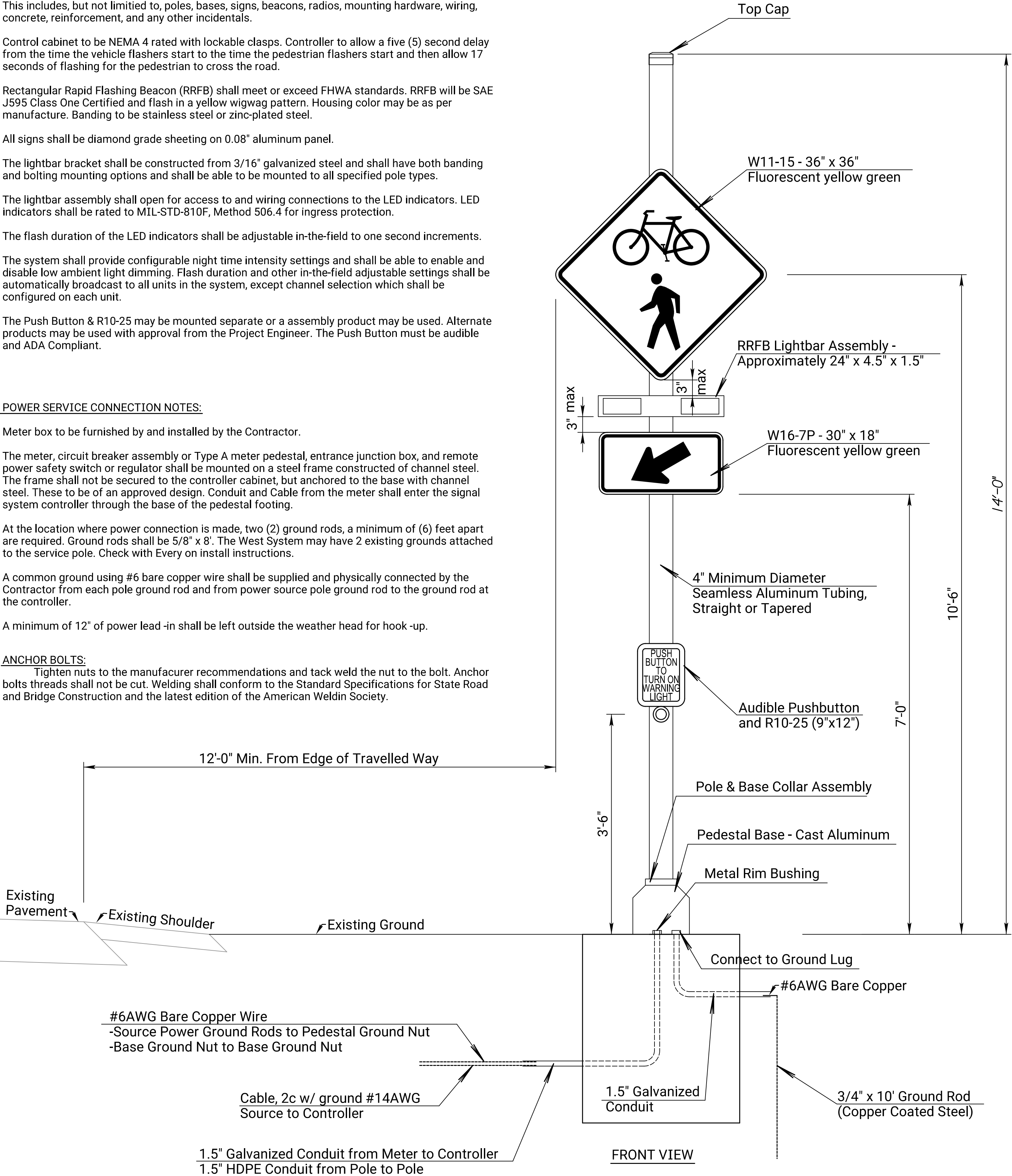
At the location where power connection is made, two (2) ground rods, a minimum of (6) feet apart are required. Ground rods shall be 5/8" x 8'. The West System may have 2 existing grounds attached to the service pole. Check with Every on install instructions.

A common ground using #6 bare copper wire shall be supplied and physically connected by the Contractor from each pole ground rod and from power source pole ground rod to the ground rod at the controller.

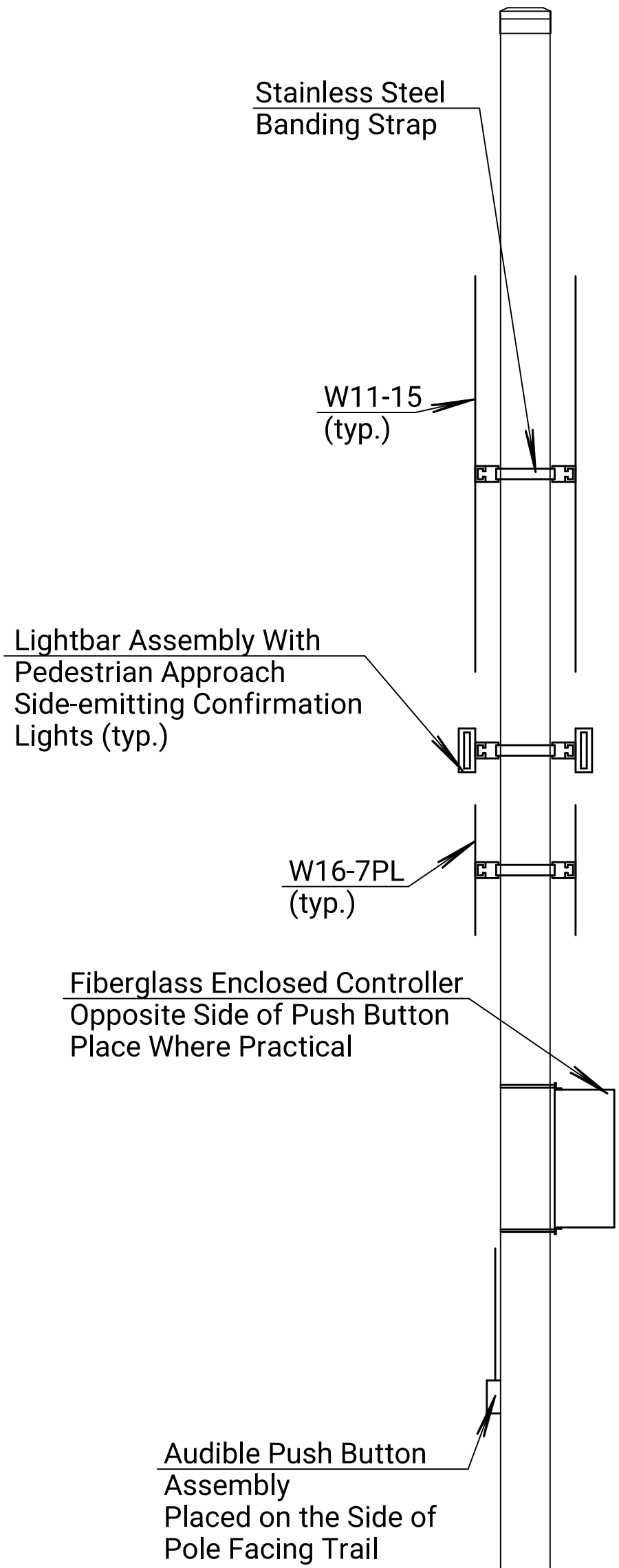
A minimum of 12" of power lead -in shall be left outside the weather head for hook -up.

ANCHOR BOLTS:

Tighten nuts to the manufacurer recommendations and tack weld the nut to the bolt. Anchor bolts threads shall not be cut. Welding shall conform to the Standard Specifications for State Road and Bridge Construction and the latest edition of the American Weldin Society.



FRONT VIEW



SIDE VIEW

SUMMARY OF QUANTITIES -FOR INFORMATION ONLY  
(Subsidiary to "Flashing Beacon System")

ITEM DESCRIPTION	QUANTITY	UNITS	NOTES
Aluminum Pole	2	Each	Pelco PB-5100, PNC
Pedestal Base with Ground Lug	2	Each	Pelco PB-5335, PNC
Pole & Base Collar Assembly	2	Each	Pelco PB-5325, PNC
Mechanically Secured Pole Cap	2	Each	Pelco PB-5402, PNC
Controller	1	Each	Trafficalm M75-SA300-CTLA
RRFB Lightbar Assembly, 75' Harness	2	Each	△△ - See note below
RRFB Lightbar Assembly, 15' Harness	2	Each	Trafficalm M75-SA328-0000
W11-15 (36"x36") with LED Ring	4	Each	Trafficalm M75-R3636-BA47 LED Ring. 2 w/ 90' Harnesses, 2w/ 15' Harnesses
W16-7PL (30"x18")	2	Each	Fluorescent yellow green
W16-7PR (30"x18")	2	Each	Fluorescent yellow green
Push Button & R10-25 Assembly	2	Each	Polara inX9WB0-Y
Stainless Steel Banding Straps	12	Each	KDOT 206 Specification
Anchor Bolt Set of 4	2	Each	Pelco PB-5306-GLV
15 Amp Breaker and Panel	1	Each	Siemens - Q One Pole
#6AWG Bare Copper Wire	1,210	Lin. Ft.	See KDOT Pre-Qualified Materials
5/8" Ground Rod Clamp	4	Each	Blackburn JAB34H
5/8" Ground Rod	4	Each	Galvan 7510 or Blackburn 7510
Metal Bushing	2	Each	O-Z/Gedney
Concrete Grade 4.0 (AE)	1.5	Cu. Yds.	Commercial Grade KDOT Approved Mix
Reinforcing Steel (Grade 60)	50	Lbs.	See TE111B
Cable (2c with ground, #14AWG)	1,100	Lin. Ft.	See KDOT Pre-Qualified Materials
1.5" Conduit (Galvanized)	1,100	Lin. Ft.	See KDOT Pre-Qualified Materials
1.5" Conduit (HDPE)	60	Lin. Ft.	See KDOT Pre-Qualified Materials
Meter Box & Service Connection	1	Each	Evergy Approved

△△Trafficalm M75-SA328-7500, Requires two additional 15' harnesses & waterproof splice in pole base. Use 3M ScotchLok #314 Connector

The HDPE Conduit between Poles that Crosses 158th Rd. will need to be Bored, Jacked, or Tunnelled. This is subsidiary to the flasher system bid item.

The Galvanized Conduit that Crosses L4 Rd. will need to be Bored, Jacked, or Tunnelled. This is subsidiary to the flasher system bid item.

If the Contractor wishes to use parts other than shown in the notes column, those parts shall be on the KDOT pre-qualified materials list or approved by the Project Engineer prior to installation. Any parts not specifically mentioned shall be on the KDOT pre-qualified materials list or approved by the Project Engineer.

The bid item "Flashing Beacon System (West)" shall be paid for by the lump sum. The signal system shall be complete and the Contractor shall install all equipment and materials necessary for the satisfactory operation of the system whether specifically mentioned or not.

SUMMARY OF BID ITEMS - WEST CROSSWALK

ITEM DESCRIPTION	QUANTITY	UNITS
Flashing Beacon System (West)	1	LUMP SUM
Install Permanent Sign (2 Each- W11-15 & W11-15P)	4	EACH
Install Permanent Sign Post	2	EACH

PRAIRIE BAND POTAWATOMI NATION

PEDESTRIAN FLASHER SYSTEM DETAIL  
STA. 509+86 - WEST CROSSWALK

DESIGNED JAH DESIGN CK.	DETAILED JAH DETAIL CK.	QUANTITIES JAH QUAN.CK.	
----------------------------	----------------------------	----------------------------	--



FLASHER SYSTEM NOTES

The Bid Item "Pedestrian Flasher System" will include all the maerial, equipment, and labor to make a crosswalk system (2 poles with each having components) operational with a 120v AC power source. This includes, but not limited to, poles, bases, signs, beacons, radios, mounting hardware, wiring, concrete, reinforcement, and any other incidentals.

Control cabinet to be NEMA 4 rated with lockable clasps. Controller to allow a five (5) second delay from the time the vehicle flashers start to the time the pedestrian flashers start and then allow 17 seconds of flashing for the pedestrian to cross the road.

Rectangular Rapid Flashing Beacon (RRFB) shall meet or exceed FHWA standards. RRFB will be SAE J595 Class One Certified and flash in a yellow wigwag pattern. Housing color may be as per manufacture. Banding to be stainless steel or zinc-plated steel.

All signs shall be diamond grade sheeting on 0.08" aluminum panel.

The lightbar bracket shall be constructed from 3/16" galvanized steel and shall be able to be mounted to all specified pole types.

The lightbar assembly shall open for access to and wiring connections to the LED indicators. LED indicators shall be rated to MIL-STD-810F, Method 506.4 for ingress protection.

The flash duration of the LED indicators shall be adjustable in-the-field to one second increments.

The system shall provide configurable night time intensity settings and shall be able to enable and disable low ambient light dimming. Flash duration and other in-the-field adjustable settings shall be automatically broadcast to all units in the system, except channel selection which shall be configured on each unit.

The Push Button & R10-25 may be mounted separate or a assembly product may be used. Alternate products may be used with approval from the Project Engineer. The Push Button must be audible and ADA Compliant.

POWER SERVICE CONNECTION NOTES

Meter box to be furnished by and installed by the Contractor.

The meter, circuit breaker assembly or Type A meter pedestal, entrance junction box, and remote power safety switch or regulator shall be mounted on a steel frame constructed of channel steel. The frame shall not be secured to the controller cabinet, but anchored to the base with channel steel. These to be of an approved design. Conduit and Cable from the meter shall enter the signal system controller through the base of the pedestal footing.

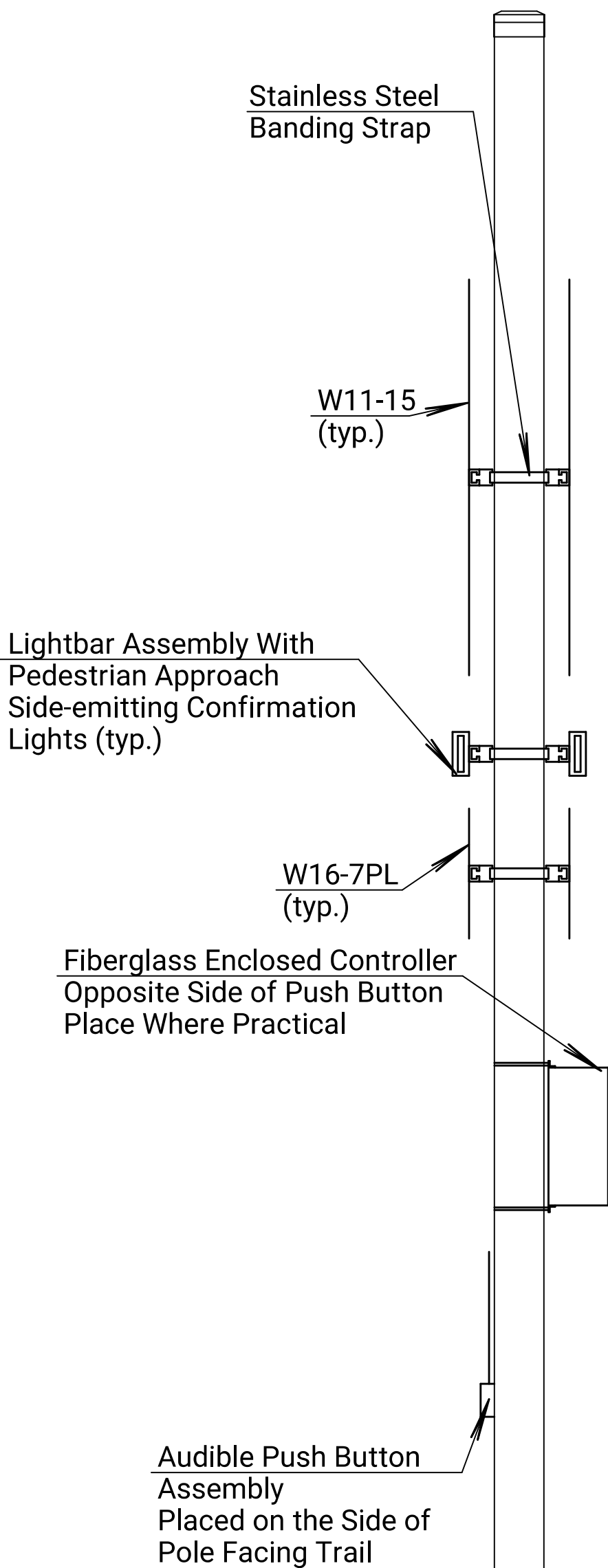
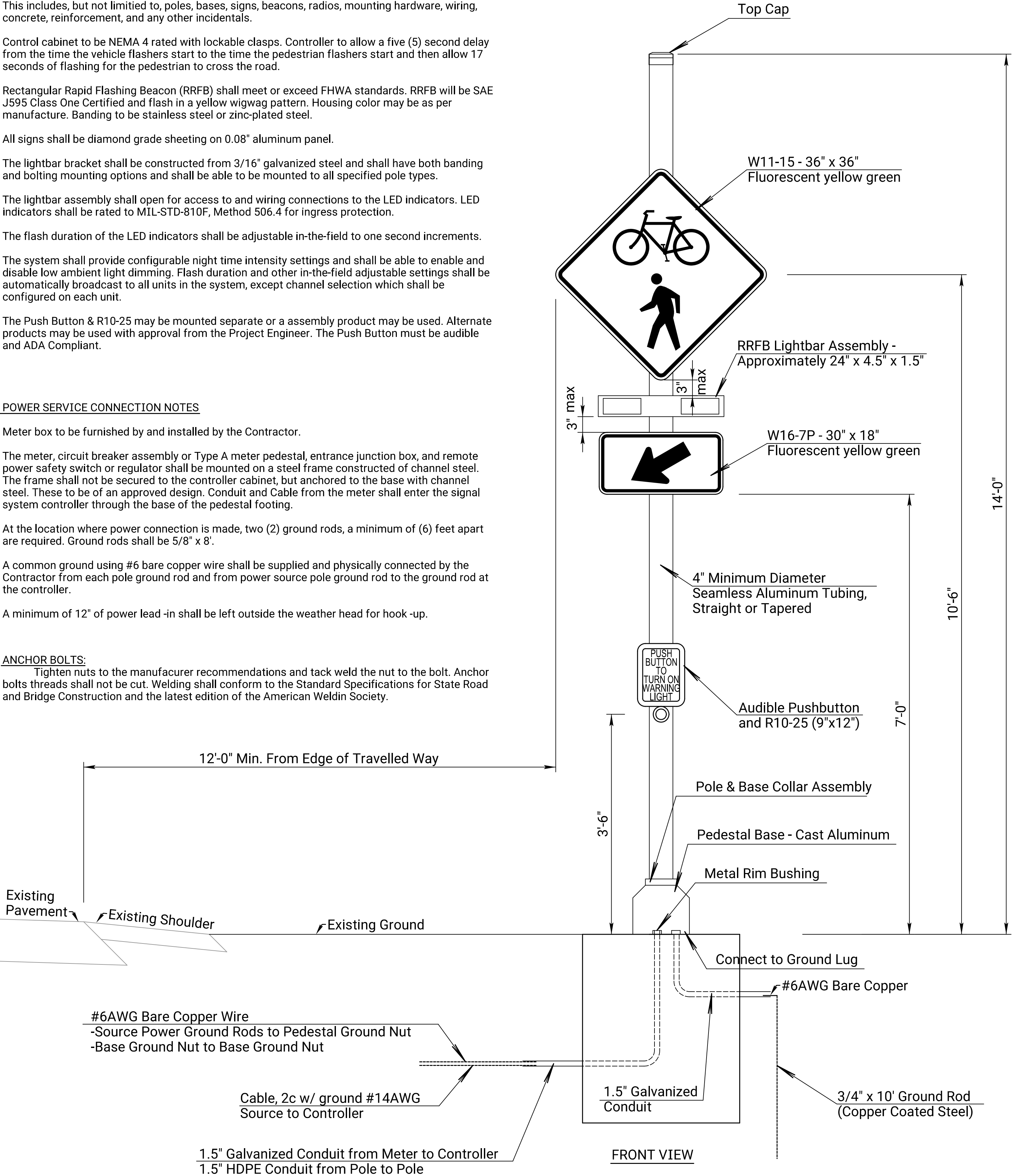
At the location where power connection is made, two (2) ground rods, a minimum of (6) feet apart are required. Ground rods shall be 5/8" x 8'.

A common ground using #6 bare copper wire shall be supplied and physically connected by the Contractor from each pole ground rod and from power source pole ground rod to the ground rod at the controller.

A minimum of 12" of power lead -in shall be left outside the weather head for hook -up.

ANCHOR BOLTS:

Tighten nuts to the manufacurer recommendations and tack weld the nut to the bolt. Anchor bolts threads shall not be cut. Welding shall conform to the Standard Specifications for State Road and Bridge Construction and the latest edition of the American Weldin Society.



SUMMARY OF QUANTITIES -FOR INFORMATION ONLY  
(Subsidiary to "Flashing Beacon System")

ITEM DESCRIPTION	QUANTITY	UNITS	NOTES
Aluminum Pole	2	Each	Pelco PB-5100, PNC
Pedestal Base with Ground Lug	2	Each	Pelco PB-5335, PNC
Pole & Base Collar Assembly	2	Each	Pelco PB-5325, PNC
Mechanically Secured Pole Cap	2	Each	Pelco PB-5402, PNC
Controller	/	Each	Trafficalm M75-SA300-CTLA
RRFB Lightbar Assembly, 75' Harness	2	Each	Trafficalm M75-SA328-7500
RRFB Lightbar Assembly, 15' Harness	2	Each	Trafficalm M75-SA328-0000
W11-15 (36"x36") with LED Ring	4	Each	Trafficalm M75-R3636-BA47 LED Ring. 2 w/ 90' Harness, 2 w/ 15' Harness
W16-7PL (30"x18")	2	Each	Fluorescent yellow green
W16-7PR (30"x18")	2	Each	Fluorescent yellow green
Push Button & R10-25 Assembly	2	Each	Verbal with Braille message
Stainless Steel Banding Straps	12	Each	KDOT 206 Specification
Anchor Bolt Set of 4	2	Each	Pelco PB-5306-GLV
15 Amp Breaker & Panel	1	Each	Siemens - Q One Pole
#6AWG Bare Copper Wire	235	Lin. Ft.	See KDOT Pre-Qualified Materials
5/8" Ground Rod Clamp	4	Each	Blackburn JAB34H
5/8" Ground Rod	4	Each	Galvan 7510 or Blackburn 7510
Metal Bushing	2	Each	O-Z/Gedney
Concrete Grade 4.0 (AE)	1.5	Cu. Yds.	Commercial Grade KDOT Approved Mix
Reinforcing Steel (Grade 60)	50	Lbs.	See TE111B
Cable (2c with ground, #14AWG)	150	Lin. Ft.	See KDOT Pre-Qualified Materials
1.5" Conduit (Galvanized)	150	Lin. Ft.	See KDOT Pre-Qualified Materials
1.5" Conduit (HDPE)	60	Lin. Ft.	See KDOT Pre-Qualified Materials
Meter Box & Service Connection	1	Each	Evergy Approved

The HDPE Conduit between Poles that Crosses 158th Rd. will need to be Bored, Jacked, or Tunnelled.

If the Contractor wishes to use parts other than shown in the notes column, those parts shall be on on the KDOT pre-qualified materials list or approved by the Project Engineer prior to installation. Any parts not specifically mentioned shall be on the KDOT pre-qualified materials list or approved by the Project Engineer.

The bid item "Flashing Beacon System (East)" shall be paid for by the lump sum. The signal system shall be complete and the Contractor shall install all equipment and materials necessary for the satisfactory operation of the system whether specifically mentioned or not.

SUMMARY OF BID ITEMS - EAST CROSSWALK

ITEM DESCRIPTION	QUANTITY	UNITS
Flashing Beacon System (East)	1	LUMP SUM
Install Permanent Sign (2 Each- W11-15 & W11-15P)	4	EACH
Install Permanent Sign Post	2	EACH

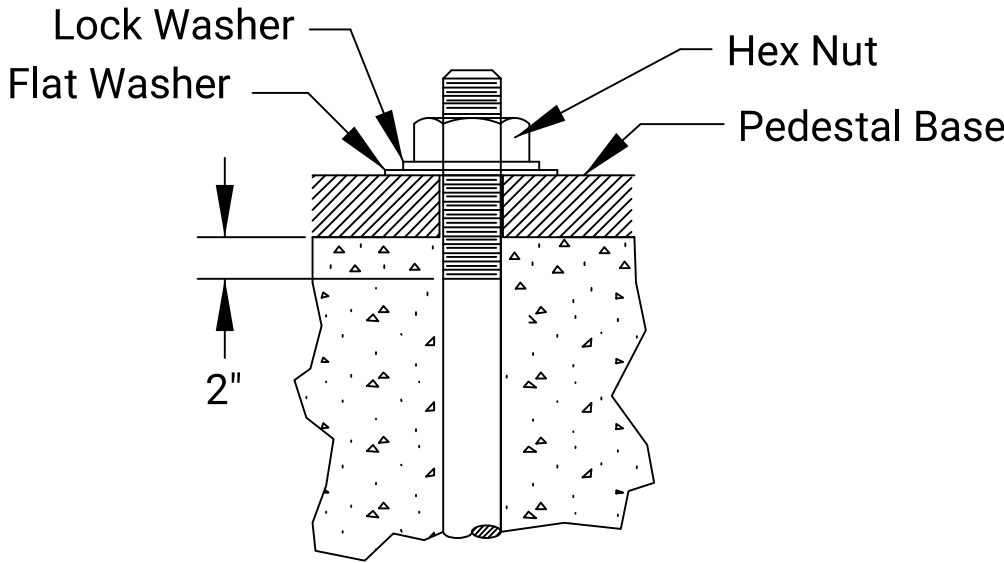
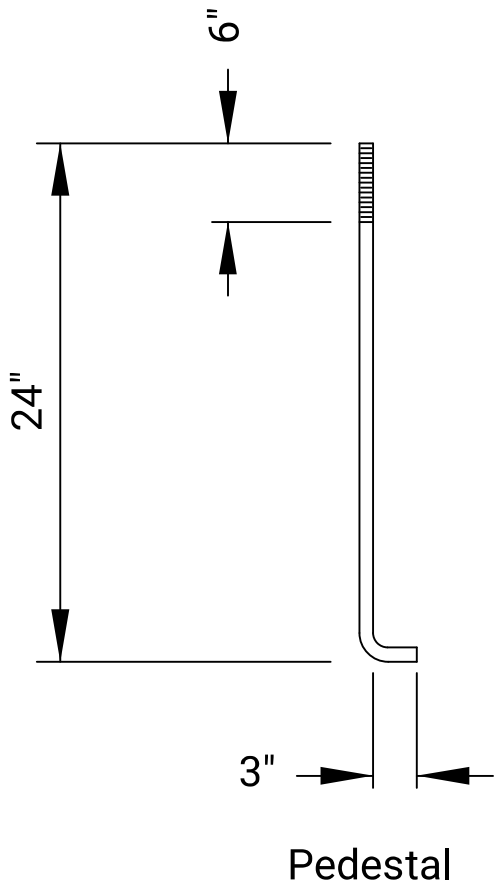
PRAIRIE BAND POTAWATOMI NATION

PEDESTRIAN FLASHER SYSTEM DETAIL  
STA. 538+I3 - EAST CROSSWALK

DESIGNED JAH DESIGN CK.	DETAILED JAH DETAIL CK.	QUANTITIES JAH QUAN.CK.	
----------------------------	----------------------------	----------------------------	--

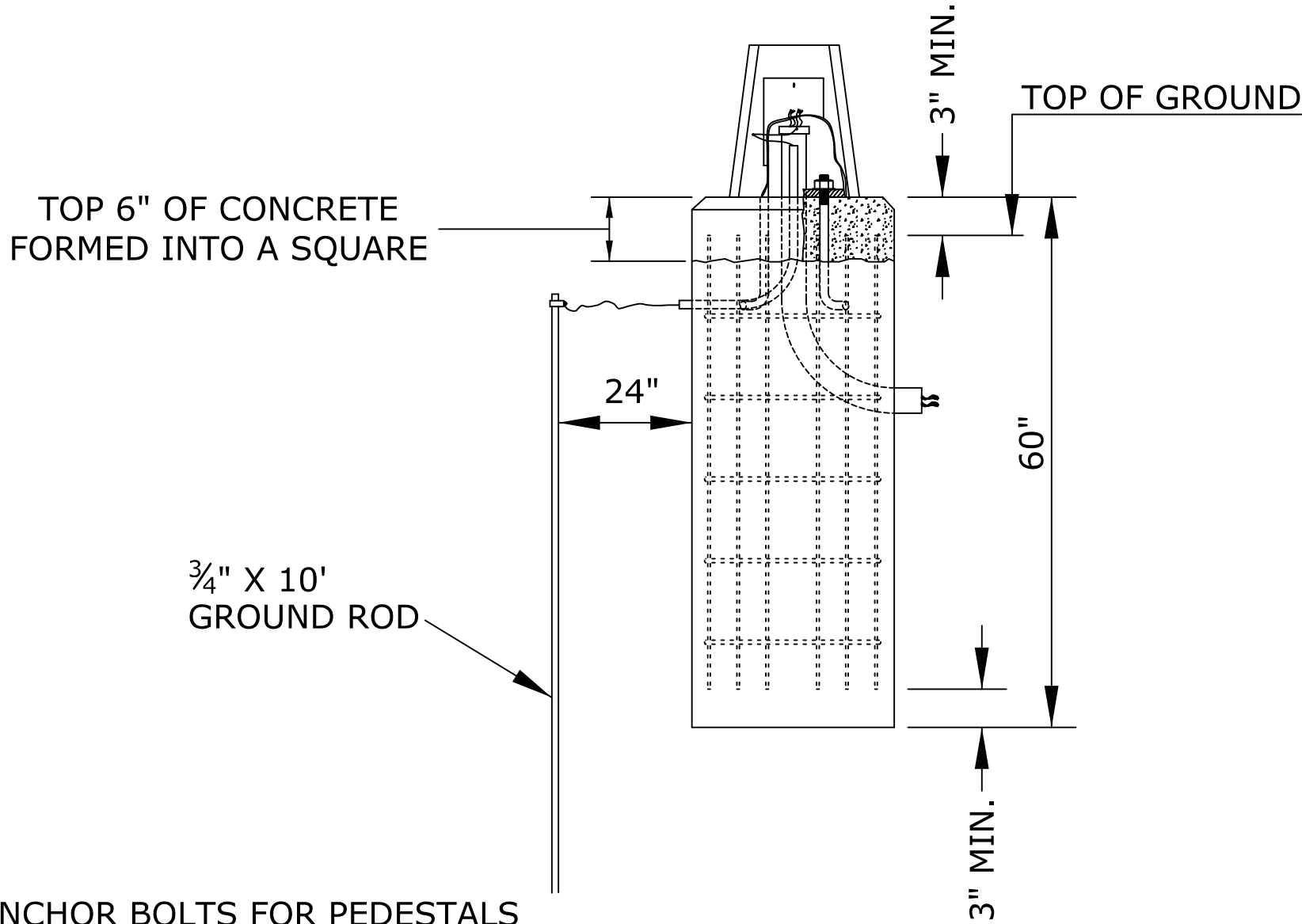
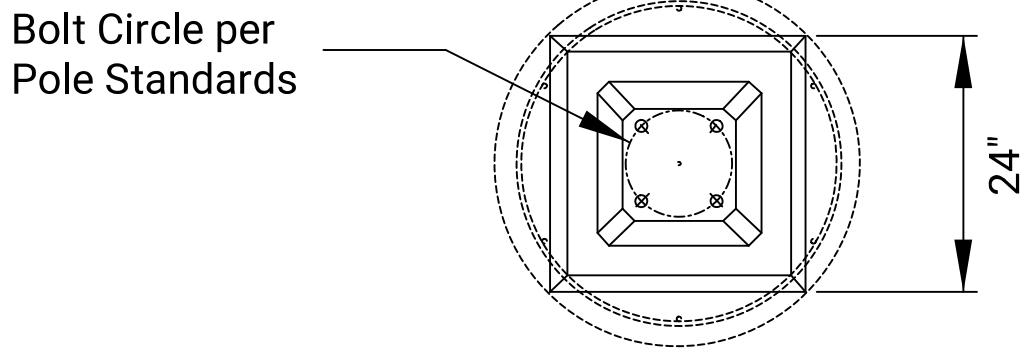
Drawn By : CAM  
File : te111b.dgn  
Plotted : 11/17/2023 9:36:20 AM

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	8	18



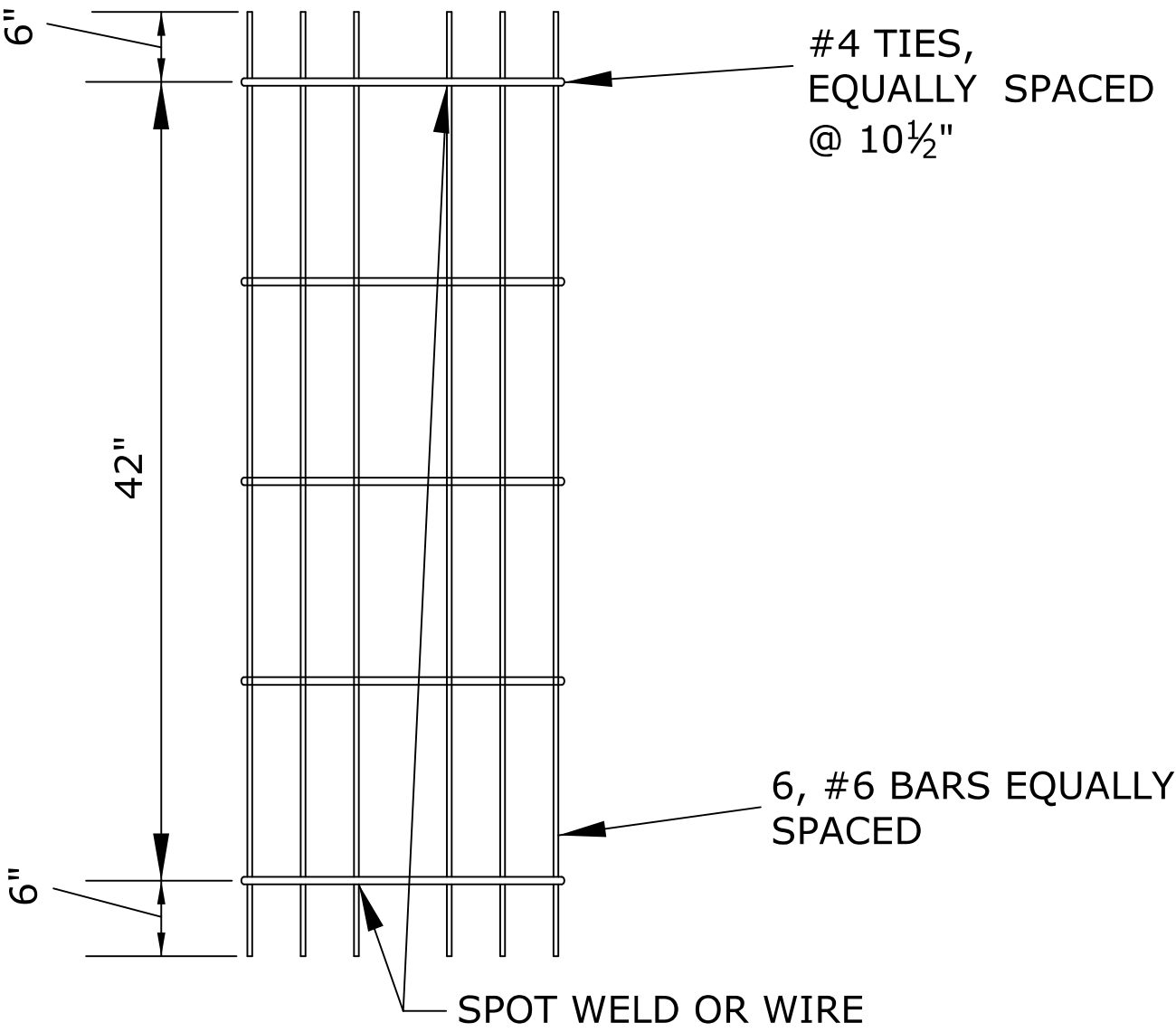
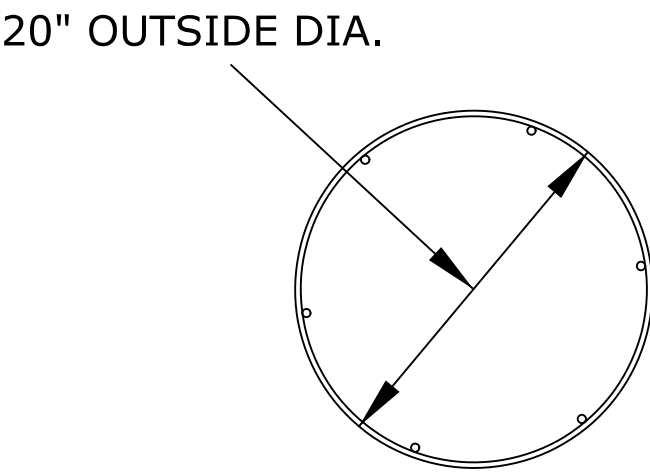
DIMENSIONS SHOWN ARE TYPICAL ONLY.  
ACTUAL DIMENSIONS SHALL BE SUPPLIED  
BY THE MANUFACTURER.

PEDESTAL ANCHOR  
BOLT DETAIL



ANCHOR BOLTS FOR PEDESTALS  
SHALL BE VISUALLY ACCEPTED.

PEDESTAL AND  
BASE DETAIL



PEDESTAL REBAR  
CAGE DETAIL

03	05-23-14	Added APS Push Button	C.P.A.	B.D.G.
02	11-02-12	Upgrade to R10-3e Sign	C.P.A.	B.D.G.
01	08-02-06	Sign Mounting Bracket Revision	J.F.F.	B.D.G.
NO.	DATE	REVISIONS	BY	APPD

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION  
DETAIL SHEET

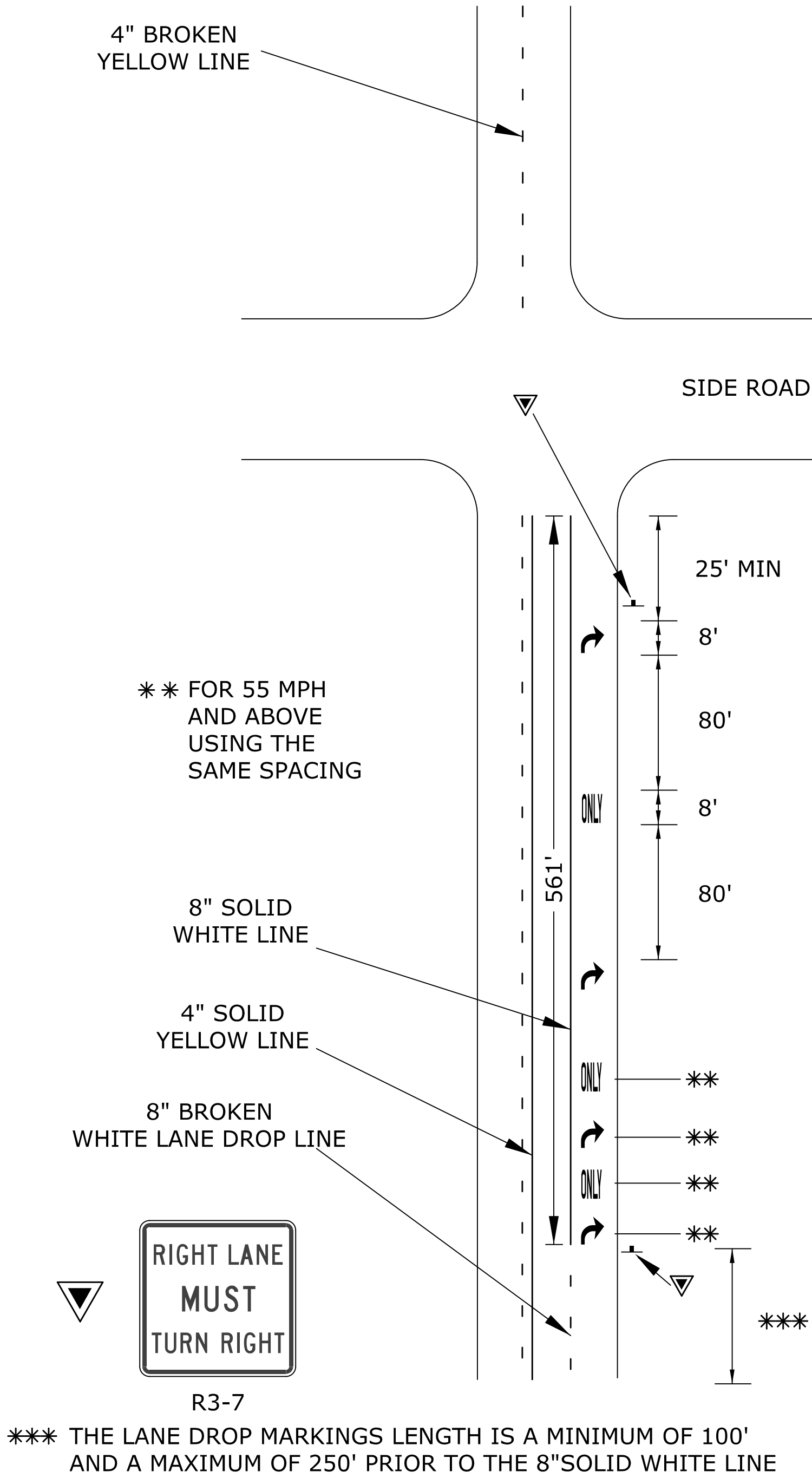
TE111B

FHWA APPROVAL		12-31-15		APPD.	Brian D. Gower	
DESIGNED	B.D.G.	DETAILED	C.P.A.	QUANTITIES	TRACED	
DESIGN CK.	C.P.A.	DETAIL CK.	B.D.G.	QUAN. CK.	TRACE CK.	



PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
	2023	9	18

TYPICAL SIGNING AND MARKING  
FOR RIGHT LANE MUST TURN RIGHT



RAILROAD CROSSING MARKING

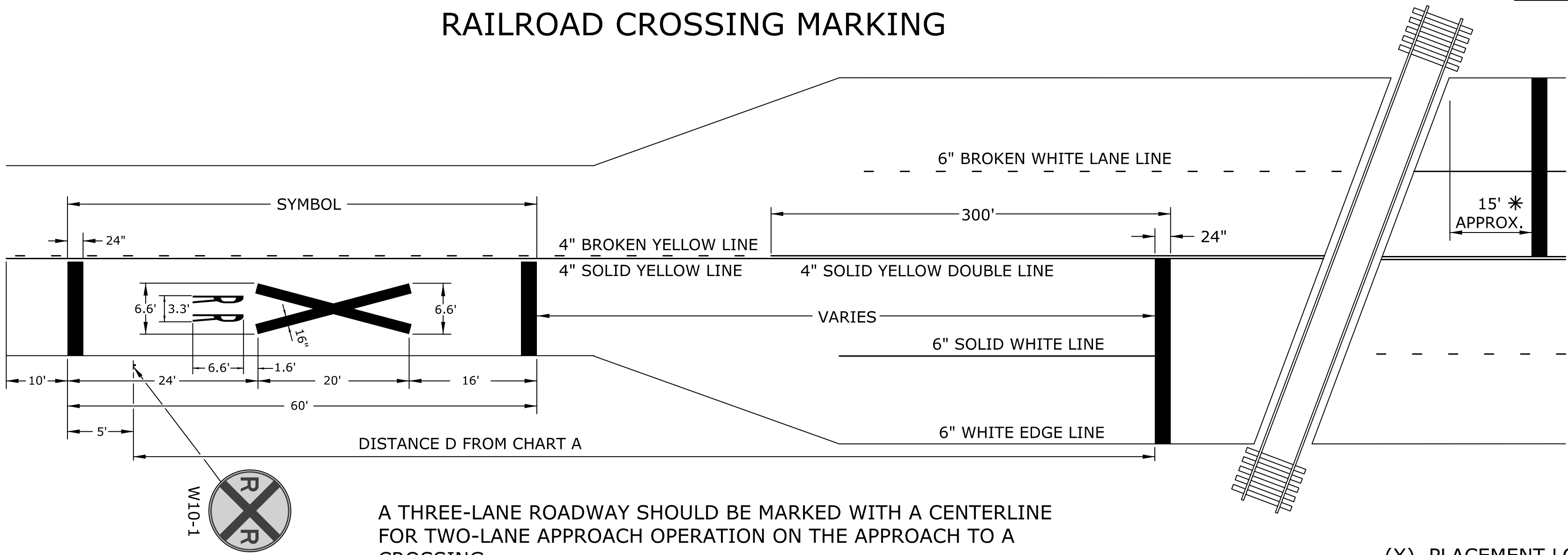


CHART "A"

SPEED MPH	DISTANCE D (feet)
75	850
70	750
65	650
60	550
55	450
50	375
45	300
40	225
35	150
30	(X)
25	(X)
20	(X)

ALL DISTANCES ARE MINIMUM.

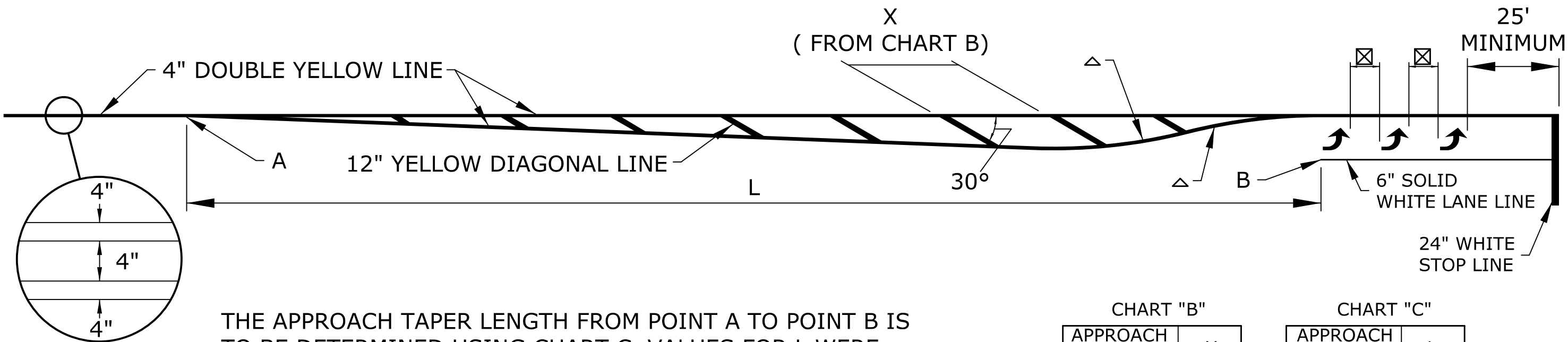
(X) PLACEMENT LOCATION IS DEPENDENT ON SITE CONDITIONS AND OTHER SIGNING TO PROVIDE ADEQUATE ADVANCE WARNING TO THE DRIVER

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. REFER TO STANDARD ALPHABET FOR HIGHWAY SIGNS AND MARKINGS FOR R X R SYMBOLS DETAILS.

\*STOP LINE 8' FROM NEAR EDGE OF GATE OR CANTILEVER, IF PRESENT.

NOTE:  
ON NON I, US, AND K ROUTES, 4" EDGE LINES MAY BE INSTALLED.  
6" EDGE LINES ARE NOT REQUIRED ON NON I, US, AND K ROUTES.

TYPICAL  
APPROACH TAPER DETAIL



THE APPROACH TAPER LENGTH FROM POINT A TO POINT B IS TO BE DETERMINED USING CHART C. VALUES FOR L WERE CALCULATED USING THE EQUATIONS BELOW AND INCREASED TO THE NEXT HIGHER 5 MPH INCREMENT.

- SPEEDS < 45 MPH  $L = \frac{W * S^2}{60}$

- SPEEDS = 45 MPH  $L = W * S$

IF ARROWS ARE USED AND UNLESS OTHERWISE SPECIFIED THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS FOR LOW SPEED ROADS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS, UNDER ANY CONDITIONS.

FOR SPEEDS LESS THAN OR EQUAL TO 40 MPH, R=150'.  
FOR SPEEDS GREATER THAN OR EQUAL TO 45 MPH, R=300'.

CHART "B"

APPROACH SPEED	X
20 MPH	20'
25 MPH	25'
30 MPH	30'
35 MPH	35'
40 MPH	40'
45 MPH	45'
50 MPH	50'
55 MPH	55'
60 MPH	60'
65 MPH	65'
70 MPH	70'

CHART "C"

APPROACH SPEED	L
20 MPH	80'
25 MPH	125'
30 MPH	180'
35 MPH	245'
40 MPH	320'
45 MPH	540'
50 MPH	600'
55 MPH	660'
60 MPH	720'
65 MPH	780'
70 MPH	840'

3	5/25/12	Updated Chart B and Lane Drop Lines	B.A.H.	B.D.G.
2	10/20/06	RR Xing Symbol Changed from 18" to 16"	T.L.H.	B.D.G.
1	9/20/05	Added 4" Solid Yellow Double Line to RR Xing	J.F.F.	B.D.G.
NO.	DATE	REVISIONS	BY	APPD

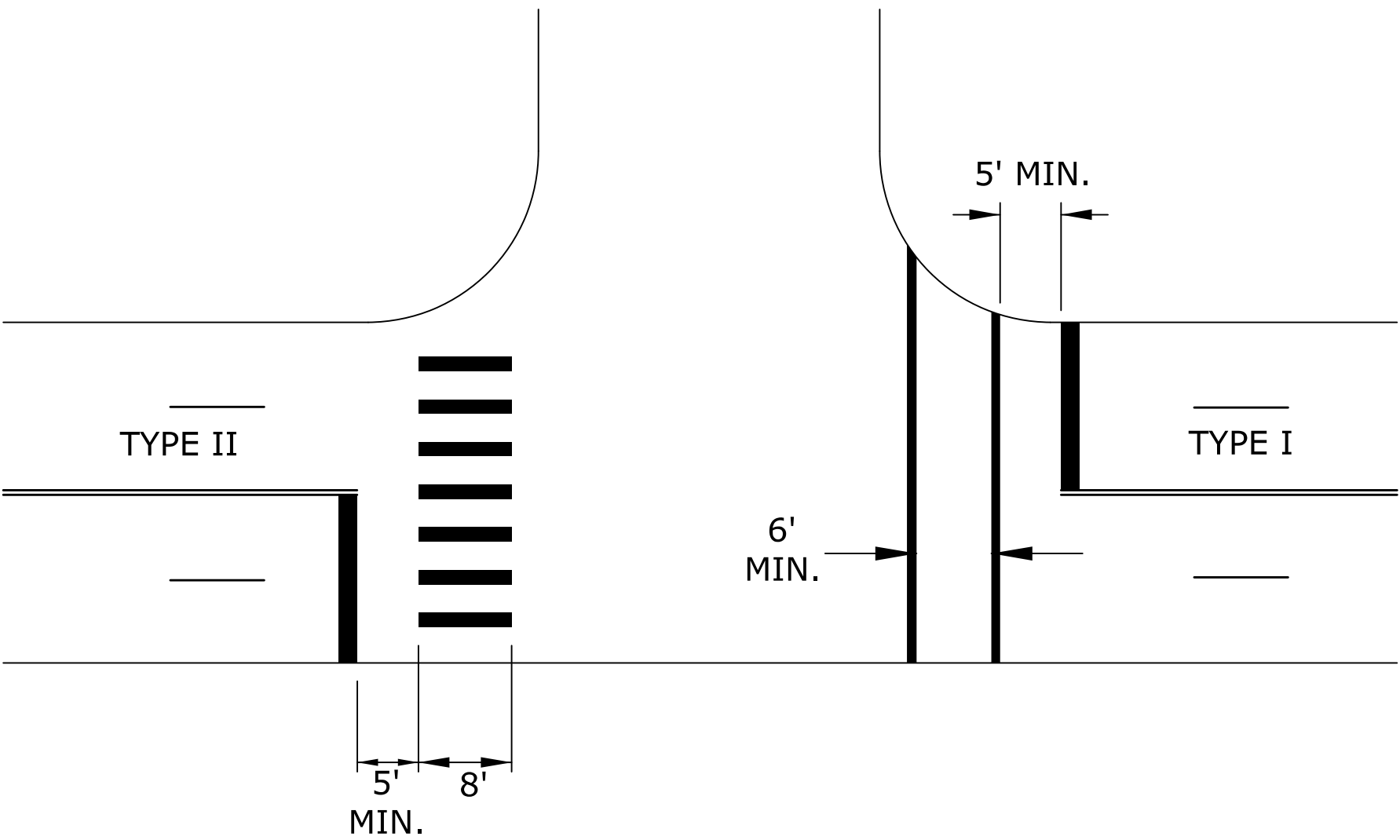
KANSAS DEPARTMENT OF TRANSPORTATION				
TYPICAL MISCELLANEOUS PAVEMENT MARKING DETAIL SHEET				
TE309				
FHWA APPROVAL 7/26/2005 APPD Brian D. Gower				
DESIGNED	J.F.F.	DETAILED	J.F.F.	QUANTITIES
DESIGN CK.	B.D.G.	DETAIL CK.	B.D.G.	QUAN. CK.

TYPICAL CROSSWALKS

TYPE I: CROSSWALK LINES SHALL BE 12" SOLID WHITE LINES. THEY SHALL BE SPACED A MINIMUM OF 6' APART FROM INSIDE EDGE TO INSIDE EDGE.

TYPE II: THESE LINES SHOULD BE SOLID WHITE 24" WIDE PLACED PARALLEL TO THE DIRECTION OF TRAFFIC FLOW. THE LINE PLACEMENT IS DETERMINED BY LANE LINE, CENTER LINE, AND WHEEL PATH IN SUCH A MANNER AS TO MINIMIZE TRAFFIC WEAR. THE CROSSWALK WIDTH SHOULD BE NOT LESS THAN 8'. THE TRANSVERSE CROSSWALK LINES MAY BE ADDED.

WHEN REQUIRED, STOP LINES SHALL BE INSTALLED A MINIMUM OF 5' FROM CROSSWALKS.



PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS

## SUMMARY OF PAVEMENT MARKINGS

LOCATION	4" Solid WHITE Edge Line	6" Solid WHITE Edge Line	6" Broken WHITE Lane Line	6" Broken WHITE Lane Line (PCP)	6" Dotted WHITE Extension Line	6" Broken WHITE Lane Drop Line	6" Solid WHITE Lane Line	8" Broken WHITE Lane Drop Line	8" Solid WHITE Gore Line	8" Dotted WHITE Extension Line	12" Solid WHITE Diagonal Line	12" Solid WHITE Chevron Line	12" Solid WHITE Type I Crosswalk Line	24" Solid WHITE Type II Crosswalk Line	24" Solid WHITE Stop Line	4" Solid YELLOW Edge Line	4" Solid YELLOW Double Line	4" Solid YELLOW Line	4" Broken YELLOW Line	6" Solid YELLOW Edge Line	12" Solid YELLOW Diagonal Line
WEST CROSSWALK														60							
EAST CROSSWALK														60							
TOTALS														120							

## RECAPITULATION OF QUANTITIES

ITEMS	TOTAL	UNITS
PAVEMENT MARKING (MULTI-COMPONENT)(WHITE)(4")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(WHITE)(6")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(WHITE)(8")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(WHITE)(12")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(YELLOW)(4")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(YELLOW)(6")		FT
PAVEMENT MARKING (MULTI-COMPONENT)(YELLOW)(12")		FT
PAVEMENT MARKING (THERMOPLASTIC)(WHITE)(4")		FT
PAVEMENT MARKING (THERMOPLASTIC)(WHITE)(6")		FT
PAVEMENT MARKING (THERMOPLASTIC)(WHITE)(8")		FT
PAVEMENT MARKING (THERMOPLASTIC)(WHITE)(12")		FT
PAVEMENT MARKING (THERMOPLASTIC)(YELLOW)(4")		FT
PAVEMENT MARKING (THERMOPLASTIC)(YELLOW)(6")		FT
PAVEMENT MARKING (THERMOPLASTIC)(YELLOW)(12")		FT
PAVEMENT MARKING (EPOXY)(WHITE)(4")		FT
PAVEMENT MARKING (EPOXY)(WHITE)(6")		FT
PAVEMENT MARKING (EPOXY)(WHITE)(8")		FT
PAVEMENT MARKING (EPOXY)(WHITE)(12")		FT
PAVEMENT MARKING (EPOXY)(YELLOW)(4")		FT
PAVEMENT MARKING (EPOXY)(YELLOW)(6")		FT
PAVEMENT MARKING (EPOXY)(YELLOW)(12")		FT
PAVEMENT MARKING (INTERSECTION GRADE)(WHITE)(12")		FT
PAVEMENT MARKING (INTERSECTION GRADE)(WHITE)(24")	120	FT
PAVEMENT MARKING (INTERSECTION GRADE)(YELLOW)(12")		FT
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(WHITE)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(WHITE)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(WHITE)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(WHITE)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(WHITE)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(US-SHIELD)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(K-SHIELD)( )		EACH
PAVEMENT MARKING SYMBOL (INTERSECTION GRADE)(I-SHIELD)( )		EACH
PAVEMENT MARKING (PATTERNED COLD PLASTIC)(WHITE)(6")		FT
PAVEMENT MARKING (PATTERNED COLD PLASTIC)(WHITE)(8")		FT
PAVEMENT MARKING (PATTERNED COLD PLASTIC)(WHITE)(12")		FT
PAVEMENT MARKING REMOVAL	528	SQ FT

## SUMMARY OF WORD & SYMBOL MARKINGS

[illegible]

NOTE: FOR SPECIFIC PAVEMENT MARKING DETAILS AND DIMENSIONS SEE PLAN SHEETS

NOTE: ALL TOTALS REFLECT ACTUAL QUANTITY OF PAVEMENT MARKING MATERIALS REQUIRED.

NOTE:  
WORDS & SYMBOLS SHALL CONFORM TO THE LATEST EDITION OF  
"STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT  
MARKINGS" PRINTED BY THE U.S. DEPARTMENT OF TRANSPORTATION,  
FEDERAL HIGHWAY ADMINISTRATION.

PRIOR TO COMMENCEMENT OF PAVEMENT MARKING WORK THE ENGINEER WILL ESTABLISH THE LIMITS FOR "NO PASSING" ZONES. THESE LIMITS SHALL BE USED FOR THE LOCATION OF "NO PASSING" LINES AND FOR THE COMPUTATION OF ACTUAL MARKING QUANTITIES FOR THIS LINE TYPE.

2	5/25/12	Added Line Types, Symbols, and Shields	B.A.H.	B.D.G.
1	7/26/05	New FHWA Approval Date	J.F.F.	B.D.G.
NO.	DATE	REVISIONS	BY	APP'D

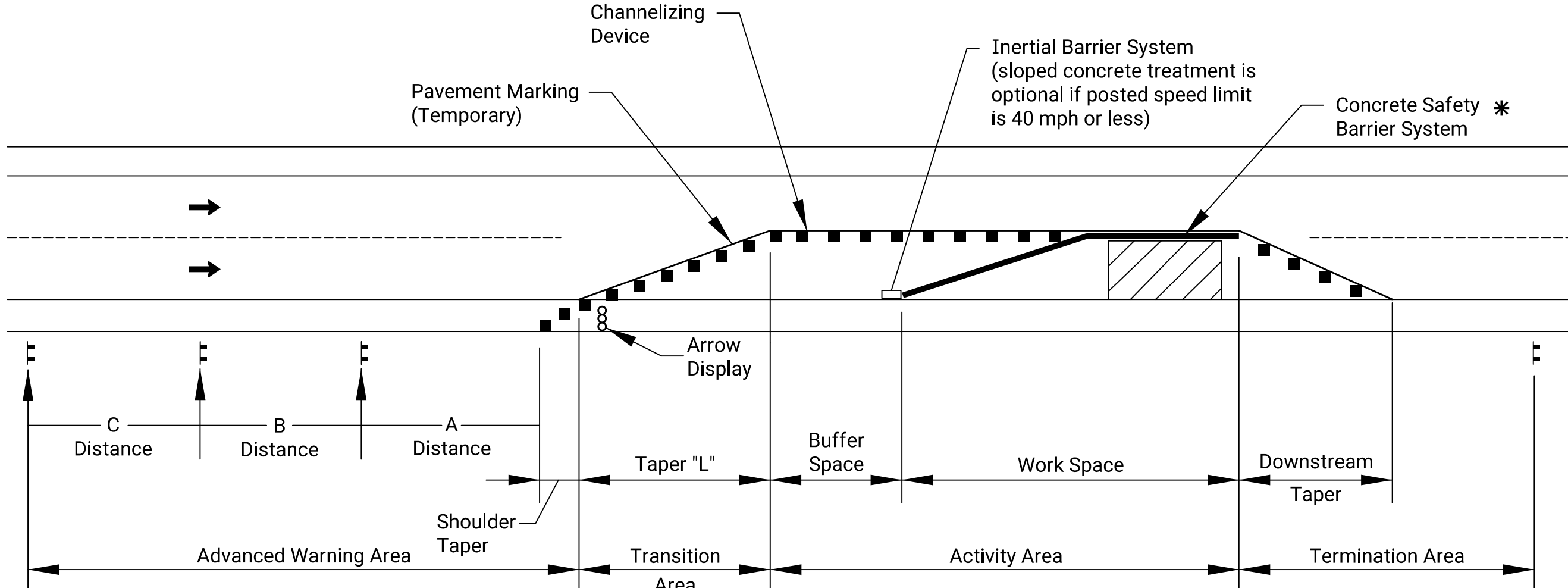
# KANSAS DEPARTMENT OF TRANSPORTATION SUMMARY AND RECAPITULATION OF PAVEMENT MARKING QUANTITIES

TE311

FHWA APPROVAL		5/25/2012		APP'D Brian D. Gower	
DESIGNED	J.F.F.	DETAILED	J.F.F.	QUANTITIES	TRACED
DESIGN CK.	B.D.G.	DETAIL CK.	B.D.G.	QUAN. CK.	TRACE CK.

Drawn By : CAM  
File : Traffic Control Standards.dgn  
Plotted : 11/17/2023 9:36:31 AM

- 1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.
- 2) Minimum Lane Width: Lane widths shall be a minimum of 11' (measured between centerlines of pavement markings) or as shown on the plans, or as directed by the engineer. A lane width less than 11' may require restricted roadway width signing.
- 3) Consideration should be made to separate pedestrian and, if needed, bicycle movements from both work site activity and vehicular traffic. Unless a reasonable safe route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.
- 4) When existing pedestrian facilities are disrupted, closed, or relocated, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- 5) When the driving surface open to traffic is milled or is a temporary surface made of loose material, or when directed by the engineer a W8-15 (Grooved Pavement) or W8-7 (Loose Gravel) sign shall be used on mainline approaches. This sign should be placed a "C" distance after the W20-1 (Road Work Ahead) sign. A W8-15p motorcycle plaque shall be used to supplement the W8-15 or W8-7 signs. All signs shall be displayed as long as the condition is present.
- 6) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-1179 or 785-296-1183.



TYPICAL WORK ZONE COMPONENTS

✱ When concrete barrier system is used, portable channelizing devices are not needed along the tangent barrier section.

Minimum advance warning sign spacing (in feet):

SPEED (MPH) ✱	A	B	C
URBAN (40 MPH OR LOWER)	100	100	100
URBAN (45 MPH OR HIGHER)	350	350	350
RURAL (55 MPH OR LOWER)	500	500	500
RURAL (60 MPH OR HIGHER)	750	750	750
EXPRESSWAY/FREEWAY	1000	1500	2640

- ✱ Posted speed prior to work starting
- The minimum spacing between signs shall be no less than 100', unless directed by the engineer.
- The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

Taper Formulas:

L = WS for speeds of 45 MPH or more

L = WS<sup>2</sup>/60 for speeds of 40 MPH or less

Where: L = Minimum length of taper in feet  
S = Numerical value of posted speed prior to work starting in MPH  
W = Width in offset feet

Shifting Taper=1/2 L  
Shoulder Taper=1/3 L

Channelizer Placement:

- (1) The spacing between devices in transition area (taper) should not exceed a distance in feet equal to 1/2 the posted speed limit in mph prior to work starting.
- (2) The spacing between devices in the advanced warning area and the activity area should not exceed a distance in feet equal to two times the posted speed limit in mph prior to work starting.
- (3) Channelizing devices shall be placed for optimum visibility, normally at right angles to the traffic flow.
- (4) Place directional indicator barricades in series to direct traffic onto the new path. The arrow sign should not be visible to opposing traffic.
- (5) Alternating diagonal orange and white striping must slope downward in the direction traffic is expected to pass.

Buffer Space

SPEED (MPH) ✱	20	25	30	35	40	45	50	55	60	65	70	75
LENGTH (ft)	115	155	200	250	305	360	425	495	570	645	730	820

- ✱ Posted speed prior to work starting
- Neither work activity nor storage of equipment, vehicles, or material should occur in the buffer space. When a protection vehicle is placed in advance of the work space, only the space upstream of the vehicle constitutes the buffer space.
- If temporary concrete safety barrier system is used to separate approaching traffic from the work space, the barrier system shall be considered part of the activity area. A full lane width should be available throughout the length of the buffer space. See typical work zone components above.

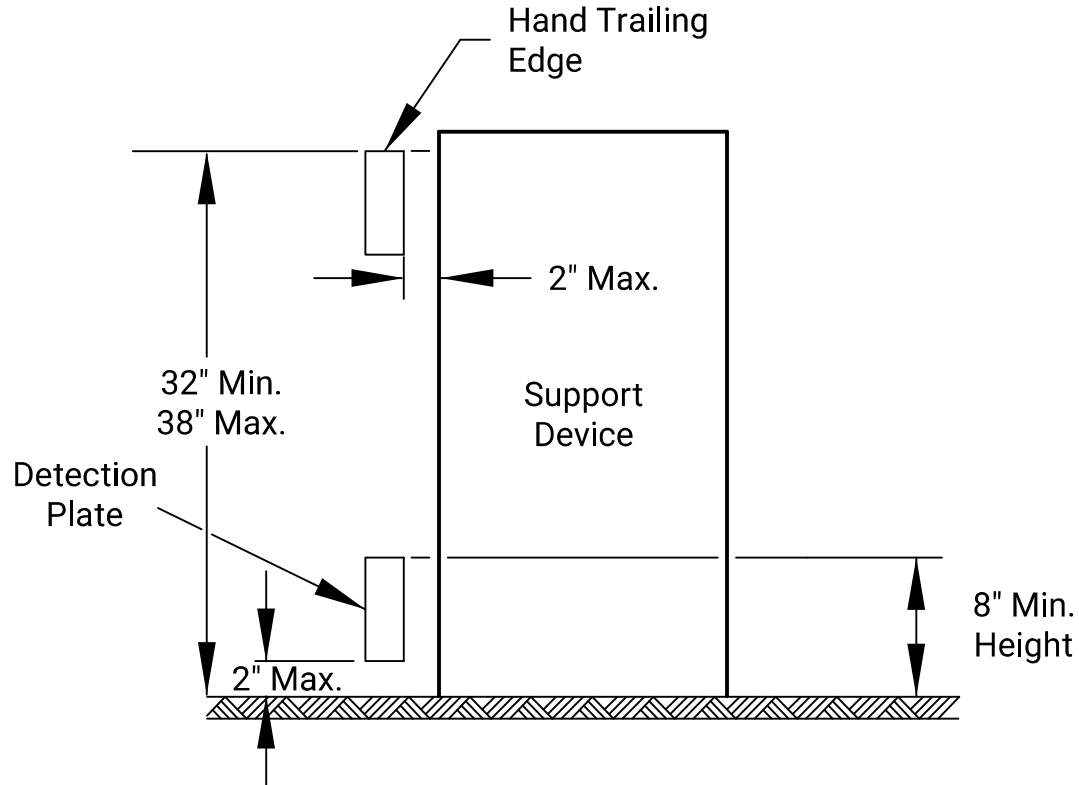
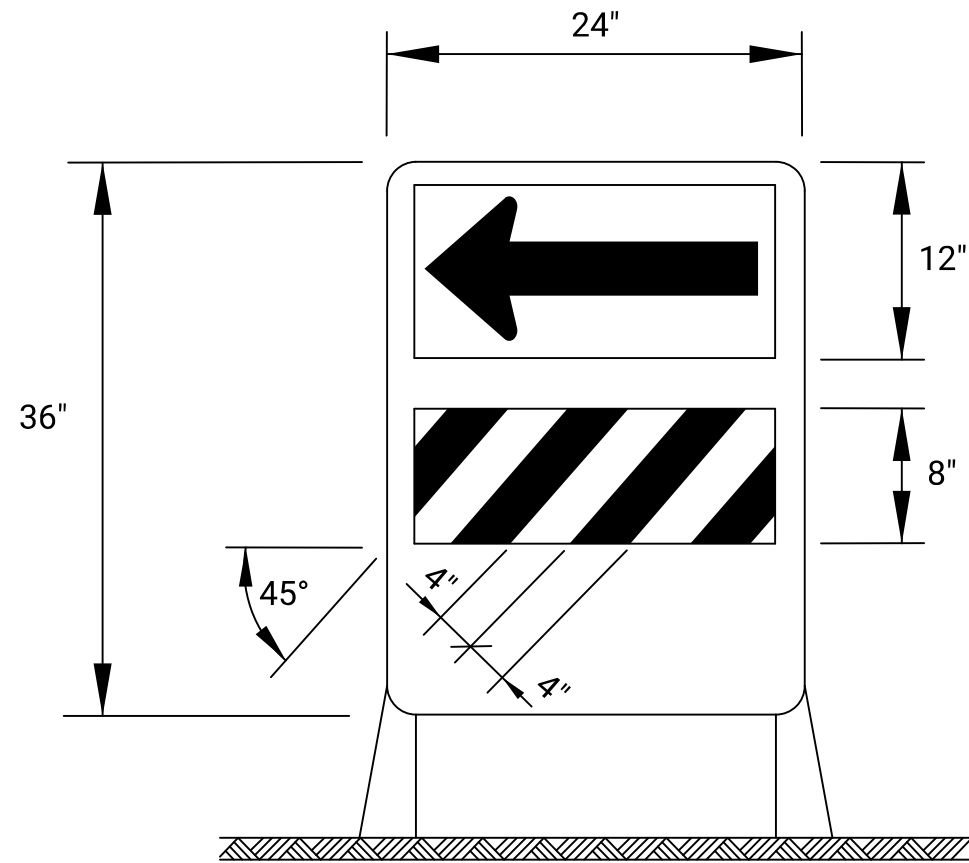
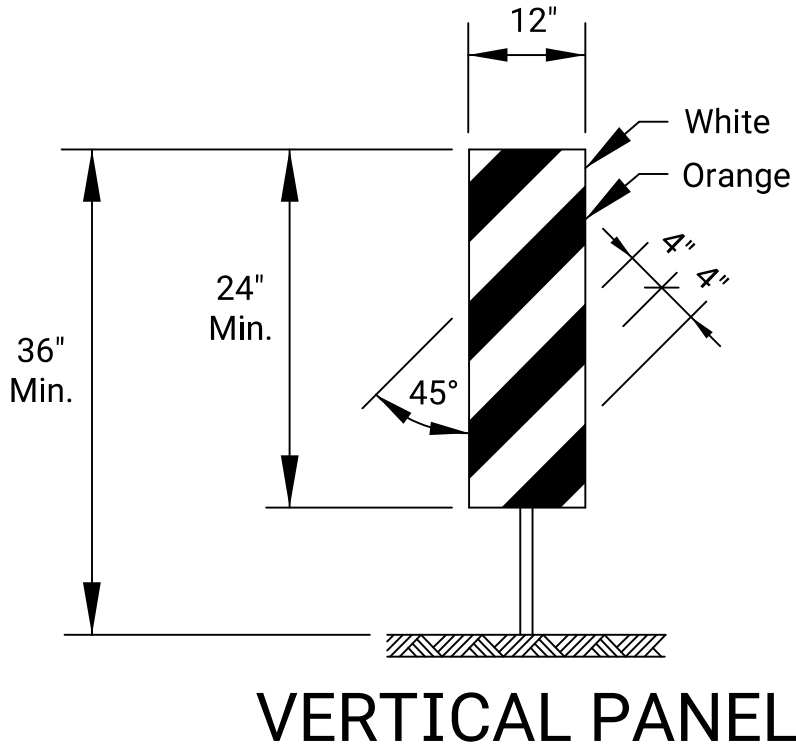
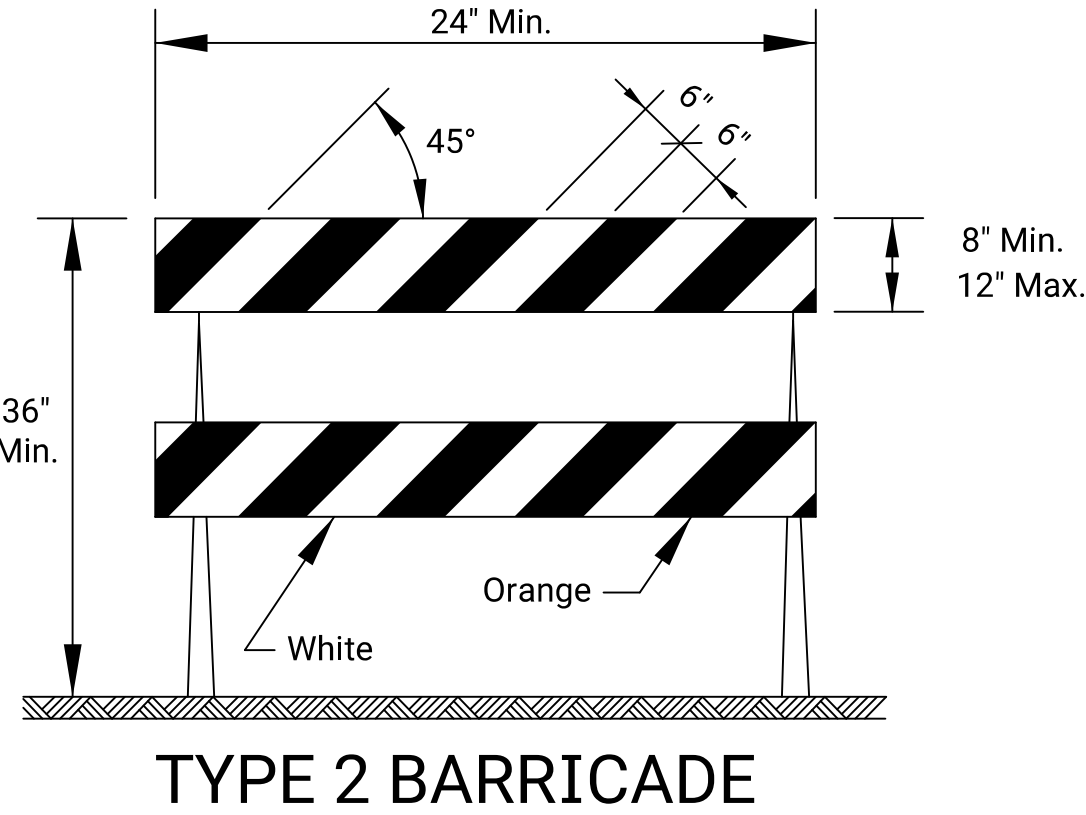
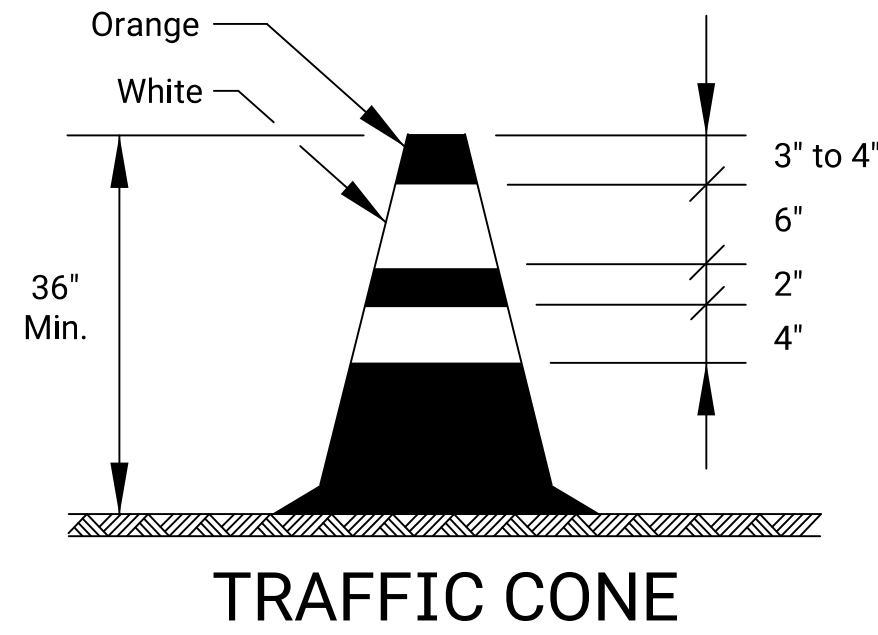
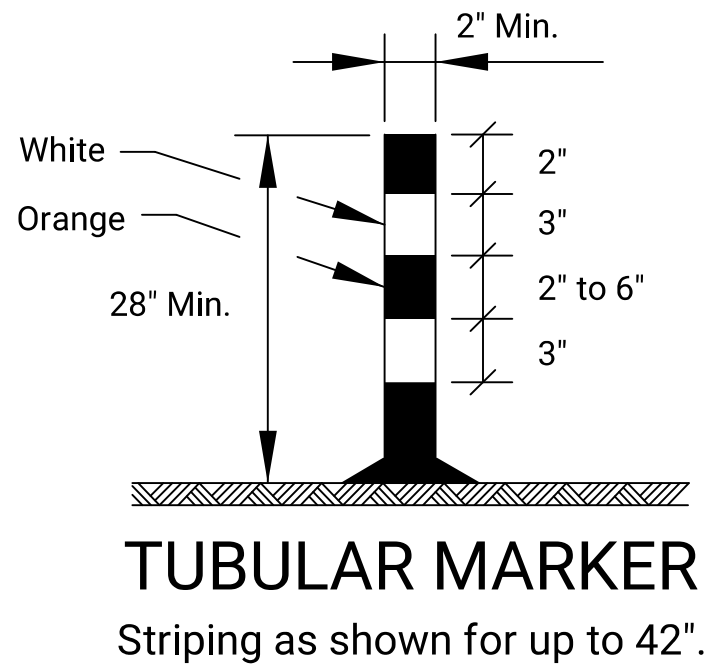
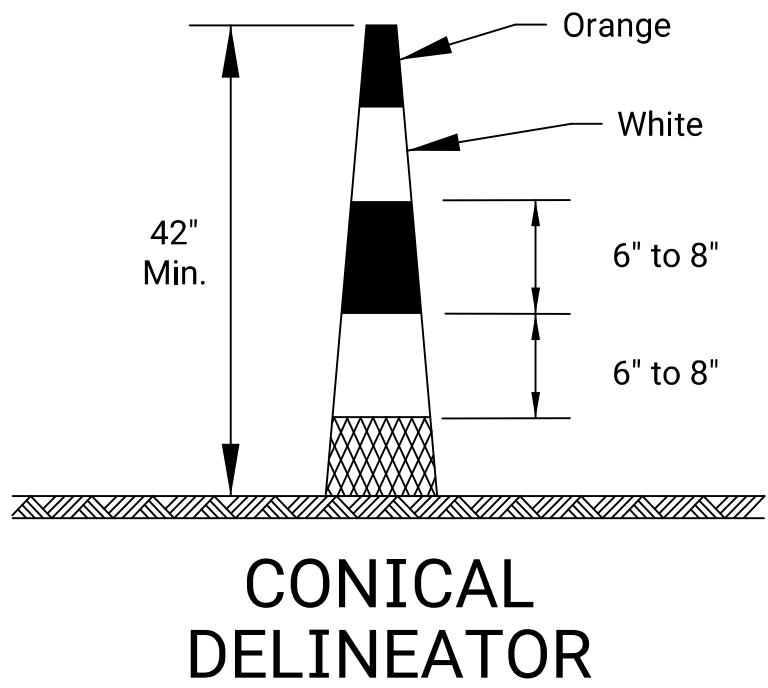
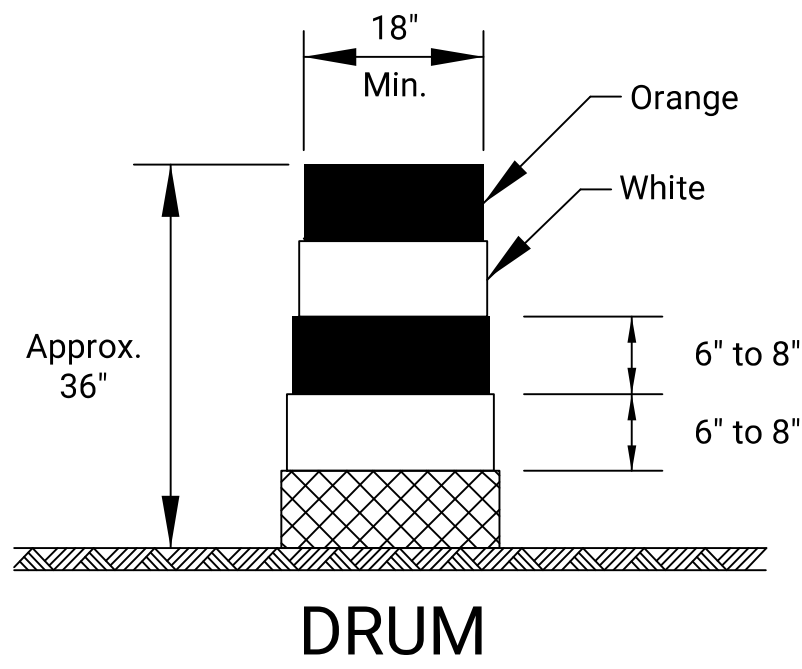
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	11	18

KANSAS DEPARTMENT OF TRANSPORTATION				
TRAFFIC CONTROL GENERAL NOTES				
TE700				
FHWA APPROVAL 03-13-18   APPD. Eric Kocher				
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES
DESIGN CK.		DETAIL CK.		QUAN.CK.
TRACED			TRACE CK.	



Drawn By : CAM  
Plotted : 11/17/2023 9:36:31 AM  
File : Traffic Control Standards.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	12	18



### TYPE 2 BARRICADE

For rails less than 36" long, 4" wide stripes may be used.  
All stripes shall slope downward to the traffic side for channelization.

### VERTICAL PANEL

The stripes shall slope downward to the traffic side for channelization.

### DIRECTION INDICATOR BARRICADE

The stripes shall slope downward in the direction traffic is to pass.  
The direction indicator barricade shall be used in series to direct the motorist into the intended lane of travel.

### PEDESTRIAN CHANNELIZER

- Support device shall not project beyond the detection plate into the pathway.
- Hand trailing edges and detection plates are optional for continuous walls.
- Interconnect pedestrian channelizers to prevent displacement and to provide continuous guidance through or around work.
- Alternate pathways shall be firm, stable, and slip resistant.
- Treat height differentials > 1/2" in the surfaces of alternate paths with a firm, stable, and slip resistant temporary ramp having a slope of 12:1 or flatter and having a width equal to the alternate path.
- Use alternating orange/white on interconnected devices.

Location		Cross-overs	Shoofly Divisions	Tangents	Tapers	Ramps	Head to Head	Object Identifier	Lead-in Devices	Gores
Portable	Drums	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Conical Delineators	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Vertical Panels	(2)	(2)	(2)	(2)	(2)	(1,2)	Yes	(2)	(2)
	Direction Indicator Barricade	No	No	No	Yes	No	No	No	No	No
	Type 2 Barricade	(2)	(2)	(2)	(2)	No	No	Yes	No	No
	Traffic Cones	No	No	(4)	(4)	(4)	No	(4)	(4)	(4)
Fixed	Tubular Markers	(3)	(3)	(3)	No	(3)	Yes	No	Yes	Yes
	Vertical Panels	(3)	(3)	(3)	(3)	(3)	(3)	Yes	(2,3)	(2)

- (1) Not allowed on centerline delineation along freeways or expressways.
- (2) The stripes shall slope downward to the traffic side for channelization.
- (3) May be used upon the approval of the engineer.
- (4) Daytime operations only.

NO.	DATE	REVISIONS			BY APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
TRAFFIC CONTROL CHANNELIZING DEVICES					
TE702					
FHWA APPROVAL		06-01-15	APP'D.	Kristina Ericksen	
DESIGNED	L.E.R.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN.CK.	TRACE CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	13	18

Note: Signs shown for one approach to work zone.

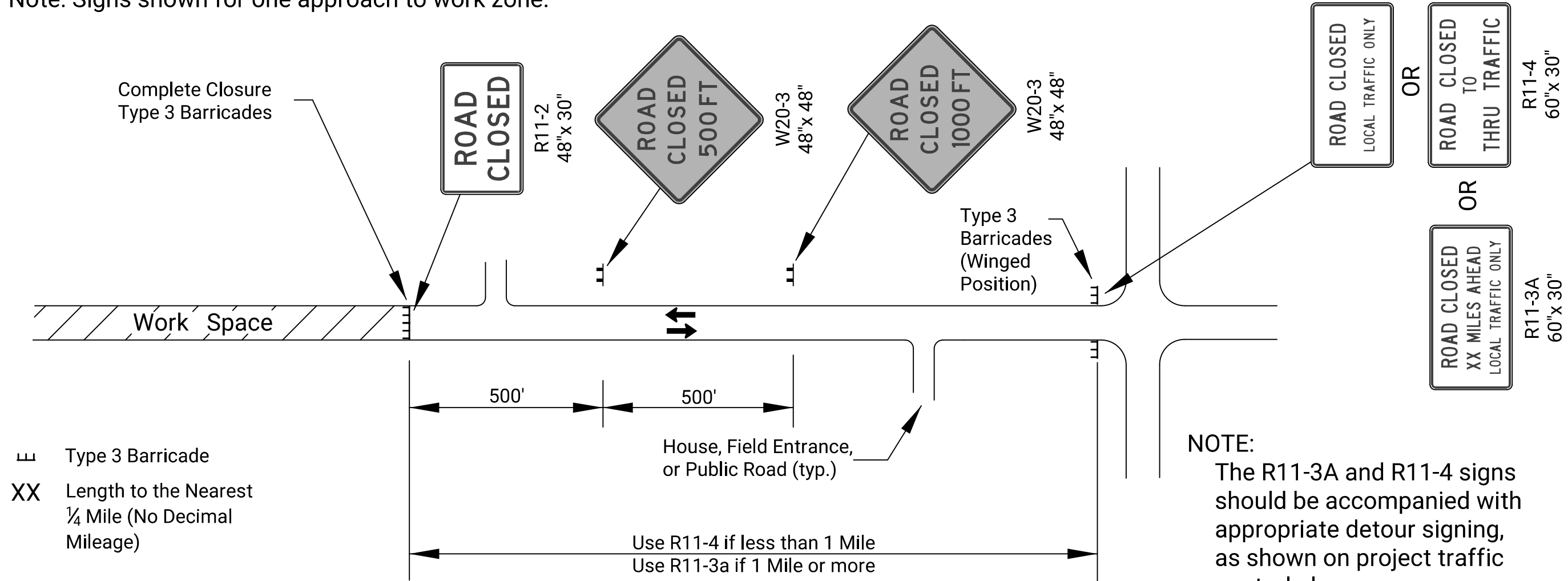


FIGURE 1: TYPICAL SIGNING FOR ROAD CLOSURE (MAINLINE OR SIDE ROAD)

Note: Sign shown for one approach to intersection (work zone).

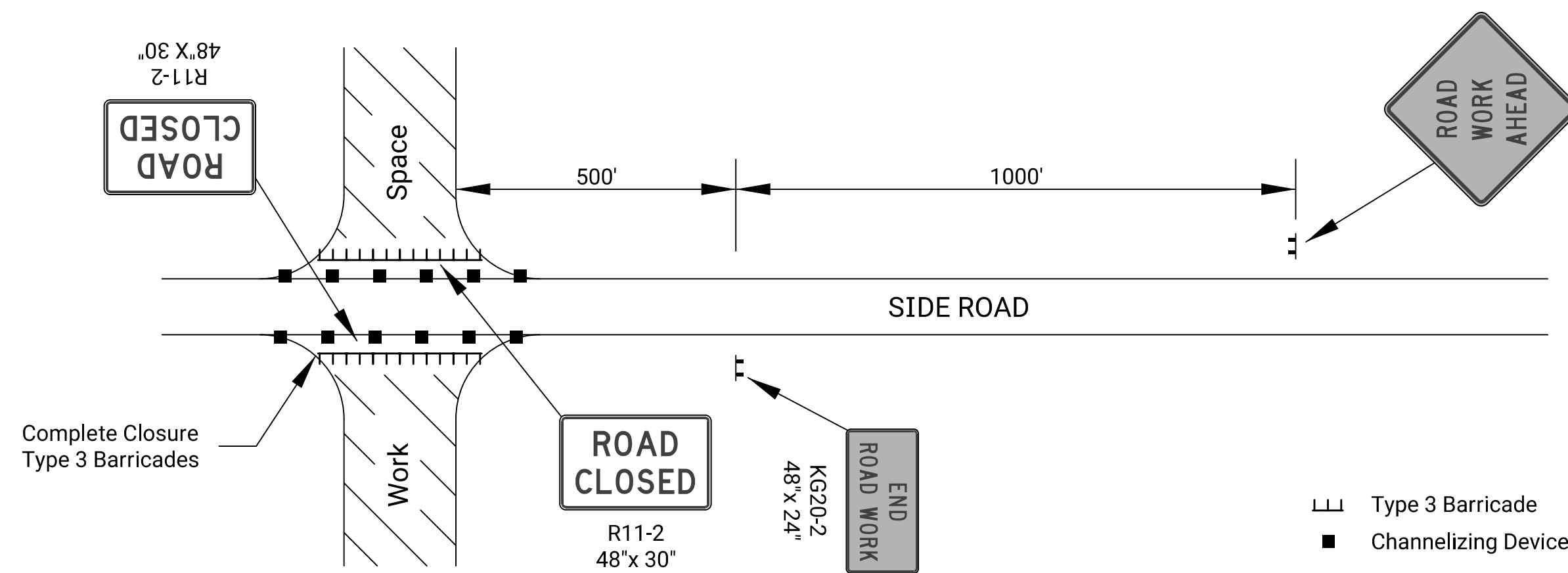


FIGURE 2: TYPICAL SIGNING FOR SIDE ROAD OPEN

Note: Signs shown for one approach to work zone.

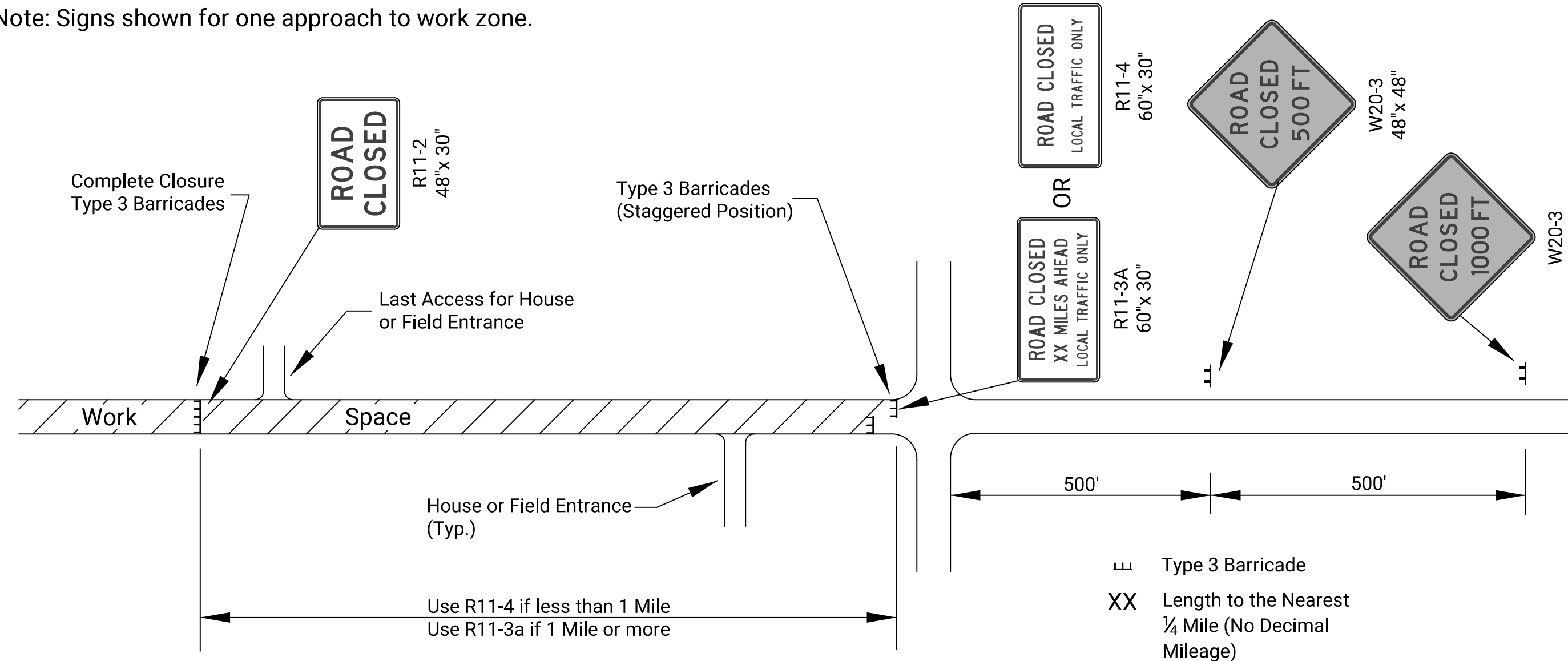


FIGURE 3: TYPICAL SIGNING FOR ROAD CLOSURE - LOCAL TRAFFIC ACCESS

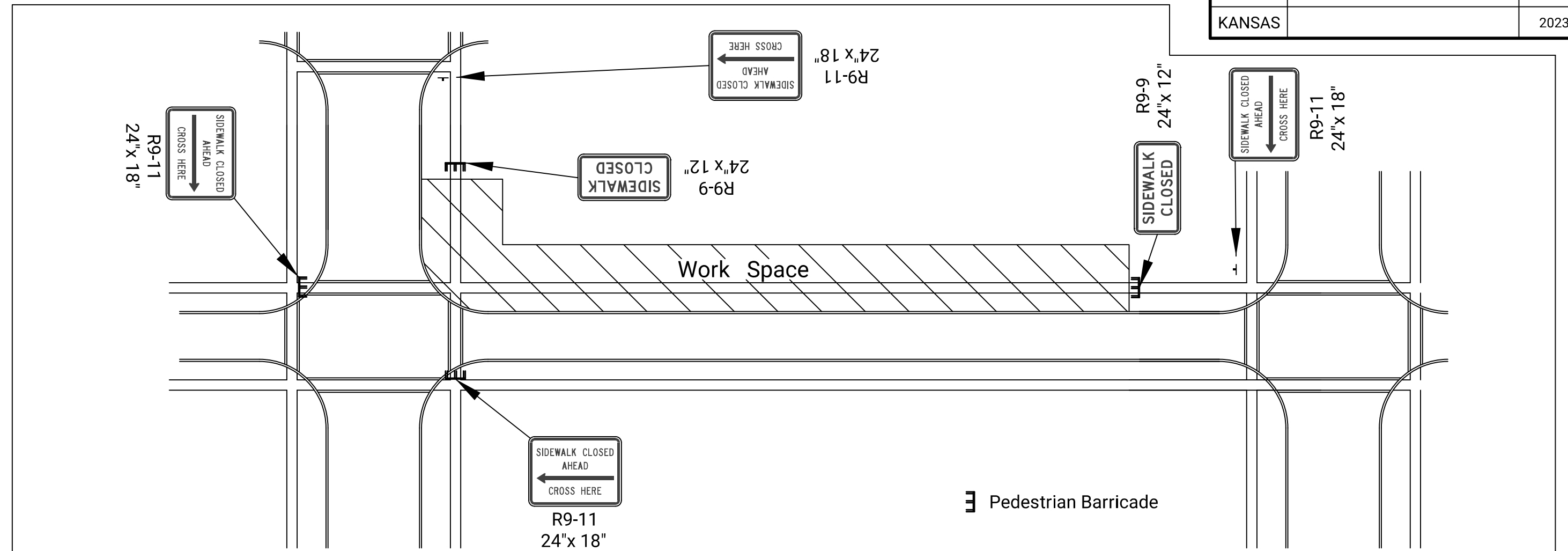
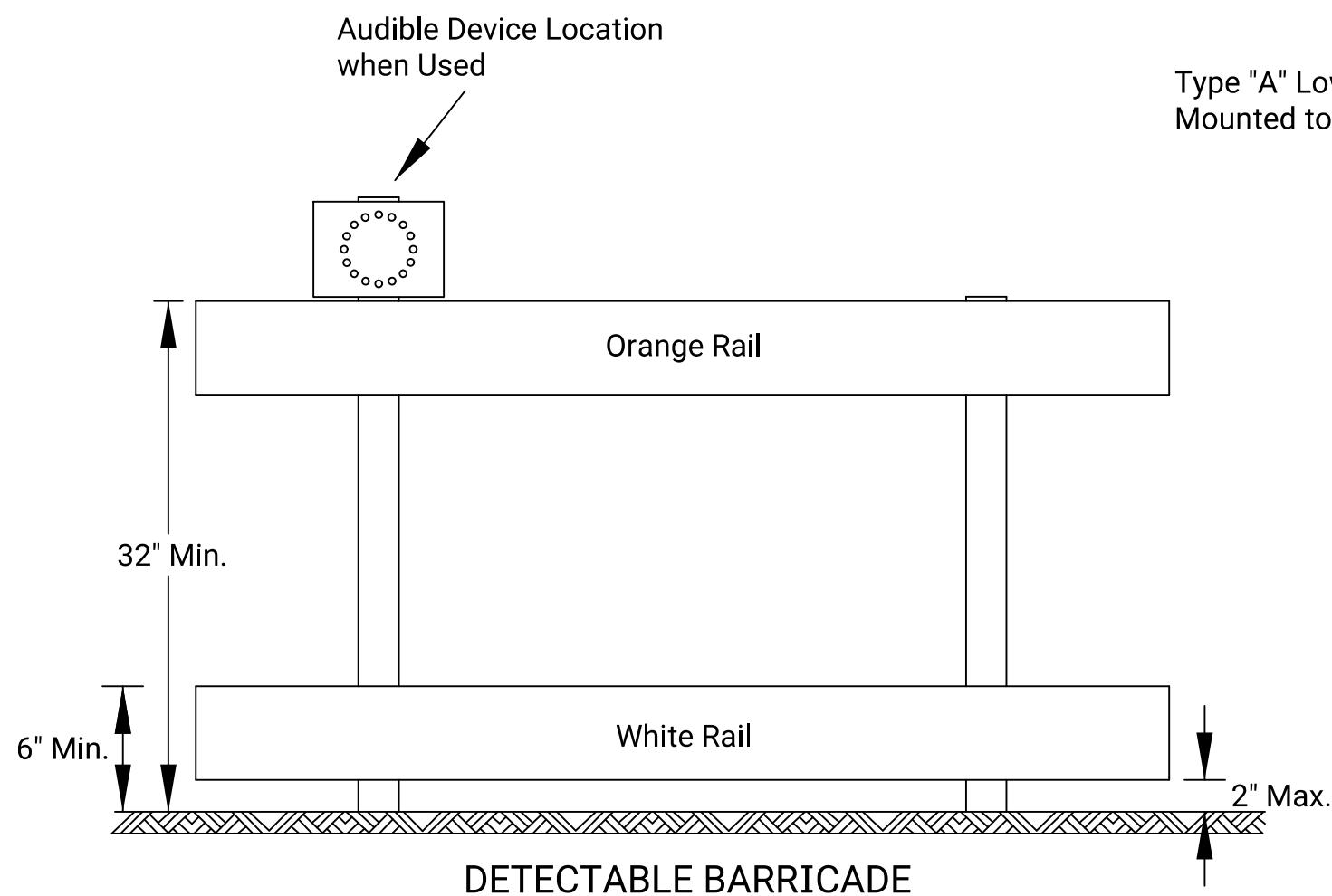
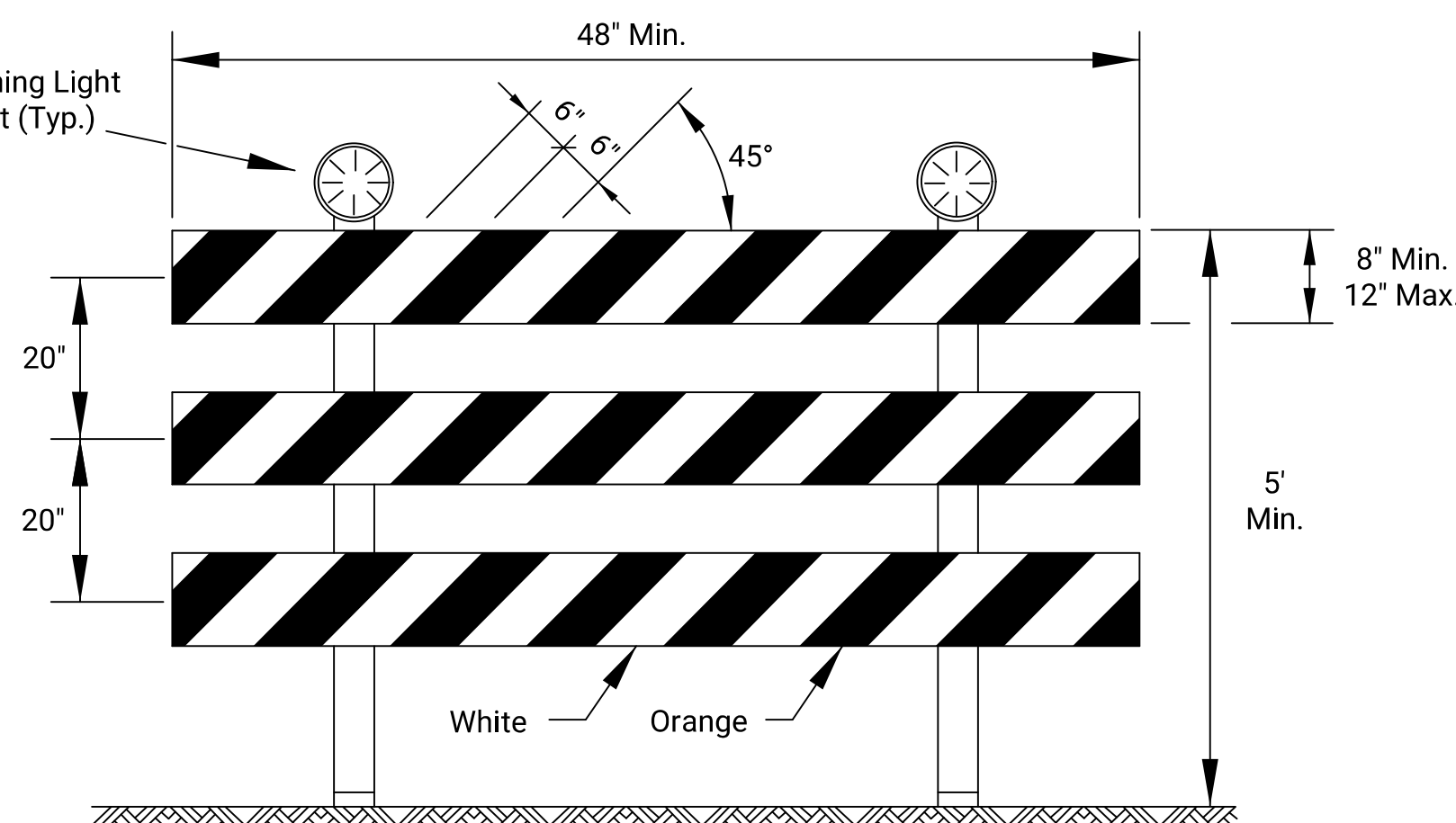


FIGURE 4: TYPICAL SIGNING FOR SIDEWALK CLOSED WITH OPPOSITE SIDEWALK AVAILABLE



- DETECTABLE BARRICADE
1. Support device shall not project beyond the detection plate into the pathway.
  2. Barricades shall be used to close the entire width of the pathway.
  3. Do not use warning lights on pedestrian barricades.
  4. Do not use warning lights on audible devices.



TYPE 3 BARRICADE WITH LIGHTS

Approved signs mounted on Type 3 barricades should not cover more than 50% of the top two rails or 33% of the total area of the three rails.

When barricades are placed end-to-end or staggered, a Type "A" low intensity warning light shall be mounted to the vertical post near each outside corner of the end barricades.

#### ROAD CLOSED GENERAL NOTES

As shown in Figure 1, at the point where thru traffic must detour and local traffic can proceed to the location where the roadway is completely closed, the R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) or R11-4 (ROAD CLOSED LOCAL TRAFFIC ONLY or ROAD CLOSED TO THRU TRAFFIC) sign shall be used with Type 3 barricades (winged position), placed on the shoulders of roadway.

As shown in Figure 3, when local traffic must be allowed access into the work zone, Type 3 barricades shall be longitudinally staggered to maintain the appearance of a closed roadway. A second line of end-to-end Type 3 barricades shall be placed just beyond the last access point in the work zone, to completely close the roadway.

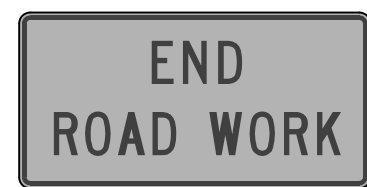
The R11-4 (ROAD CLOSED TO THRU TRAFFIC or ROAD CLOSED LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is less than 1 mile.

The R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is 1 mile or greater.

The words "BRIDGE OUT" (or BRIDGE CLOSED) may be substituted for the words "ROAD CLOSED" on the R11-3a or R11-4 sign where applicable.

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
TRAFFIC CONTROL CLOSURES				
TE704				
FHWA APPROVAL 06-01-15 APP'D. Kristina Ericksen				
DESIGNED B.A.H.	DETAILED R.W.B.	QUANTITIES	TRACED	
DESIGN CK. DETAIL CK.	QUAN. CK.	TRACE CK.		

## SIGN LAYOUT INFORMATION



KG20-2

Std. Size  
Expwy/Freeway  
6" C  
48"x 24"



KG20-5

Std. Size  
Expwy/Freeway  
6" C  
48"x 24"



KM4-20

Std. Size  
3" C  
24"x 6"

Expwy/Freeway  
6" C  
48"x 12"



W7-3a

Mileage to be Determined  
by the Engineer.



W8-17

Std. Size  
Expwy/Freeway  
48"x 48"



W8-17P  
(Optional)

Std. Size  
Expwy/Freeway  
30"x 24"



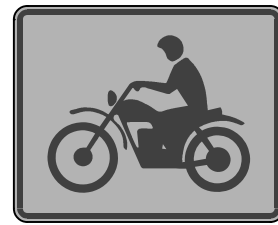
W8-15

Std. Size  
Expwy/Freeway  
8" D  
48"x 48"



W8-7

Std. Size  
Expwy/Freeway  
8" D  
48"x 48"



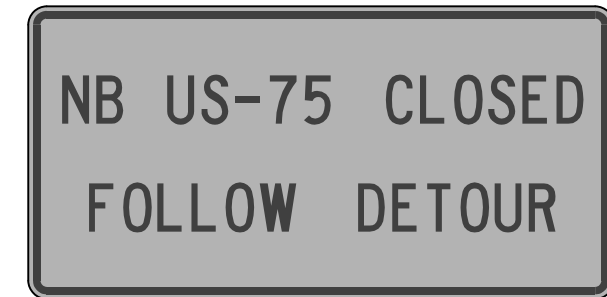
W8-15p

Std. Size  
Expwy/Freeway  
30"x 24"



W8-11

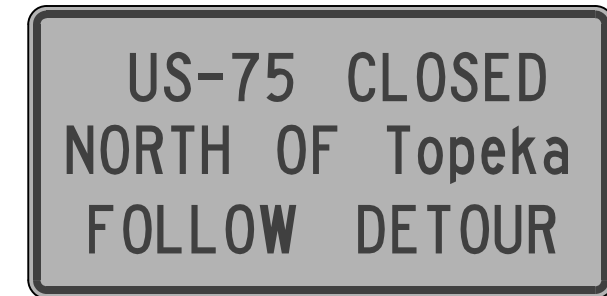
Std. Size  
Expwy/Freeway  
8" D  
48"x 48"



SP-01  
(Special Sign)

Std. Size  
6" C

Expwy/Freeway  
10" D

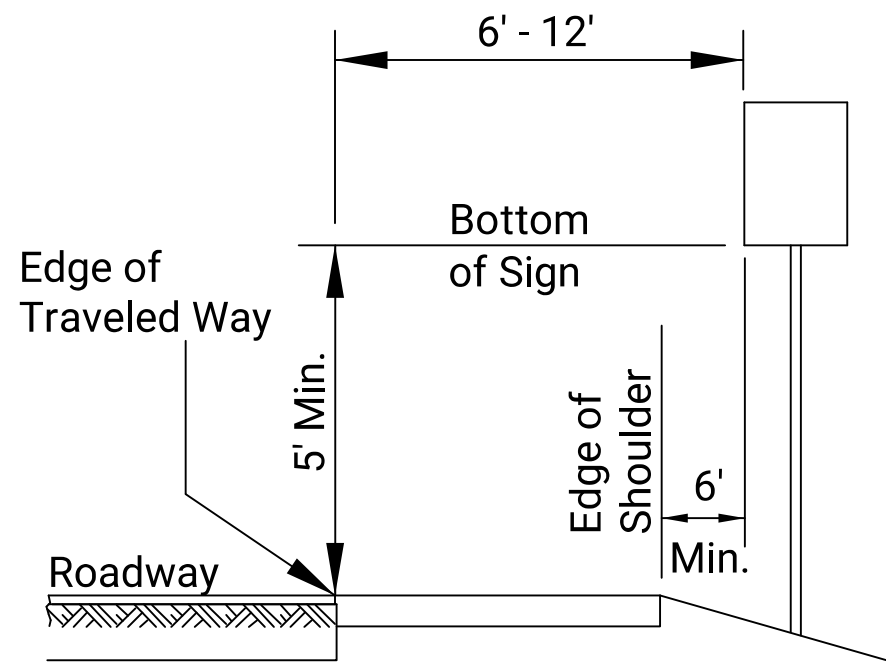


SP-02  
(Special Sign)

Std. Size  
Uppercase: 6" C  
Lowercase: 4.5" C

Expwy/Freeway  
Uppercase: 10" D  
Lowercase: 8" D

All city names and street names on special signs and destination signs  
must have upper and lower case letters.

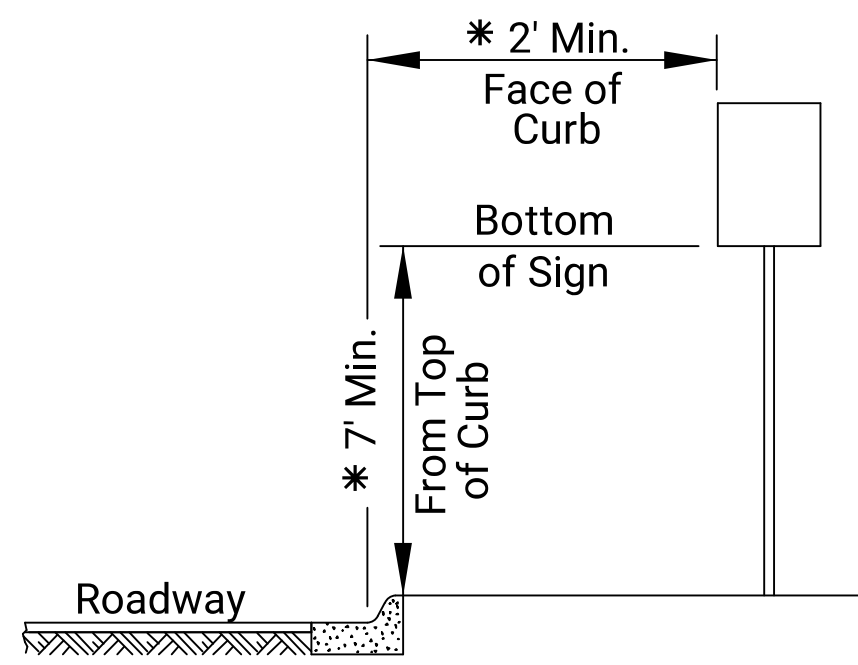


### RURAL

1) Ground-mounted signs shall be mounted at a minimum height of 5' measured from the bottom of sign to the near edge of the pavement.

2) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

3) The height of the secondary sign mounted below another sign may be 4' measured from the bottom of the sign to the near edge of the pavement. Signs shall not overlap each other.



### URBAN

1) Signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.

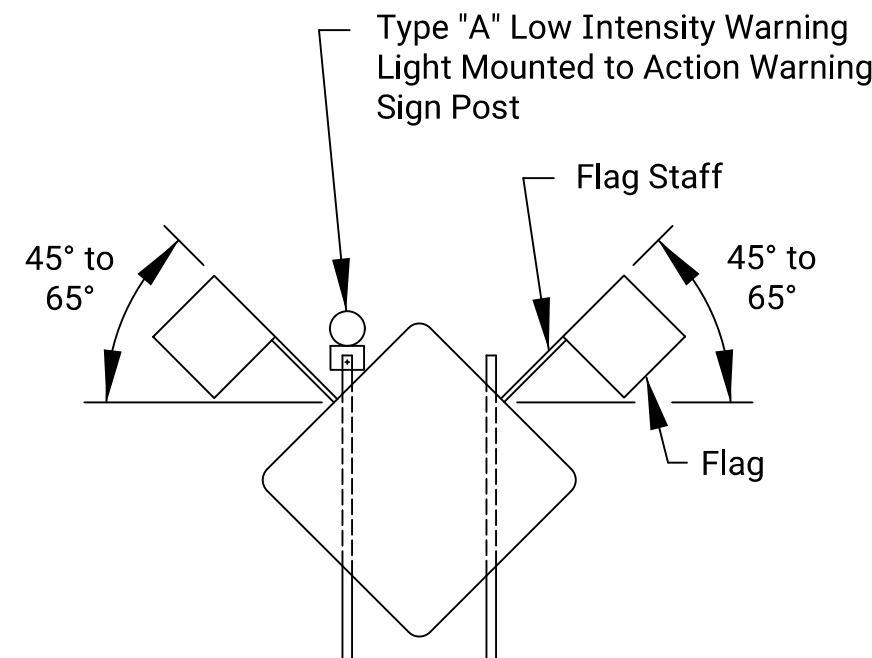
2) Neither portable nor permanent sign supports should be located on sidewalks or areas designated for pedestrian or bicycle traffic.

3) Signs mounted lower than 7' should not project more than 4" into pedestrian facilities.

4) The height from of the secondary sign mounted below another sign may be 6' measured from the bottom of sign to the near edge of the pavement. Signs shall not overlap each other.

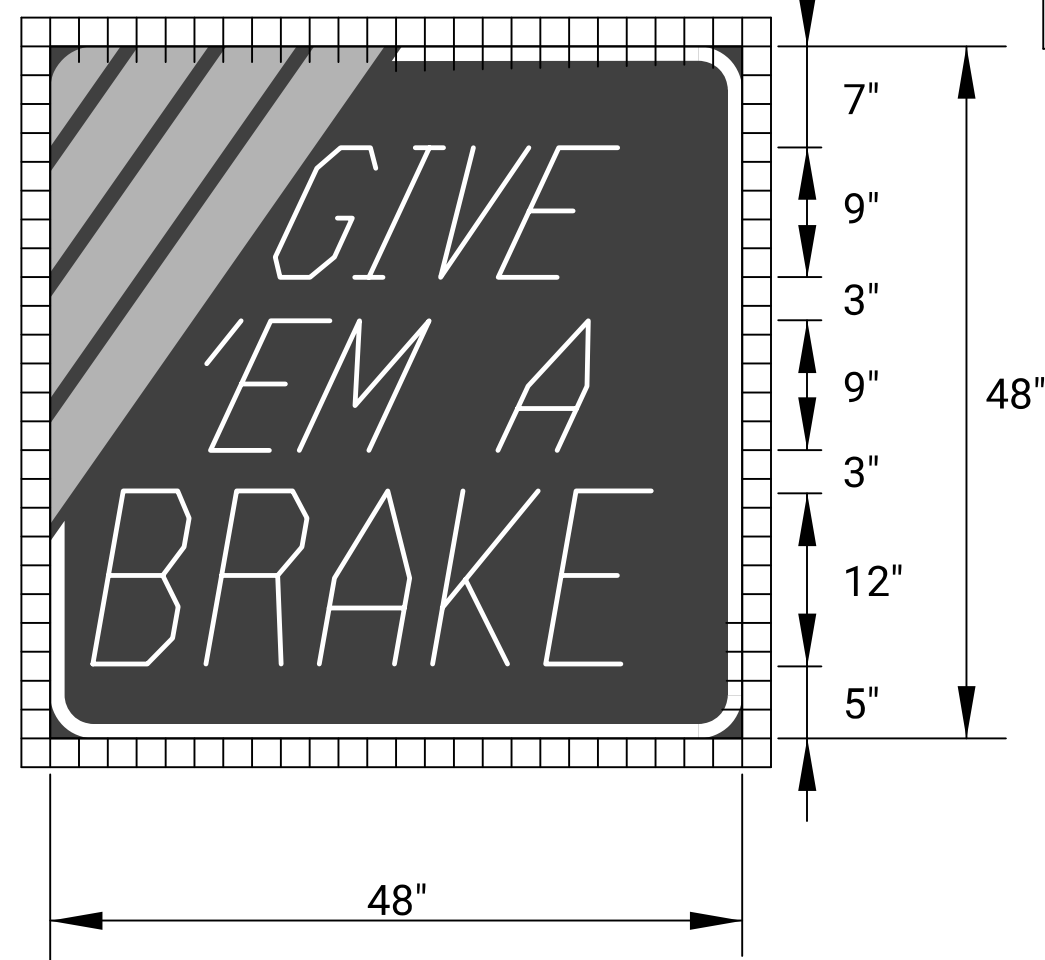
5) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

\* 6) Pedestrian detour signing shall be a minimum of 2' measured from the top of the pedestrian pathway to the bottom of the sign and shall not protrude into the walkway nor shall it project beyond the back of curb.

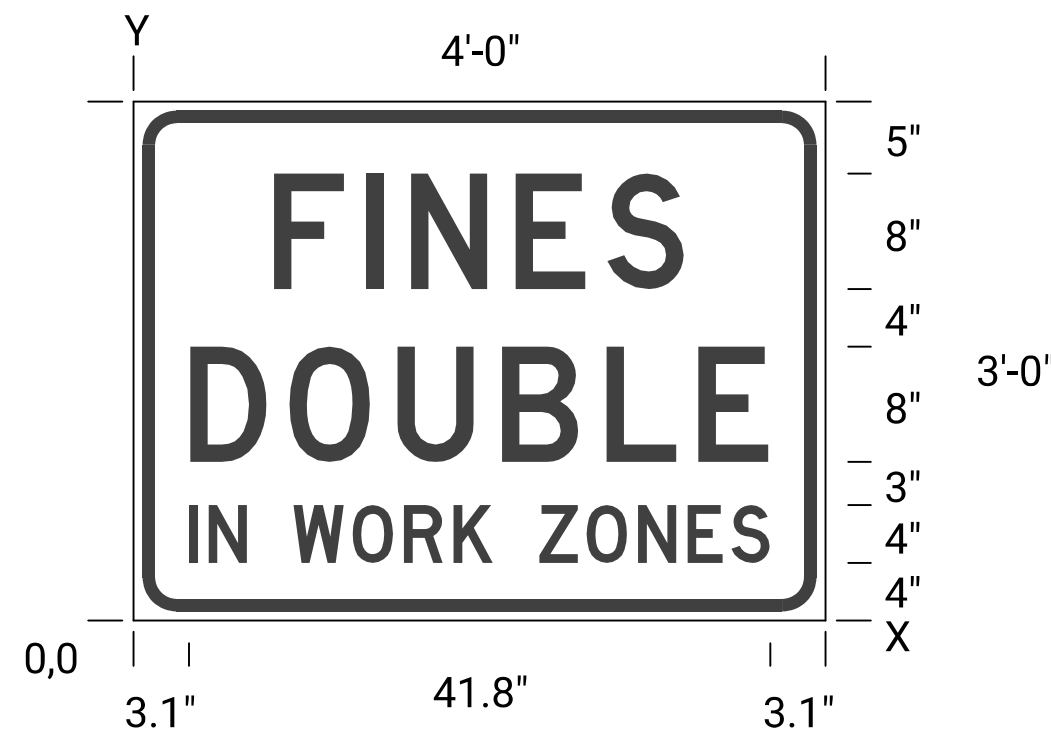


When the sign width is equal to or greater than 9', three or more wood posts may be used with a minimum of 4' between the centerline of each post. All signs less than 9' in width shall use a maximum of two wood posts.

In the case of hitting rock when driving posts  
1. Shift the sign location. Do not violate minimum sign spacing.  
2. With the engineer's approval, use acceptable alternative sign stands.



KI-104a



KI-105a

Dimensions in inches

Spacings are to start of next letter

Y FONT	LETTER SPACINGS																HT LEN
23.0 D	9.7	6.4	3.2	7.3	6.4	5.4	9.7										8.0
11.0 D	3.9	6.9	7.5	7.3	6.4	4.9	3.9										28.6
4.0 D	3.1	1.6	2.7	3.2	4.3	3.8	3.6	2.8	3.2	3.4	3.8	3.6	3.2	2.7	3.1		8.0
																	40.3
																	4.0
																	41.8

Notes:

Typically, there are two sets of informational signs installed per project: one for each direction of traffic.

Install signs a minimum of 500' in advance of the road work ahead sign. The engineer may designate a more appropriate location if conditions dictate.

The informational signs are not to interfere with the traffic control signs for the project.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	14	18

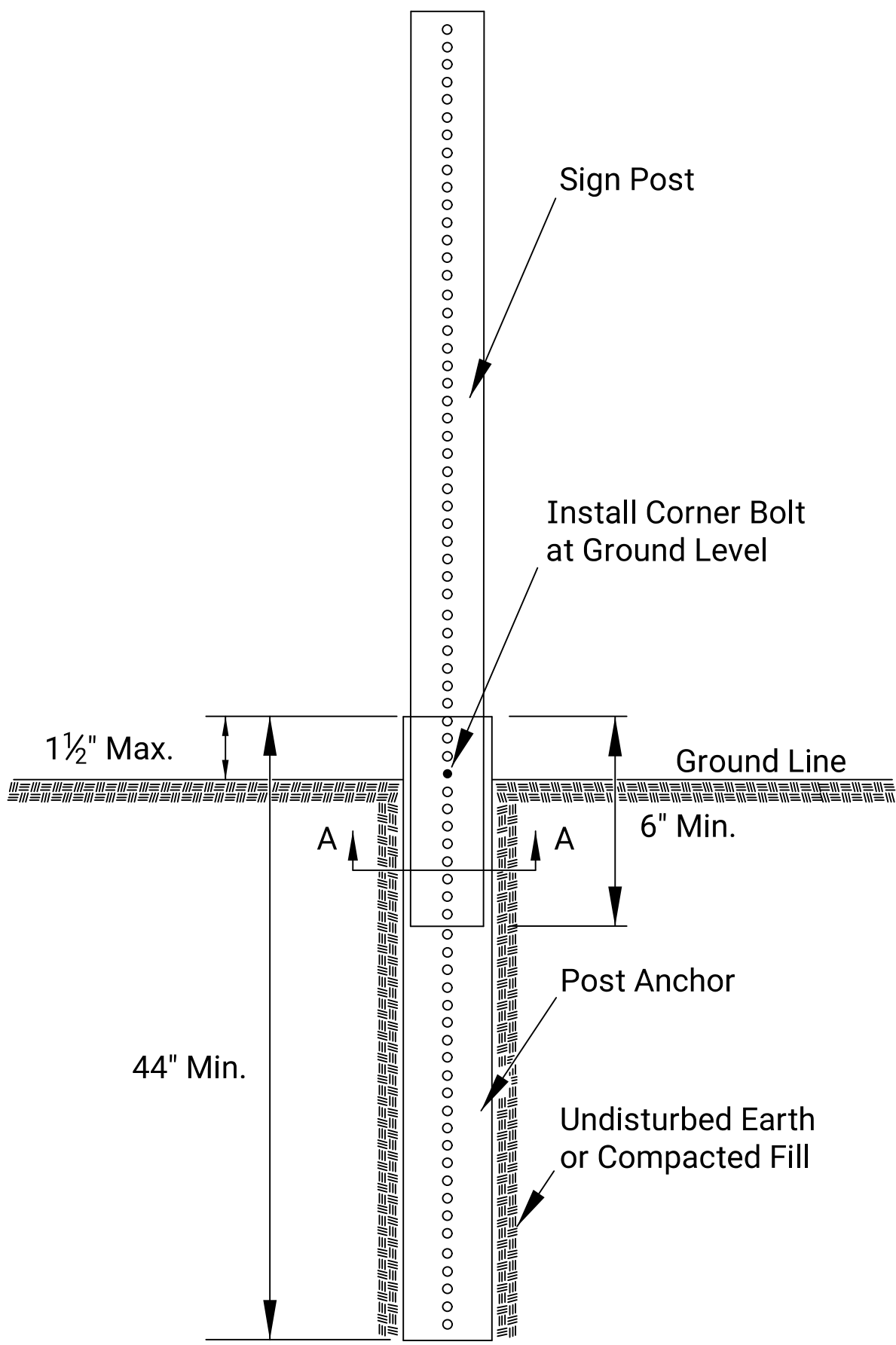
Sign Number	GIVE EM A BRAKE
Width x Height	4'-0" x 4'-0"
Border Width	1.0"
Corner Radius	4.0"
Stripe Width	3.0"
Mounting	Ground
Background	Type: Non-Reflective Color: Black
Legend/Border	Type: Reflective Color: White
Legend Font	Dutch 801 Roman SWC 25 Degree Slant
Stripes	Type: Reflective Color: Orange

Sign Number	FINES DOUBLE
Width x Height	4'-0" x 3'-0"
Border Width	0.9"
Corner Radius	3.0"
Mounting	Ground
Background	Type: Reflective Color: White
Legend/Border	Type: Non-Reflective Color: Black

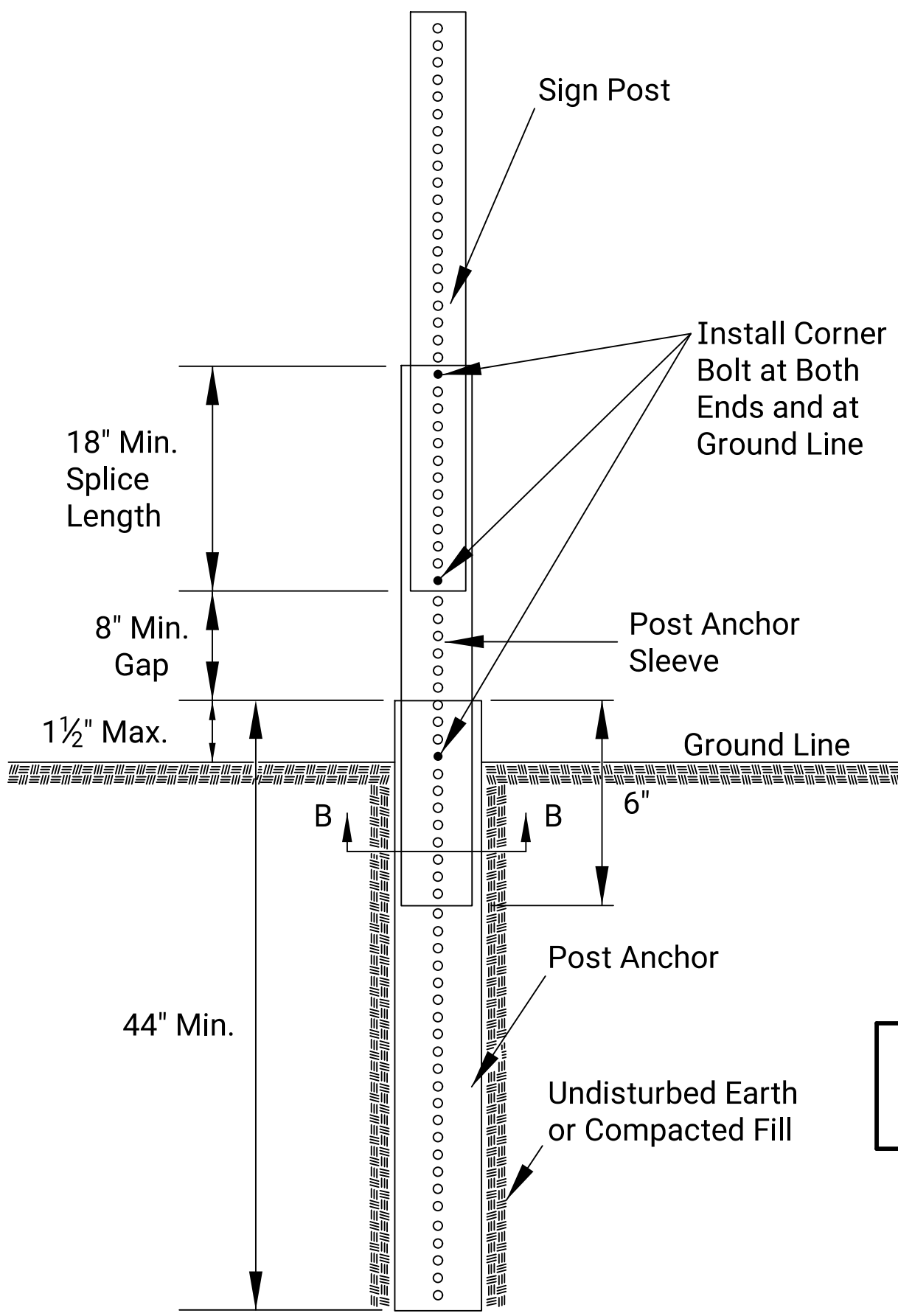
NO.	DATE	REVISIONS	BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION				
TRAFFIC CONTROL SIGN INFORMATION				
TE710				
FHWA APPROVAL 06-01-15   APPD. Kristina Ericksen				
DESIGNED R.W.B.	DETAILED R.W.B.	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.	



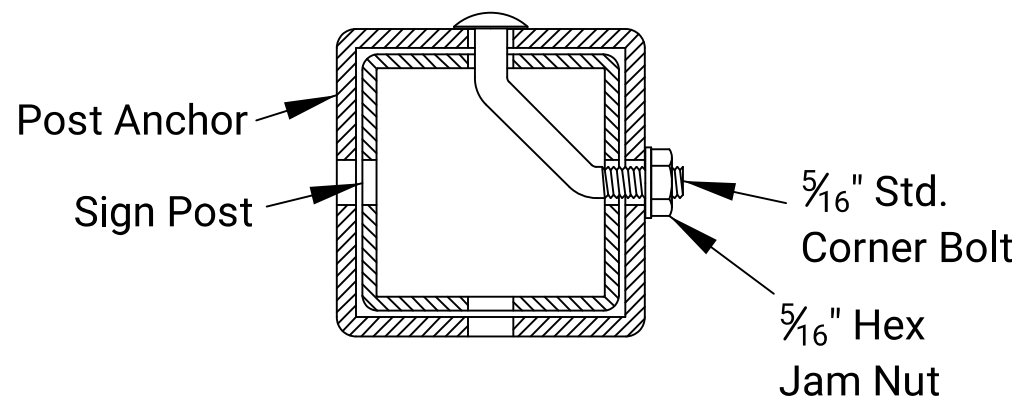
PERFORATED SQUARE STEEL TUBE (P.S.S.T.) POST SETUP



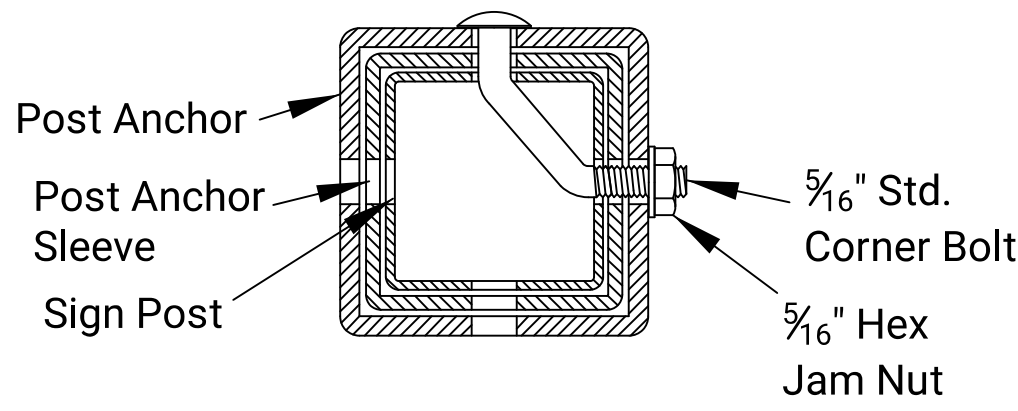
P.S.S.T. Detail



Telescoping P.S.S.T. Detail



Section A-A

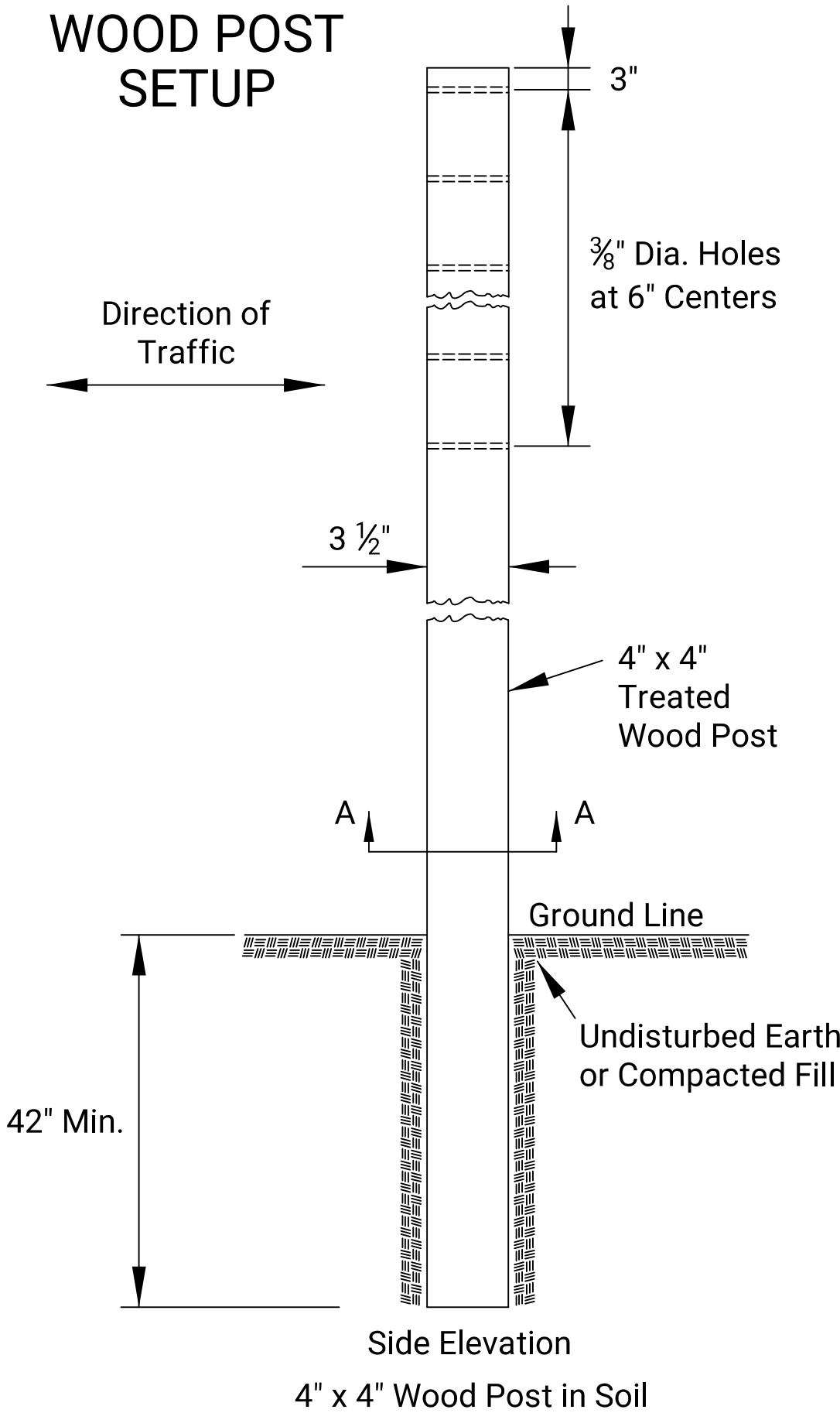


Section B-B

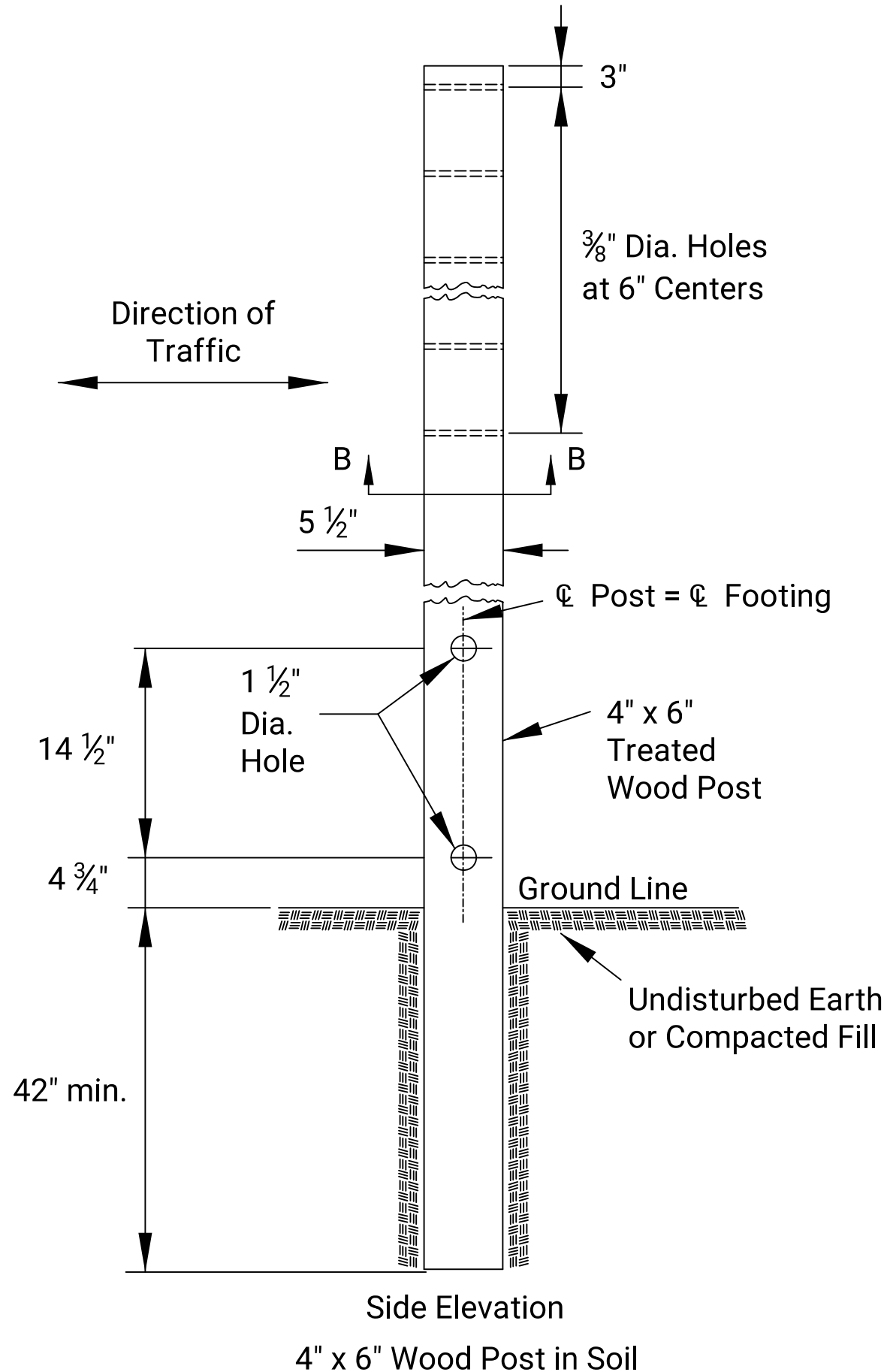
Details for 2", 2 1/4", or 2 1/2" sign posts

Place bolts in the same corner along each sign post.

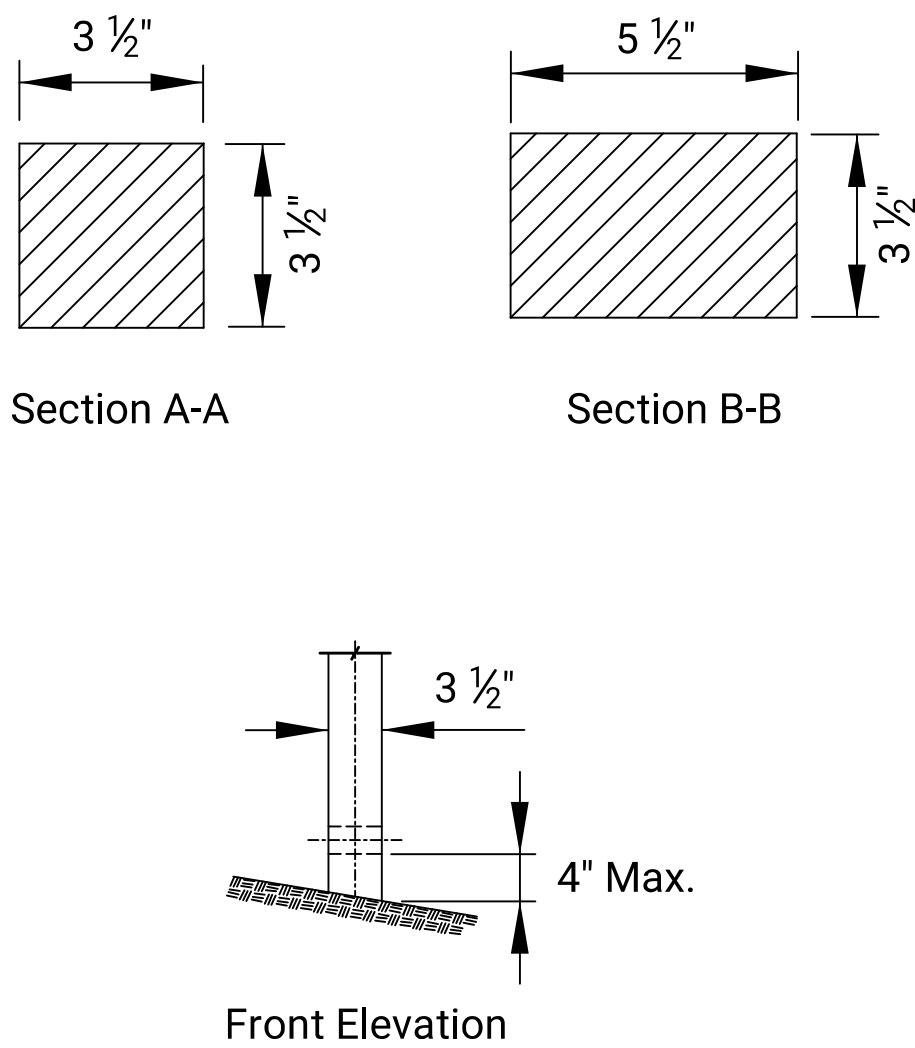
WOOD POST SETUP



Side Elevation  
4" x 4" Wood Post in Soil



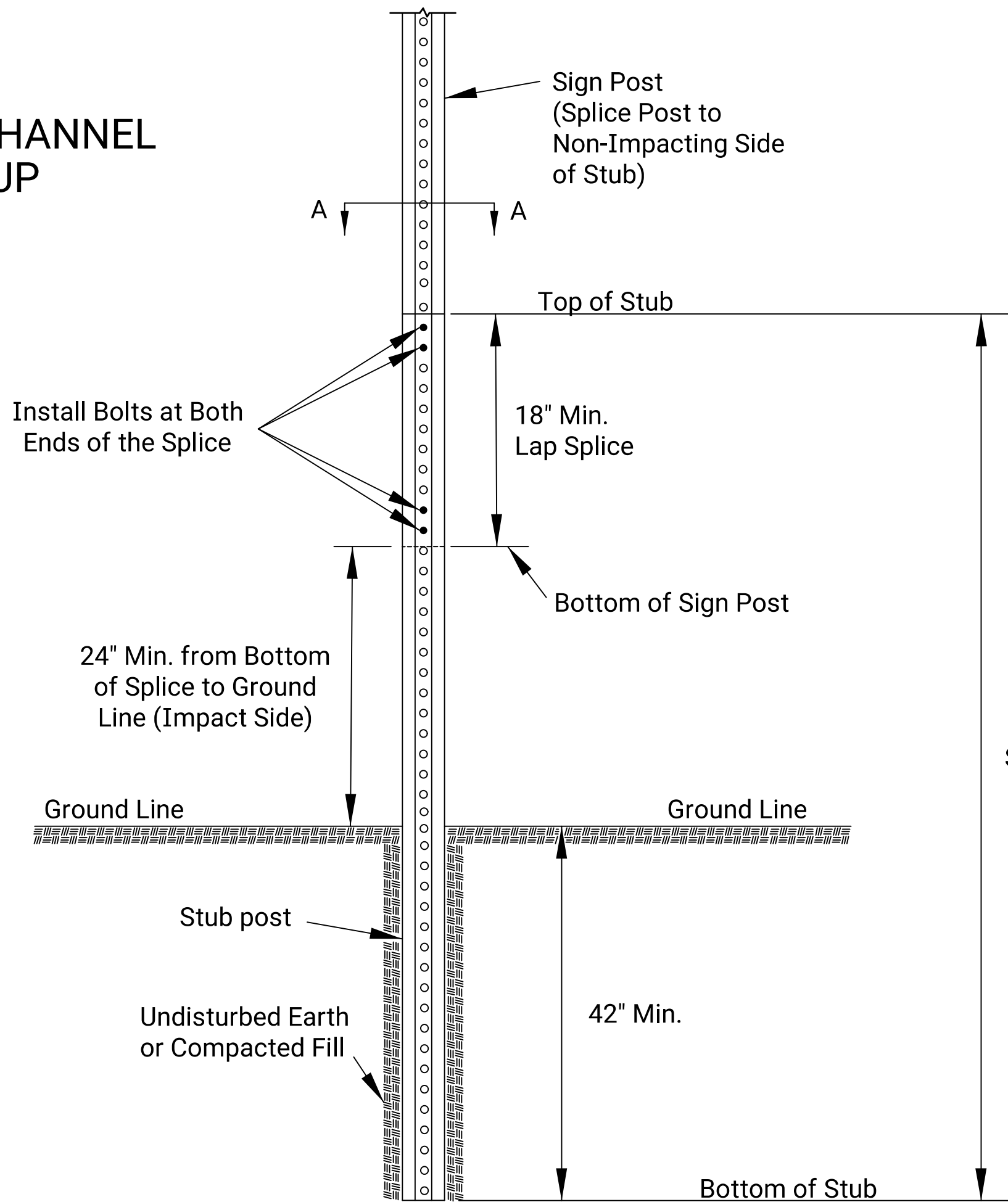
Side Elevation  
4" x 6" Wood Post in Soil



Front Elevation

See TE710 for Additional  
Details and Requirements

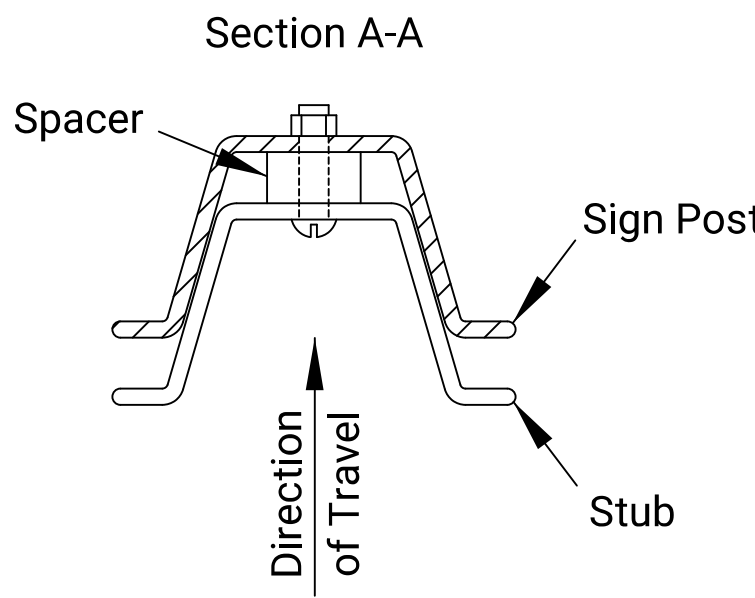
3 LB/F U-CHANNEL  
SETUP



Notes:

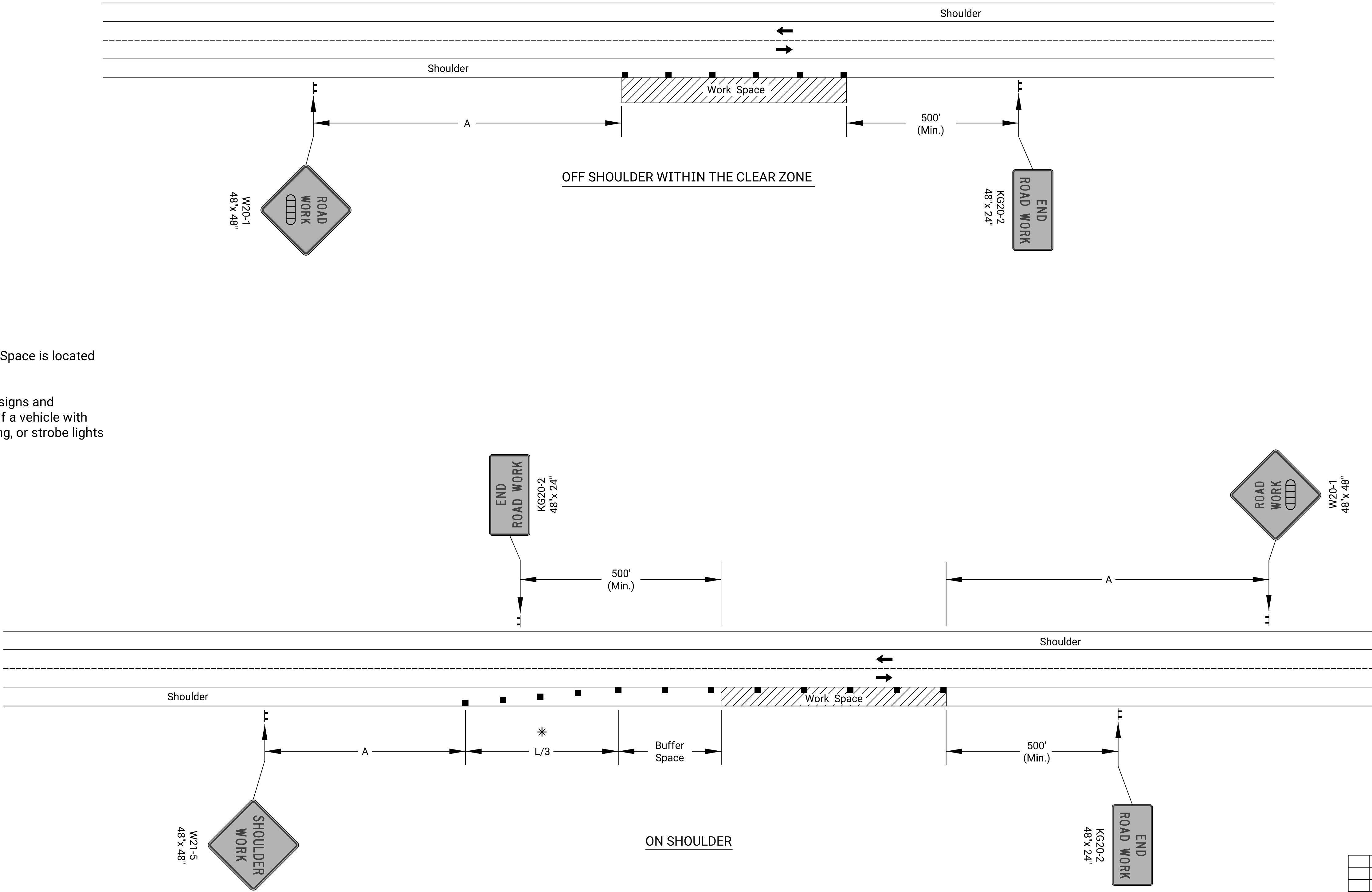
Place two bolts at both ends of the splice through the holes nearest the ends of the splice.

Use manufacturer recommended spacers over the bolts between the spliced pieces of U-Channel.



NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
TRAFFIC CONTROL SIGN POSTS					
TE712					
FHWA APPROVAL		06-01-15		APP'D. Kristina Ericksen	
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN CK.	TRACE CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	16	18



Notes:

No traffic control is required if the Work Space is located outside of the clear zone.

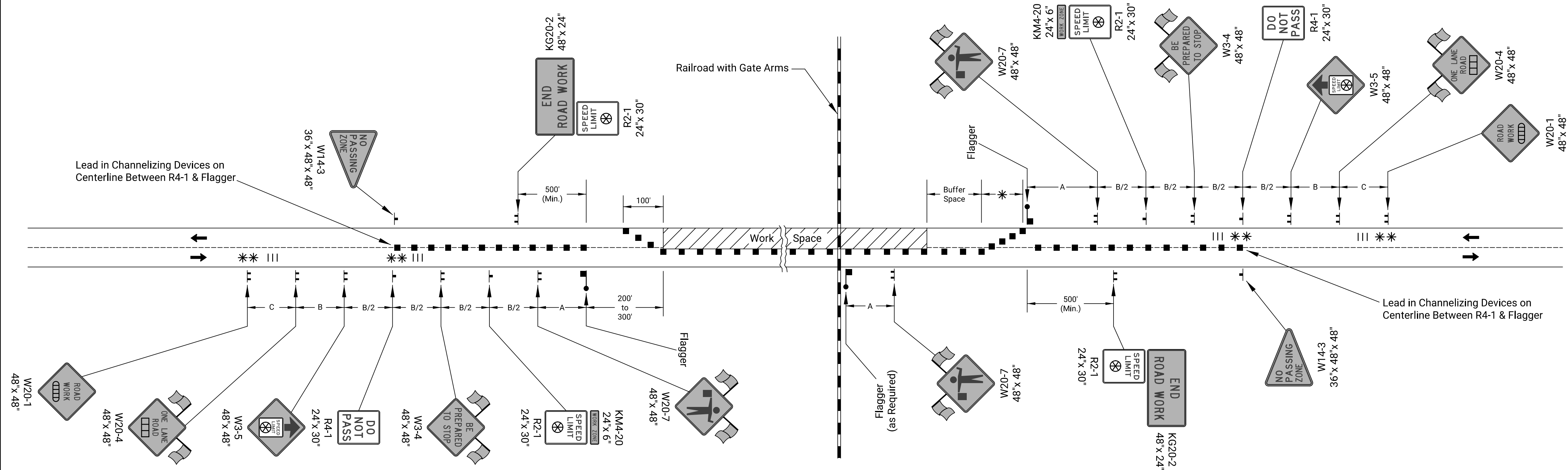
For operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with high-intensity rotating, flashing, oscillating, or strobe lights is used.

- Channelizing Device
- Ahead, 1500 ft, or 1 Mile

NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
TRAFFIC CONTROL SHOULDER WORK UNDIVIDED ROADWAY					
TE720					
FHWA APPROVAL		06-01-15		APP'D. Kristina Ericksen	
DESIGNED	L.E.R.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN.CK.	TRACE CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		2023	17	18

## FLAGGER



USE TE731 FOR FLAGGER OR PILOT CAR ON ROADWAYS WITH CONCRETE SHOULDERS GREATER THAN 8 FT.

### Notes:

Trucks hauling material to the project should STOP at the Flagger. After stopping, upon approval of the Engineer, trucks may be allowed to move around the Flagger.

Place a Flagger at all highway and major collector intersections and at-grade railroad intersections with lights and gates in the work space to control traffic crossing the tracks to the left of the gate arm. The need for a Flagger at minor side road intersections shall be determined by the Engineer. Place a W20-7 (Flagger symbol) sign on each side road that is controlled by a Flagger.

Existing signs shall not be covered or removed between Flagger stations.

Temporary rumble strips may be used in lieu of lead in channelizing devices when the roadway is less than or equal to 30' including paved shoulders. When extenuating circumstances exist, the Area Engineer may elect to eliminate both the lead in channelizers and the rumble strips.

\* Minimum six (6) channelizers spaced at 20' intervals.

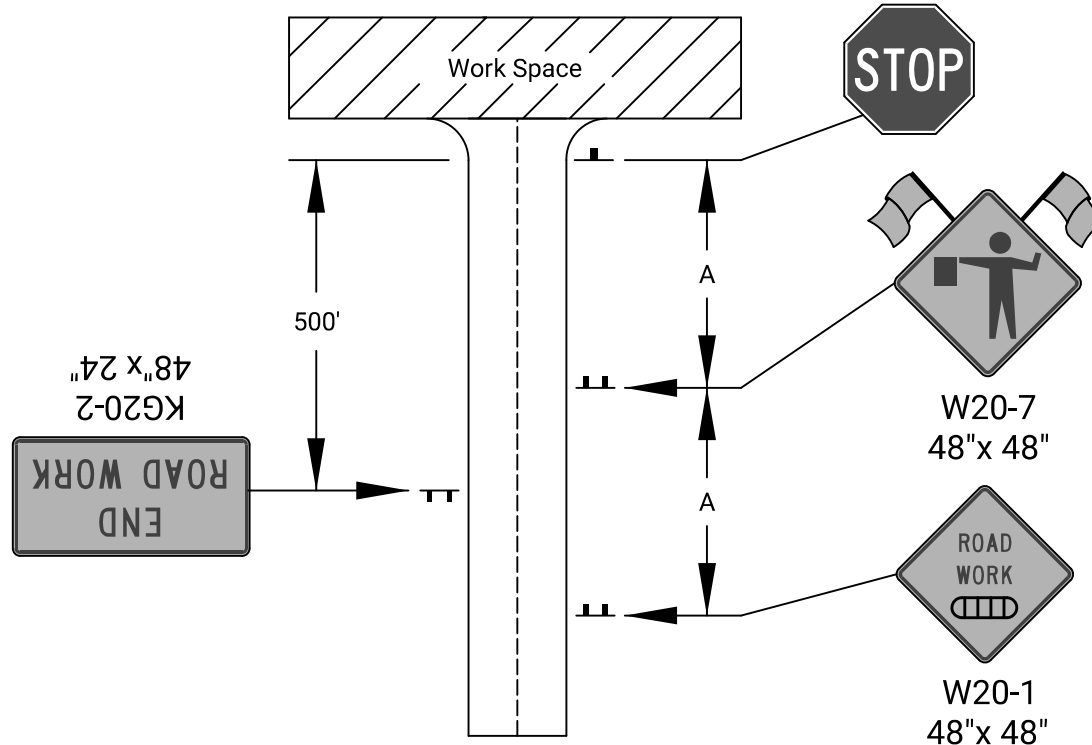
\*\* Optional rumble strips may be placed: One set between the W20-1 and W20-4, and one set between the R4-1 and W3-4, on each approach.

△ Not required on substantial maintenance projects (1R).

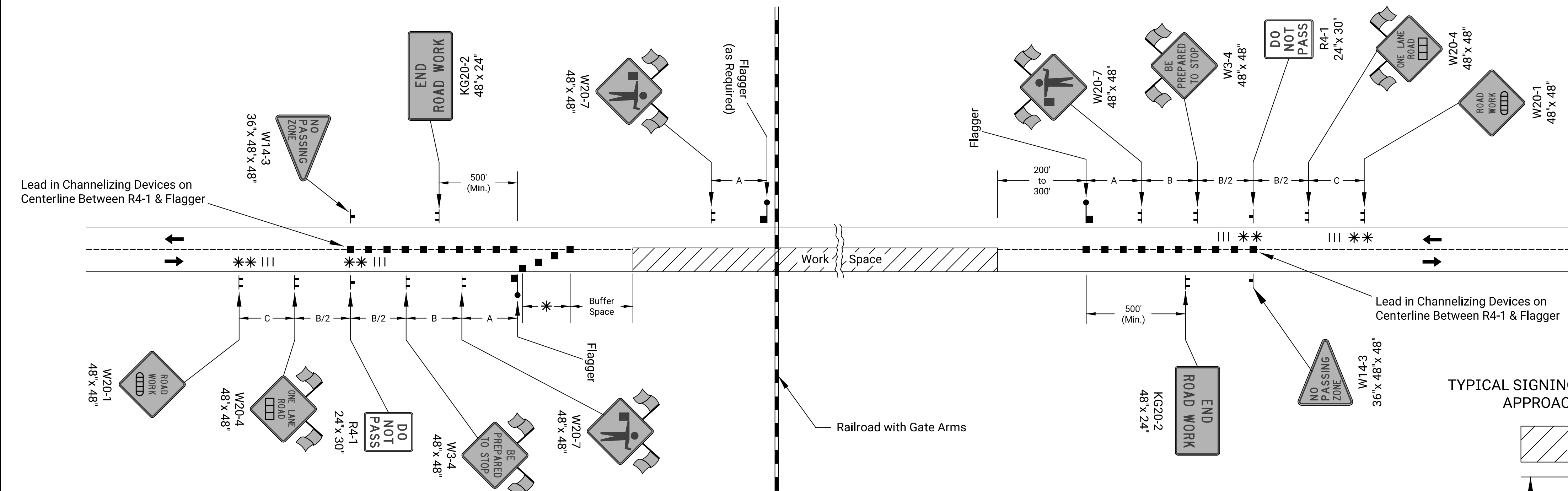
△△ The KG20-5 (WAIT FOR PILOT CAR) sign shall be mounted on an approved portable support and not attached to the existing stop sign post.

The KG20-5 sign shall be placed immediately in front of the existing stop sign, a minimum of 6" below the bottom of the stop sign. The sign should be removed or covered when there is no pilot car.

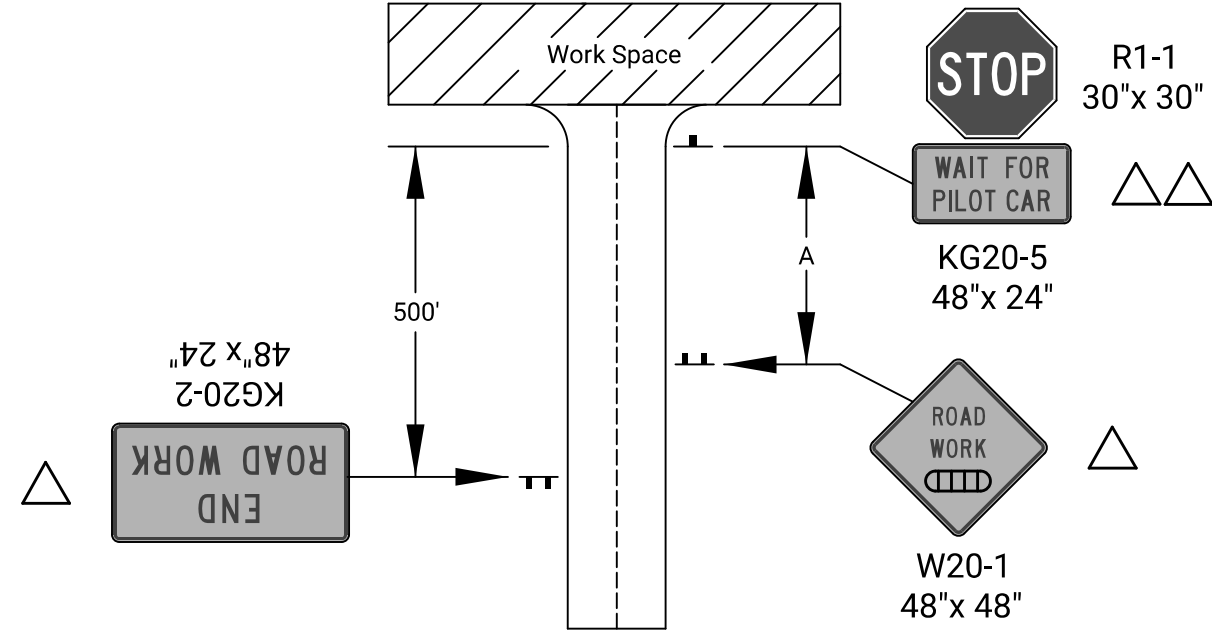
### TYPICAL SIGNING FOR HIGHWAY OR MAJOR COLLECTOR APPROACH TO WORK SPACE



## FLAGGER AND PILOT CAR



### TYPICAL SIGNING FOR A MINOR SIDE ROAD APPROACH TO WORK SPACE



- Channelizing Device
- ▨ Ahead, 1500 ft, or 1 Mile
- ▤ Ahead, 1000 ft, 1500 ft, or 1/2 Mile
- ⊗ Speed to be Determined by the Engineer
- Type "A" Low Intensity Warning Light
- ||| Temporary Portable Rumble Strips

NO.	DATE	REVISIONS	BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION				
TRAFFIC CONTROL FLAGGER OR PILOT CAR				
TE730				
FHWA APPROVAL				
DESIGNED	B.A.H.	06-01-15	APPD.	Kristina Ericksen
DETAIL	CK.	DETAIL CK.	QUANTITIES	TRACED
QUAN.	CK.	QUAN.	CK.	TRACE CK.



