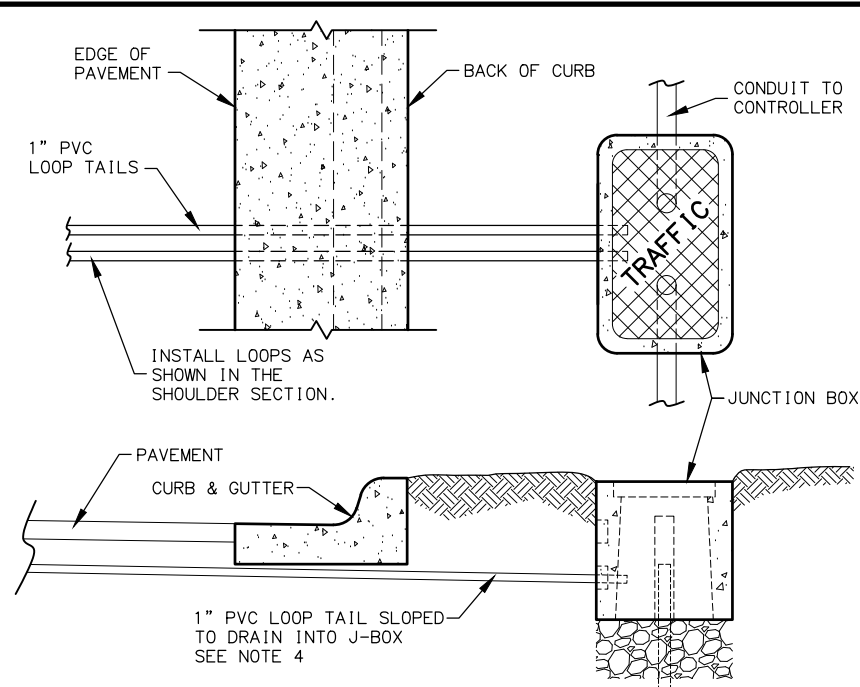


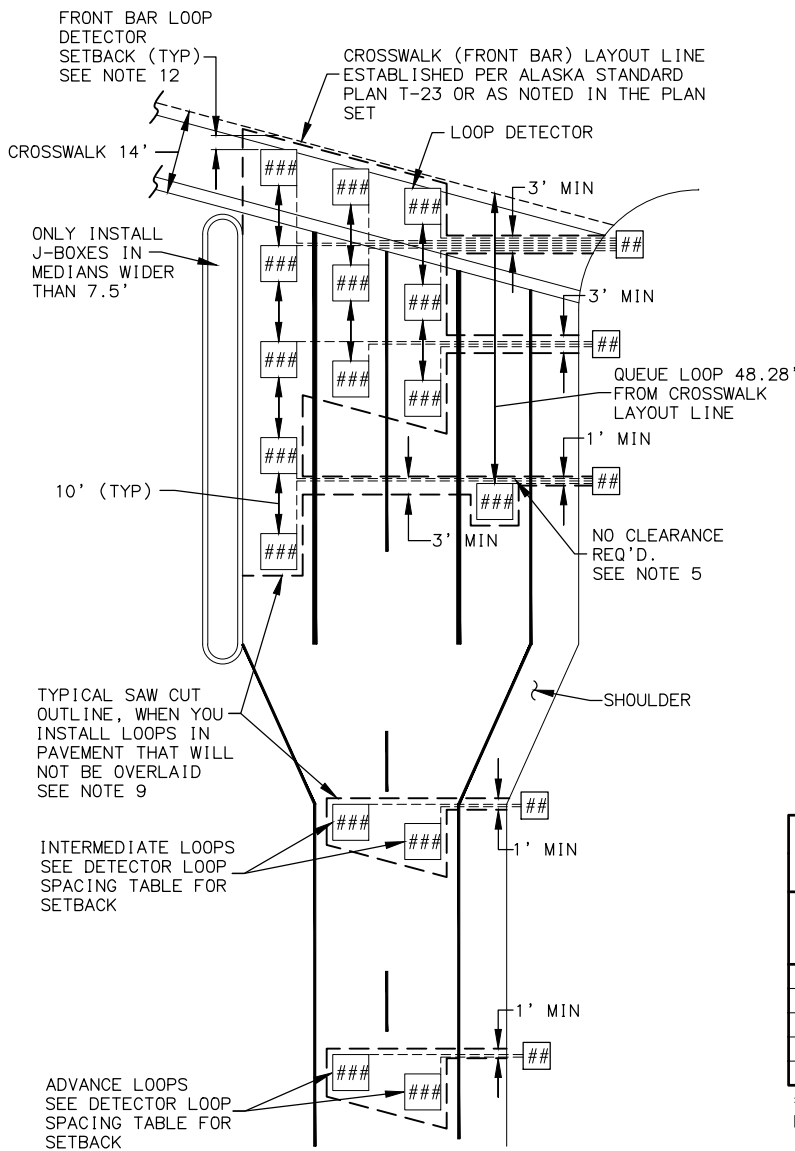
DRAWING LOCATION: \\S01-SEA-ALASKA-00A\SHARED\VA\TSE\PROJECTS\02-REGIONAL-DETAILS\CV3D\FTP-MASTERS\2021\FORMAT\04-LOOP-DETECTOR\_S0A.DWG

DESIGNED BY: ZJH FOR MF  
CHECKED BY: [blank]  
DATE: 3/27/2024 TIME: 11:30 AM  
SCALE: 1" = 30'  
DATE: 3/27/2024 TIME: 11:30 AM

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	XXXXXXXX/XXXXXXXXXX	20XX	H##	HXX

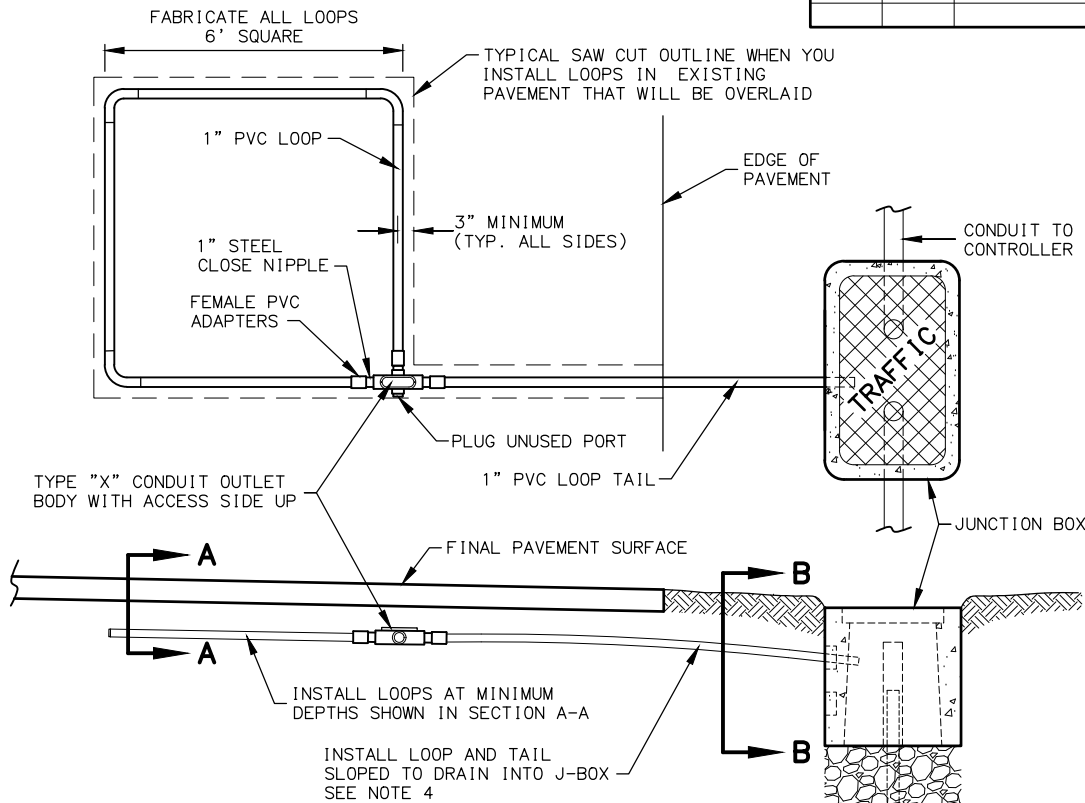


**CURB SECTION**

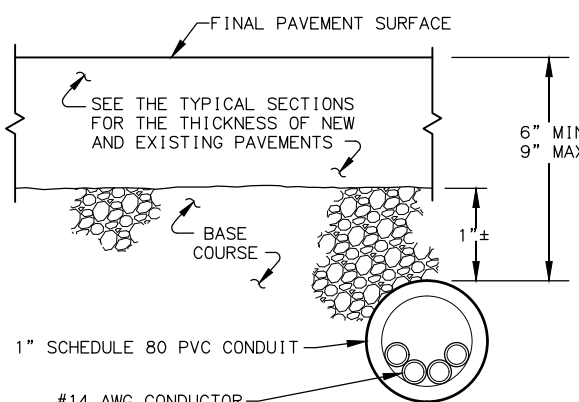


**TYPICAL LOOP SETBACKS**

MEASURE THE SETBACKS FROM THE CROSSWALK LAYOUT LINE ALONG THE CENTER OF EACH LANE

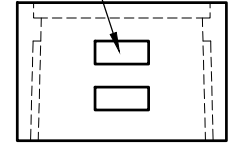


**SHOULDER SECTION**



**SECTION A-A**

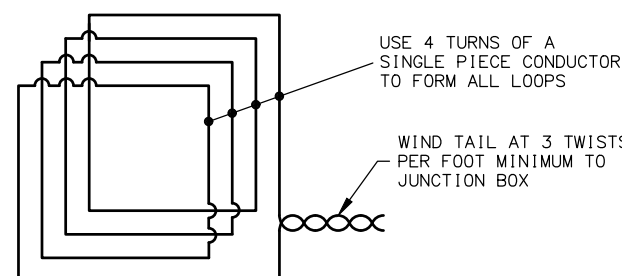
2 KNOCKOUTS CENTERED ON ONE SIDE 1 1/2" DEEP X 3" HIGH X 7" WIDE FOR LOOP DETECTOR INSTALLATION



**SECTION B-B**

DETECTOR LOOP SPACING ON HIGH SPEED APPROACHES		
POSTED SPEED (MPH)	ADVANCED LOOP *	INTERMEDIATE LOOP *
35	295	170
40	335	190
45	380	210
50	420	235
55	460	255

\* SETBACK FROM CROSSWALK LAYOUT LINE (FEET)

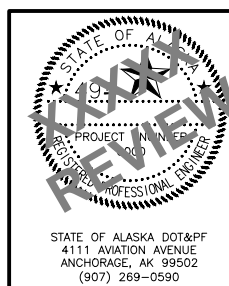


**LOOP WIRING DETAIL**

**TYPICAL PVC CONDUIT ENCASED LOOP DETECTOR INSTALLATION**

**NOTES:**

1. EACH LOOP DETECTOR SHALL CONSIST OF A SINGLE PIECE OF #14 AWG CONDUCTOR INSTALLED IN ONE INCH SCHEDULE 80 PVC CONDUIT. BUILD ALL LOOPS 6.0 FEET SQUARE, SOLVENT WELDING ALL PVC TO PVC JOINTS. USE TYPE X OUTLET BODIES MADE OF HOT DIP GALVANIZED STEEL TO JOIN THE LOOPS AND TAILS.
2. INSTALL 4 TURNS OF CONDUCTOR IN ALL LOOPS AND PROVIDE TAILS THAT EXTEND TO THE JUNCTION BOX SPECIFIED ON THE PLANS. USE #14 AWG CONDUCTOR IN A POLYETHYLENE TUBE CONFORMING TO IMSA SPECIFICATION 51-5. WIND THE TAIL CONDUCTORS TOGETHER AT A RATE OF 3 TWISTS PER FOOT.
3. INSTALL ALL LOOP DETECTORS BEFORE OVERLAYING THE EXISTING PAVEMENT OR PAVING THE NEW ROADWAY.
4. INSTALL ALL LOOP DETECTORS SLOPED TO DRAIN INTO THE JUNCTION BOX THE LOOP TAIL ENTERS. IF YOU CAN NOT INSTALL THE LOOP TO DRAIN INTO THE J-BOX, DRILL FIVE 1/4" WEEP HOLES ON 1 FOOT CENTERS IN THE UNDERSIDE OF THE CONDUIT AT THE LOW SPOT.
5. YOU MAY INSTALL A LOOP TAIL IMMEDIATELY ADJACENT TO A LOOP AND OTHER LOOP TAILS. LOOP TAILS SHALL NOT CROSS LOOP CONDUITS.
6. TEST ALL LOOP DETECTORS FOR CONTINUITY AND INSULATION INTEGRITY BEFORE SEALING THE LOOPS UNDER THE FINAL LIFT OF ASPHALT. PROVIDE THE ENGINEER A WRITTEN RECORD OF FIELD TESTING INCLUDING; CONTINUITY, INSULATION RESISTANCE AND INDUCTANCE TESTS AS REQUIRED IN SECTION 660-3.01(7) OF THE STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION.
7. WHEN INSTALLING LOOP DETECTORS IN EXISTING PAVEMENT, CUT THE ASPHALT WITH A SAW AND REMOVE ALL ASPHALT WITHIN THE SAW CUT. MATCH EXISTING PAVEMENT THICKNESS WHEN REPAIRING THE CUTOUT.
8. WHERE LOOPS ARE INSTALLED IN EXISTING PAVEMENT OR AS NEW WORK, TRAFFIC SHALL NOT BE ALLOWED TO DRIVE OVER LOOPS UNTIL FIRST LAYER OF ASPHALT HAS BEEN PLACED.
9. WHERE EXISTING PAVEMENT WILL NOT BE OVERLAID, CUT THE PAVEMENT WITH A SAW AS FOLLOWS:
  - A. REMOVE ALL PAVEMENT FROM THE LENGTH OF THE FIVE LOOP PRESENCE FIELDS.
  - B. ENCLOSE ALL LOOPS THAT ENTER A COMMON JUNCTION BOX WITHIN A TRAPEZOIDAL SAW CUT.
  - C. CUT TO WITHIN 1 FOOT OF THE LANE AND EDGE LINES, PRESERVING THESE PAVEMENT MARKINGS;
  - D. REMOVE THE ASPHALT TO THE LIP OF THE GUTTER WHERE THERE ARE NO EDGE LINES;
  - E. CUT ACROSS LANE LINES WHEN LOOPS IN ADJACENT LANES ARE SIDE BY SIDE;
  - F. CUT TRENCHES CROSSING A LANE A MINIMUM OF 3 FEET WIDE; AND
  - G. CUT TRENCHES CROSSING A SHOULDER A MINIMUM 1 FOOT WIDE.
10. HEAT AND TACK COAT THE EDGES OF EXISTING PAVEMENT BEFORE PAVING THE CUTOUPS. COMPACT THE ASPHALT MIXTURE WITH A SELF-PROPELLED STEEL WHEELED ROLLER. FURNISH ASPHALT MIX THAT CONFORMS TO SECTION 401 OF THE SPECIFICATIONS, AND IS APPROVED BY THE ENGINEER.
11. MAINTAIN THE REPLACEMENT ASPHALT MIX ABOVE A TEMPERATURE OF 225°F UNTIL THE TIME OF APPLICATION; IF NECESSARY, STORE THE MIX IN AN INSULATED BOX TO MAINTAIN THIS MINIMUM TEMPERATURE.
12. TO ESTABLISH THE FRONT BAR LOOP DETECTOR SETBACKS MEASURE 2.28' FROM THE CROSSWALK LAYOUT LINE. IF NO CROSSWALK IS PRESENT, ESTABLISH THE CROSSWALK LAYOUT LINE ACCORDING TO STANDARD PLAN T-23. STATION AND OFFSET OF LOOPS ARE TO THE CENTER OF THE TRAILING EDGE OF THE LOOP (EDGE NEAREST INTERSECTION).
13. STATION AND OFFSET OF LOOPS ARE TO THE CENTER OF THE TRAILING EDGE OF THE LOOP (EDGE NEAREST TO INTERSECTION).



STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
AND PUBLIC FACILITIES

**PROJECT TITLE**  
**PROJECT TITLE**

**LOOP DETECTOR INSTALLATION  
DETAILS**