

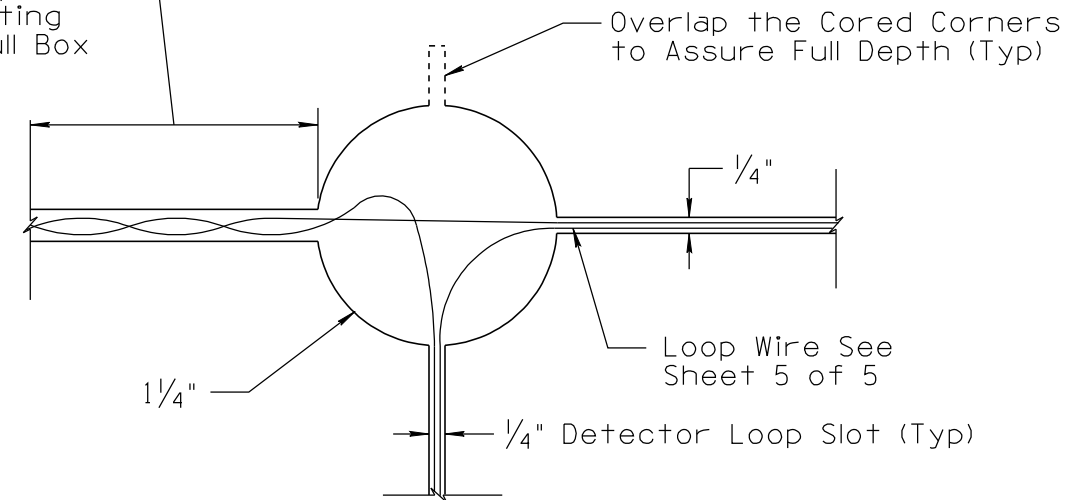
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NOTES CONTINUED:

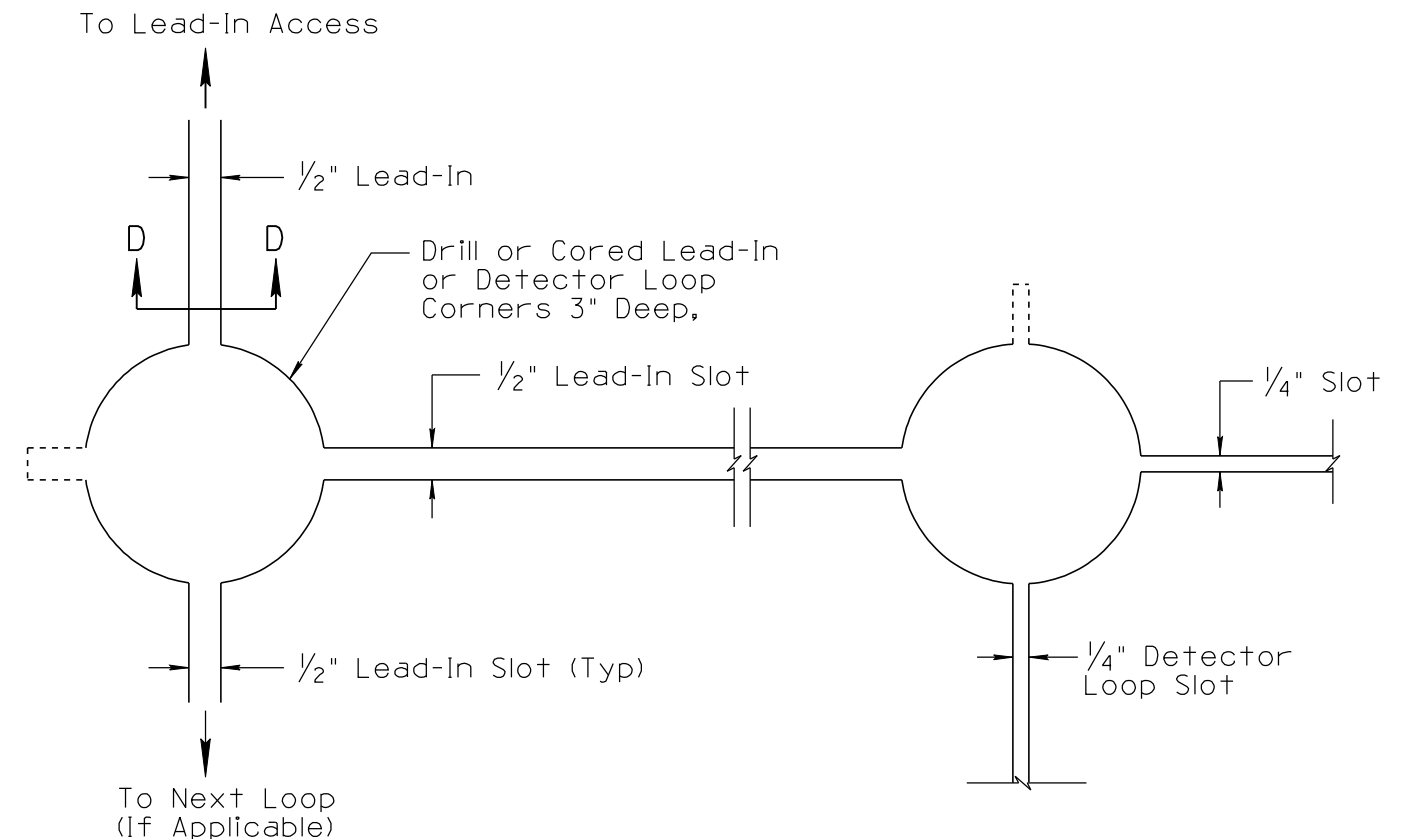
12. Vehicle loops shall be located in the center of the traveled lane unless specified otherwise on the project plans. Bicycle loops shall be located in the center of the bike lane unless otherwise noted on the plans.
13. All loop wire, shield cable and sealant shall be inspected and approved for use by the Engineer.
14. If new pavement is being installed at the proposed location of detector loops the loops shall be installed under the non-structural riding course (ARAC-FC, Chip Seal, or Slurry Seal. The saw cut depths shall be adjusted according to assure a minimum of 1-1/2 inches of cover (pavement surface plus sealed saw cut). The maximum allowable cover shall not exceed 3 inches.
15. All loop wire shall be twisted at a minimum rate of two turns per foot from the loop back to the pull box. The maximum number of turns in a foot shall not exceed five. The start (or leading) and finish (or lagging) wire for each loop shall be permanently labeled in the pull box. The label shall also include note of the lane position, use and phase.
16. The loops shall be wired per the winding pattern and number of turns specified. A wooden paddle or similar blunt object shall be used to install and seat loop wires in slots. The contractor shall take the necessary time to work the loop wire into all slots so it lays flat and is secure.
17. All loops in ACP pavement shall be sealed with an approved pre-mix emulsified crack filler sealant. All loops in concrete pavement or finish AC course pavement shall be sealed with an approved hot rubber sealant or a two-part epoxy or similar sealant. Sealants shall be used in a manner that is consistent with the manufacturer's instructions, these drawings and the specifications. The sealant shall seal the loop wire and fill the slot accordingly without gaps or voids and to the specified minimum cover.
18. Loop sealants shall be handled in a safe manner. This includes the use of personal protection equipment such as safety glasses, gloves, and respirators if and as necessary. Excessive or waste materials shall be handled and disposed of in an approved fashion.
19. Loops shall not be installed when the weather is outside those conditions recommended by the sealant manufacturer.
20. Loops shall be protected from traffic until the sealant has sufficient time to dry, cool or cure so no tracking of sealant is possible.
21. Once the loops and lead-in wires have been installed, the contractor shall perform the following tests on each loop in the presence of the Engineer before and after the sealant has been placed.
 - Insulation Resistance-to-Ground (or Insulation Resistance): The insulation resistance to ground for each loop shall be measured with a megohm meter connected to either loop lead in and to the nearest reliable electrical ground, such as a metal light pole or fire hydrant, or to a metal rod driven three feet into the ground between the roadway and the pull box. The insulation resistance to ground shall not measure less than 50 megohms at 500 volts DC. A high resistance of greater than 100 megohms is desired.
 - Series Resistance: The series resistance of each six by six foot loop, measured by an ohmmeter, shall be between 0.1 and 0.5 ohm and the maximum resistance of any size loop, including lead-ins, shall typically be less than 5 ohms but not more than 100 ohms.

Test results for each loop shall be documented and the contractor shall submit two copies of the loop test reports to the Engineer.

The distance from the edge of the Loop Where the Lead-in Twisting Begins to the Pull Box Shall not Exceed 75 Feet



CORE WITH WIRING



TYPICAL SAW CUTTING AND DRILLING OR CORING DETAIL

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
APPROVED FOR DISTRIBUTION		DRAWING NO. T.S. 7-1
SAW CUT AND CORING DETAILS		SHEET NO. 3 OF 5

NOT TO SCALE