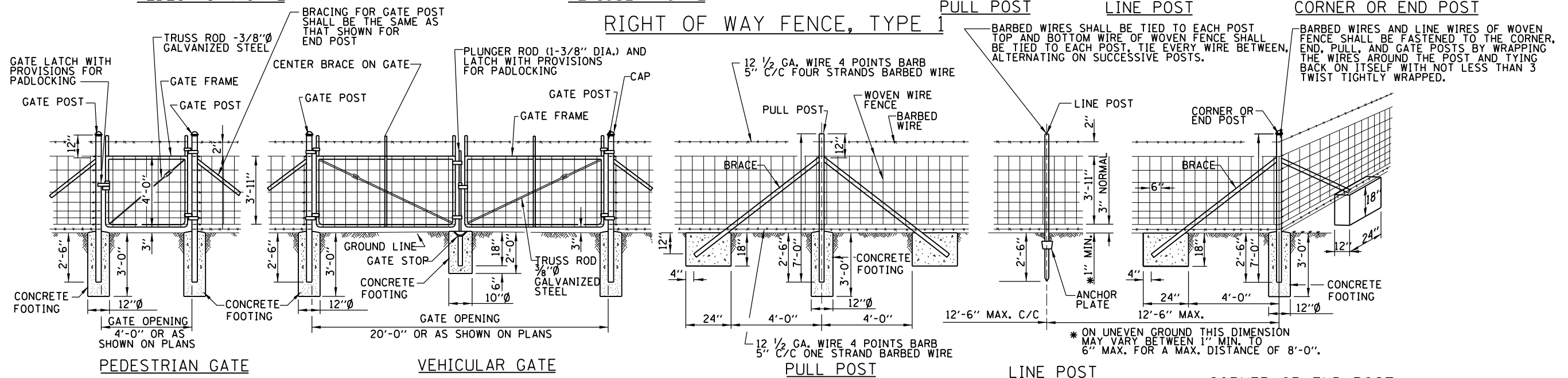
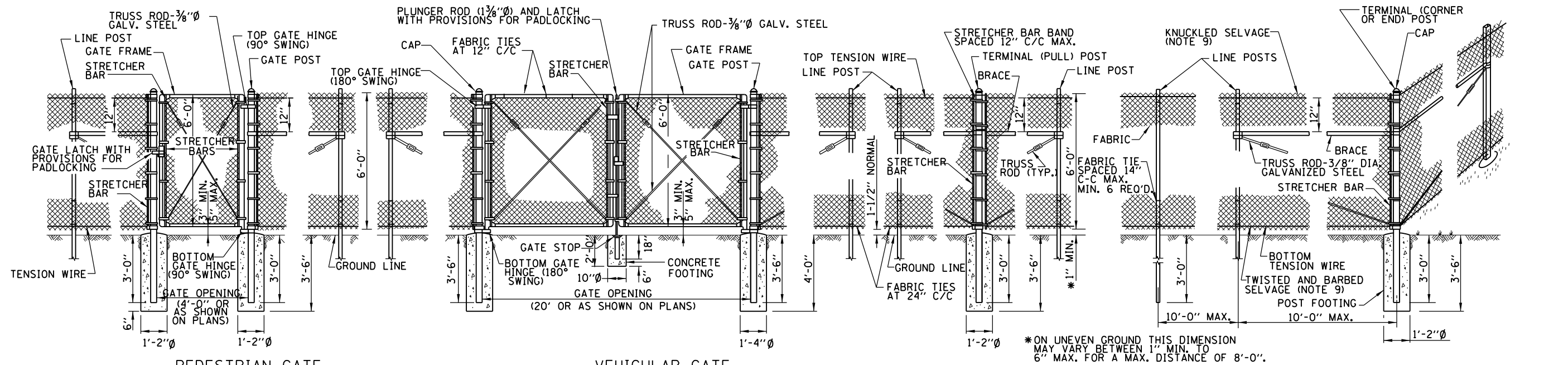


Tollway Standard Drawing Revisions

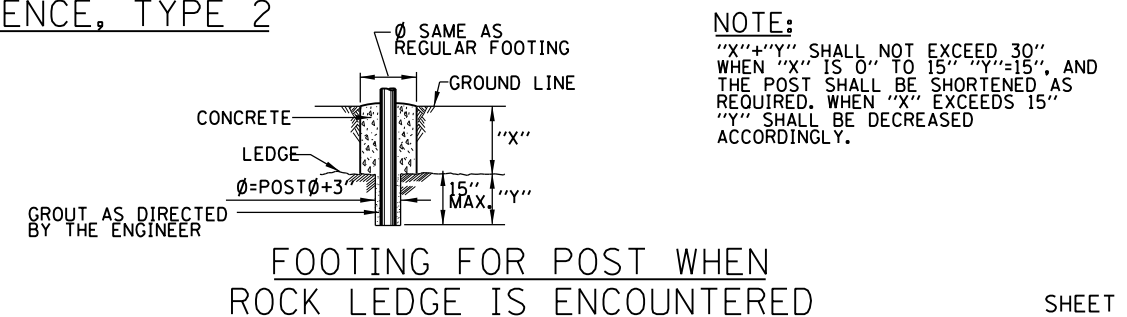
Section D	Roadway Appurtenances	
	Standard	Modification Summary Effective: 03/31/14
	All Sheets	Illinois Tollway Standard Logo Inserted In Title Block.
	D1	Right of Way Fence
		Revised Line Post C-Section
		Reference Tollway Recurring Special Provision for Material Shapes and Sizes.
	D5	Permanent Pavement Marking
		Revised Notes: Changed HMA to Asphalt
	D6	Pavement Marking and Shoulder Rumble Strip Details
	Sheet 2	Added Lane Reduction Transition Markings

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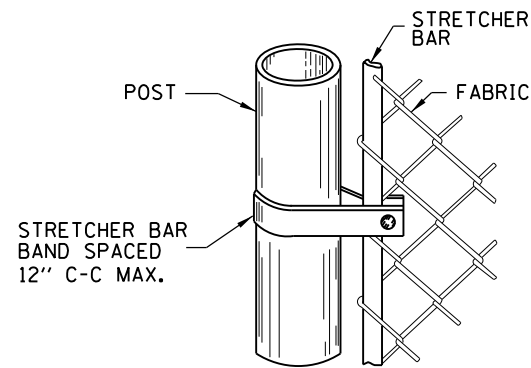
 New Sheet



1. ON STRAIGHT RUNS OF FENCE, PULL POSTS SHALL BE USED AT 500' CENTERS FOR TYPE 1 AND 330' CENTERS FOR TYPE 2.
2. ALL FENCING MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. 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 TOLLWAY PROPERTY.
4. LINE POSTS AND BRACES SHALL BE ON TOLLWAY SIDE OF FENCE FABRIC.
5. 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.
6. AT LOCATION WHERE THE PROPOSED FENCE IS TO BE CONNECTED TO AN EXISTING POST, THE REQUIRED CONNECTIONS AND BRACING INCLUDING ALL NECESSARY HARDWARE SHALL BE CONSIDERED INCIDENTAL TO THE FENCE OF THE TYPE SPECIFIED.
7. 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.
8. 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.
9. WHERE TYPE 1 FENCE IS USED, THE FABRIC SHALL BE KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED SELVAGE ON BOTTOM.
10. PLACEMENT OF BRACED END POSTS OR CORNER POSTS WITHIN THE CLEAR ZONE SHALL BE AVOIDED.

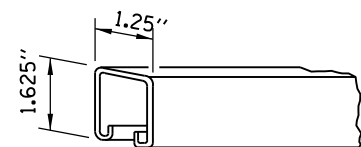


DATE	REVISIONS
7-1-2009	R.O.W. FENCE TYPES 1 AND 2
	FENCE DETAILS
11-1-2012	REVISED NOTES
3-31-2014	REVISED ROLLED FORM SECTIONS

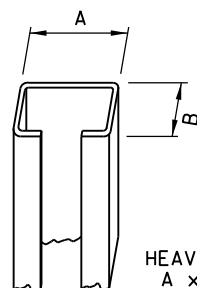


STRETCHER BARS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN $\frac{1}{4} \times \frac{3}{4}$ " AND THE STRETCHER BAR BANDS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN $\frac{1}{8} \times 1$ " WITH A $\frac{3}{8}$ " GALVANIZED CARRIAGE BOLT.

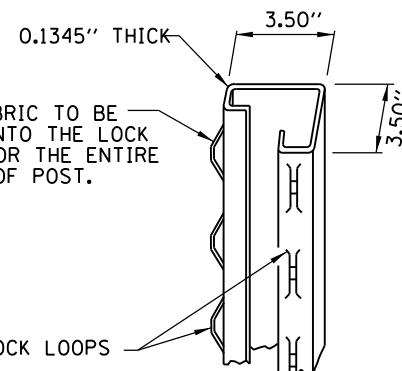
METHOD OF FASTENING STRETCHER BAR TO POST



BRACE SECTION
1.25 LBS/LF

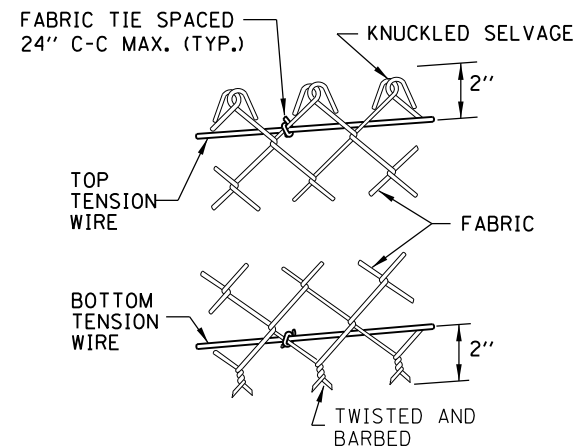


LINE POST 'C' SECTION

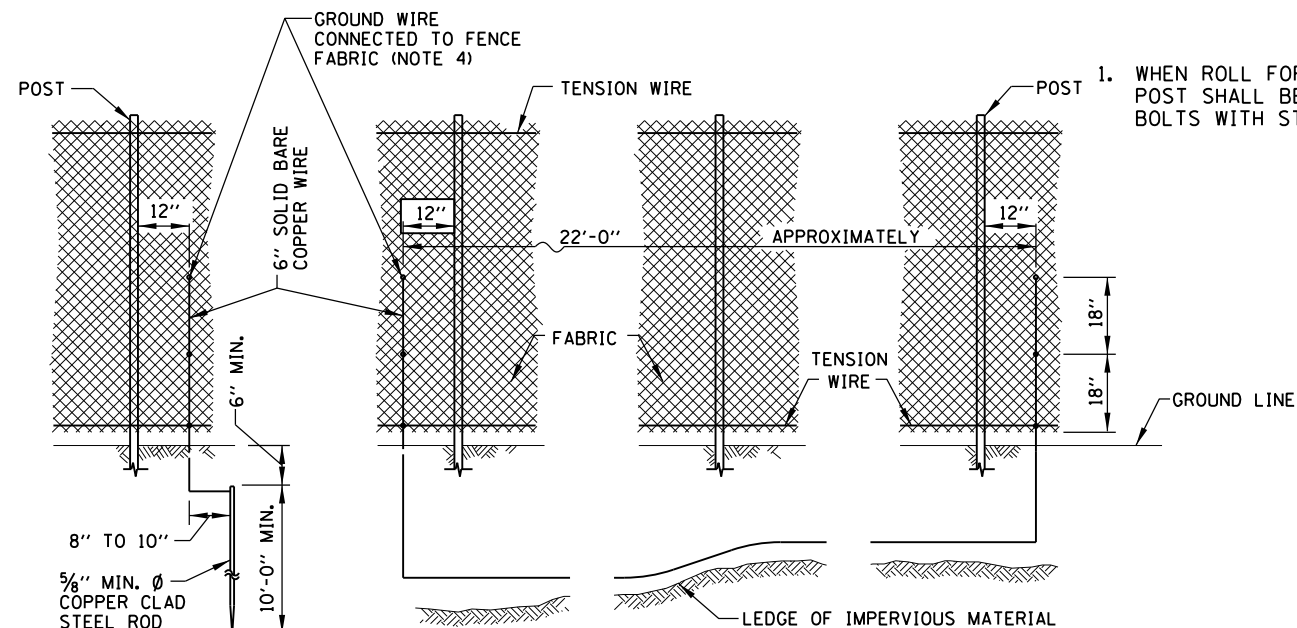


TERMINAL POST SECTION
5.10 LBS/LF

DETAILS OF ROLL FORMED SECTIONS



METHOD OF TYING FABRIC TO TENSION WIRES

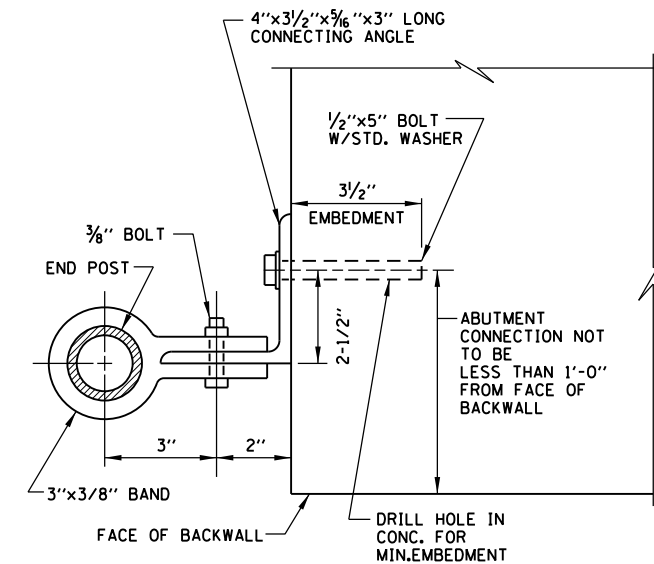


STANDARD GROUND

COUNTERPOISE GROUND (ALTERNATE)

NOTES FOR STANDARD AND COUNTERPOISE GROUND:

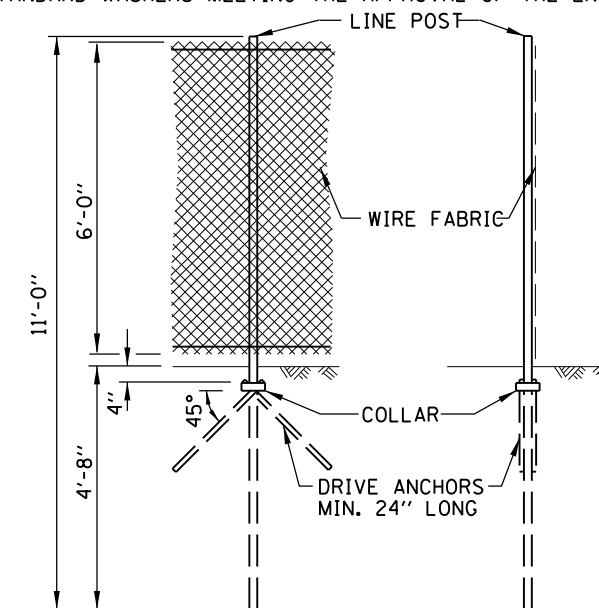
1. THE INTERVALS FOR GROUNDING CONTINUOUS FENCING SHALL NOT EXCEED 500 FEET IN URBAN AREAS AND 1000 FEET IN RURAL AREAS. FENCE ADJACENT TO A GATE SHALL BE GROUNDED A MAXIMUM DISTANCE 100 FEET EACH SIDE OF THE GATE.
2. FENCE CROSSING UNDER A POWER LINE SHALL BE GROUNDED, ONCE DIRECTLY UNDER THE CROSSING 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.



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 $2\frac{1}{2} \times 5$ " BOLTS WITH STANDARD WASHERS MEETING THE APPROVAL OF THE ENGINEER.

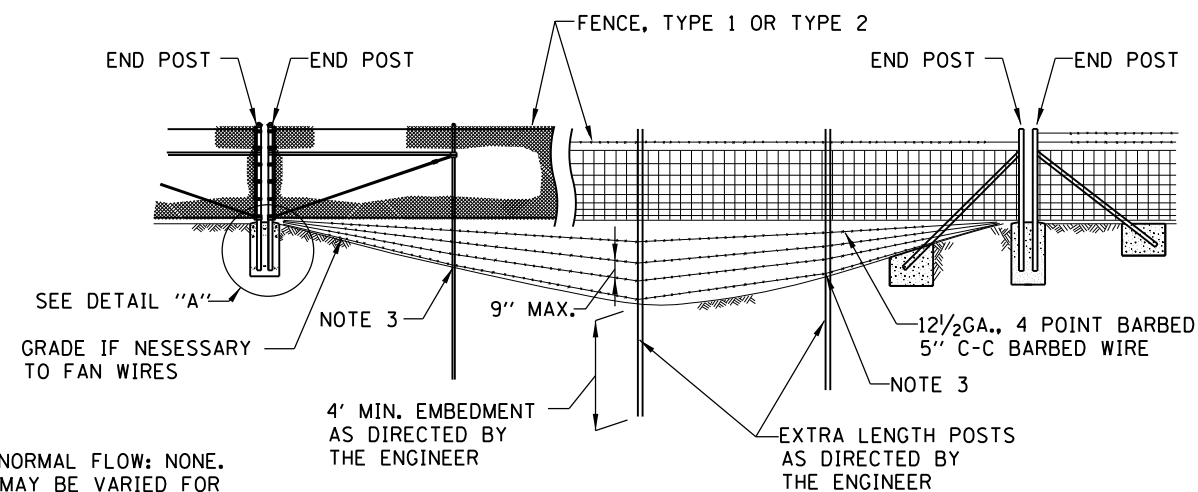


ALTERNATE DRIVEN LINE POST ANCHORAGE WITH OR WITHOUT DRIVE ANCHORS

NOTE FOR FENCE POST:

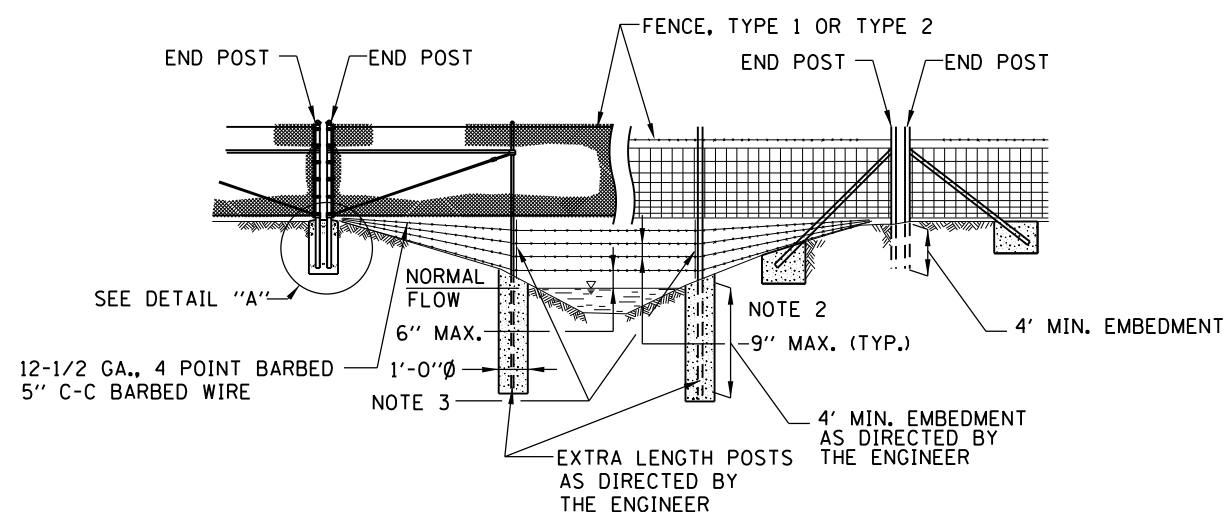
ALTERNATE DRIVEN LINE POST ANCHORAGE IS OPTIONAL. DRIVEN LINE POST ANCHORAGE WITHOUT DRIVE ANCHORS MAY BE USED IN AVERAGE TO GOOD SOIL CONDITIONS. WHEN SOIL IS WEAKER ($Q_u < 1.25$ TONS/ SQ. FT.) AND STABILITY OF THE POST IS QUESTIONABLE, DRIVE ANCHORS SHALL BE USED. TYPES, SHAPES, DIMENSIONS AND COATING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

ELECTRICAL GROUNDING DETAILS

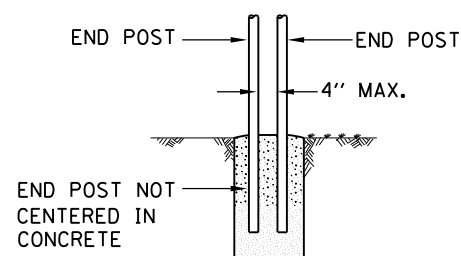


NORMAL FLOW: NONE.
MAY BE VARIED FOR
STEEPER BANKS TO FIT
VARIOUS CHANNEL SECTIONS.

STREAM CROSSING TYPE I



STREAM CROSSING TYPE II

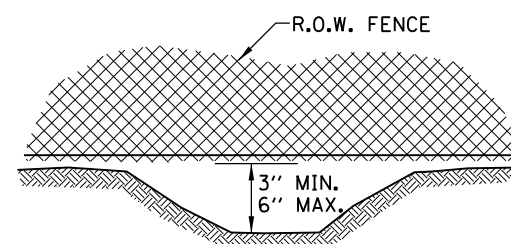


THE FENCE FABRIC SHALL BE REPLACED BY BARBED WIRE STRANDS AT 12\"/>

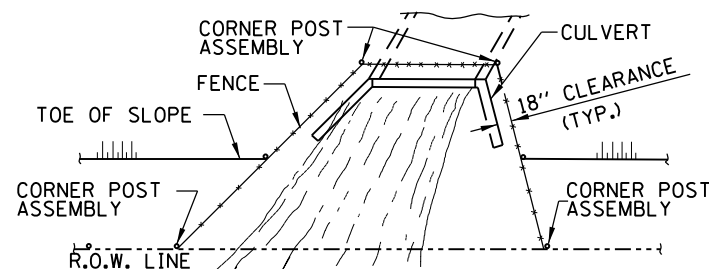
DETAIL A

NOTES FOR STREAM CROSSING TYPE I AND TYPE II:

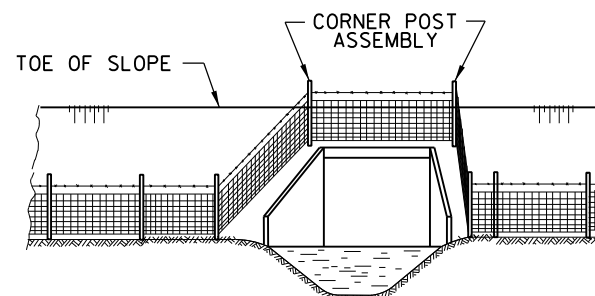
1. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED. CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
2. FOR STREAM CROSSING OF THE TYPE REQUIRED THE BOTTOM BARBED WIRE SHALL BE ANCHORED TO 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.



FENCE INSTALLATION OVER DITCH



PLAN AT HEADWALL

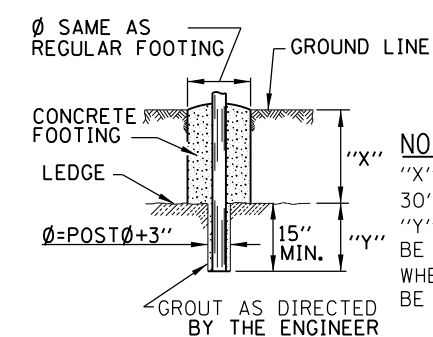


ELEVATION

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 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. THE COST OF ANCHORING THE POST SHALL BE INCIDENTAL TO THE TYPE OF FENCE REQUIRED.

INSTALLATION AROUND HEADWALL



NOTE:
"X" + "Y" SHALL NOT EXCEED 30" WHEN "X" IS 0" TO 15" "Y" = 15", AND THE POST SHALL BE SHORTENED AS REQUIRED. WHEN "X" EXCEEDS 15" "Y" SHALL BE DECREASED ACCORDINGLY.

FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED

SURVEY AND ROADWAY ITEMS

EXISTING	PROPOSED	
		CONSTRUCTION JOINT W/DOWEL BARS
		BENCHMARK
		CANTILEVER 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

EROSION & SEDIMENT CONTROL, LANDSCAPING ITEMS

EXISTING	PROPOSED	
		CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)
		DRAINAGE PATH
		SUPER SILT FENCE
		AGGREGATE BERM
		CULVERT INLET PROTECTION-STONE
		CULVERT INLET PROTECTION-FENCES
		DEWATERING BASIN
		FILTER FABRIC INLET PROTECTION
		INITIAL CONSTRUCTION ITEM
		RECTANGULAR INLET PROTECTION
		ROCK CHECK DAM
		ROLLED EXCELSIOR DITCH CHECK
		SEDIMENT BASIN
		STABILIZED CONSTRUCTION ENTRANCE
		STONE OUTLET STRUCTURE SEDIMENT TRAP
		STREAM DIVERSION
		TEMPORARY PIPE SLOPE DRAIN
		TEMPORARY RIPRAP
		TEMPORARY SWALE
		TREES AND STUMP
		URETHANE FOAM DITCH CHECK
		DIVERSION DIKE
		TEMPORARY STREAM CROSSING

	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



DATE	REVISIONS
7-1-2009	REVISED SYMBOL & PATTERNS
11-1-2012	ADDED NEW SYMBOLS

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 _____
_____ AR _____
_____ ARV _____
_____ DS _____
_____ G _____
_____ HG _____
_____ HHWR _____
_____ HHWS _____
_____ IA _____
_____ P _____
_____ PW _____
_____ RD _____
_____ RS _____
_____ V _____

_____ A _____
_____ AR _____
_____ ARV _____
_____ DS _____
_____ G _____
_____ HG _____
_____ HHWR _____
_____ HHWS _____
_____ IA _____
_____ P _____
_____ PW _____
_____ RD _____
_____ RS _____
_____ V _____

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

NOTE:

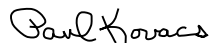
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED
UNLESS OTHERWISE NOTED.

SHEET 2 OF 3



SYMBOLS AND PATTERNS

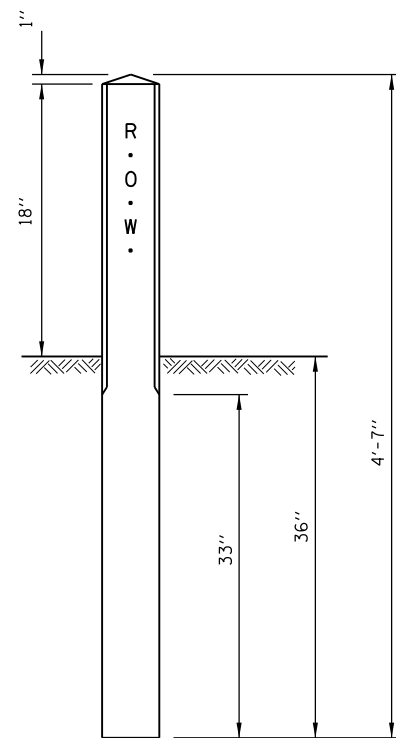
STANDARD D2-02

APPROVED  DATE 7-1-2009
CHIEF ENGINEER

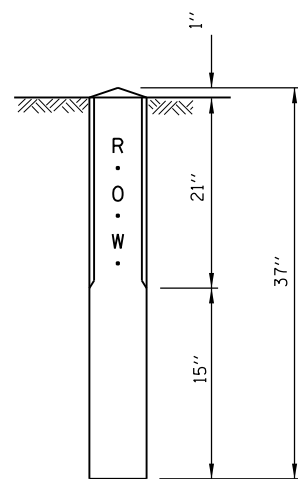
ELECTRICAL AND MECHANICAL ITEMS

	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				PRESSURE REDUCING VALVE (NOS. = INITIAL AND FINAL PRESSURE - PSIG)		CROSSOVER
	OR		BALANCING OR VOLUME DAMPER		PRV		AIR PRESSURE REDUCING STATION (NO. CORRESPONDS WITH AIR PRESSURE REDUCER SCHEDULE)		PIPE GUIDE
	OR		MOTOR OPERATED DAMPER				SAFETY VALVE (NOS. = PRESSURE SETTING - PSIG)		EXPANSION JOINT (SLIP TYPE)
			FLEXIBLE DUCT				FLOAT OPERATED VALVE		EXPANSION JOINT (BELLOWS TYPE)
			FIRE DAMPER		OC		QUICK COUPLING (OC)		AIR ELIMINATOR (AIR VENT)
			SOUND ATTENUATOR		UH		HORIZONTAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		PIPE CAP
			ZONE DAMPER		UH		VERTICAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		STRAIGHT CROSS
			FLEXIBLE CONNECTION AT FAN OR EQUIPMENT		UH		CABINET TYPE UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		90° ELBOW
			EXTRACTOR		T		THERMOSTAT OR ROOM TEMPERATURE SENSOR		90° ELBOW TURNED DOWN
							GATE VALVE		90° ELBOW TURNED UP
							FLOW SWITCH		SIDE OUTLET ELBOW TURNED DOWN
					GPM		VENTURI FLOW METER AND FLOW TO BE INDICATED		SIDE OUTLET ELBOW TURNED UP
							CONNECTION BETWEEN NEW AND EXISTING		LATERAL
									TEE
									TEE OUTLET UP
									TEE OUTLET DOWN
									UNION
									STRAINER
									PIPE ANCHOR
									THERMOMETER (NOS. = RANGE IN DEGREES FAHRENHEIT)
									PRESSURE, VACUUM OR COMPOUND GAUGE

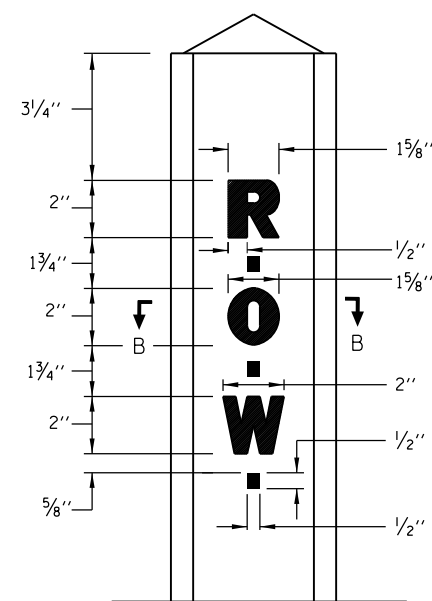
NOTE:
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED
UNLESS OTHERWISE NOTED.



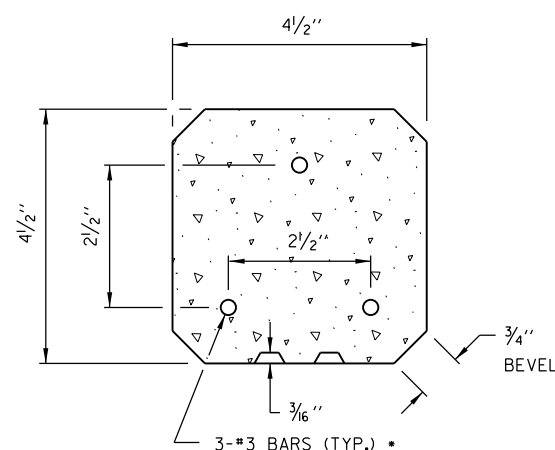
RIGHT OF WAY
MARKER



RIGHT OF WAY
MARKER (SPECIAL)



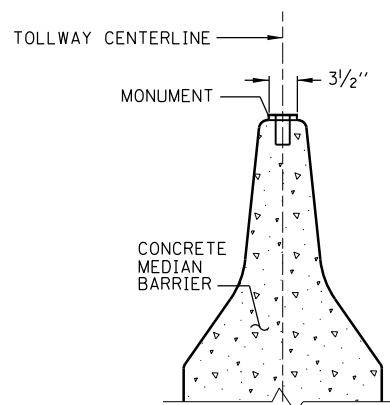
LETTERING DETAIL



- METHOD A- 4'-2" LONG BARS
- METHOD B- 2'-6" LONG BARS

SECTION B-B

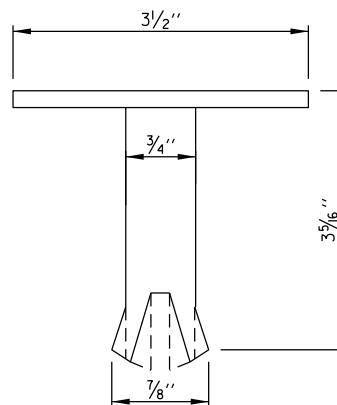
RIGHT OF WAY MARKER



TYPICAL CENTERLINE MONUMENT
AT MEDIAN BARRIER

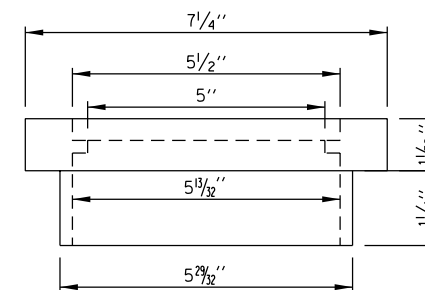


TOP VIEW



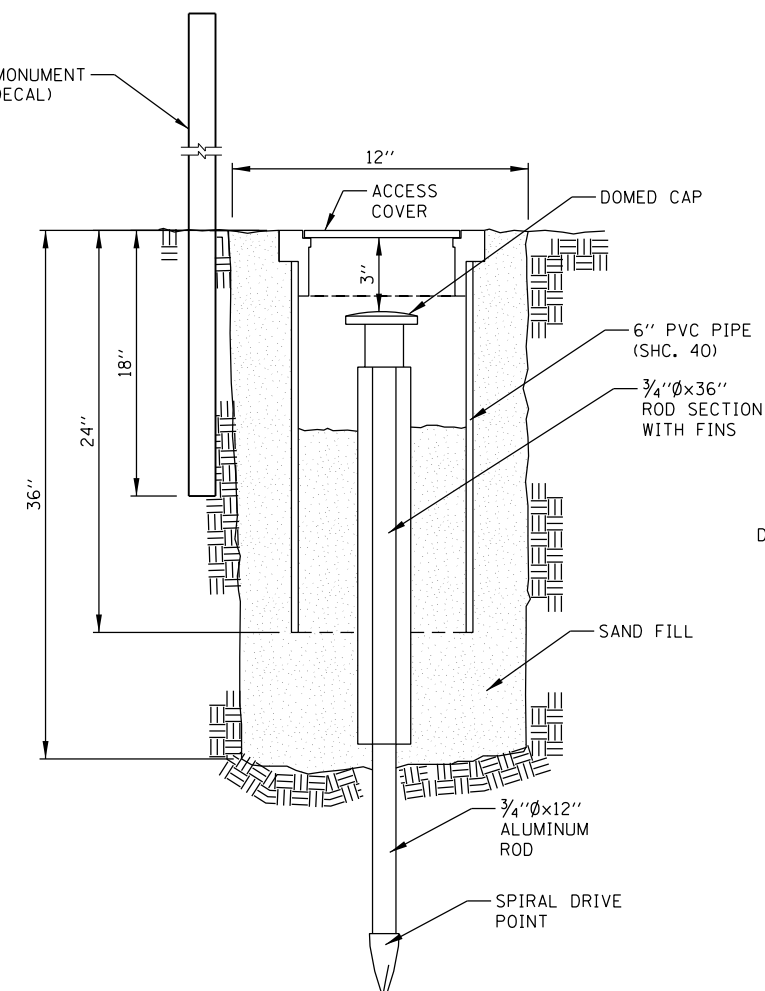
BRONZE DOMED CAP

PERMANENT SURVEY MONUMENT

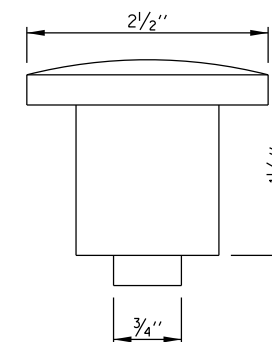
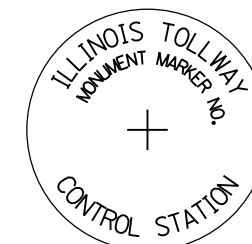


ACCESS COVER
(RECESSED HINGE)

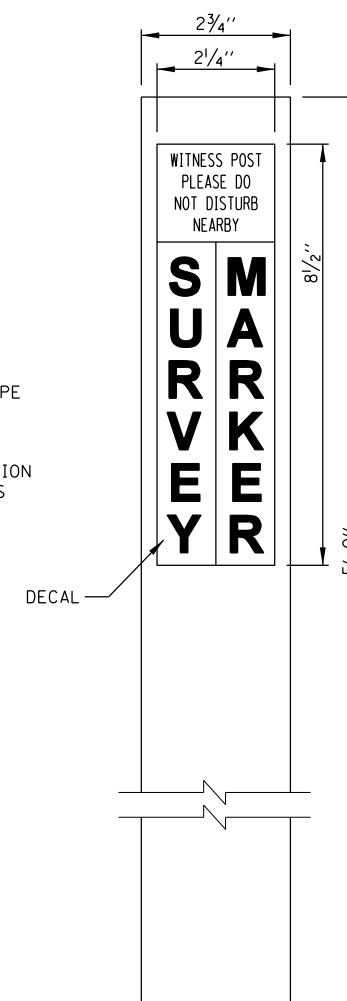
FIBERGLASS MONUMENT
POST (WITH DECAL)



PERMANENT SURVEY MONUMENT (SPECIAL)



ALUMINUM DOMED CAP



MONUMENT POST

PERMANENT SURVEY MONUMENTS AND
RIGHT-OF-WAY MARKERS

DATE	REVISIONS
7/1/2010	NEW MONUMENT AND BARRIER MARKERS



PERMANENT SURVEY
MONUMENTS AND
RIGHT-OF-WAY MARKERS

STANDARD D3-01

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2007

PERMANENT DELINEATION SPACING					
		MAINLINE		RAMP	
		TANGENT	CURVE	TANGENT	CURVE
*	GUARDRAIL	100'	100'	100'	TABLE A
*	CONCRETE BARRIER (DOUBLE FACE)	100'	100'	100'	TABLE A
*	CONCRETE BARRIER (SINGLE FACE)	100'	100'	100'	TABLE A
	SHOULDER NARROWING	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
	BRIDGE APPROACHES	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
*	BRIDGE PARAPET	50'	50'	50'	50'
*	NOISE ABATEMENT WALL (CRASH WORTHY)	100'	100'	100'	TABLE A
	POST MOUNTED DELINEATOR	200'	200'	200'	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.					

TABLE A	
DELINEATION SPACING ON RAMP-CURVES	
RADIUS OF CURVE (FT.)	SPACING OF CURVE (FT.)
LESS THAN 1050	50
1050-1299	100
1300-1999	125
2000-2999	150
3000-3999	175
MORE THAN 3999	200

GENERAL NOTES:

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 REFECTOR 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.

NOTES FOR POST MOUNTED DELINEATOR INSTALLATION:

- 1. A. MAINLINE-SINGLE WHITE REFECTOR 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.

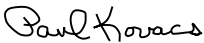
B. RAMPS-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMPS, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION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

C. DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.
- 2. DELINEATORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE TOP 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 DELINEATORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.

NOTES FOR BARRIER DELINEATOR:

- 1. REFLECTOR MARKERS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY.

APPROVED



CHIEF ENGINEER

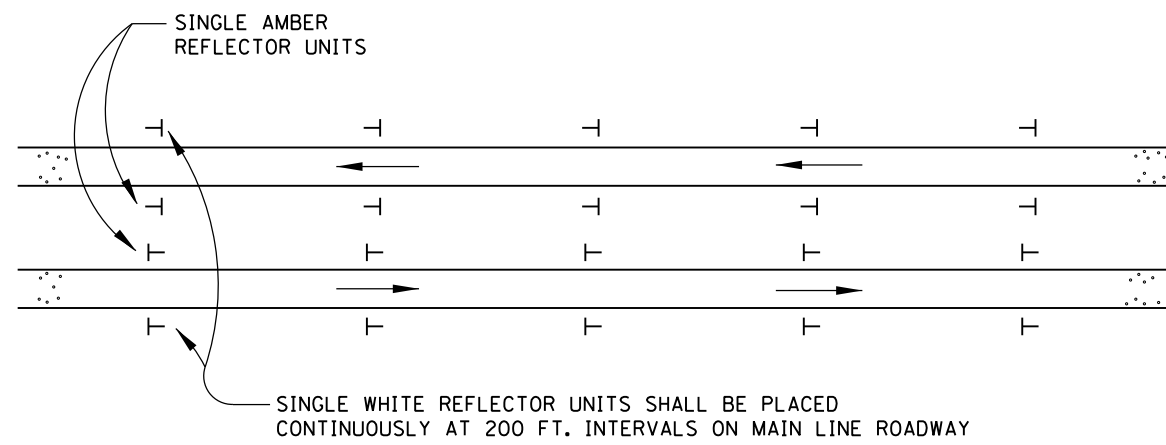
DATE 7-1-2009

DATE	REVISIONS
7-1-2009	CHANGED BARRIER TO F-SHAPE CONFIG.
	ADDED SECTION C-C
	NEW BARRIER DELINEATORS
2-7-2012	REVISED REFLECTOR MARKER TYPE C DIMENSION
11-1-2012	REVISED NOTES, TABLE AND DELINEATION SPACING

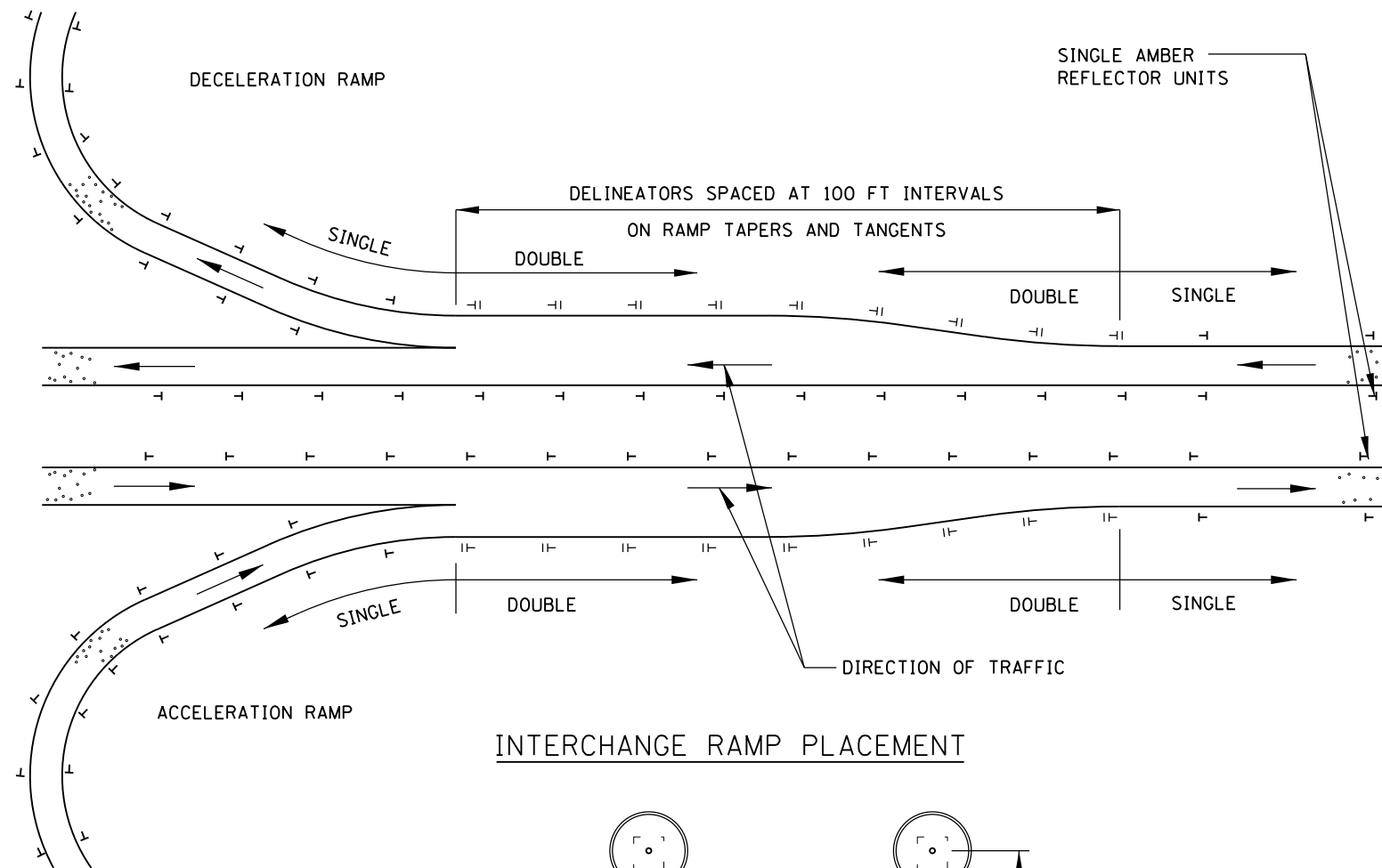


DELINEATORS

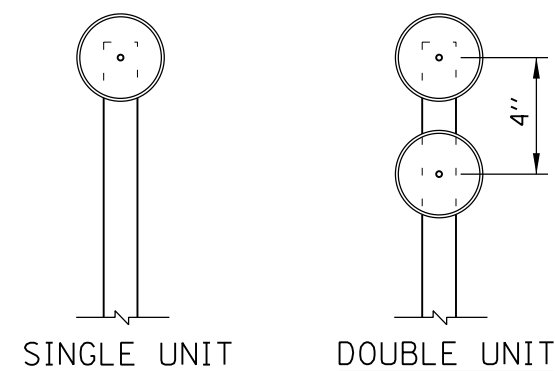
STANDARD D4-03



TANGENT PLACEMENT



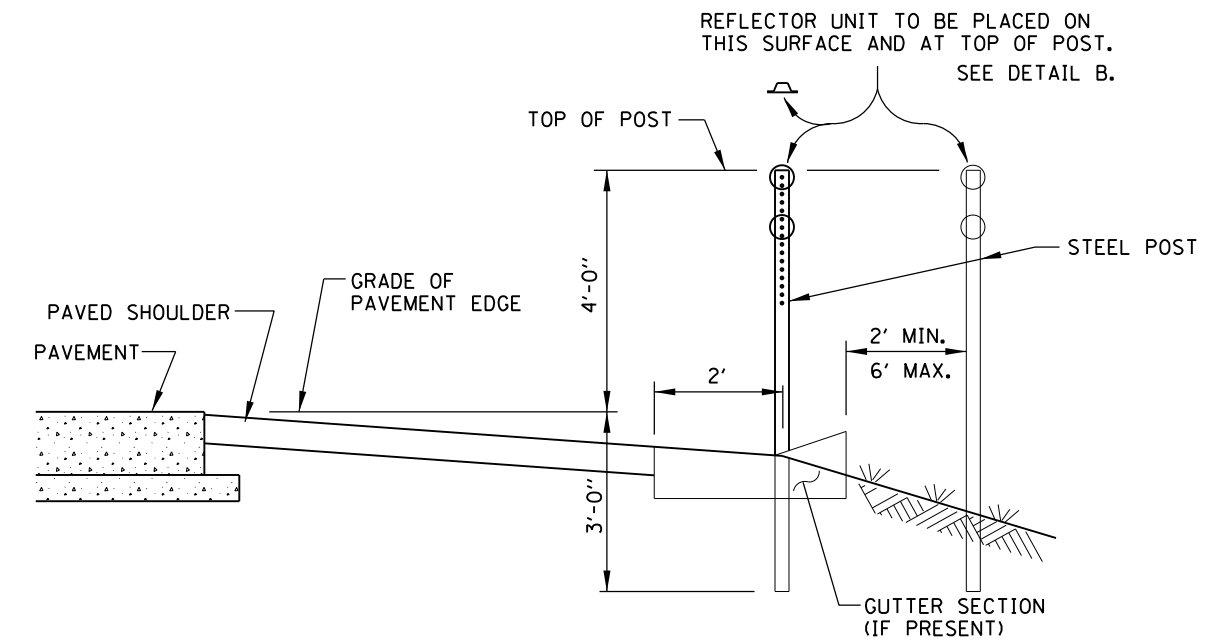
INTERCHANGE RAMP PLACEMENT



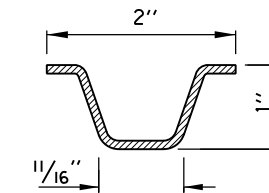
TYPICAL DELINEATORS

NOTE:

SEE SHEET 1 OF THIS SERIES FOR NOTES.

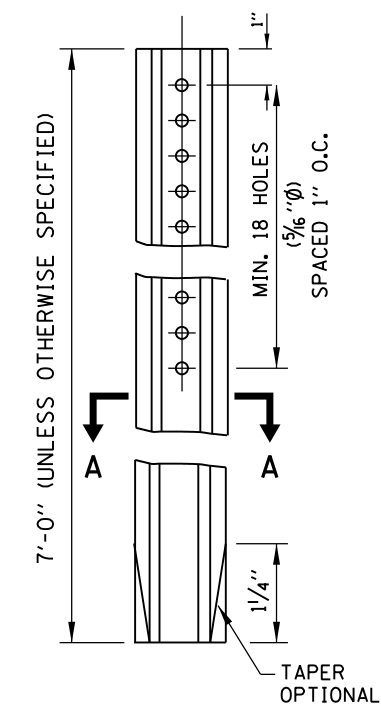


DELINEATOR INSTALLATION

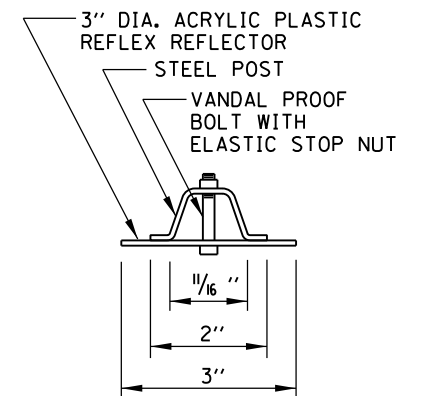


SECTION A-A

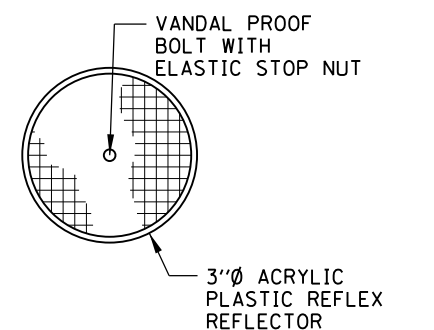
STEEL- 1.12 LBS/FT.



STEEL POST



DETAIL B



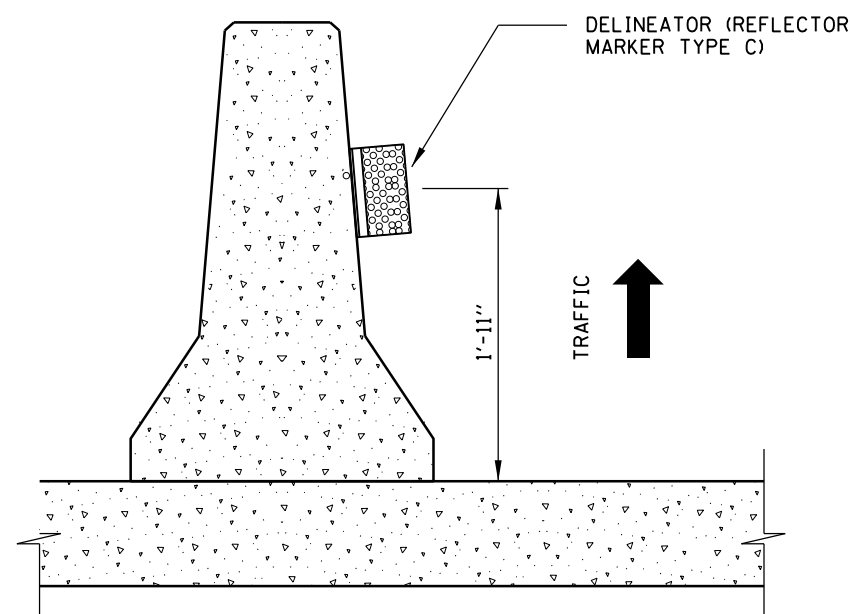
DELINEATORS

SHEET 2 OF 3



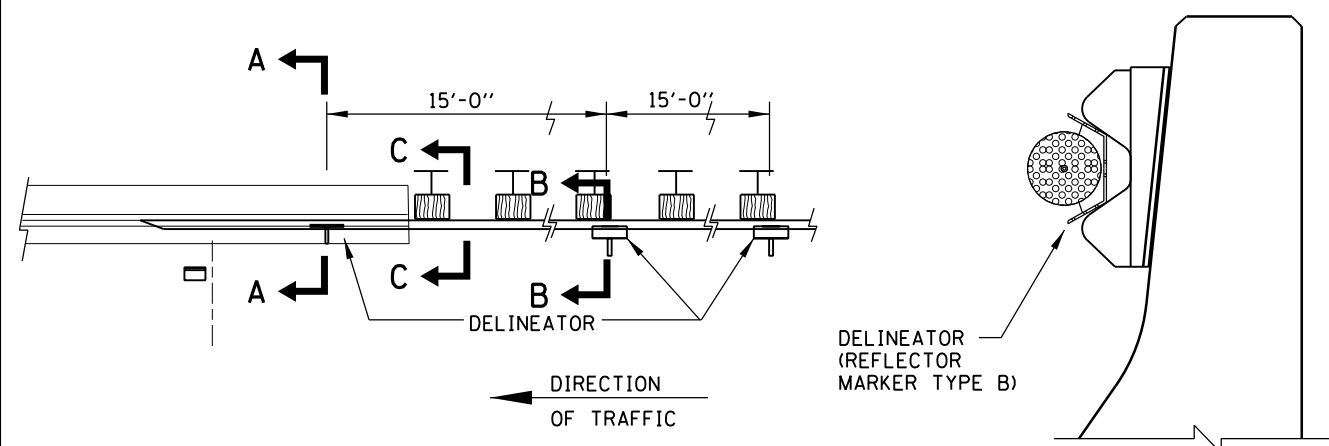
DELINEATORS

STANDARD D4-03



CROSS-SECTION

TEMPORARY CONCRETE BARRIER

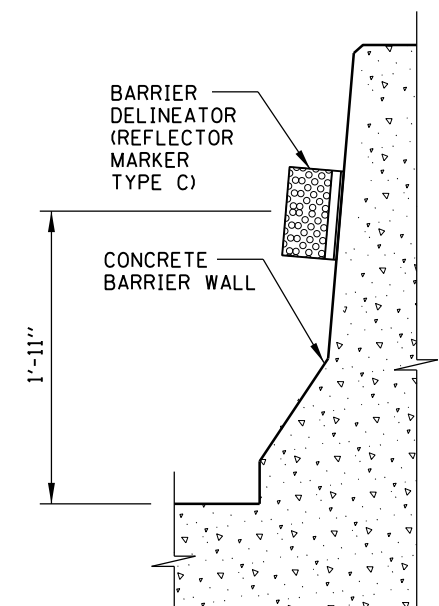


PLAN

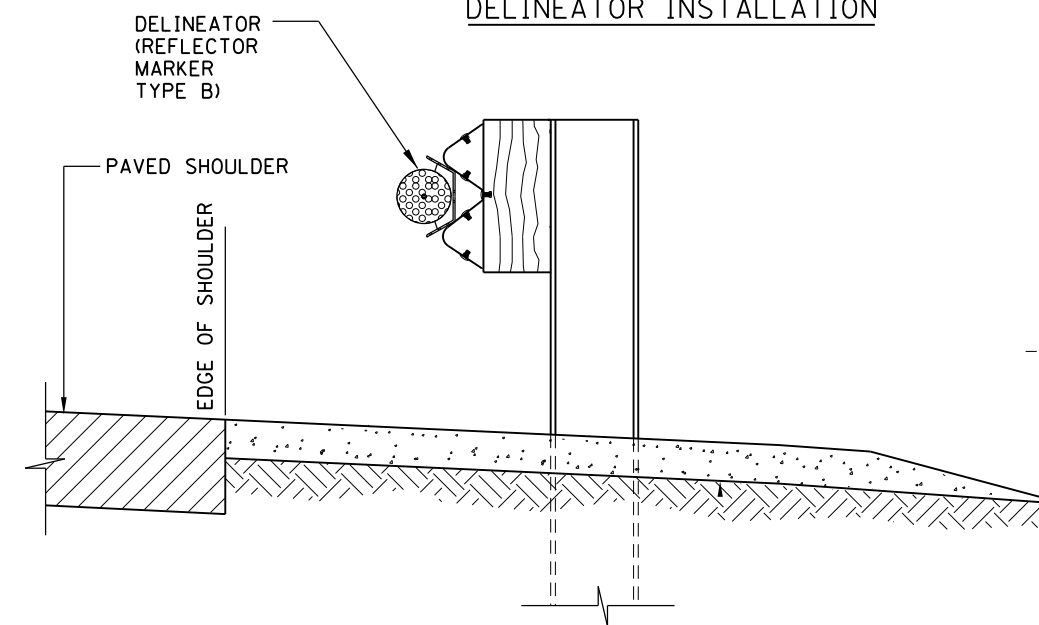
SECTION A-A

DELINEATOR INSTALLATION ON GUARDRAIL AT BRIDGE APPROACHES

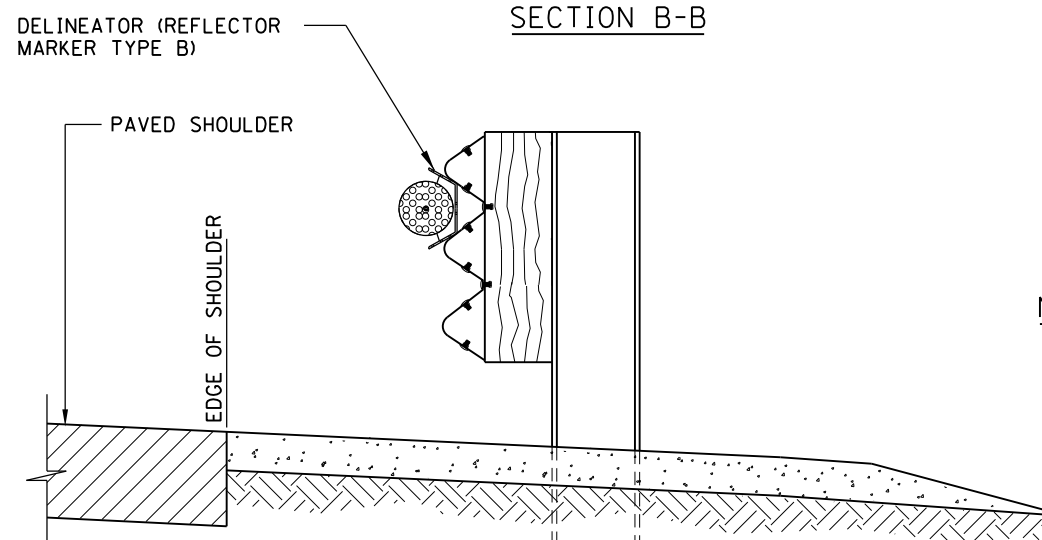
ALSO SEE SHEET 1 (OF 3) IN THIS SERIES FOR ADDITIONAL INFORMATION



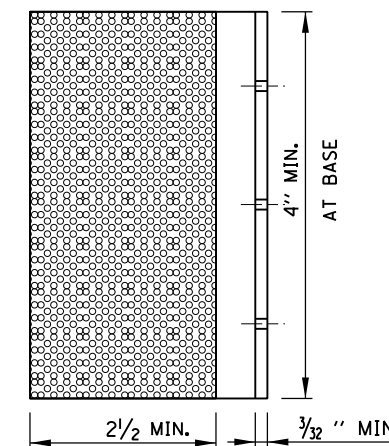
BARRIER OR PARAPET
DELINEATOR INSTALLATION



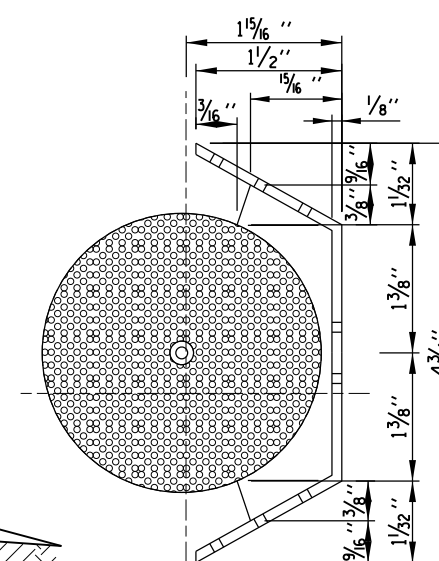
SECTION B-B



SECTION C-C



DELINEATOR
(REFLECTOR MARKER TYPE C)



DELINEATOR
(REFLECTOR MARKER TYPE B)

NOTE:

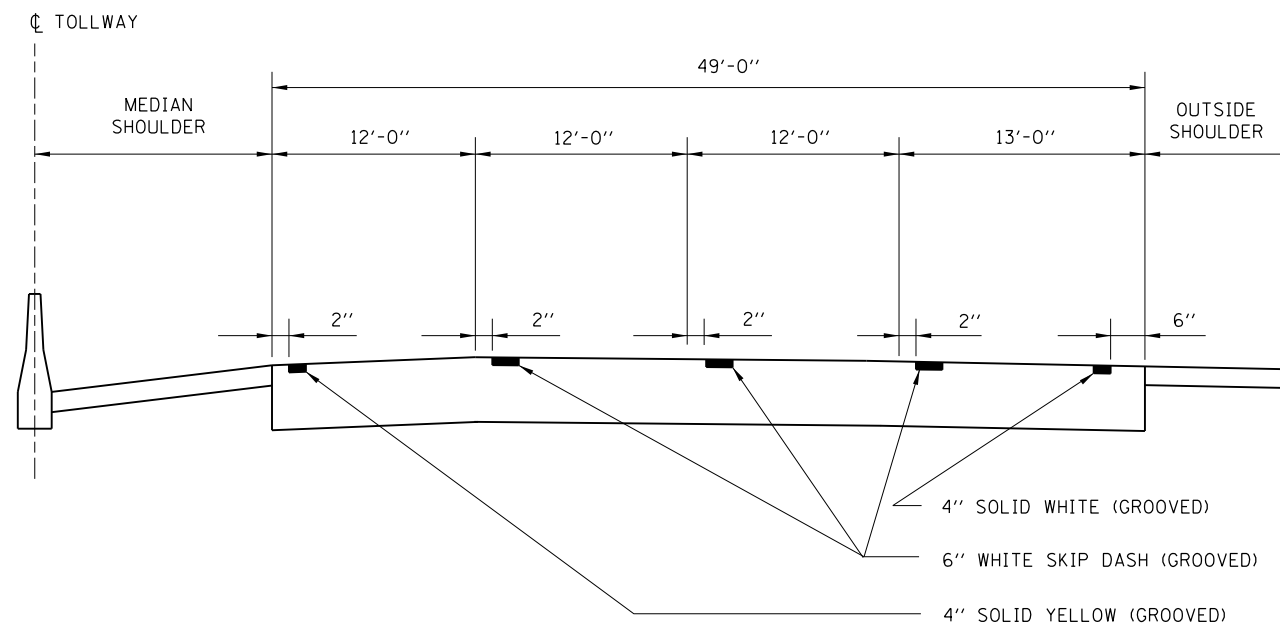
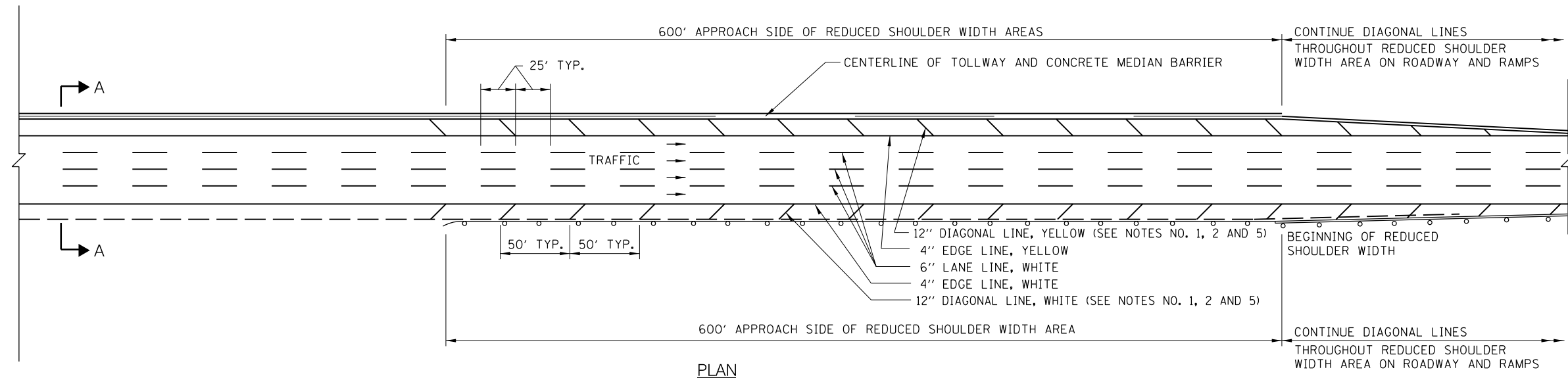
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 3 OF 3



DELINEATORS

STANDARD D4-03

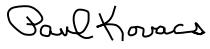


SECTION A-A

GENERAL NOTES:

1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE ASPHALT SHOULDER WIDTH IS LESS THAN STANDARD.
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 LANE LINES AND EDGE LINES SHALL BE GROOVED, ON ROADWAY SURFACES.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.
7. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON BRIDGES.

ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION

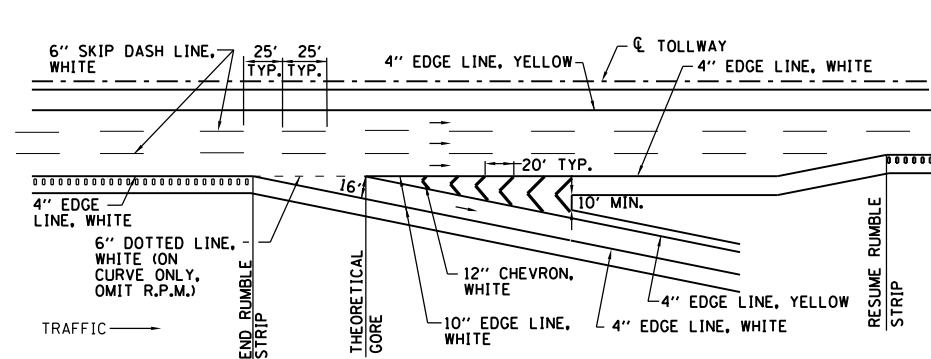

 APPROVED CHIEF ENGINEER DATE 7-1-2009

DATE	REVISIONS
7-1-2009	ADDED LINE GROOVING NOTES
2-7-2012	REVISED NOTES
11-1-2012	REVISED EDGELINE OFFSET
	REVISED NOTES
3-31-2014	REVISED NOTES

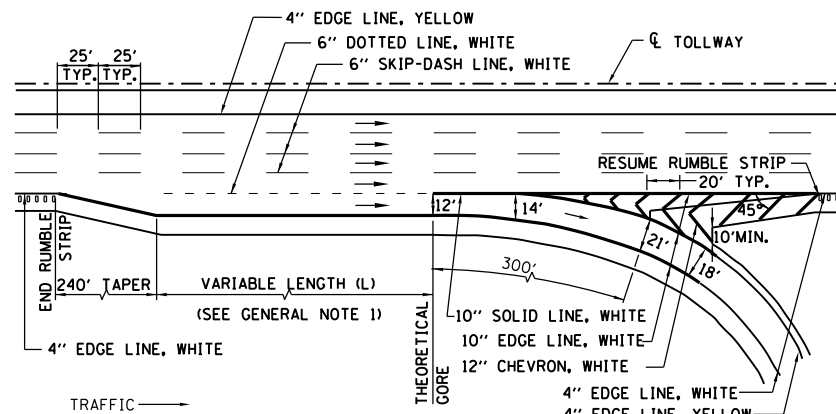


PERMANENT PAVEMENT MARKINGS

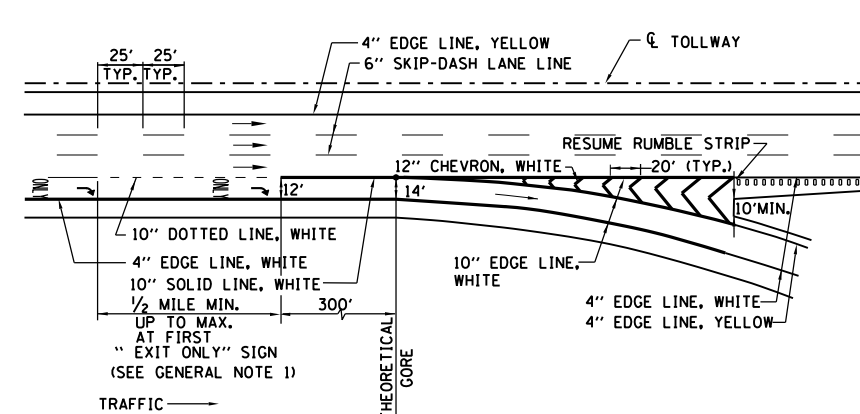
STANDARD D5-05



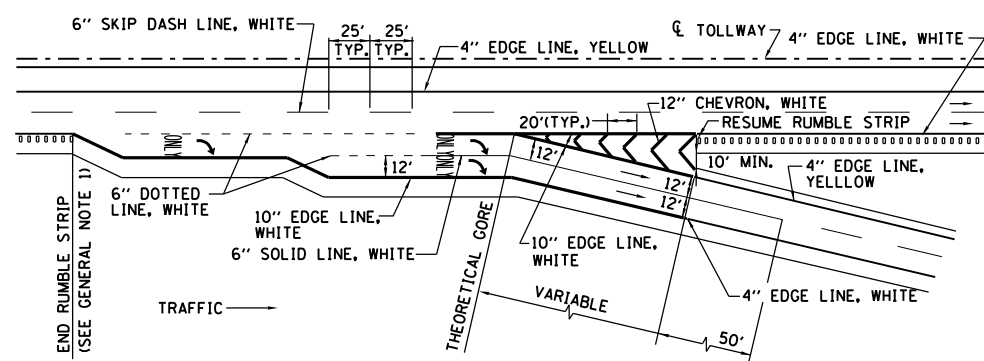
EXIT - SINGLE LANE RAMP
LANE THREE TERMINATION



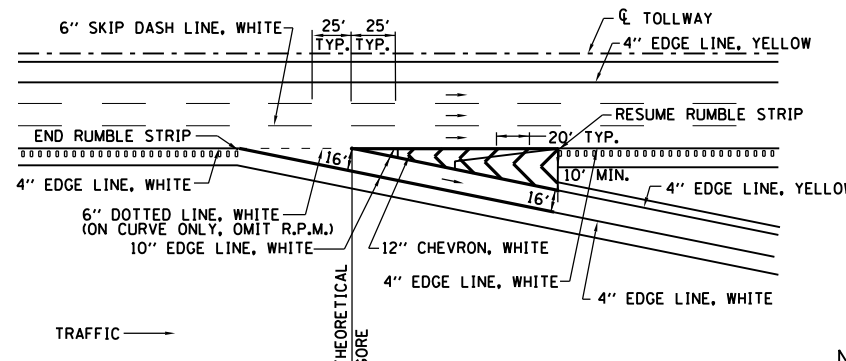
EXIT - SINGLE LANE LOOP RAMP - PARALLEL TYPE



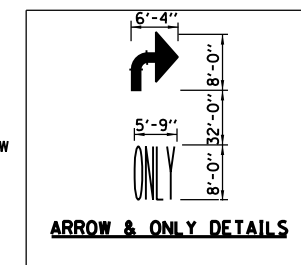
EXIT - SINGLE LANE RAMP - LANE DROP



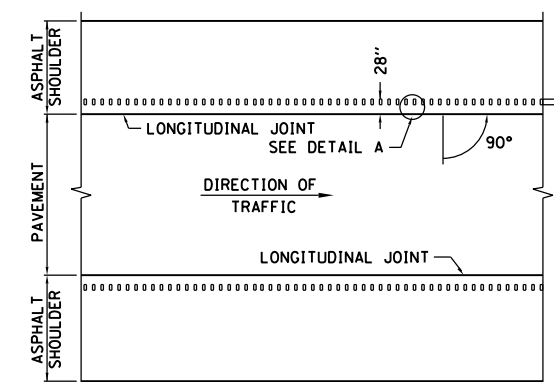
EXIT - TWO LANE PARALLEL RAMP



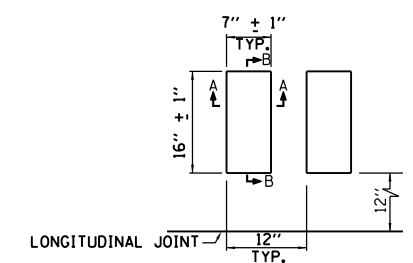
EXIT - SINGLE LANE RAMP - TAPER TYPE



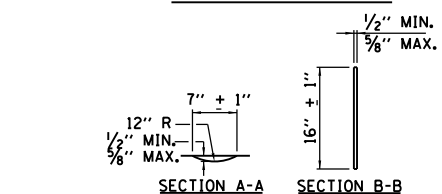
NOTE:
PAVEMENT MARKING LETTERS AND SYMBOLS-ONLY AND ARROW ARE TO BE TYPICALLY PLACED AT 1/2 MILE EXIT ONLY GUIDE SIGN, AT CORE EXIT GUIDE SIGN AND APPROXIMATELY HALFWAY BETWEEN THE TWO.



TYPICAL PLAN VIEW
MAINLINE



PLAN DETAIL A



SECTION A-A SECTION B-B
SHOULDER RUMBLE STRIP
DETAILS

GENERAL NOTES:

- RUMBLE STRIPS SHALL BE INSTALLED BETWEEN THE THEORETICAL GORE AND TAPER WHEN AUXILIARY LANES, ACCELERATION LANES AND DECELERATION LANES, LENGTHS ARE GREATER THAN 1000'.
- ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
- ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
- GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.
- LETTERS AND SYMBOL MARKING SHALL BE SURFACED APPLIED.
- DOTTED LINES SHALL CONSIST OF 3' LINE AND 9' GAPS.

SHEET 1 OF 2

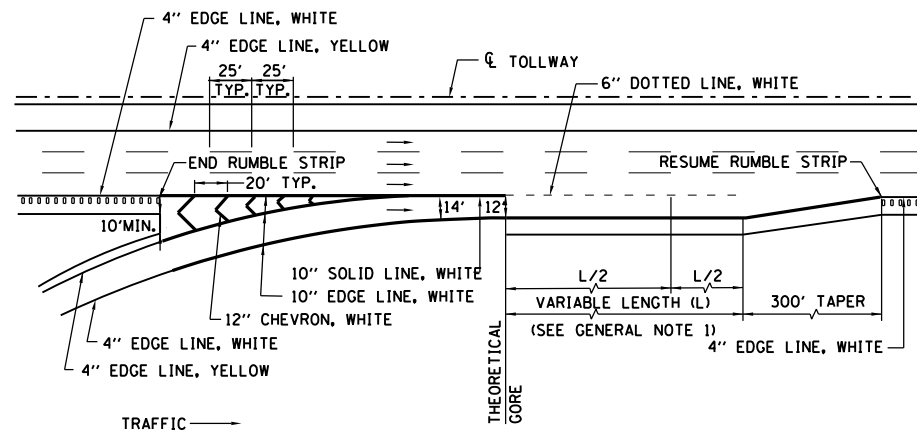


PAVEMENT MARKING
AND SHOULDER
RUMBLE STRIP DETAILS

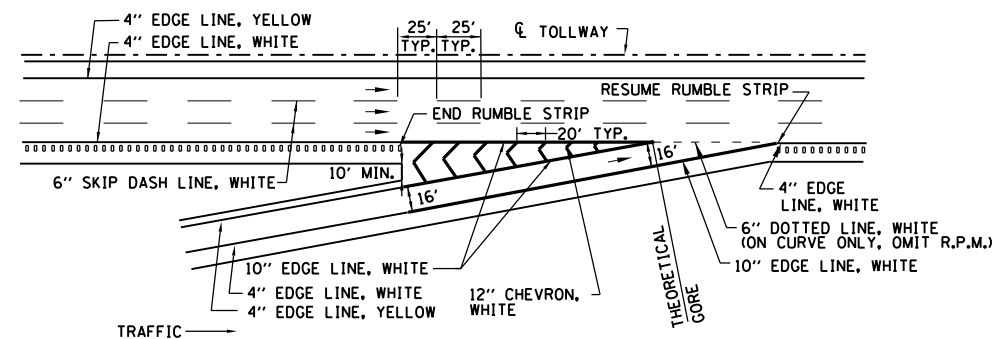
STANDARD D6-04

DATE	REVISIONS
7-1-2009	ADDED LINE GROOVING NOTES
11-1-2012	REVISED NOTES AND ADDED
	DOTTED LINE
3-1-2013	REVISED SINGLE LANE LOOP
	RAMP DETAILS
3-31-2014	ADDED LANE REDUCTION MARKINGS

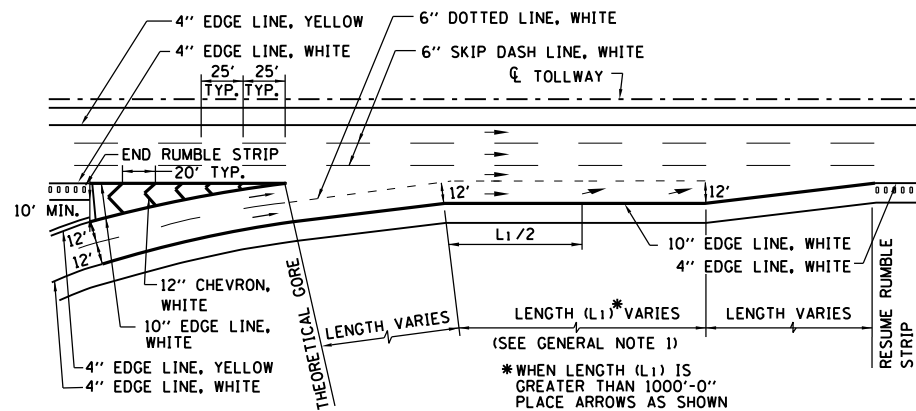
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



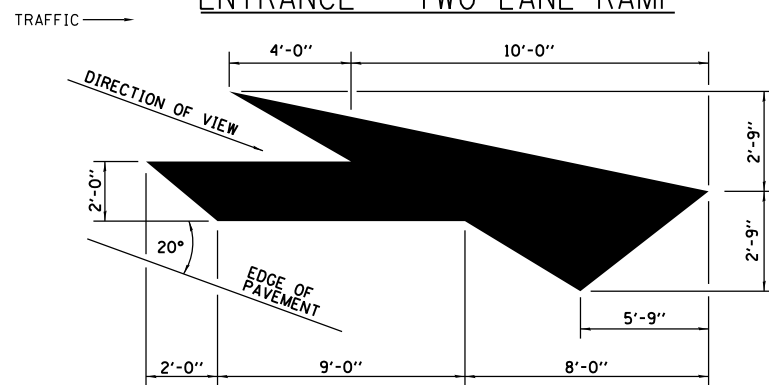
ENTRANCE - SINGLE LANE LOOP RAMP - PARALLEL TYPE



ENTRANCE - SINGLE LANE RAMP - TAPER TYPE

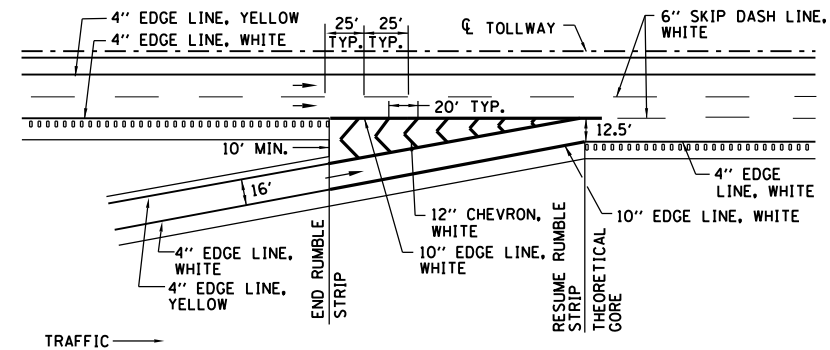


ENTRANCE - TWO LANE RAMP

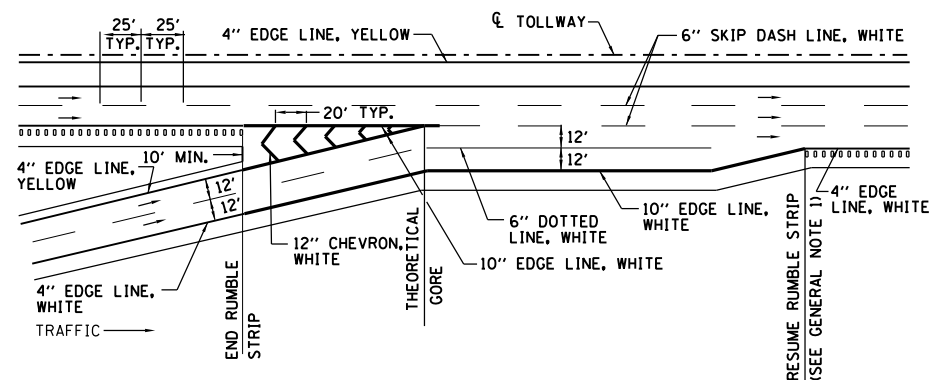


LANE-REDUCTION ARROW

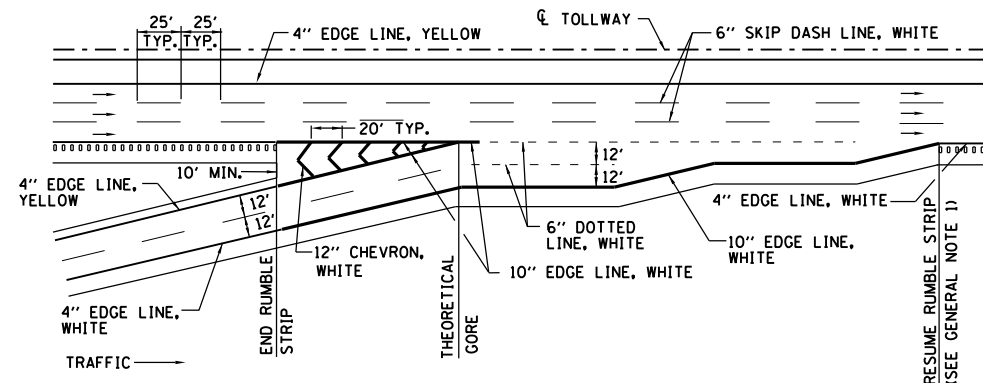
RIGHT LANE-REDUCTION ARROW SHOWN.
USE MIRROR IMAGE FOR LEFT LANE.



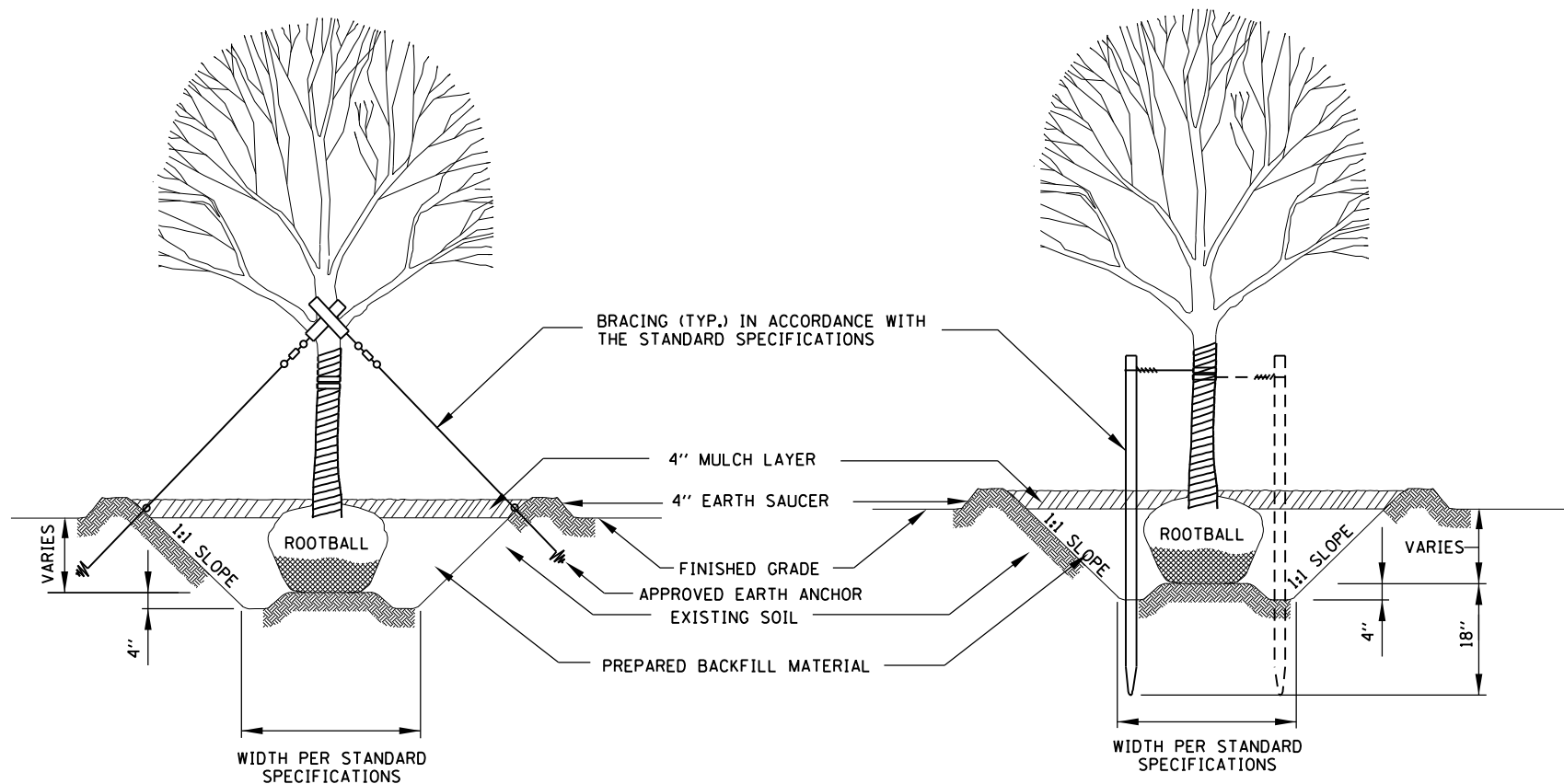
ENTRANCE - SINGLE LANE RAMP
WITH ADDED MAINLINE LANE



ENTRANCE - TWO LANE RAMP
WITH ADDED MAINLINE LANE

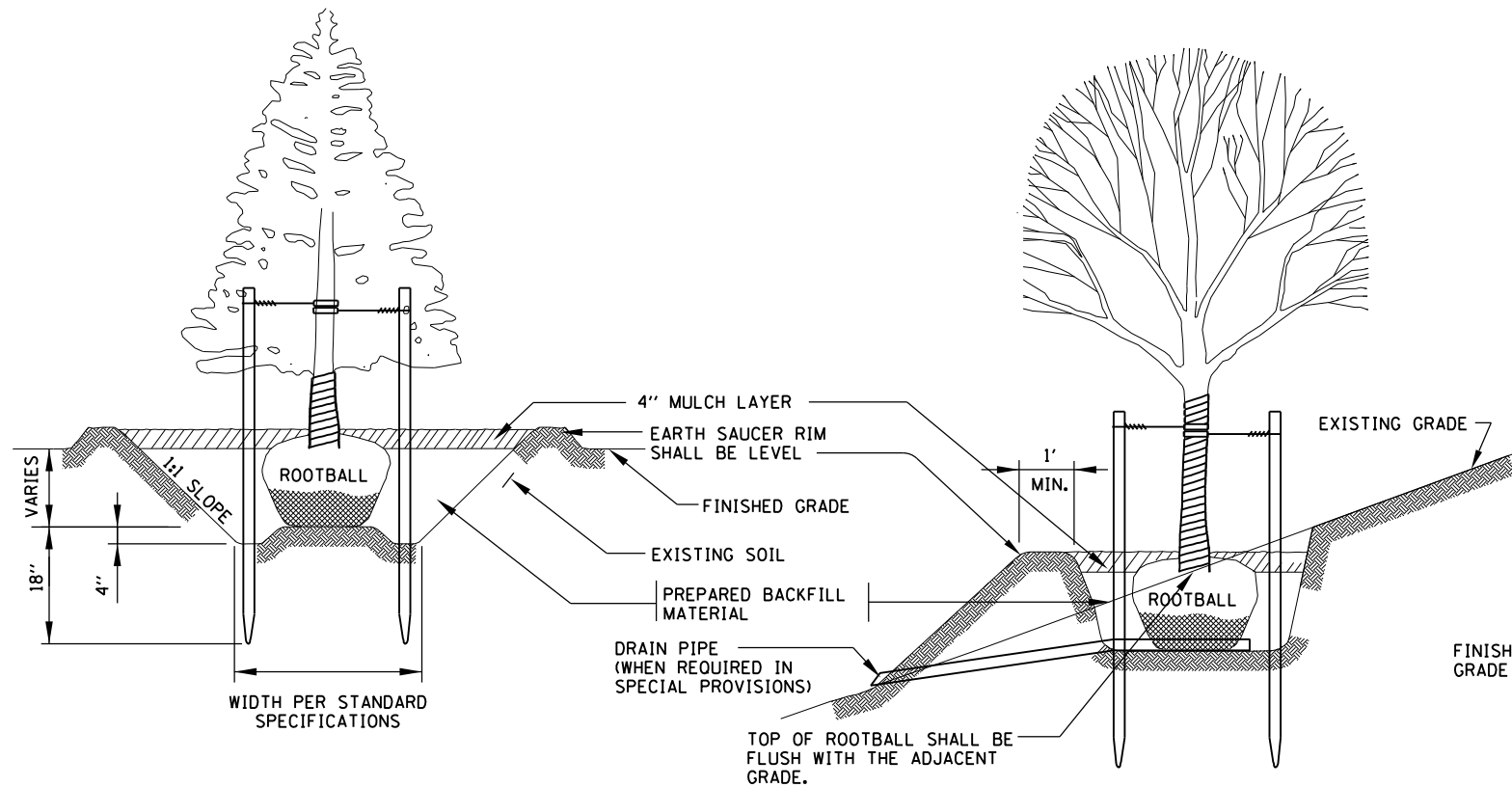


ENTRANCE - TWO LANE PARALLEL RAMP



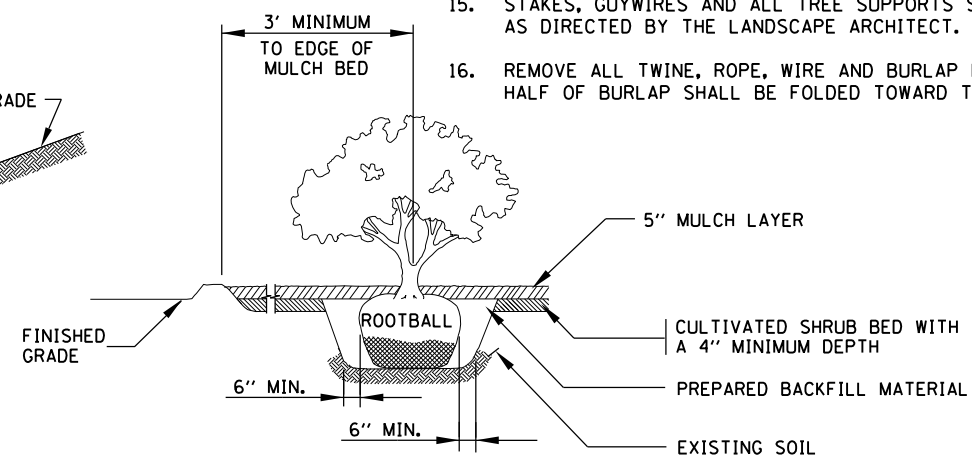
DECIDUOUS TREE PLANTING DETAIL
(4 1/2" CALIPER AND LARGER)

DECIDUOUS TREE PLANTING DETAIL
GREATER THAN 4 FT HEIGHT AND LESS THAN 4 1/2" CALIPER)



EVERGREEN TREE PLANTING DETAIL

STEEP SLOPE PLANTING DETAIL

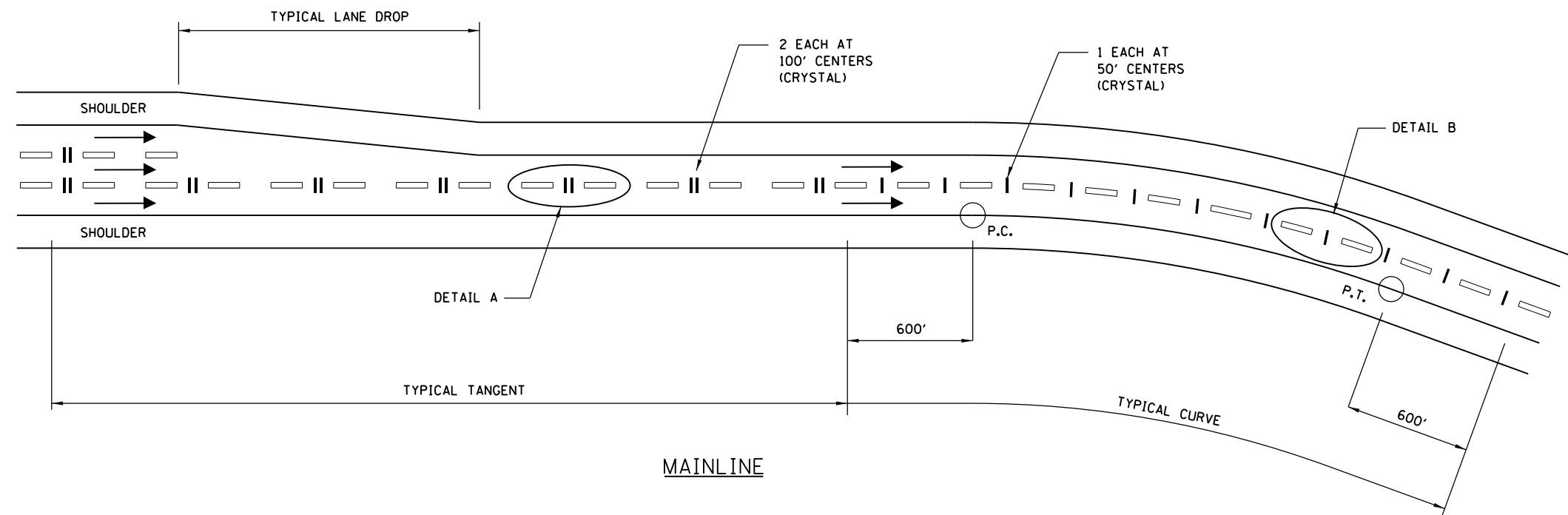
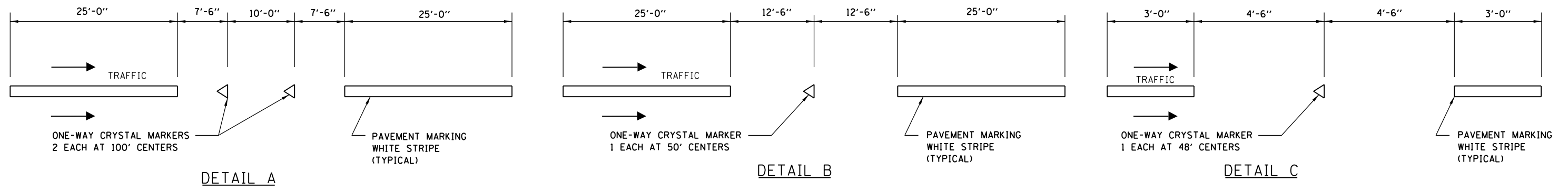


SHRUB PLANTING DETAIL

PLANTING NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES, FIBER OPTICS, STORM SEWERS AND DRAINAGE STRUCTURES IN THE FIELD PRIOR TO THE EXCAVATION OF ANY PLANT PITS OR PLANTING BEDS. LOCATIONS OF TREE AND SHRUB PLANTINGS SHALL BE ADJUSTED TO AVOID DAMAGING ANY UNDERGROUND FEATURES.
2. THE PLANT LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATELY ONLY. THE EXACT LOCATIONS SHALL BE ADJUSTED AS REQUIRED IN THE FIELD BY THE ENGINEER. TREE LOCATIONS SHALL NOT BE MOVED CLOSER TO PAVEMENT EDGES THAN SHOWN ON THE PLANS OR A MINIMUM OF FIFTY (50) FEET.
3. TREES SHALL BE SPACED A MINIMUM OF FIVE (5) FEET FROM FENCES.
4. TREE AND SHRUB PLANTINGS SHALL NOT BLOCK ACCESS TO GATES IN FENCES.
5. TREES PLANTED IN TURF AREAS SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM THE EDGE OF A SHRUB BED.
6. TREES SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM NOISEWALLS OR OTHER STRUCTURES.
7. DITCHES SHALL BE KEPT CLEAR OF PLANTINGS. THE MINIMUM VERTICAL DISTANCE BETWEEN DITCH BOTTOMS AND PLANTS SHALL BE THREE (3) FEET.
8. IF DURING EXCAVATION, A PLANT HOLE OR PLANTING BED SHOWS POOR DRAINAGE, STANDING WATER OR AN IMPERVIOUS STRATUM OF SOIL, THE CONTRACTOR SHALL CEASE EXCAVATION AND SHALL NOTIFY THE ENGINEER. THE PLANT(S) SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND THE HOLE(S) OR BED SHALL BE FILLED IN AND RESTORED TO MATCH THE CONDITION AND VEGETATION OF THE ADJACENT AREA.
9. IMPROPERLY PRUNED PLANTINGS WILL BE REJECTED AND REPLACEMENTS WILL IMMEDIATELY BE MADE BY THE CONTRACTOR.
10. THE SIDES OF ALL PLANT PITS SHALL BE LOOSENEED TO DISJOIN ANY GLAZING WHICH MAY OCCUR DURING THE DIGGING OPERATION.
11. TREE WRAPPING SHALL EXTEND TO THE LOWEST MAJOR BRANCH.
12. TOP OF ROOTBALL SHALL BE APPROXIMATELY 2 INCHES ABOVE ADJACENT FINISHED GRADE.
13. SHRUB PLANTINGS:
 - A. UNLESS NOTED OTHERWISE, ALL SHRUBS SHALL BE PLANTED IN MULCHED BEDS. THE EDGE OF THE MULCH BED SHALL EXTEND A MINIMUM OF THREE (3) FEET BEYOND THE CENTERS OF THE PERIPHERAL PLANTS IN THE BED.
 - B. THE EDGE OF A MULCH BED FOR SHRUB PLANTINGS ADJACENT TO A WALL, FENCE, GUARDRAIL OR OTHER FIXED OBJECT SHALL EXTEND TO THE OBJECT. THE PERIPHERAL PLANTS IN THE BED SHALL NOT BE PLANTED WITHIN FIVE (5) FEET OF THE OBJECT.
 - C. WHEN A TREE IS LOCATED IN A SHRUB BED, THE MINIMUM DISTANCE BETWEEN THE TREE AND THE ADJACENT SHRUBS SHALL BE SIX (6) FEET.
14. THE CONTRACTOR SHALL RESTORE ALL AREAS, OBJECTS AND VEGETATION DISTURBED BY THE LANDSCAPE OPERATIONS TO ORIGINAL CONDITIONS.
15. STAKES, GUYWIRES AND ALL TREE SUPPORTS SHALL BE REMOVED AFTER ONE YEAR OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
16. REMOVE ALL TWINE, ROPE, WIRE AND BURLAP FROM TOP HALF OF ROOTBALL. THE LOWER HALF OF BURLAP SHALL BE FOLDED TOWARD THE BOTTOM OF THE ROOTBALL.

DATE	REVISIONS
2-7-2012	REVISED POST BRACING DETAIL.



NOTES:

1. FOR COLLECTOR DISTRIBUTOR, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
2. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
3. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

RAISED PAVEMENT LANE MARKER DETAILS

APPROVED *Paul Kovacs* DATE 7-1-2009
CHIEF ENGINEER

DATE	REVISIONS
11-1-2012	REVISED DETAIL C



RAISED PAVEMENT LANE MARKER

STANDARD D8-01