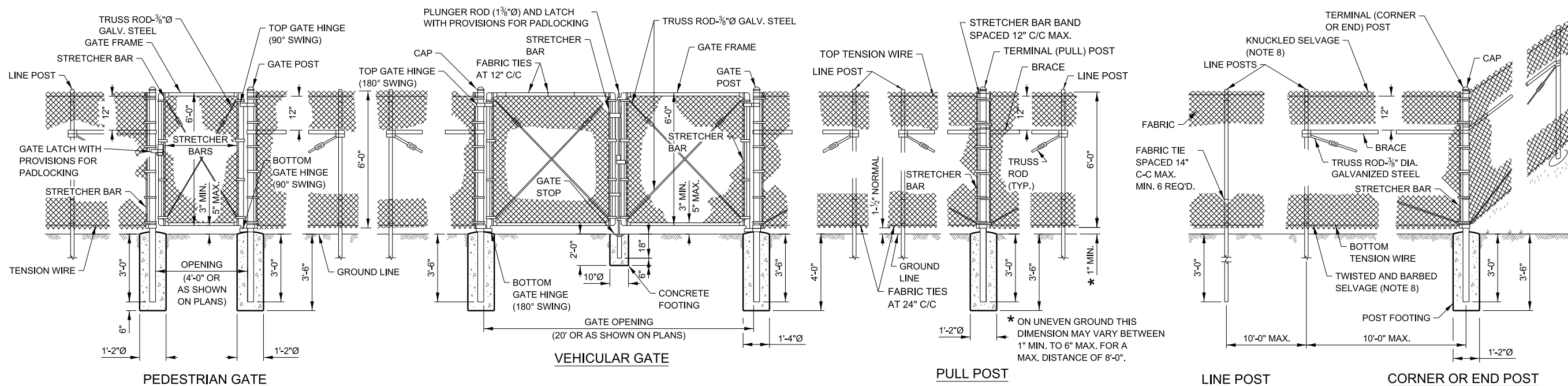


Illinois Tollway Standard Drawing Revisions

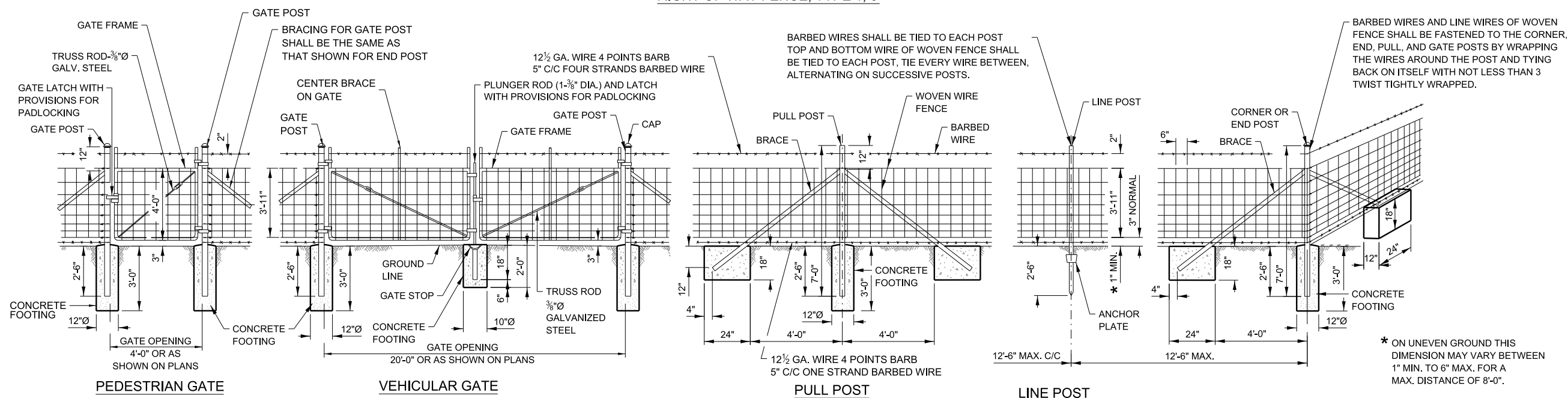
Section D	Roadway Appurtenances		
	Standard	Modification Summary	Effective: 03-01-2025
		This set of standard drawings has been converted from v8i to OpenRoads.	
	D4-10	ROADWAY DELINEATORS AND REFLECTORS	
	Sheet 1	Post Mounted Delineator spacing along tangent ramp, reduced from 200 feet to 100 feet. Table A, Reflector Spacing on Ramp – Curves, reduced spacing to be consistent with the MUTCD. Red reflectors installed only on ramps that lead up to intersections.	
	Sheet 2	Increased delineator height from 4 feet to top of post, to 4 feet, to lowest reflector to be consistent with the MUTCD. Double back red reflectors only on specified ramps.	
	Sheet 3	Increased the reflector mounting height on Temporary Concrete Barrier and Vertical Wall, Barrier or Parapet details as identified in the MUTCD.	
	D5-11	PERMANENT PAVEMENT MARKING MAINLINE	
		Note 1 clarified the diagonal lines required where the shoulder width is less than standard, except on shoulders less than 4 feet. Added references to Note 1, on the shoulder taper plan.	
	D10-04	TEMPORARY CONCRETE BARRIER WITH CROSS-BOLT CONNECTION	
	Sheet 1	Added note in Cross-Bolt Connection Hardware detail, stating that hardware shall be hot–dipped zinc coated conforming to ASTM F2329.	

New Sheet

Retired Standard



RIGHT OF WAY FENCE, TYPE 1, 6'



RIGHT OF WAY FENCE, TYPE 2, 4'

# GENERAL NOTES

- ON STRAIGHT RUNS OF FENCE, PULL POSTS SHALL BE USED AT 500' CENTERS FOR TYPE 1 AND 330' CENTERS FOR TYPE 2.
- WHERE R.O.W. FENCE FOLLOWS R.O.W. LINE IT SHALL BE INSTALLED PARALLEL TO AND 6" INSIDE THE R.O.W. LINE ON ILLINOIS TOLLWAY PROPERTY.
- LINE POSTS AND BRACES SHALL BE ON ILLINOIS TOLLWAY SIDE OF FENCE FABRIC.
- WHEN THE TENSION OF THE FENCE TENDS TO PULL THE POSTS FROM THE GROUND, THE LINE POSTS SHALL BE ANCHORED WITH ANCHORAGE SPECIFIED FOR CORNER POSTS.
- WHEN THE FENCE LINE HAS A CHANGE IN DIRECTION OF 10° OR MORE, A CORNER POST SHALL BE PLACED AT THE POINT OF CHANGE. WHERE THE ANGLE OF CHANGE IS LESS THAN 10° A PULL POST SHALL BE USED.
- WHERE GRADE LINE HAS A CHANGE IN SLOPE OF 10° OR MORE, A CORNER POST WITH BRACING AS REQUIRED SHALL BE PLACED. WHERE ANGLE IS LESS THAN 10° LINE POST MAY BE USED.
- WHERE RIGHT-OF-WAY FENCE, TYPE 1 IS USED, THE FABRIC SHALL BE KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED SELVAGE ON BOTTOM.
- PLACEMENT OF BRACED END POSTS OR CORNER POSTS WITHIN THE CLEAR ZONE SHALL BE AVOIDED.



## RIGHT OF WAY FENCE

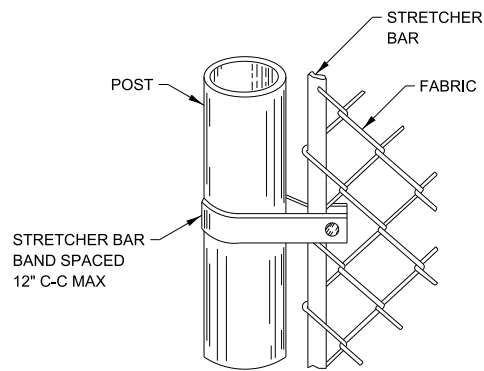
REVISIONS	
DATE	DESCRIPTION
03-01-2020	ADDED GATE TO HEADWALL DETAIL
03-31-2017	REVISED NOTES
03-11-2015	REVISED NOTES
03-31-2014	REVISED ROLLED FORM SECTIONS
11-01-2012	REVISED NOTES

APPROVED BY:

DATE:

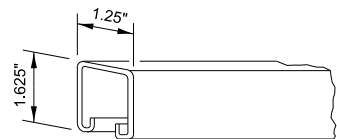
*Paul Kovacs*  
CHIEF ENGINEERING OFFICER

03/01/2020

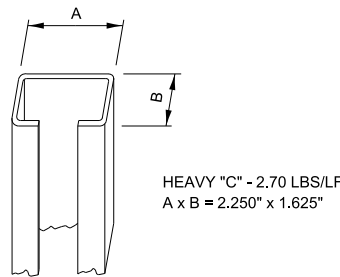


STRETCHER BARS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN  $\frac{1}{4}$ " x  $\frac{3}{4}$ " AND THE STRETCHER BAR BANDS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN  $\frac{1}{8}$ " x 1" WITH A  $\frac{3}{8}$ " GALVANIZED CARRIAGE BOLT.

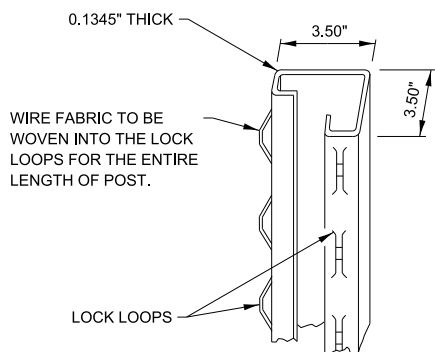
#### METHOD OF FASTENING STRETCHER BAR TO POST



BRACE SECTION  
1.25 LBS/LF

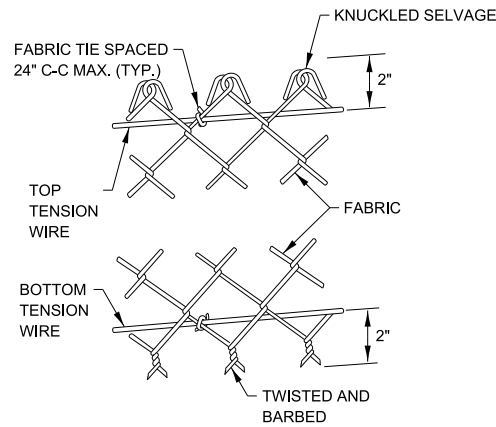


LINE POST 'C' SECTION

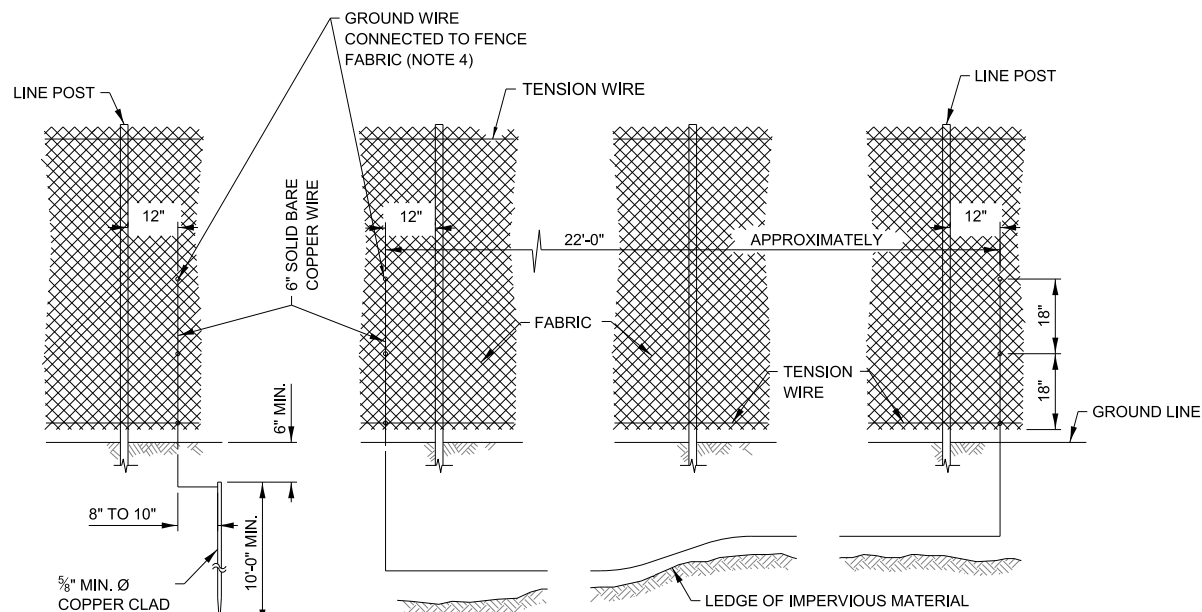


TERMINAL POST SECTION  
5.10 LBS/LF

#### DETAILS OF ROLL FORMED SECTIONS



#### METHOD OF TYING FABRIC TO TENSION WIRES



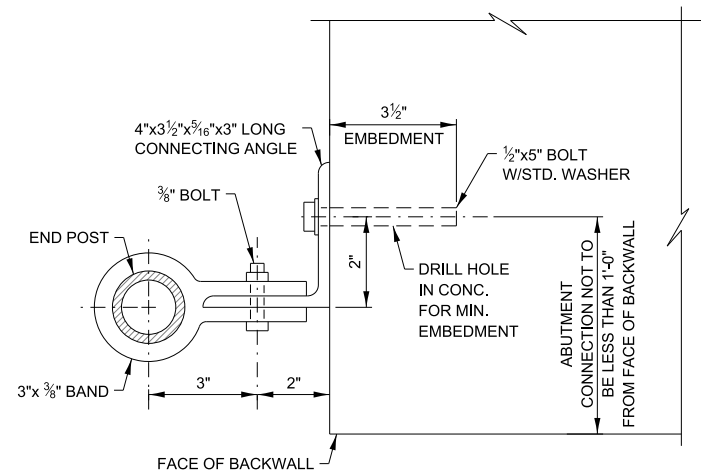
STANDARD GROUND

COUNTERPOISE GROUND (ALTERNATE)

#### NOTES FOR STANDARD AND COUNTERPOISE GROUND:

1. THE INTERVALS FOR GROUNDING CONTINUOUS FENCING SHALL NOT EXCEED 500 FEET IN URBAN AREAS AND 1000 FEET IN RURAL AREAS. FENCE ADJACENT TO A GATE SHALL BE GROUNDED A MAXIMUM DISTANCE 100 FEET EACH SIDE OF THE GATE.
2. FENCE CROSSING UNDER A POWER LINE SHALL BE GROUNDED, ONCE DIRECTLY UNDER THE CROSSING AND ONE ON EACH SIDE AT 25 TO 50 FEET AWAY. FENCE LOCATED DIRECTLY UNDER A TELEPHONE WIRE OR CABLE CROSSING SHALL HAVE A SINGLE GROUND.
3. COUNTERPOISE GROUNDS SHALL BE USED AT LOCATIONS WHERE GROUND RODS CAN NOT BE DRIVEN DUE TO IMPERVIOUS EARTH MATERIALS.
4. THE GROUND WIRES SHALL BE CONNECTED TO FENCE FABRIC AND GROUND ROD BY STAINLESS STEEL BOLTS AND WASHERS. THE LOWER CONNECTION OF THE GROUND WIRE SHALL BE MADE TO THE BOTTOM TENSION WIRE.

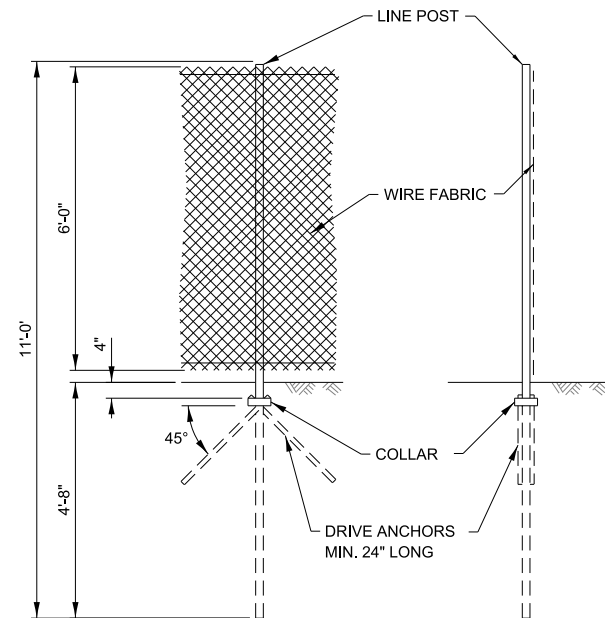
#### ELECTRICAL GROUNDING DETAILS



#### ABUTMENT CONNECTION DETAIL

#### NOTES FOR ABUTMENT CONNECTION:

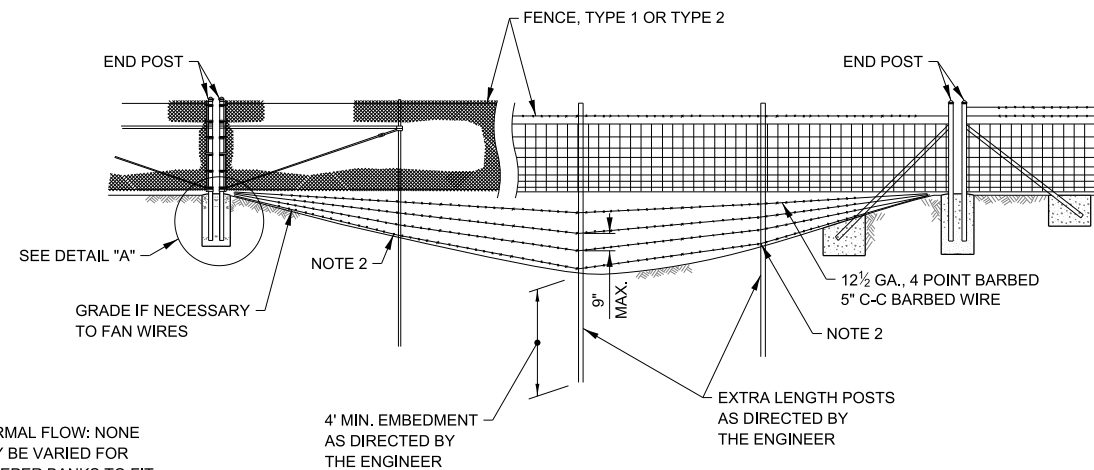
1. WHEN ROLL FORMED SECTION IS USED IN LIEU OF PIPE AS END POST, THE POST SHALL BE BOLTED DIRECTLY TO THE ABUTMENT WALL WITH  $2\frac{1}{2}$ " x 5" BOLTS WITH STANDARD WASHERS MEETING THE APPROVAL OF THE ENGINEER.



#### ALTERNATE DRIVEN LINE POST ANCHORAGE WITH OR WITHOUT DRIVE ANCHORS

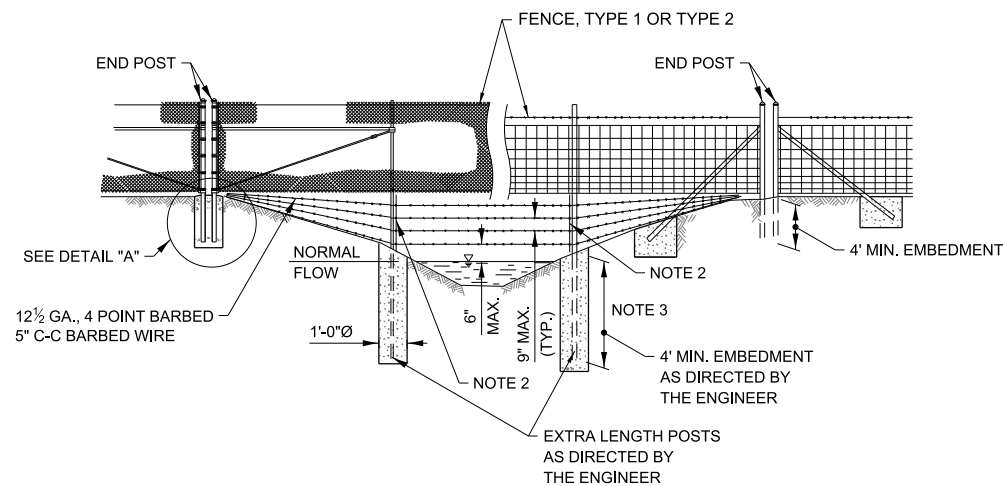
#### NOTE FOR FENCE POST:

ALTERNATE DRIVEN LINE POST ANCHORAGE IS OPTIONAL. DRIVEN LINE POST ANCHORAGE WITHOUT DRIVE ANCHORS MAY BE USED IN AVERAGE TO GOOD SOIL CONDITIONS. WHEN SOIL IS WEAKER ( $Q_u < 1.25$  TONS/ SQ. FT.) AND STABILITY OF THE POST IS QUESTIONABLE, DRIVE ANCHORS SHALL BE USED. TYPES, SHAPES, DIMENSIONS AND COATING REQUIREMENTS OF DRIVE ANCHORS (ANCHOR BLADES AND COLLARS) FOR DIFFERENT TYPE OF POSTS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.



NORMAL FLOW: NONE  
MAY BE VARIED FOR  
STEEPER BANKS TO FIT  
VARIOUS CHANNEL SECTIONS.

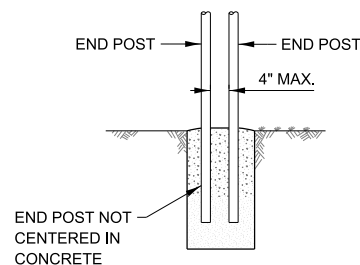
STREAM CROSSING, TYPE 1



STREAM CROSSING, TYPE 2

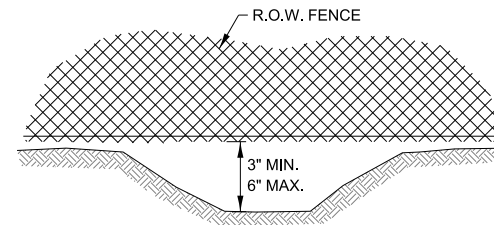
NOTES FOR STREAM CROSSING TYPE 1 AND TYPE 2:

1. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED. CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
2. FOR STREAM CROSSING OF THE TYPE REQUIRED THE BOTTOM BARBED WIRE SHALL BE ANCHORED TO CONCRETE FOOTING OR TO HOLES DRILLED IN POSTS, AND INTERMEDIATE WIRES SHALL BE TIED TO THE BOTTOM WIRE AND TO POSTS IN AN EVENLY SPACED FASHION TO PREVENT SLIPPAGE.
3. CONCRETE AND FITTINGS FOR ALL TYPES OF FENCE SHALL BE AS DETAILED FOR SIMILAR CONDITIONS PER STANDARD DRAWING.

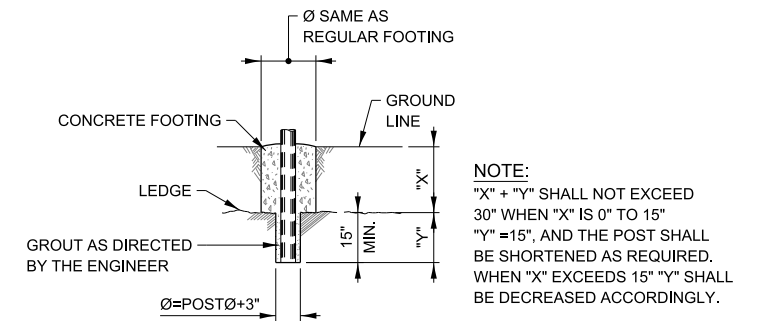


THE FENCE FABRIC SHALL BE REPLACED BY BARBED  
WIRE STRANDS AT 12\"/>

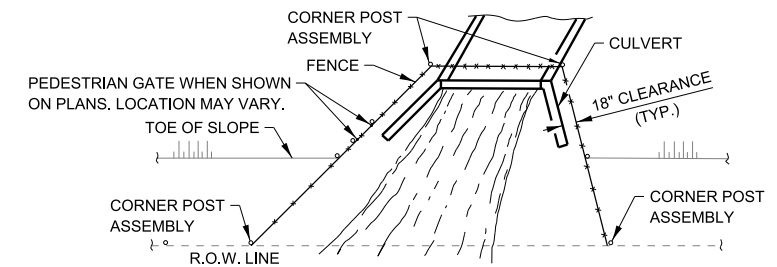
DETAIL A



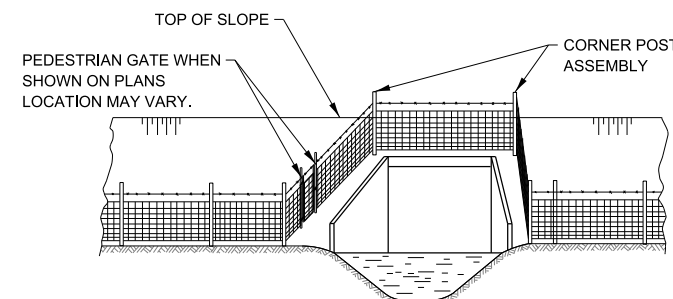
FENCE INSTALLATION OVER DITCH



FOOTING FOR POST WHEN  
ROCK LEDGE IS ENCOUNTERED



PLAN AT HEADWALL



ELEVATION

NOTES FOR INSTALLATION AROUND HEADWALL:

1. THIS TYPE OF INSTALLATION IS TO BE USED ONLY WHEN SPECIFICALLY CALLED FOR IN THE CONTRACT PLANS.
2. WHEN THE WIDTH OF THE CULVERT MAKES IT NECESSARY TO ANCHOR A POST TO THE TOP OF THE CULVERT, A CAST IRON SHOE OR OTHER DEVICE APPROVED BY THE ENGINEER SHALL BE USED.

INSTALLATION AROUND HEADWALL



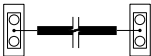
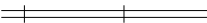
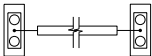
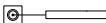
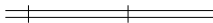
**RIGHT OF WAY FENCE**



SURVEY AND ROADWAY ITEMS

EXISTING

PROPOSED



CONSTRUCTION JOINT W/DOWEL BARS

BENCHMARK

CANTILEVER SIGN STRUCTURE

BUTTERFLY SIGN STRUCTURE

DOUBLE COLUMN GROUND MOUNTED SIGN

SINGLE COLUMN GROUND MOUNTED SIGN

SPAN TYPE SIGN STRUCTURE

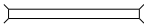
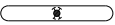
TRIPLE COLUMN GROUND MOUNTED SIGN

RUMBLE STRIP

DRAINAGE AND UTILITY ITEMS; ROADWAY LIGHTING AND SIGNS

EXISTING

PROPOSED



BOX CULVERT WITH HEADWALL

CABLE IN DUCT W/O GROUND

LOW POINT

OVERHEAD ELECTRICAL

OVERHEAD TELEPHONE

PIPE CULVERT

LAKE OR POND

QUARRY

STREAM

SWAMP

CABLE OR CONDUIT TAG

ELECTRICAL MANHOLE

LIGHT-DUTY BOX

ROADWAY LUMINAIRE

STEEL TOWER

TELEPHONE MANHOLE

UNDERPASS LUMINAIRE

WATER POINT

WATERMAIN VALVE VAULT

WATER WELL

WOOD POLE



SYMBOLS AND PATTERNS

REVISIONS	
DATE	DESCRIPTION
03-31-2016	UPDATED DITCH CHECK SYMBOL
03-11-2015	ADDED NEW SYMBOL
11-01-2012	ADDED NEW SYMBOLS
07-01-2009	REVISED SYMBOLS & PATTERNS

VERSION:	STANDARD:	SHEET:
2016-03	D2-04	1 OF 4

APPROVED BY:

DATE:

Paul Kovacs

CHIEF ENGINEERING OFFICER

03/31/2016

EROSION & SEDIMENT CONTROL, LANDSCAPING ITEMS

EXISTING

PROPOSED

		CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)
		DIVERSION DIKE
		DRAINAGE DIVIDE
		DRAINAGE PATH
		SEDIMENT BASIN
		AGGREGATE BERM
		CULVERT INLET PROTECTION-STONE
		CIP
		CULVERT INLET PROTECTION-FENCE
		DEWATERING BASIN
		FILTER FABRIC INLET PROTECTION, BASKET TYPE
		FILTER FABRIC INLET PROTECTION, COVER TYPE
		FLOTATION BOOM
		INITIAL CONSTRUCTION ITEM
		RECTANGULAR INLET PROTECTION
		TEMPORARY ROCK CHECK DAM
		TEMPORARY DITCH CHECK
		SEDIMENT BASIN
		SILT FENCE
		SUPER SILT FENCE
		SSF
		STABILIZED CONSTRUCTION ENTRANCE
		STONE OUTLET STRUCTURE
		SEDIMENT TRAP
		STREAM DIVERSION
		TEMPORARY PIPE SLOPE DRAIN
		TEMPORARY RIPRAP
		TEMPORARY SWALE
		TS
		TREES AND STUMP
		TP
		TREE PROTECTION
		TEMPORARY STREAM CROSSING

PROPOSED

	EROSION CONTROL BLANKET
	OVER SEEDING CLASS B1
	OVER SEEDING CLASS B2
	SEEDING CLASS A1
	SEEDING CLASS A2
	SEEDING CLASS A3
	SEEDING CLASS A4
	SEEDING CLASS A5
	SEEDING CLASS A6
	SEEDING CLASS D1
	SODDING (SALT TOLERANT)
	TEMPORARY GROUND COVER
	TURF REINFORCEMENT MAT



SYMBOLS AND PATTERNS

APPROVED BY:

DATE:

CHIEF ENGINEERING OFFICER

03/31/2016

ELECTRICAL AND MECHANICAL ITEMS



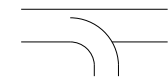
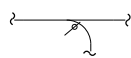

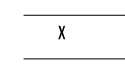
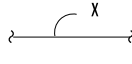








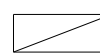




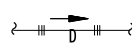




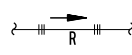




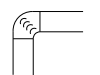



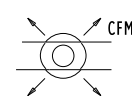
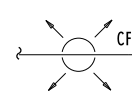



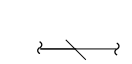




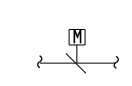




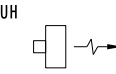

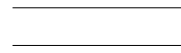
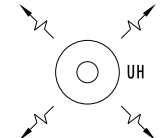

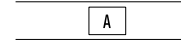


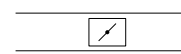


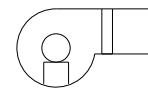
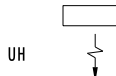

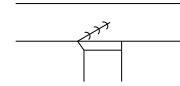


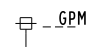













	HOME RUN TO PANEL AS NOTED
	INDICATES CIRCUIT TURNING DOWN
	INDICATES CIRCUIT TURNING UP
	GROUND ROD
	GROUNDING TRIAD
	TRANSFORMER
	MOTOR
	AUTOMATIC TRANSFER SWITCH (ATS)
	JUNCTION BOX
	DISCONNECT SWITCH
	CIRCUIT BREAKER
	MANUAL TRANSFER SWITCH
	SELF CONTAINED UTILITY METERING

	STANDBY GENERATOR
	PANEL CIRCUIT BREAKER
	MECHANICALLY HELD LIGHTING COIL
	CONTROL RELAY COIL
	SINGLE-POLE SWITCH
	DUPLEX RECEPTACLE
	4P, 4W, WEATHERPROOF RECEPTACLE WITH SPRING DOOR, BACK BOX, & ANGLE ADAPTER
	4P, 4W, WEATHERPROOF RECEPTACLE WITH SPRING DOOR & BACK BOX
	DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION
	CONTROL BUILDING LIGHTING 1' X 4' INDUSTRIAL FLUORESCENT FIXTURE, PORCELAIN REFLECTOR, ELECTRONIC BALLAST.
	COMPACT WALL-MOUNTED LOW WATTAGE HPS FIXTURE WITH WIRE GUARD & SINGLE FACTORY INSTALLED FUSE
	EMERGENCY LIGHT UNIT WITH 2-6 VOLT, 12 WATT SEALED BEAM HALOGEN LAMPS WITH WALL MOUNTING BRACKET
	LANE LIGHTING - HEAVY DUTY ALUMINUM HOUSING WITH ENCLOSED REFLECTOR & TEMPERED GLASS LENS W/AUTO REGULATOR BALLAST. ASYMMETRIC PATTERN
	WIRE
	CONDUIT

EXISTING	PROPOSED	
_____ A _____	_____ A _____	COMPRESSED AIR (A)
_____ AR _____	_____ AR _____	ACID RESISTANT WASTE OR DRAIN
_____ ARV _____	_____ ARV _____	ACID RESISTANT VENT
_____ DS _____	_____ DS _____	STORM SEWER (DOWNSPOUT)
_____ G _____	_____ G _____	GAS LINE
_____ HG _____	_____ HG _____	HOT GAS BYPASS LINE (HG)
_____ HHWR _____	_____ HHWR _____	HEATING HOT WATER RETURN (HHWR)
_____ HHWS _____	_____ HHWS _____	HEATING HOT WATER SUPPLY (HHWS)
_____ IA _____	_____ IA _____	DRY COMPRESSED AIR (IA-INSTRUMENT AIR)
_____ P _____	_____ P _____	PROCESS WATER ("P" WATER) LINE
_____ PW _____	_____ PW _____	PROTECTED WATER OR PLANT WATER (PW)
_____ RD _____	_____ RD _____	REFRIGERANT DISCHARGE LINE (RD)
_____ RS _____	_____ RS _____	REFRIGERANT SUCTION LINE (RS)
_____ V _____	_____ V _____	VENT LINE (V)

NOTE:  
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

ELECTRICAL AND MECHANICAL ITEMS

	OR		QUANTITY AND DIRECTION OF THE AIR FLOW		OR		SPLITTER DAMPER		GLOBE VALVE
	OR		DUCT SIZE (FIRST FIGURE SIZE OF SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN.)				PLUG VALVE WITH MEMORY STOP (BALANCING)		BUTTERFLY VALVE
			SUPPLY DUCT SECTION				PLUG VALVE		CHECK VALVE
	OR		RETURN OR EXHAUST DUCT SECTION				SOLENOID VALVE		ANGLE GATE VALVE
	OR		DUCT DROPS IN THE DIRECTION OF FLOW				TEMPERATURE CONTROL VALVE		CONCENTRIC REDUCER
	OR		DUCT RISES IN THE DIRECTION OF FLOW				THREE-WAY TEMPERATURE CONTROL VALVE DIAPHRAGM		ECCENTRIC REDUCER
	OR		TURNING VANES				THREE-WAY TEMPERATURE CONTROL VALVE TOP VIEW		ORIFICE FLANGE
	OR		8" THROAT DIAMETER CEILING DIFFUSER; AIR FLOW – 100 CFM				AIR PRESSURE REDUCING STATION (NO. CORRESPONDS WITH AIR PRESSURE REDUCER SCHEDULE)		CROSSOVER
	OR		BALANCING OR VOLUME DAMPER				FLOAT OPERATED VALVE		PIPE GUIDE
	OR		MOTOR OPERATED DAMPER				QUICK COUPLING (QC)		EXPANSION JOINT (SLIP TYPE)
			FLEXIBLE DUCT				HORIZONTAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		EXPANSION JOINT (BELLOWS TYPE)
			FIRE DAMPER				VERTICAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		AIR ELIMINATOR (AIR VENT)
			SOUND ATTENUATOR				THERMOSTAT OR ROOM TEMPERATURE SENSOR		PIPE CAP
			ZONE DAMPER				GATE VALVE		STRAIGHT CROSS
			FLEXIBLE CONNECTION AT FAN OR EQUIPMENT				CABINET TYPE UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		90° ELBOW
			EXTRACTOR				FLOW SWITCH		90° ELBOW TURNED DOWN
							VENTURI FLOW METER AND FLOW TO BE INDICATED		90° ELBOW TURNED UP
							CONNECTION BETWEEN NEW AND EXISTING		SIDE OUTLET ELBOW TURNED DOWN
									SIDE OUTLET ELBOW TURNED UP
									LATERAL
									TEE
									TEE OUTLET UP
									TEE OUTLET DOWN
									UNION
									STRAINER
									PIPE ANCHOR
									THERMOMETER (NOS. = RANGE IN DEGREES FAHRENHEIT)
									PRESSURE, VACUUM OR COMPOUND GAUGE

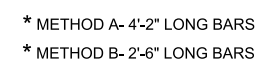
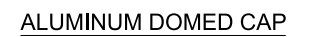
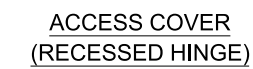
NOTE:

ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.



SYMBOLS AND PATTERNS





PERMANENT SURVEY  
MONUMENTS AND RIGHT-OF-  
WAY MARKERS

VERSION: 2019-03	STANDARD: D3-02	SHEET: 1 OF 1
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APPROVED BY:

DATE: \_\_\_\_\_

Paul Kovacs  
CHIEF ENGINEERING OFFICER

03/01/2019

PERMANENT SURVEY MONUMENT

PERMANENT DELINEATION SPACING					
		MAINLINE		RAMP	
	REFLECTORS	TANGENT	CURVE	TANGENT	CURVE
★	GUARDRAIL	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
★	BARRIER WALL (DOUBLE FACE)	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
★	BARRIER WALL (SINGLE FACE)	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
	SHOULDER NARROWING	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
	BRIDGE APPROACHES	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
★	BRIDGE OR RETAINING WALL PARAPET	50'	50'	50'	50'
★	CRASHWORTHY NOISE ABATEMENT WALL OR RETAINING WALL AT EDGE OF SHOULDER	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
	ROADWAY DELINEATORS	MAINLINE		RAMP	
		TANGENT	CURVE	TANGENT	CURVE
	POST MOUNTED DELINEATOR	200'	200'	100' ★★	TABLE A ★★
	POST MOUNTED DELINEATOR (RAMP TAPERS AND TANGENTS)	100' ★★	100' ★★	NA	NA
TEMPORARY DELINEATION SPACING					
		TANGENT	REVERSE CURVE	SHIFT	TAPER
	TEMPORARY CONCRETE BARRIER	50'	25'	25'	25'
★	WHEN ADJACENT SHOULDER IS USED AS A TRAVELED LANE, USE SPACING REQUIREMENTS AS SHOWN FOR TEMPORARY DELINEATION.				
★★	IN ADDITION TO CRYSTAL/AMBER REFLECTORS, RED REFLECTORS SHALL BE INSTALLED (FACING OPPOSITE TRAFFIC FLOW) ONLY ALONG TOLLWAY EXIT RAMP TO CROSSROADS WHERE THE EXIT RAMP TERMINAL IS LOCATED AT A STOP CONTROLLED, SIGNALIZED OR ROUNDABOUT INTERSECTION. THE LOCATIONS OF THE RED REFLECTORS SHALL BE IN ACCORDANCE WITH THE INTERCHANGE RAMP PLACEMENT PLAN ON SHEET 2 OF THIS STANDARD.				

TABLE A	
REFLECTOR SPACING ON RAMP - CURVES	
RADIUS OF CURVE (FT.)	SPACING ALONG CURVE (FT.)
LESS THAN 140	25
140-249	30
250-349	40
350-699	50
700-1200	75
MORE THAN 1200	100

GENERAL NOTES:

1.

EMERGENCY TURNAROUNDS DELINEATION - THE FOLLOWING DELINEATION SHOULD BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT APPROACHING EMERGENCY TURNAROUNDS.

A.

ONE-HALF OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER THREE AMBER REFLECTOR UNITS.

B.

ONE-FOURTH OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER TWO AMBER REFLECTOR UNITS.

C.

AT A POINT NEAR THE INTERSECTION OF THE EDGE OF THE LEFT SHOULDER AND NEAR EDGE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER ONE AMBER REFLECTOR UNIT.
2.

ALL REFLECTORS FACING OPPOSITE TRAFFIC FLOW SHALL BE RED.

NOTES FOR ROADWAY DELINEATORS, POST MOUNTED INSTALLATION:

1.

A.

MAINLINE-SINGLE WHITE REFLECTOR UNITS SHALL BE PLACED CONTINUOUSLY ON THE RIGHT AND SINGLE AMBER REFLECTOR UNITS SHALL BE PLACED ON THE LEFT ON MAIN LINE SECTIONS WITHOUT BARRIER WALL.

B.

RAMPS-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMPS, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS.

C.

DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.

D.

THE LOCATION OF THE REFLECTORS SHALL BE IN ACCORDANCE WITH THE INTERCHANGE RAMP PLACEMENT PLAN ON SHEET 2 OF THIS STANDARD.
2.

REFLECTORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE BOTTOM OF REFLECTORS IS FOUR FEET ABOVE THE ROADWAY EDGE AND TWO FEET OUTSIDE THE OUTER EDGE OF THE PAVED SHOULDER OR TWO FEET MINIMUM AND SIX FEET MAXIMUM OUTSIDE THE BACKS OF CURBS OR GUTTERS.
3.

IN ALL CASES, THE COLOR OF THE REFLECTORS SHALL BE THE SAME AS THE ADJACENT EDGE LINE EXCEPT AS SPECIFIED IN GENERAL NOTES.
4.

POST MOUNTED REFLECTORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.
5.

THE PLACEMENT OF ROADWAY DELINEATOR "CIRCULAR REFLECTORS" SHALL BE USED FOR ALL MINOR PROJECTS WHICH HAVE A LENGTH OF LESS THAN 5 MILES. THE PLACEMENT OF ROADWAY DELINEATOR "RECTANGULAR REFLECTORS" SHALL BE USED FOR ALL MAJOR PROJECTS WHICH HAVE A LENGTH GREATER THAN 5 MILES. ALL ROADWAY DELINEATORS WITHIN A ROADWAY SEGMENT SHALL BE OF THE SAME TYPE.

NOTES FOR GUARDRAIL AND BARRIER WALL REFLECTOR:

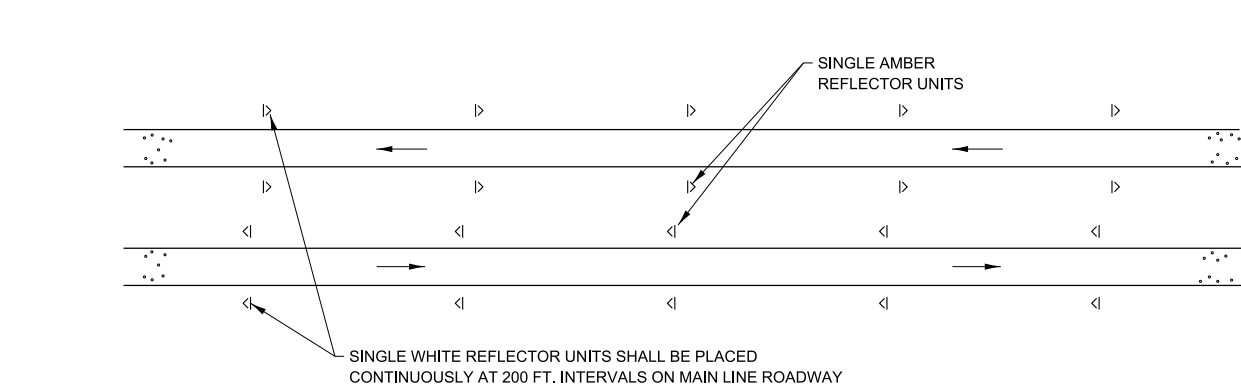
1.

REFLECTORS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY. WHERE DOUBLE BACK REFLECTOR IS INDICATED, A SINGLE RED REFLECTOR SHALL BE INSTALLED BACK TO BACK WITH THE APPROACHING TRAFFIC FACING REFLECTOR.

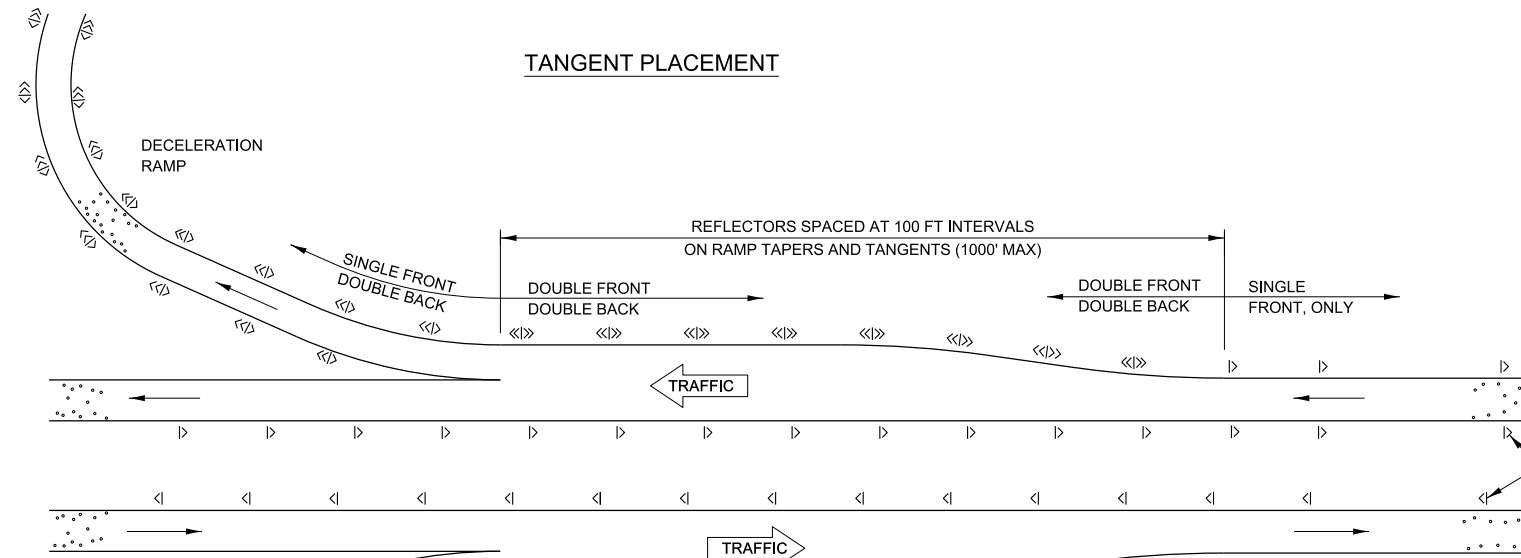
R E V I S I O N S	
DATE	DESCRIPTION
03-01-2025	DELINEATOR SPACING AND MOUNTING
	HEIGHT REVISED AND RED REFLECTORS
	ONLY ON SPECIFIED RAMPS
03-01-2024	ADDED DETAIL FOR REFLECTOR
	AT NAW & RETAINING WALL



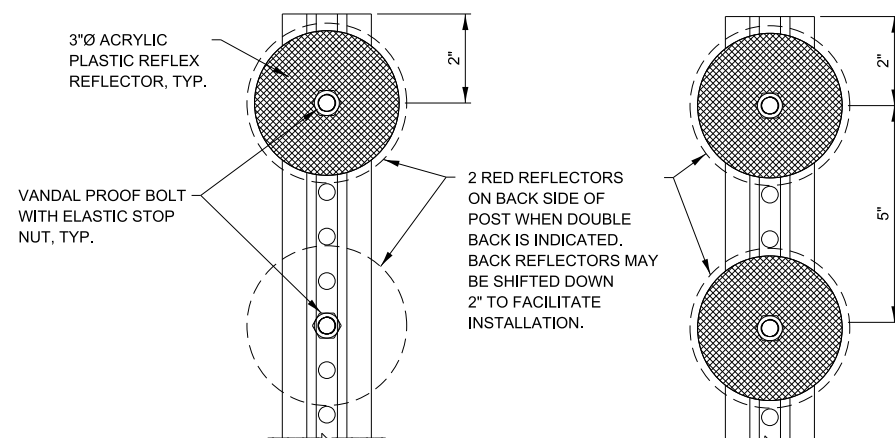
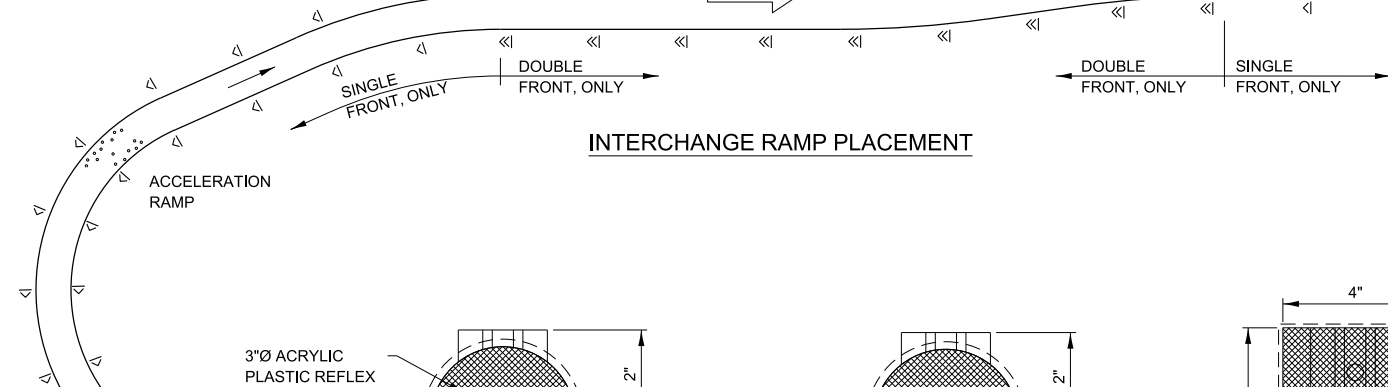
ROADWAY DELINEATORS AND REFLECTORS



### TANGENT PLACEMENT



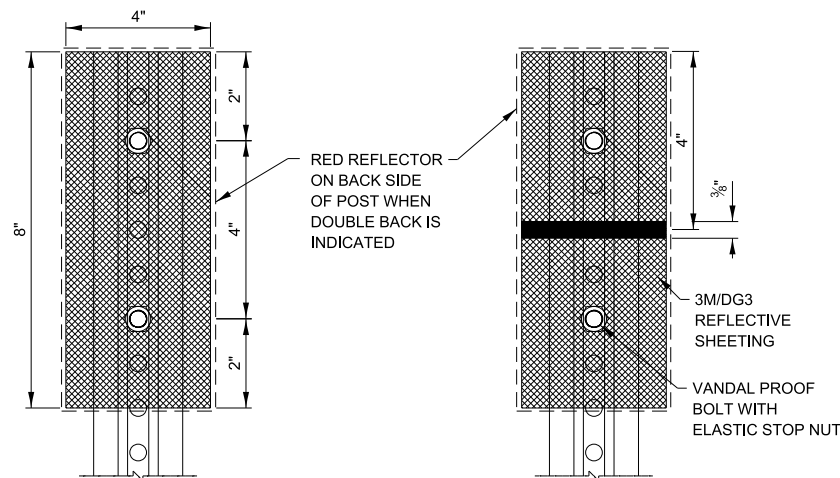
### INTERCHANGE RAMP PLACEMENT



### SINGLE FRONT

### DOUBLE FRONT

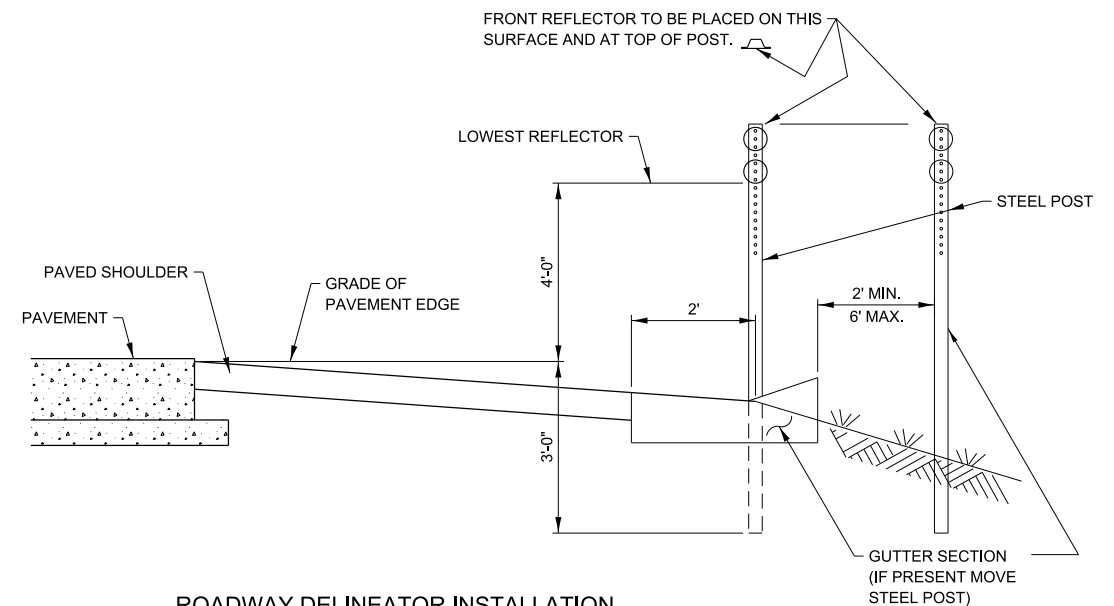
### CIRCULAR REFLECTORS



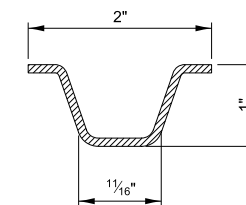
### SINGLE FRONT

### DOUBLE FRONT

### RECTANGULAR REFLECTORS

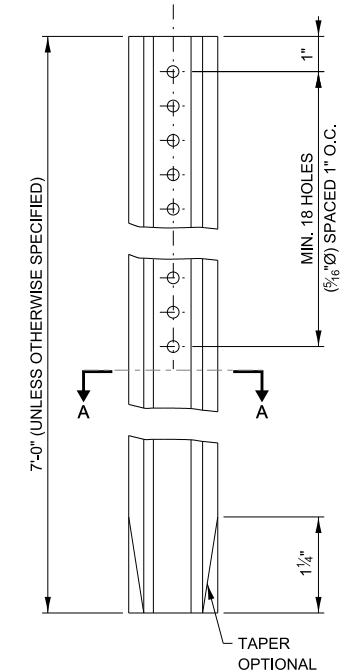


### ROADWAY DELINEATOR INSTALLATION



### SECTION A-A

STEEL- 1.12 LBS/FT.

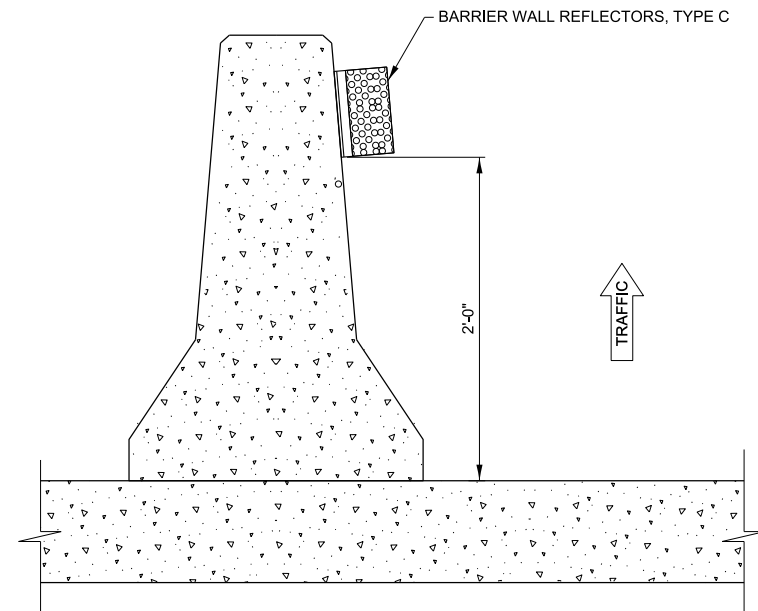


### STEEL POST

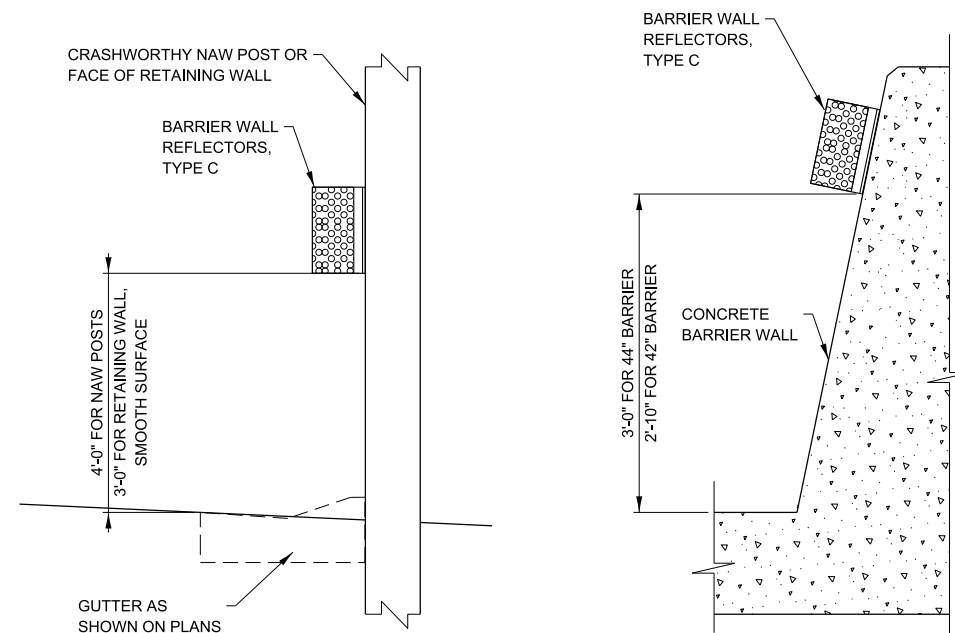
NOTE:  
SEE SHEET 1 OF THIS  
SERIES FOR NOTES.



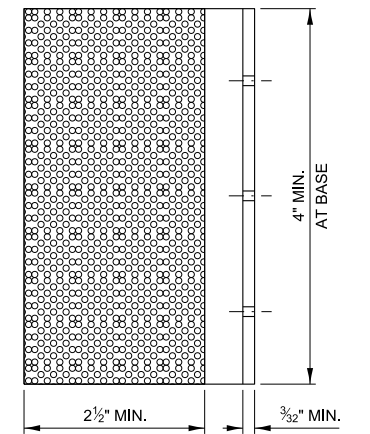
### ROADWAY DELINEATORS AND REFLECTORS



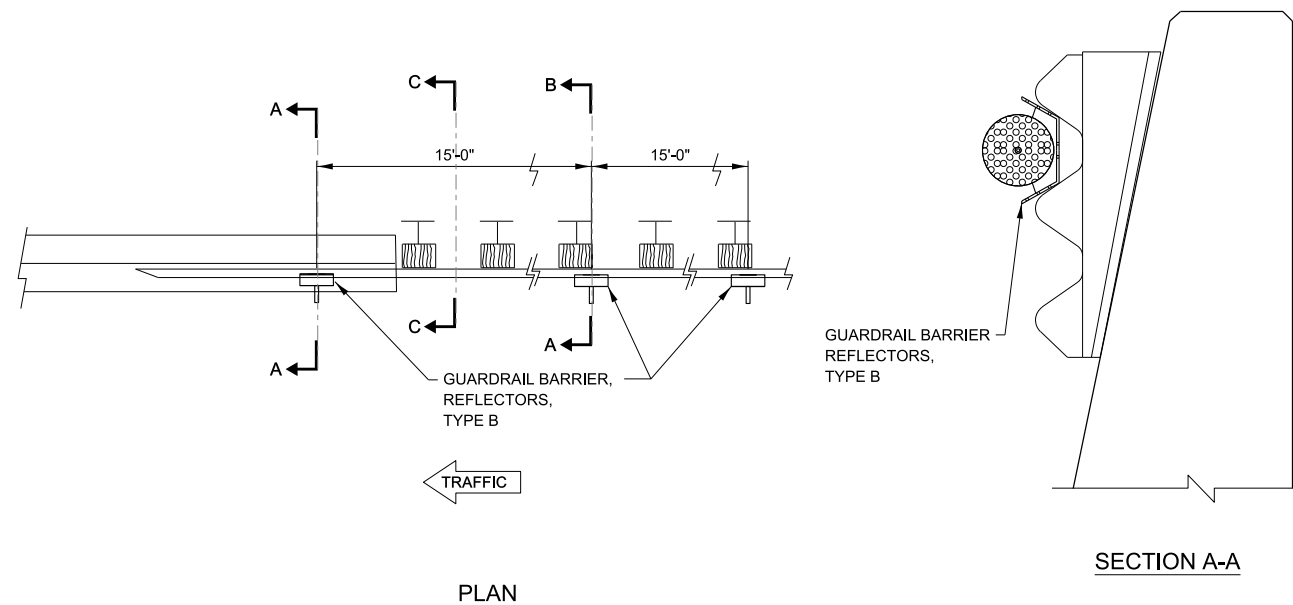
CROSS-SECTION  
TEMPORARY CONCRETE BARRIER



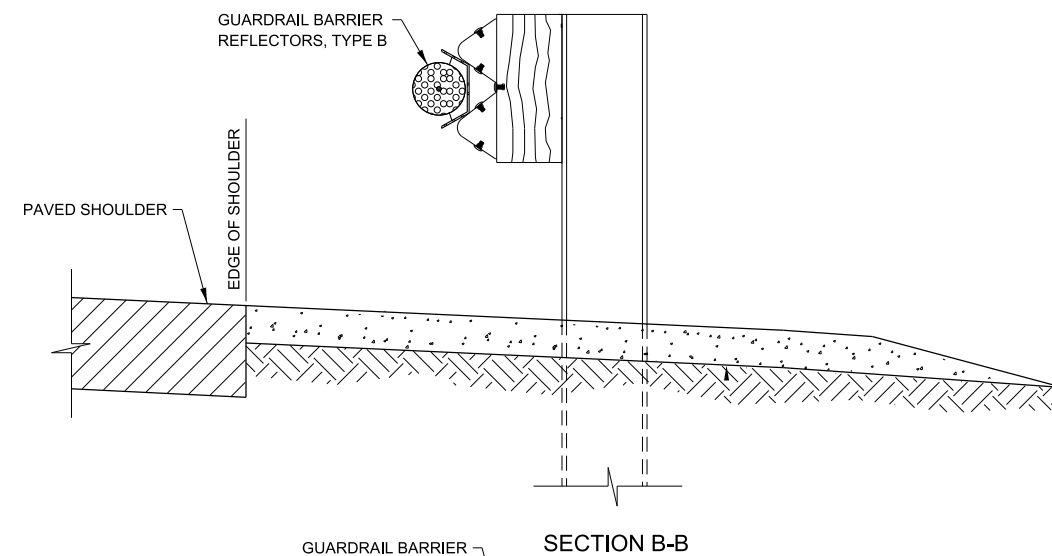
VERTICAL WALL, BARRIER OR PARAPET  
REFLECTOR INSTALLATION



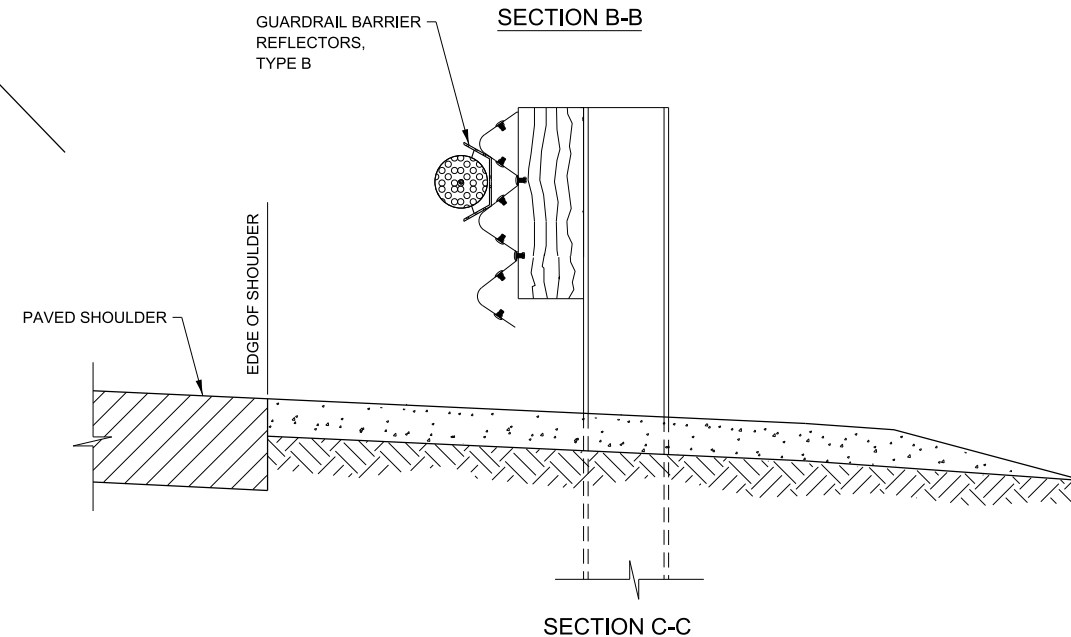
REFLECTOR, TYPE C



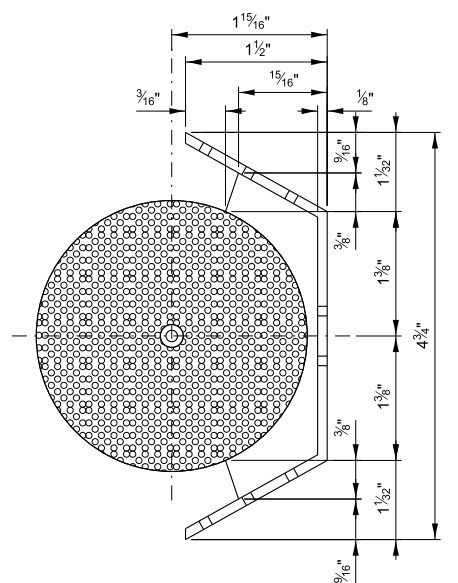
REFLECTOR INSTALLATION ON GUARDRAIL  
AT BRIDGE APPROACHES  
ALSO SEE SHEET 1 IN THIS SERIES  
FOR ADDITIONAL INFORMATION



SECTION B-B



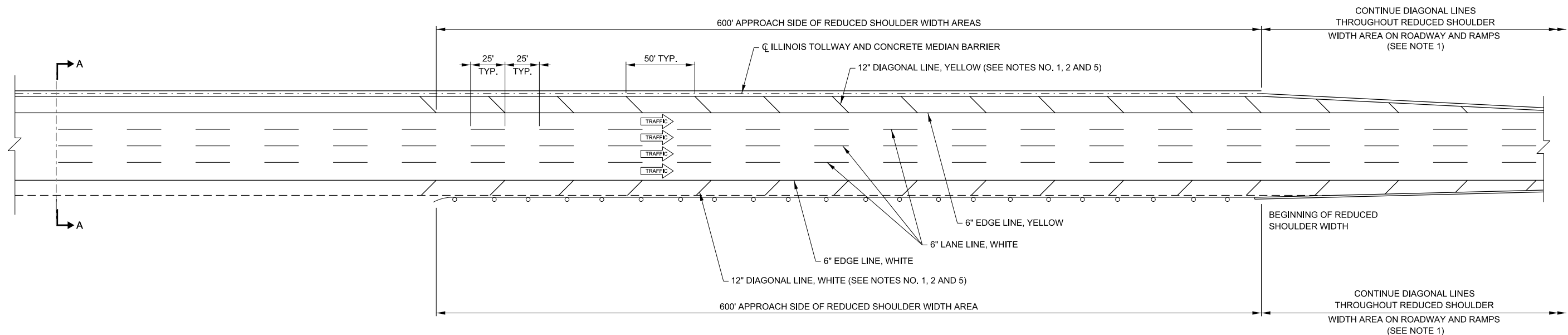
SECTION C-C



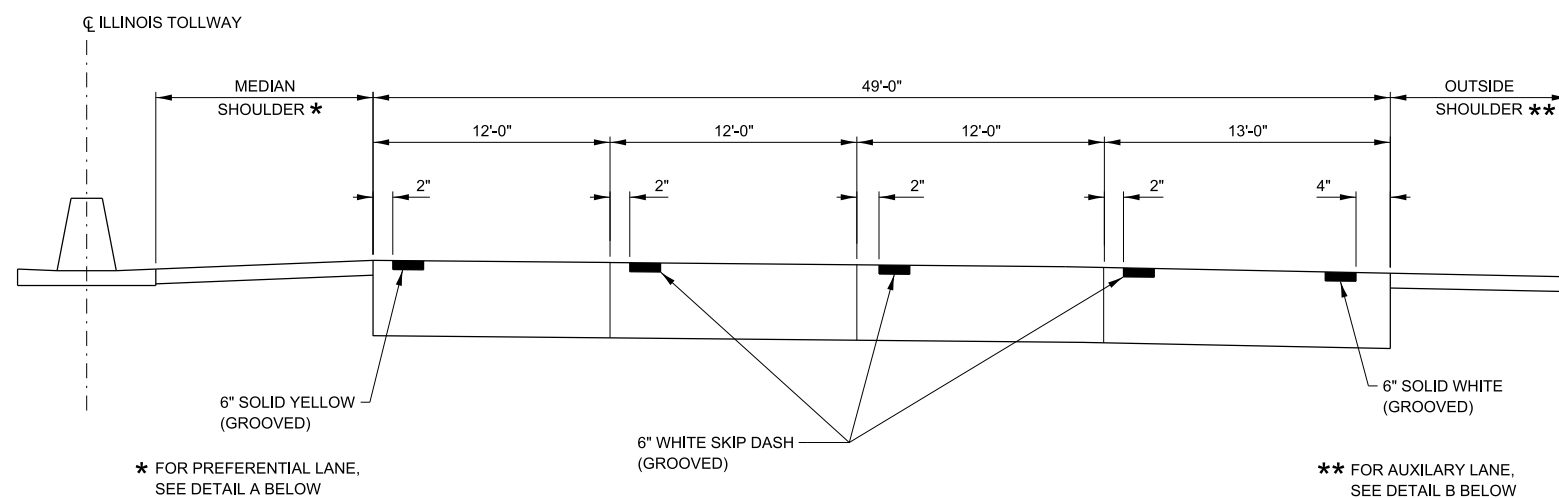
REFLECTOR, TYPE B

NOTE:  
SEE SHEET 1 OF THIS SERIES FOR NOTES.



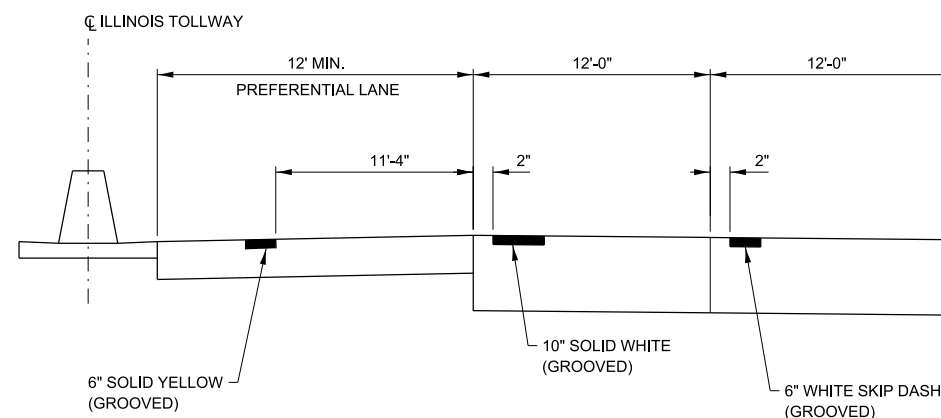


PLAN

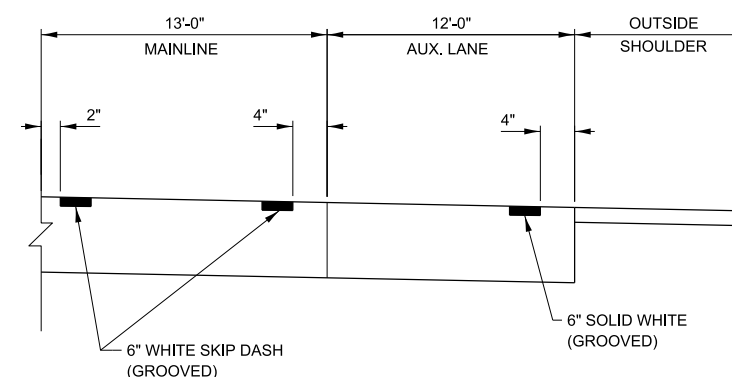


SECTION A-A  
ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION

FOR RUMBLE STRIP DETAILS  
SEE STANDARD DRAWING D7



DETAIL A - PREFERENTIAL LANE STRIPING



DETAIL B - AUXILIARY LANE STRIPING

GENERAL NOTES:

1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE THE SHOULDER WIDTH IS LESS THAN STANDARD EXCEPT ON SHOULDERS LESS THAN 4 FEET.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. WHERE THE GUARDRAIL ENCROACHES ON THE SHOULDER THE DIAGONAL MARKINGS SHALL EXTEND AS CLOSE TO THE FACE OF THE RAIL AS POSSIBLE.
4. ALL PERMANENT LANE LINES AND EDGE LINES SHALL BE GROOVED, ON ROADWAY SURFACES, UNLESS OTHERWISE NOTED.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
7. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON BRIDGES.
8. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON CONTINUOUSLY REINFORCED CONCRETE (CRC) PAVEMENT AT TOLL PLAZAS.

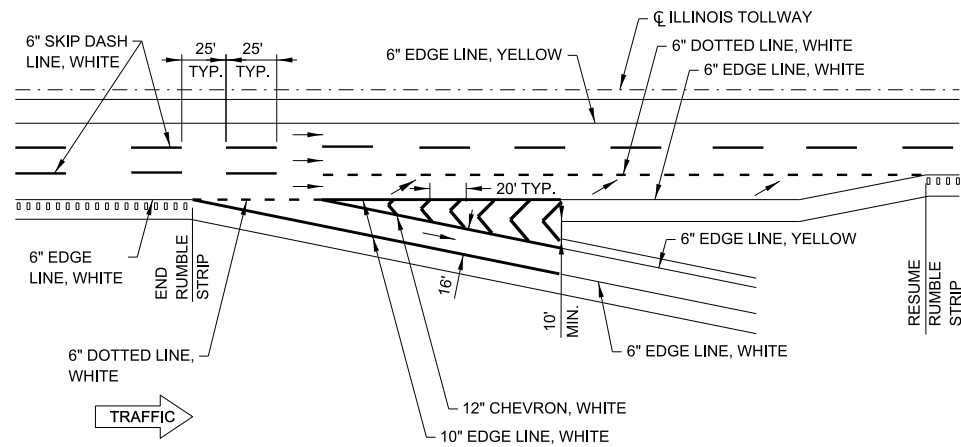
APPROVED BY:  
*Manar Nashif*  
CHIEF ENGINEERING OFFICER

DATE:  
03/01/2025

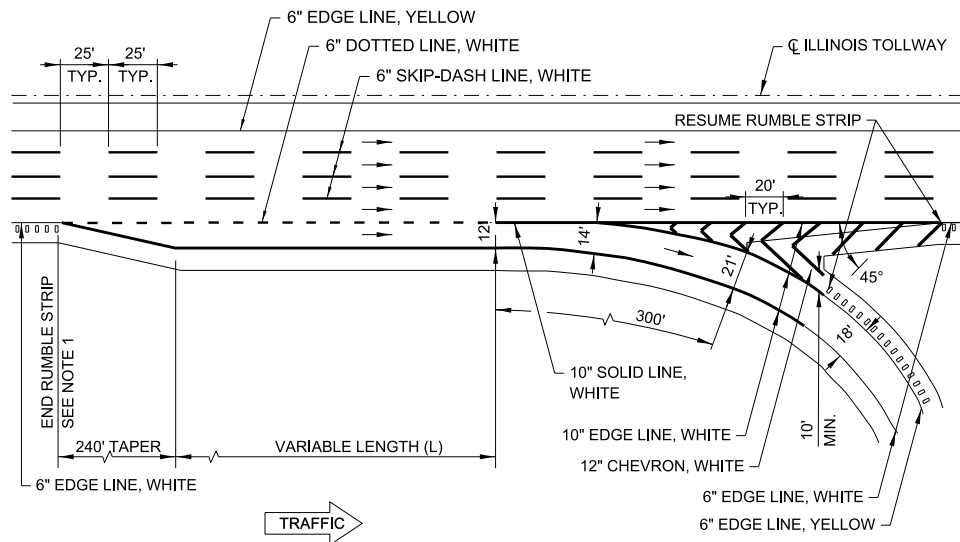
REVISIONS	
DATE	DESCRIPTION
03-01-2025	REVISED NOTE 1
03-01-2023	ADDED AUX. LANE STRIPING DETAIL
03-01-2022	REVISED EDGE LINES TO 6"
03-01-2021	ADDED PREF. LANE STRIPING
03-01-2020	REVISED EDGE LINE TO BE 4" MIN.
03-31-2016	REVISED NOTES

PERMANENT PAVEMENT  
MARKINGS MAINLINE

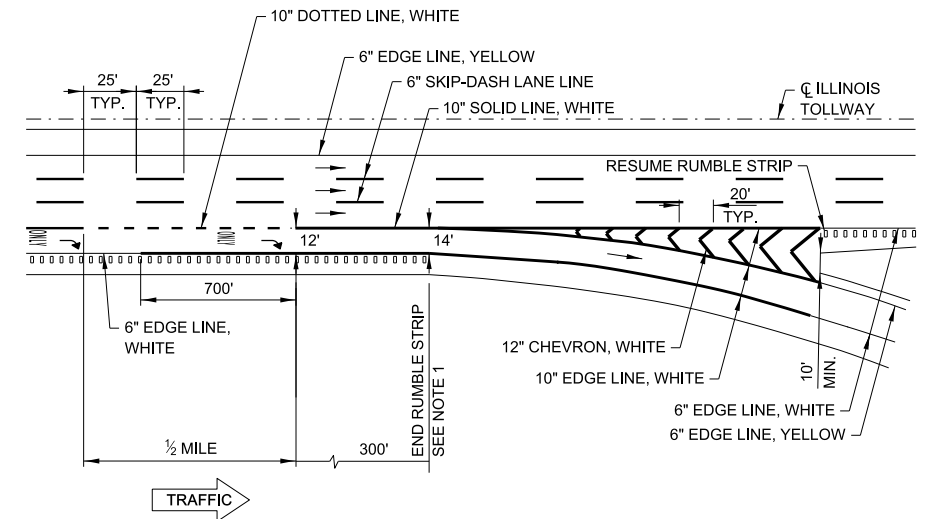
VERSION: 2025-03	STANDARD: D5-11	SHEET: 1 OF 1
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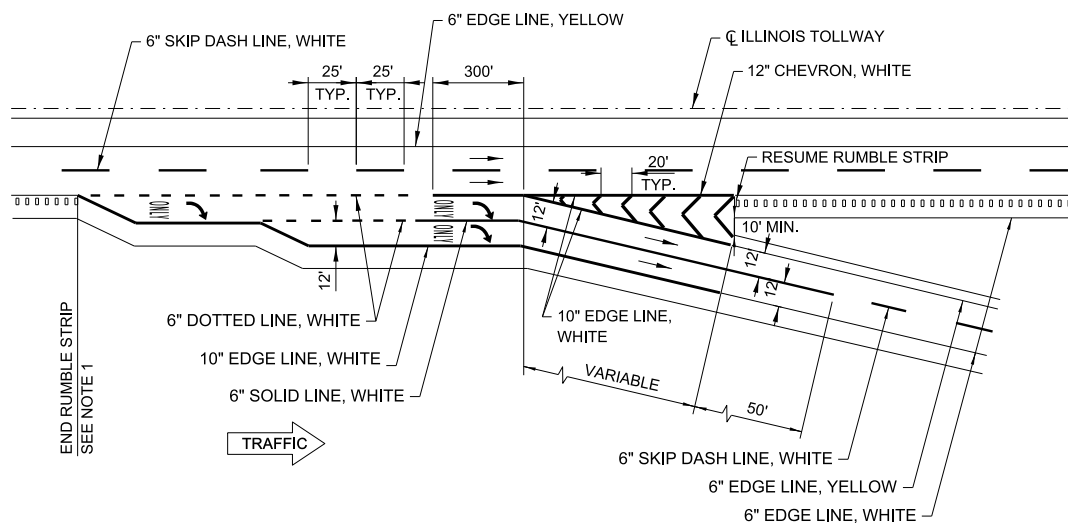
EXIT - SINGLE LANE RAMP  
LANE THREE TERMINATION



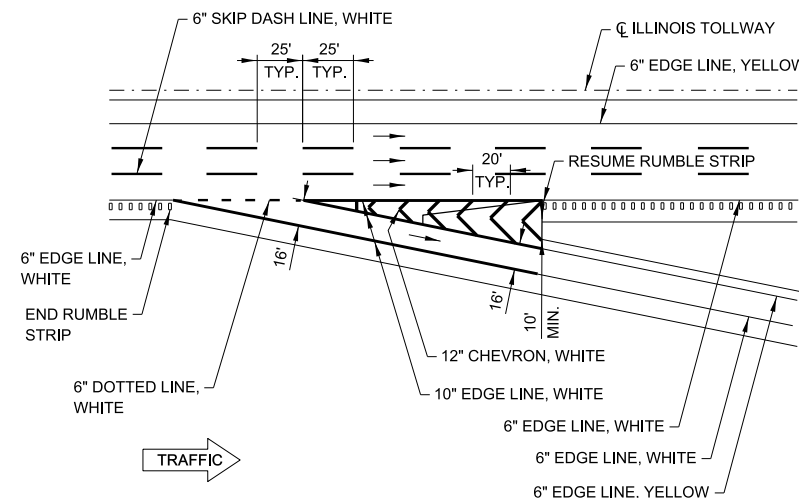
EXIT - SINGLE LANE LOOP RAMP - PARALLEL TYPE  
SEE SHEET 4 FOR SPEED REDUCTION MARKINGS



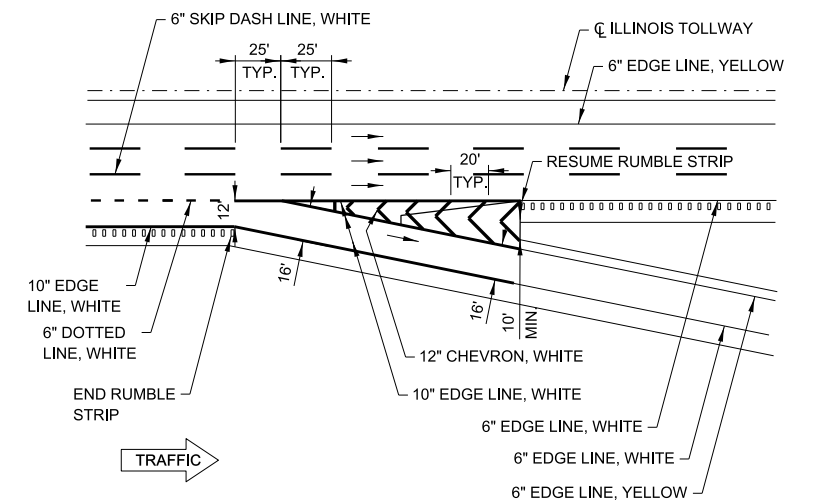
EXIT - SINGLE LANE RAMP - LANE DROP



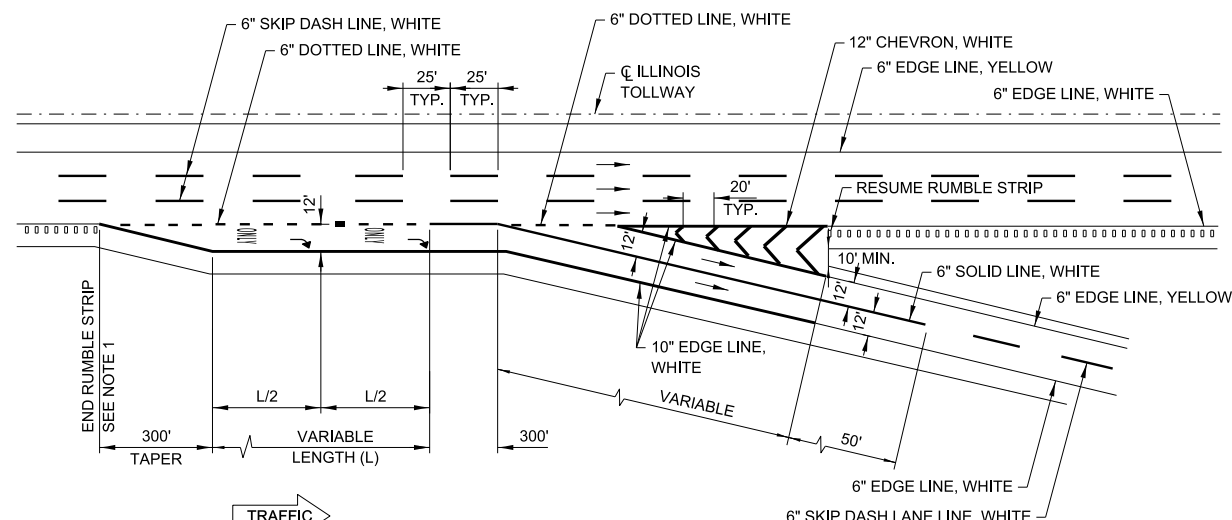
EXIT - TWO LANE PARALLEL RAMP



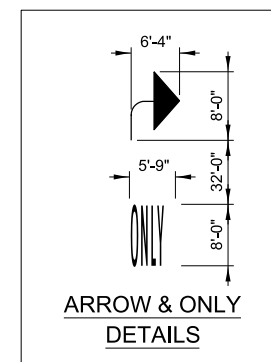
EXIT - SINGLE LANE RAMP - TAPER TYPE



EXIT - SINGLE LANE RAMP WITH AUX LANE - TAPER TYPE



EXIT - TWO LANE RAMP



NOTE:  
PAVEMENT MARKING LETTERS  
AND SYMBOLS-ONLY AND ARROW  
ARE TO BE TYPICALLY PLACED  
AT ½ MILE EXIT ONLY GUIDE  
SIGN, AT GORE EXIT GUIDE  
SIGN AND APPROXIMATELY  
HALFWAY BETWEEN THE TWO.

#### GENERAL NOTES:

1. RUMBLE STRIPS SHALL BE INSTALLED BETWEEN THE THEORETICAL GORE AND TAPER WHEN LENGTHS (L) OF AUXILIARY LANES, ACCELERATION LANES OR DECELERATION LANES, ARE GREATER THAN 1000'.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
4. GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
5. LETTERS AND SYMBOL MARKING SHALL BE SURFACE APPLIED.
6. DOTTED LINES SHALL CONSIST OF 3' LINE AND 9' GAPS.
7. PAVEMENT MARKINGS SHALL NOT BE GROOVED ON THE CONTINUOUSLY REINFORCED CONCRETE (CRC) PAVEMENT SECTION AT TOLL PLAZAS.

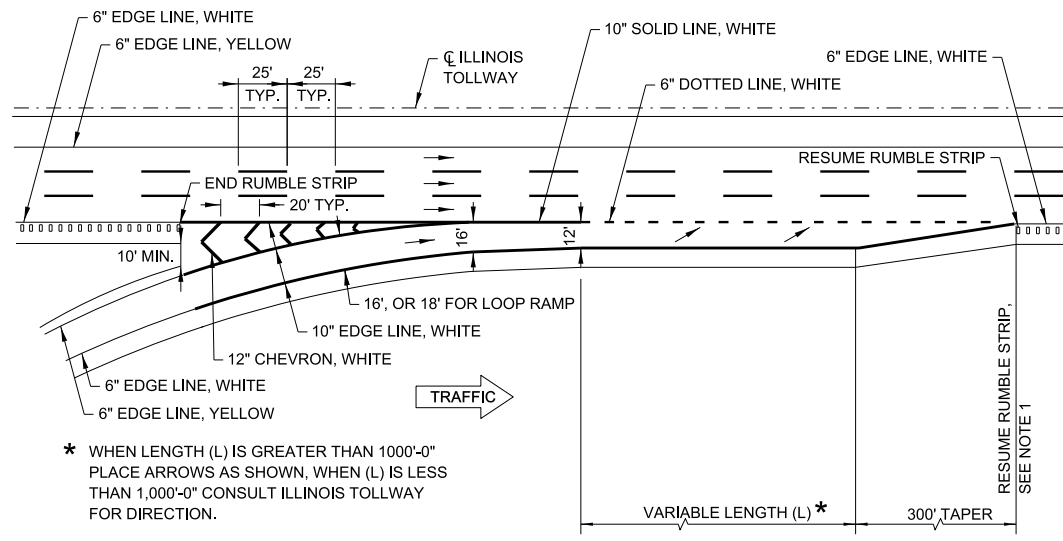
REVISIONS	
DATE	DESCRIPTION
03-31-2023	ADD 6" DOTTED LINE ACROSS EXIT & ENTRANCE RAMP TAPERS, ADDED NOTE 7
03-01-2022	REVISED EDGE LINES TO 6"



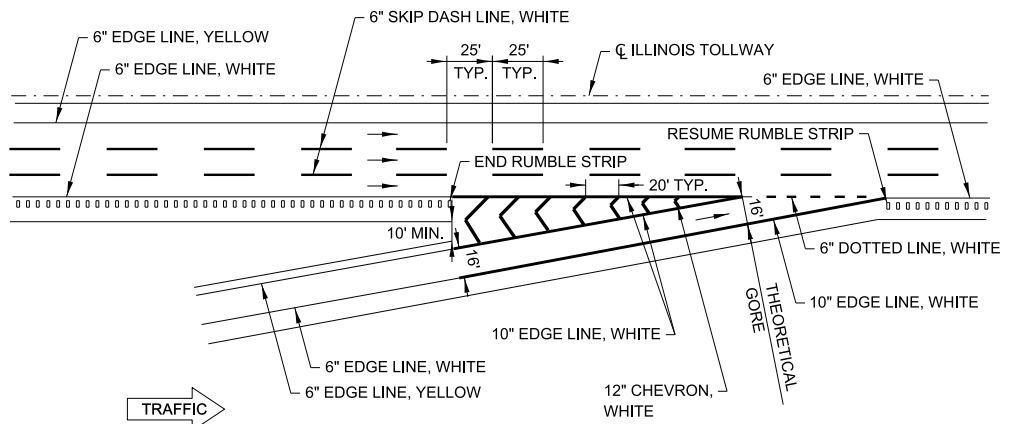
#### PERMANENT PAVEMENT MARKINGS RAMPS

VERSION: 2023-03 STANDARD: D6-11 SHEET: 1 OF 4

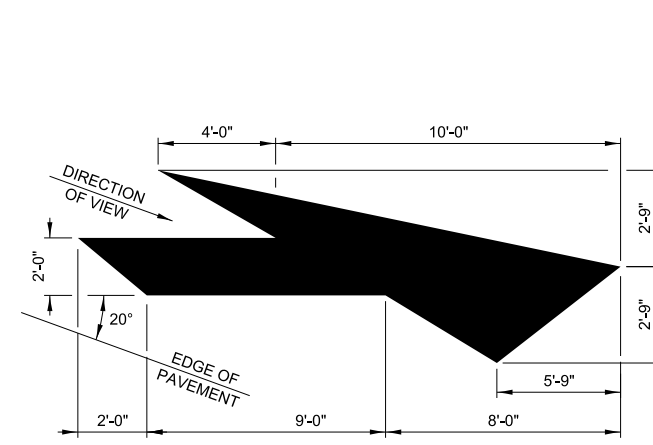
APPROVED BY: *Manar Nashif*  
CHIEF ENGINEERING OFFICER  
DATE: 03/01/2023



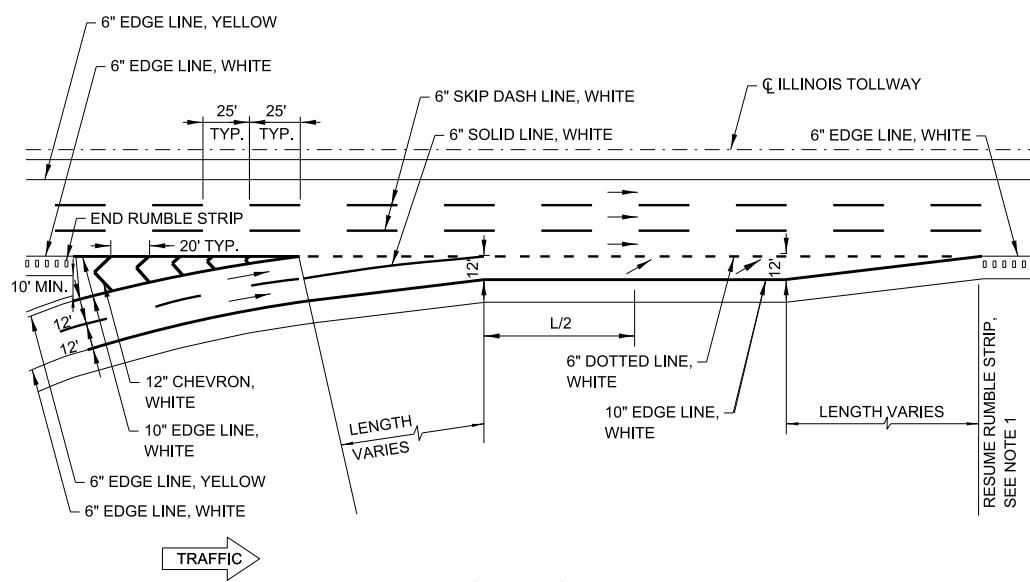
ENTRANCE - SINGLE LANE RAMP - PARALLEL TYPE



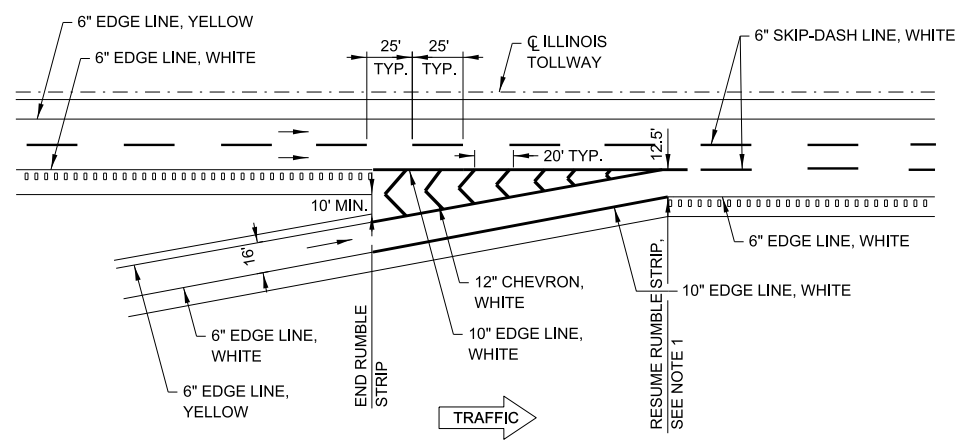
ENTRANCE - SINGLE LANE RAMP - TAPER TYPE



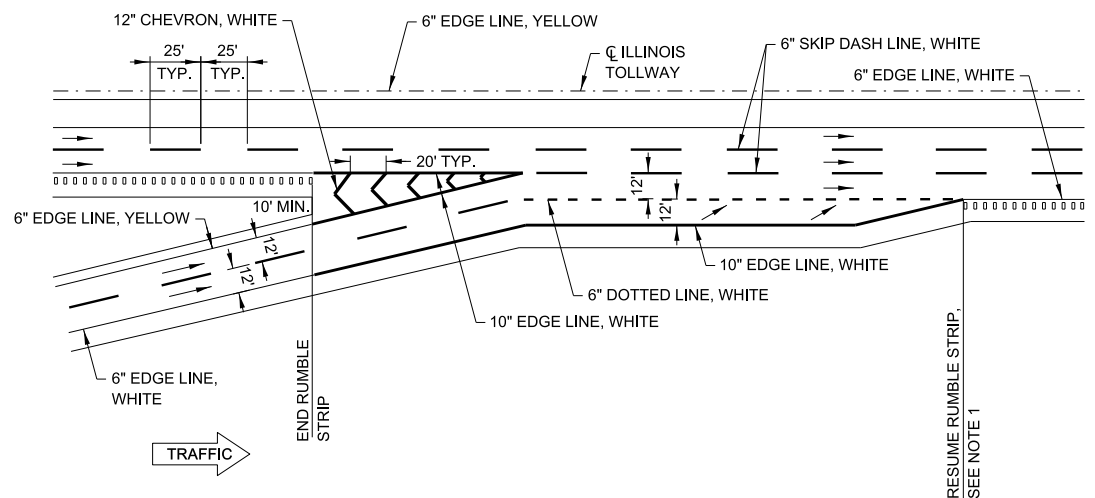
LANE-REDUCTION ARROW  
RIGHT LANE-REDUCTION ARROW SHOWN.  
USE MIRROR IMAGE FOR LEFT LANE.



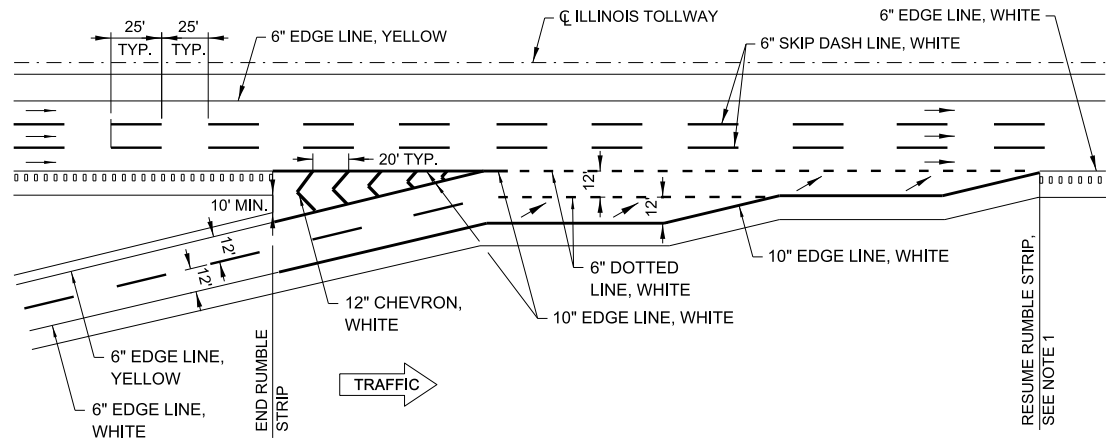
ENTRANCE - TWO LANE RAMP



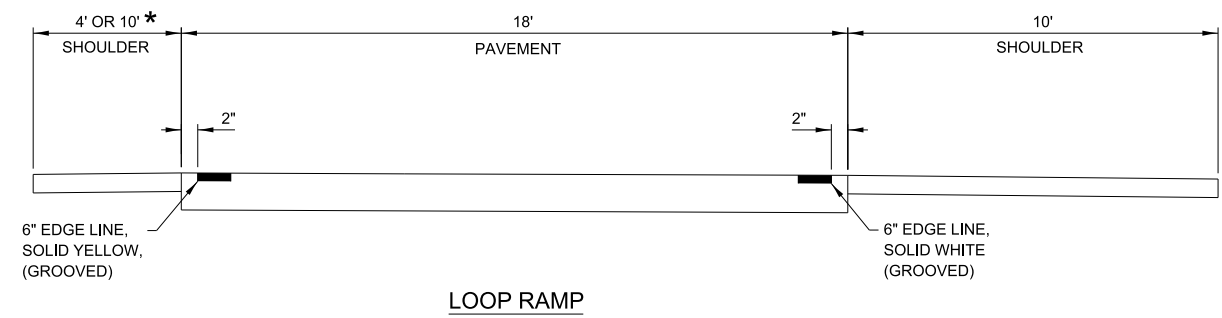
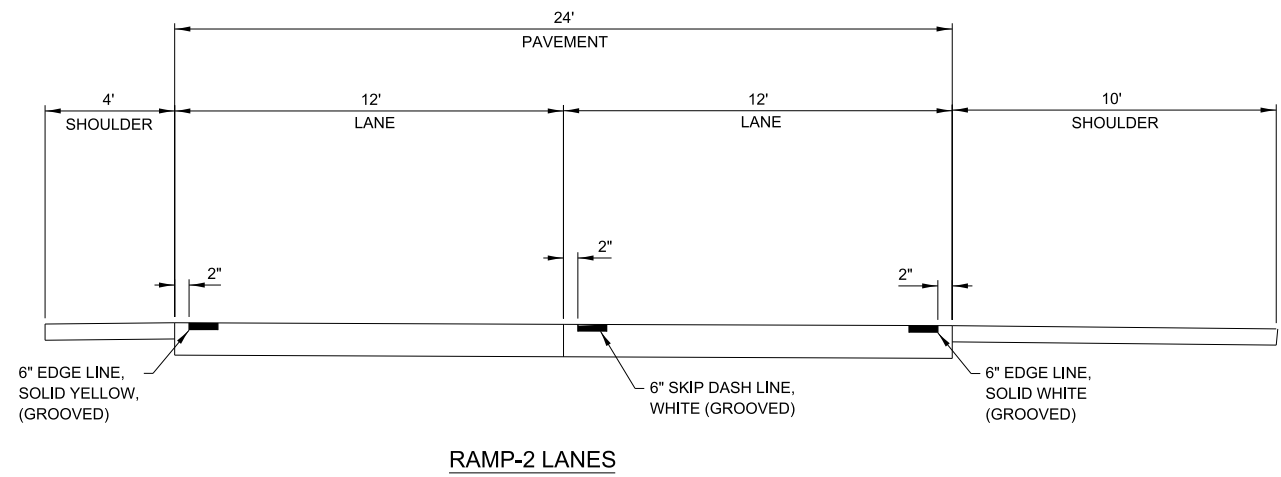
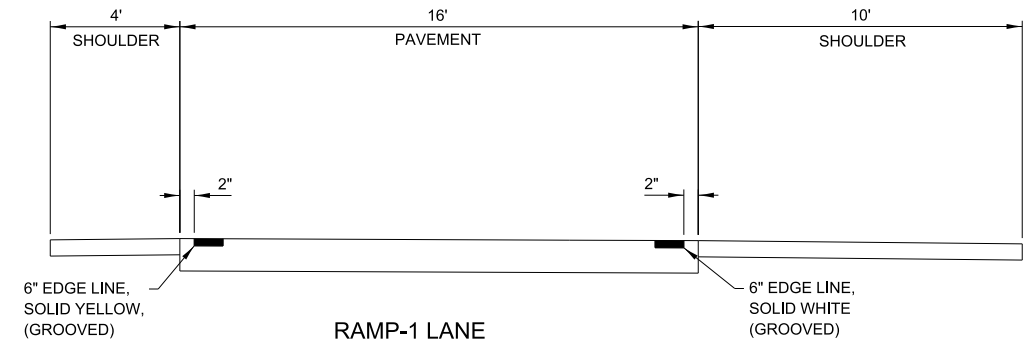
ENTRANCE - SINGLE LANE RAMP  
WITH ADDED MAINLINE LANE



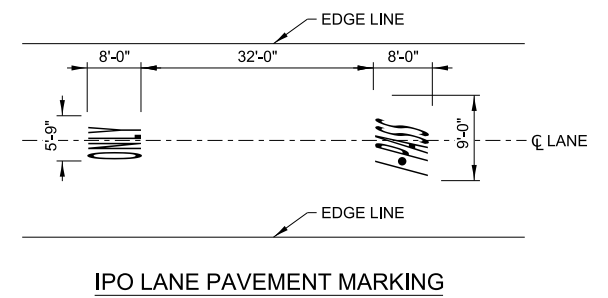
ENTRANCE - TWO LANE RAMP  
WITH ADDED MAINLINE LANE



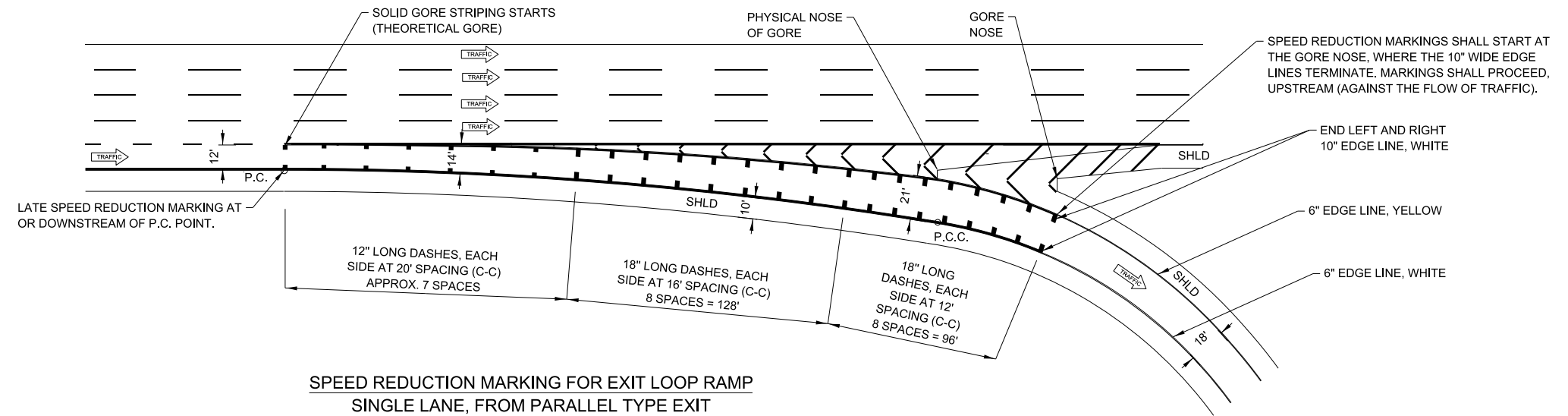
ENTRANCE - TWO LANE PARALLEL RAMP



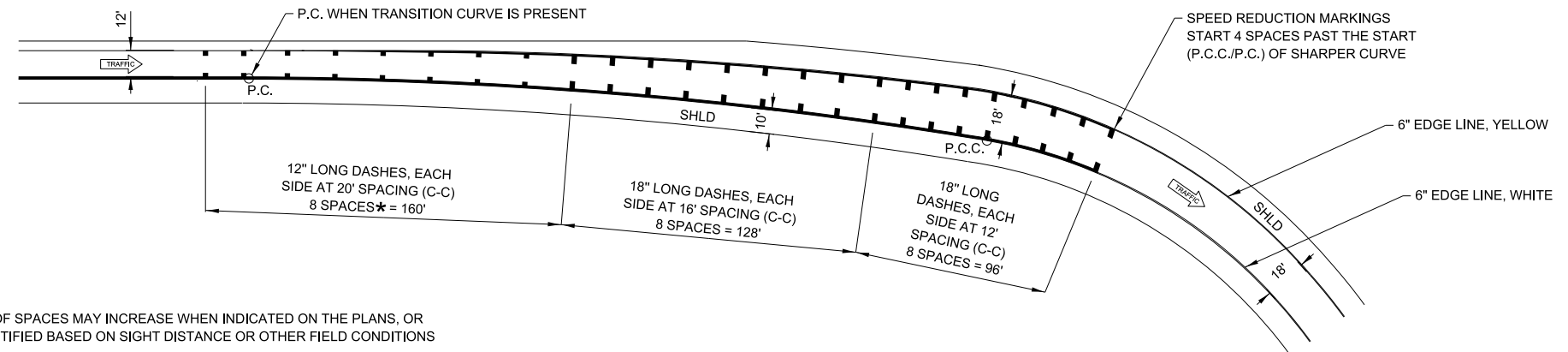
\* RUMBLE STRIP SHALL BE ADDED WHEN ALONG EXIT LOOP RAMP AND LEFT SHOULDER IS 10' WIDE





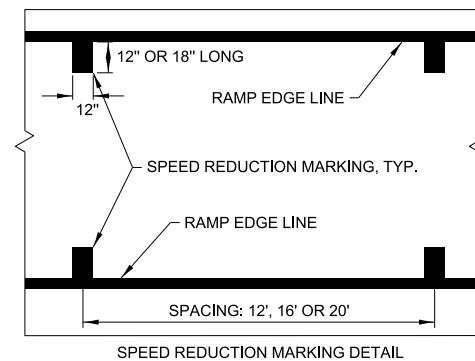


SPEED REDUCTION MARKING FOR EXIT LOOP RAMP  
SINGLE LANE, FROM PARALLEL TYPE EXIT



\* NUMBER OF SPACES MAY INCREASE WHEN INDICATED ON THE PLANS, OR WHEN JUSTIFIED BASED ON SIGHT DISTANCE OR OTHER FIELD CONDITIONS

SPEED REDUCTION MARKING FOR EXIT LOOP RAMP  
SINGLE LANE, FROM C-D ROAD



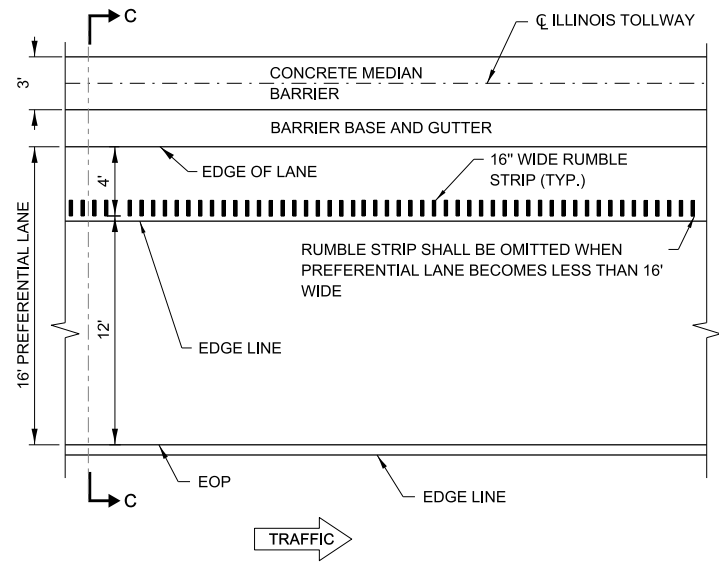
#### SPEED REDUCTION MARKING NOTES:

SR-1. SPEED REDUCTION MARKINGS SHALL BE WHITE IN COLOR, BE 12" WIDE AND BE PLACED PERPENDICULAR TO THE EDGE LINE. THE MARKINGS SHALL TOUCH THE EDGE LINE AND EXTEND INTO THE LANE BY THE LENGTH INDICATED. THE MARKINGS ARE NOT GROOVED INTO THE PAVEMENT.

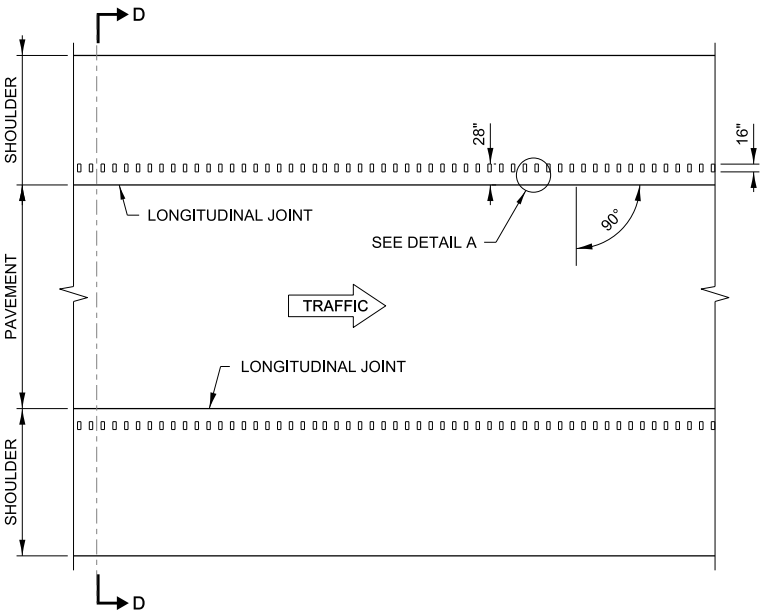
SR-2. SPACINGS SHALL VARY FROM LONGER SPACES TO SHORTER SPACES IN THE DIRECTION OF TRAFFIC. THE SPACES SHALL BE MEASURED ALONG THE RAMP BASELINE AND SHALL BE AS INDICATED ON THE DETAIL.

SR-3. SPEED REDUCTION MARKINGS SHALL ONLY BE USED ON EXIT LOOP RAMP. PAYMENT FOR SPEED REDUCTION MARKINGS WILL BE FOR PAVEMENT MARKING LINE, 12" OF THE PERMANENT PAVEMENT MARKING TYPE USED ON THE RAMP.

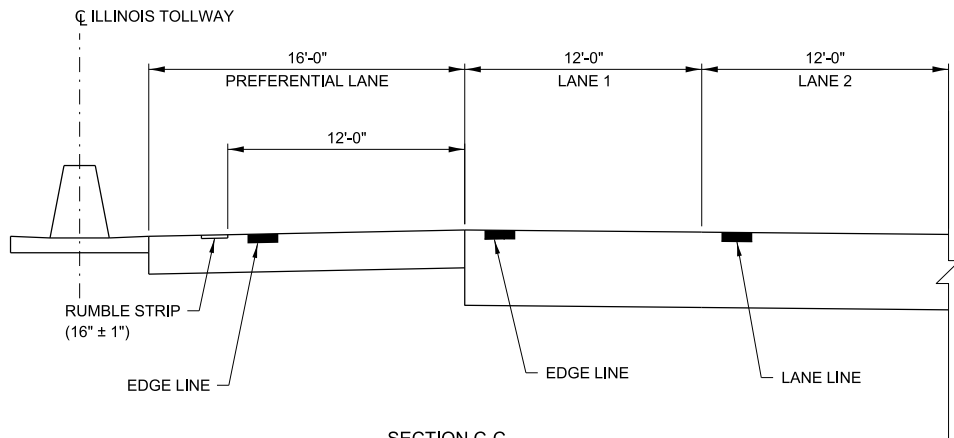
SR-4. THIS DETAIL SHOWS PLACEMENT OF SPEED REDUCTION MARKINGS. FOR PLACEMENT AND TYPE OF EDGE LINES AND OTHER RAMP PAVEMENT MARKINGS, REFER TO OTHER DETAILS ON THE STANDARD DRAWINGS AND PLANS.



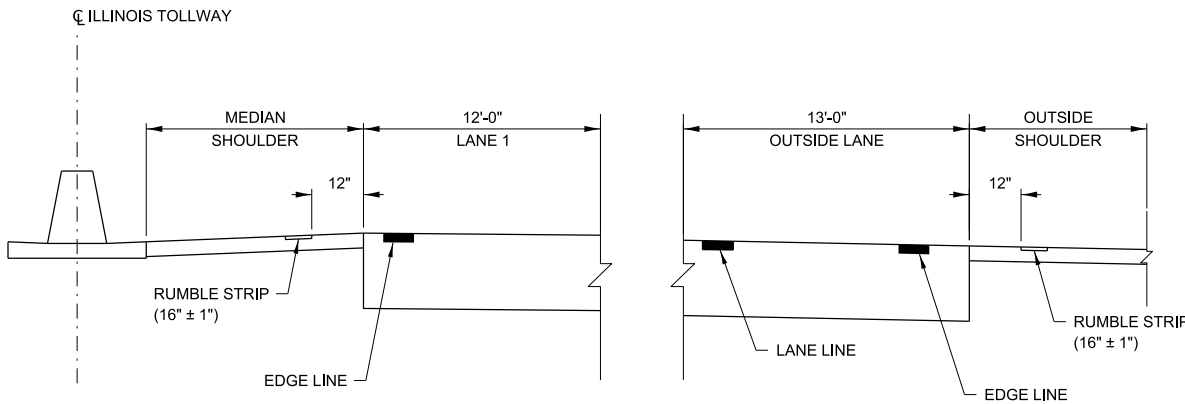
**PREFERENTIAL LANE RUMBLE STRIP PLACEMENT - PLAN VIEW**  
 USE WHEN SHOWN ON PLANS, MAINLINE MEDIAN SHOULDER  
 IS AT LEAST 16' WIDE AND USED AS PREFERENTIAL LANE



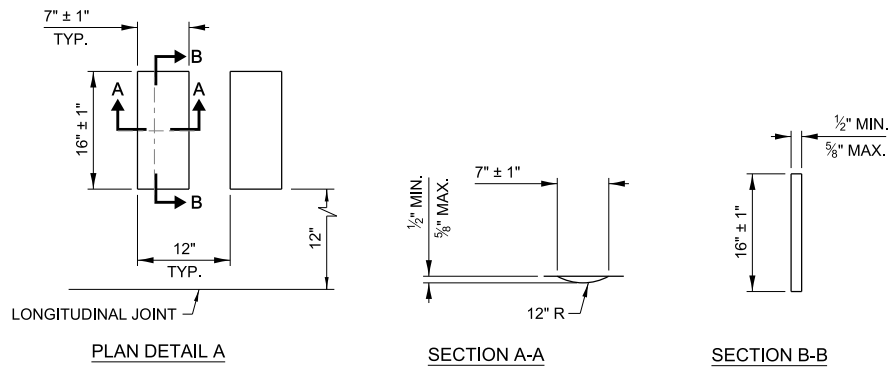
**TYPICAL MAINLINE RUMBLE STRIP PLACEMENT - PLAN VIEW**



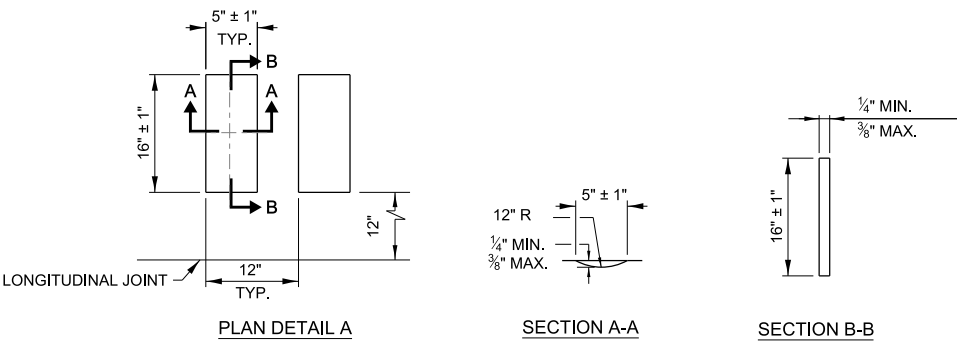
**PREFERENTIAL LANE RUMBLE STRIP PLACEMENT - SECTION VIEW**



**TYPICAL MAINLINE RUMBLE STRIP PLACEMENT - SECTION VIEW**



**ASPHALT SHOULDER RUMBLE STRIP DETAILS**



**CONCRETE SHOULDER RUMBLE STRIP DETAILS**

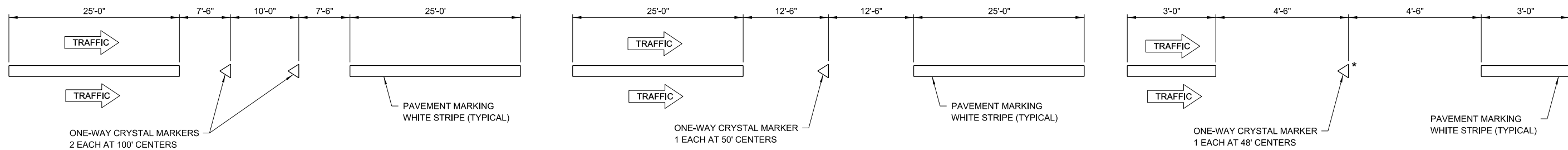
REVISIONS	
DATE	DESCRIPTION
03-01-2022	REVISED EDGE LINES ON SECTIONS C-C & D-D

**SHOULDER RUMBLE STRIP DETAILS**

VERSION: 2022-03

STANDARD: D7-01

SHEET: 1 OF 1

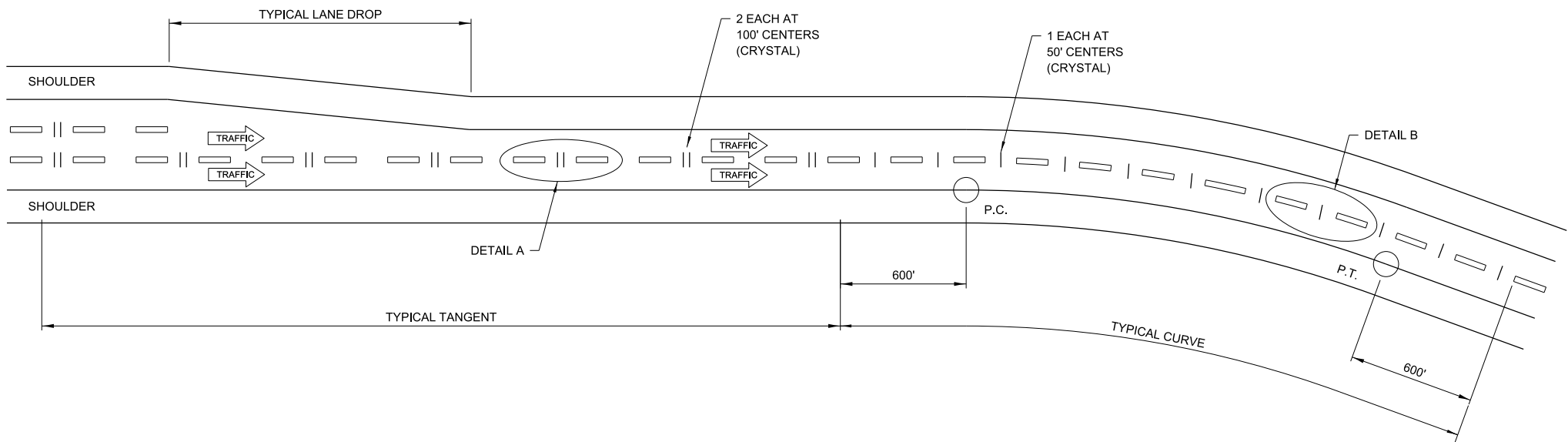


DETAIL A

DETAIL B

\* MARKER TO BE INSTALLED WHEN LENGTHS OF AUXILIARY LANES ARE GREATER THAN 1000'.

DETAIL C




MAINLINE

RAISED PAVEMENT LANE MARKER DETAILS

NOTES:

1. USE OF RAISED PAVEMENT LANE MARKERS SHALL BE IN ACCORDANCE WITH THE IL TOLLWAY, ROADWAY SIGNING AND PAVEMENT MARKING GUIDELINES.
2. FOR COLLECTOR-DISTRIBUTOR (C-D) ROADWAYS, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
3. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
4. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

APPROVED BY:  DATE: 03/01/2019  
CHIEF ENGINEERING OFFICER

REVISIONS	
DATE	DESCRIPTION
03-15-2019	ADDED NEW NOTE 1
03-31-2016	REVISED NOTES 1.
11-01-2012	REVISED DETAIL C.



RAISED PAVEMENT LANE MARKER

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