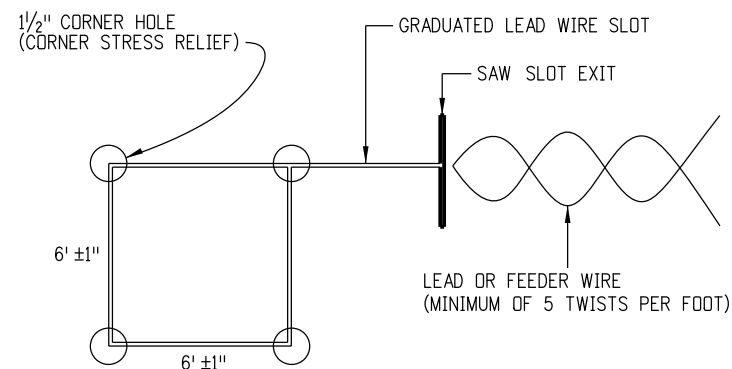


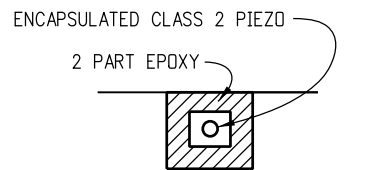
LOOP GEOMETRICS AND INSTALLATION

GENERAL NOTES

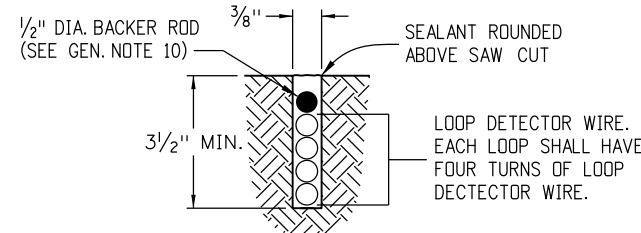
1. ALL DETECTOR LOOPS SHALL MEASURE 6 FT. X 6 FT. (WITHIN 1 INCH TOLERANCE).
2. LOOPS SHALL BE CENTERED IN THE TRAVEL LANE WITH TWO SIDES PARALLEL TO THE LANE STRIPING.
3. ALL LOOP, LOOP LEAD, AND FEEDER WIRE SAW SLOTS SHALL BE CUT TO A MINIMUM DEPTH OF 3 1/2 INCHES.
4. SLOTS SHALL BE SAWED AFTER PLANING AND BEFORE LAYING OF THE FIRST LIFT OF PAVEMENT WHEN APPLICABLE.
5. ALL LOOP CORNERS SHALL BE ROUNDED USING A 1 1/2 INCH HOLE DRILLED TO A MINIMUM DEPTH OF 3 1/2 INCHES.
6. MINIMUM SAW SLOT WIDTH SHALL BE 3/8 INCH.
7. BEFORE INSTALLATION OF THE WIRE, ALL SAW SLOTS SHALL BE CLEANED OF DEBRIS USING WATER AND COMPRESSED AIR. SURFACE AND SLOTS MUST BE ALLOWED TO DRY.
8. ALL LOOPS SHALL BE FOUR TURNS OF THE ABOVE SPECIFIED LOOP WIRE. THE WIRE SHALL BE SEATED IN THE BOTTOM OF THE SAW SLOT.
9. WIRE SPLICES WILL NOT BE PERMITTED IN THE SAW SLOTS. ALL LOOPS SHALL BE CONTINUOUS IN THE PAVEMENT AND TO THE PULL BOX.
10. A BACKER ROD WITH 1/2 INCH DIA. SHALL BE INSTALLED TO INSURE WIRES DO NOT FLOAT TO THE SURFACE DURING GROUTING.
11. ALL SAW SLOTS AND DRILL HOLES SHALL BE SEALED USING A TWO-PART SELF CURING, SELF BONDING WEATHERPROOF EPOXY. EXCESS EPOXY SHALL BE REMOVED TO AVOID UNNECESSARY HIGH SPOTS.
12. PIEZO SENSORS SHALL BE INSTALLED AT THE EXACT MIDPOINT BETWEEN THE LOOPS IN EACH LANE AND TO THE RIGHT OR LEFT SIDE OF THE LINE, CENTERED IN THE WHEEL PATH.
13. PIEZO SENSORS SHALL BE INSTALLED IN COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS, A COPY OF WHICH SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO INSTALLATION.
14. LOOP SETS (TWO LOOPS IN A SERIES) WITHIN A SINGLE LANE SHALL BE SEPARATED BY 10 FEET RESULTING IN A DISTANCE OF 16 FEET FROM LEADING EDGE TO LEADING EDGE (WITHIN 1 INCH TOLERANCE).
15. NO MORE THAN ONE SET OF LOOP LEAD WIRES SHALL BE PLACED IN A SAW SLOT.
16. PULL BOXES MUST CONTAIN AN ADDITIONAL 3 FEET OF LOOP WIRE WHICH ENTERS AND/OR EXITS THE PULL BOX.
17. ALL LOOPS AND LOOP LEADS SHALL BE CLEARLY LABELED IN EACH PULL BOX.
18. MULTIPLE PAIR BELDEN CABLE MAY BE USED IN CONDUIT.
19. COORDINATE INSTALLATION WITH MIKE DELCUPP, CDOT DIVISION OF TRANSPORTATION DEVELOPMENT, AT 303-757-9816. CALL 5 DAYS IN ADVANCE FOR LAYOUT ASSISTANCE.



**DETAIL A
LOOP DETECTOR WIRE**



**SECTION B-B
TYPICAL PIEZO SECTION**

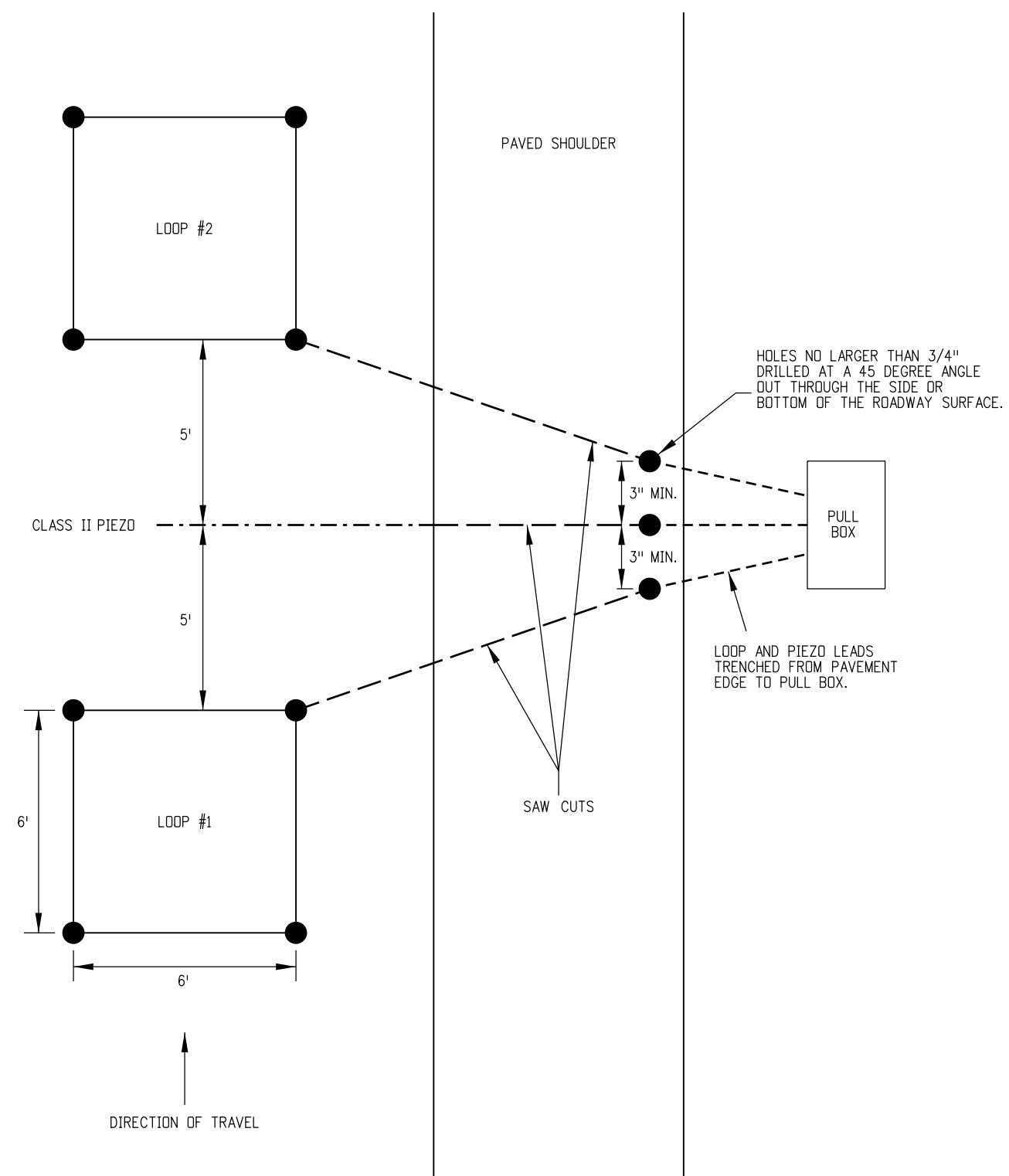


**SECTION C-C
LOOP DETECTOR WIRE INSTALLATION**

**PIEZO LOOP DETECTOR INSTALLATION DETAIL
D-614-2**

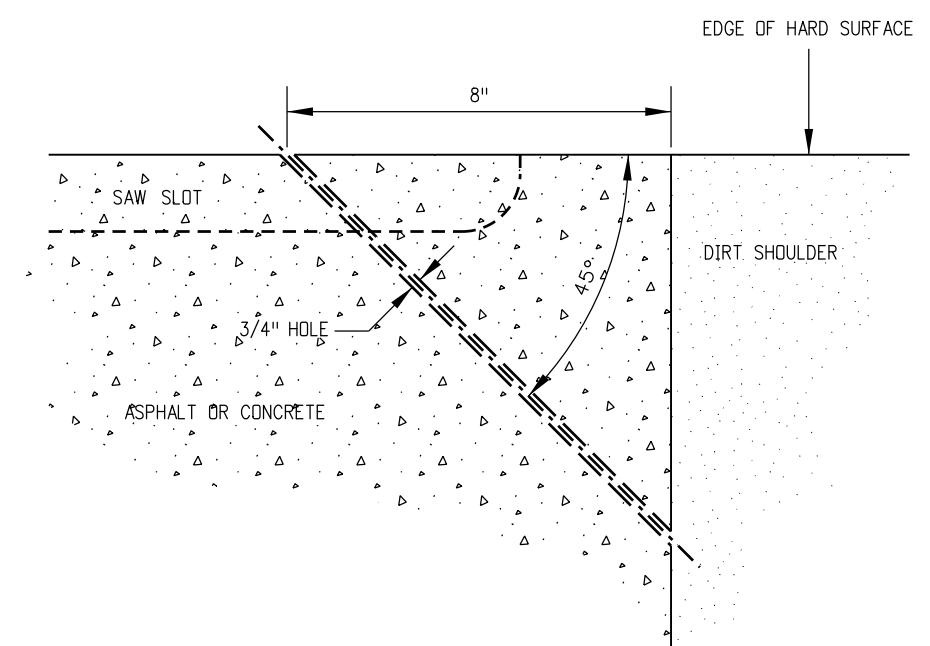
APPLICATION: ON EDGE OF PAVEMENTS.
 HISTORY:
 DESIGNER NOTES:
 PLEASE CALL THE STANDARDS ENGINEER AT 303-757-9083 FOR ANY QUESTIONS.
 PLEASE DELETE THIS BLOCK BEFORE USING THIS DETAIL ON A PROJECT. DATE: APRIL 26, 2011 DD/LTA

Computer File Information		Sheet Revisions		<p>Colorado Department of Transportation Street Address: XXXXXXXXX City, State Zip Code: XXX-XXX-XXXX Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX Region Number or Staff Initials</p>	As Constructed		PIEZO LOOP DETECTOR INSTALLATION DETAIL		Project No./Code	
Creation Date: 04/26/11	Initials: DD	(R-X)	mm/dd/yy XXXXXXXX XXXXXX		No Revisions:	mm/dd/yy			D-614-2	
Last Modification Date: 04/26/11	Initials: LTA	(R-X)	mm/dd/yy XXXXXXXX XXXXXX		Revised:	mm/dd/yy	Designer:	XXXXXXXX	Code	
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Drawing File Name: D0614020102		(R-X)	mm/dd/yy XXXXXXXX XXXXXX				Sheet Subset:	XXXXXXXX	Subset Sheets:	XXX of XXX
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English	(R-X)	mm/dd/yy XXXXXXXX XXXXXX						



Holes no larger than 3/4" drilled at a 45 degree angle out through the side or bottom of the roadway surface.

Loop and piezo leads trenched from pavement edge to pull box.



PLAN VIEW
DRILL DETAIL

PIEZO PLACEMENT AND SAW CUTTING FOR AN ATR AXLE CLASSIFICATION SITE

PIEZO LOOP DETECTOR INSTALLATION DETAIL
D-614-2

APPLICATION: ON EDGE OF PAVEMENTS.

HISTORY:

DESIGNER NOTES:

PLEASE CALL THE STANDARDS ENGINEER AT 303-757-9083 FOR ANY QUESTIONS.

PLEASE DELETE THIS BLOCK BEFORE USING THIS DETAIL ON A PROJECT. DATE: APRIL 26, 2011 DD/LTA

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		PIEZO LOOP DETECTOR INSTALLATION DETAIL		Project No./Code			
Creation Date: 04/26/11	Initials: DD	(R-X)	mm/dd/yy	XXXXXXXX	XXXXXXXX	 Street Address XXXXXXXXXXX City, State Zip Code Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX		No Revisions: mm/dd/yy Revised: mm/dd/yy Void: mm/dd/yy		Designer: XXXXXXXX Detailer: XXXXXXXX Sheet Subset: XXXXXXXX Subset Sheets: XXX of XXX		D-614-2	
Last Modification Date: 04/26/11	Initials: LTA	(R-X)	mm/dd/yy	XXXXXXXX	XXXXXXXX							Code	
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Drawing File Name: D0614020202		(R-X)	mm/dd/yy	XXXXXXXX	XXXXXXXX								
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English	(R-X)	mm/dd/yy	XXXXXXXX	XXXXXXXX								
				Region Number or Staff		Initials							