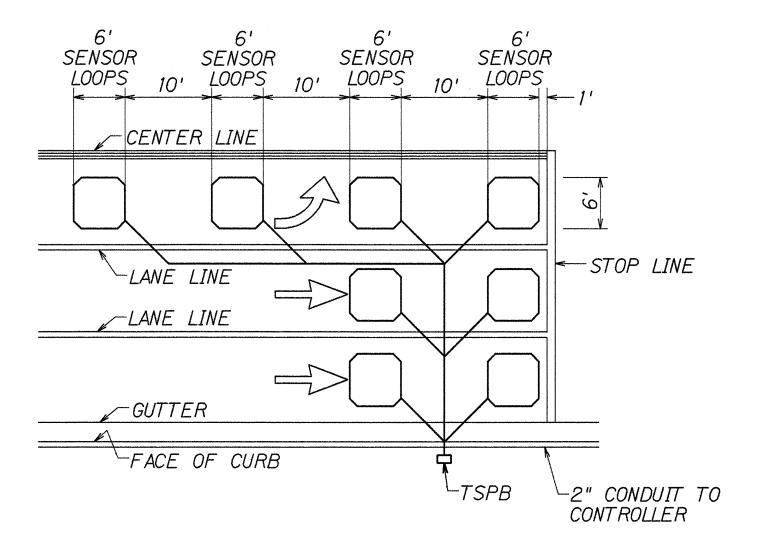
FED. AID PROJ. NO. FED. ROAD DIST. NO. FISCAL SHEET YEAR NO. IM-H1-1(220) 1995



NOTES:

TSPB-

- 1. Center sensor loops in lanes.
- 2. Collector cables shall be twisted 2 turns per foot.
- 3. Number of loops and locations vary. See project plans.
- 4. Number and locations of collector sawcuts may be varied in the field to suit.

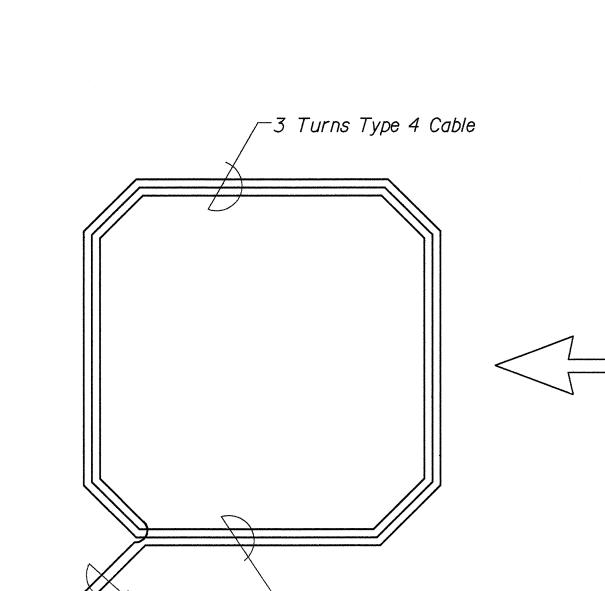
Paving —

-2" Steel Conduit

Deepen Sawcut near

Conduit

TYPICAL SENSOR LOOP LAYOUT



2. Install bulkhead across conduit trench. 3. Place hot tar in sawcut.

NOTES ON CONSTRUCTION AT END OF SAWCUT

4. Backfill over conduit with new A.C.

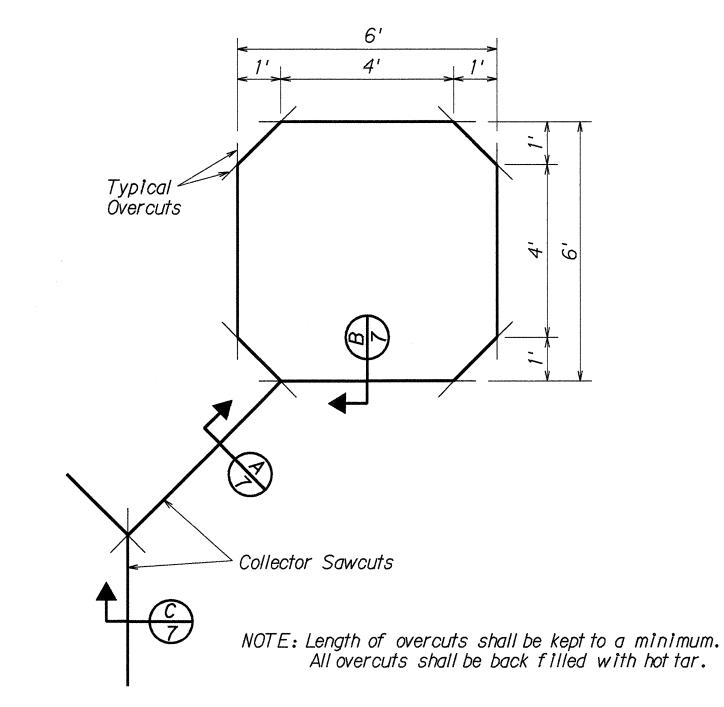
Reconstruct Curb and Gutter—

5. Reconstruct curb and gutter as required.

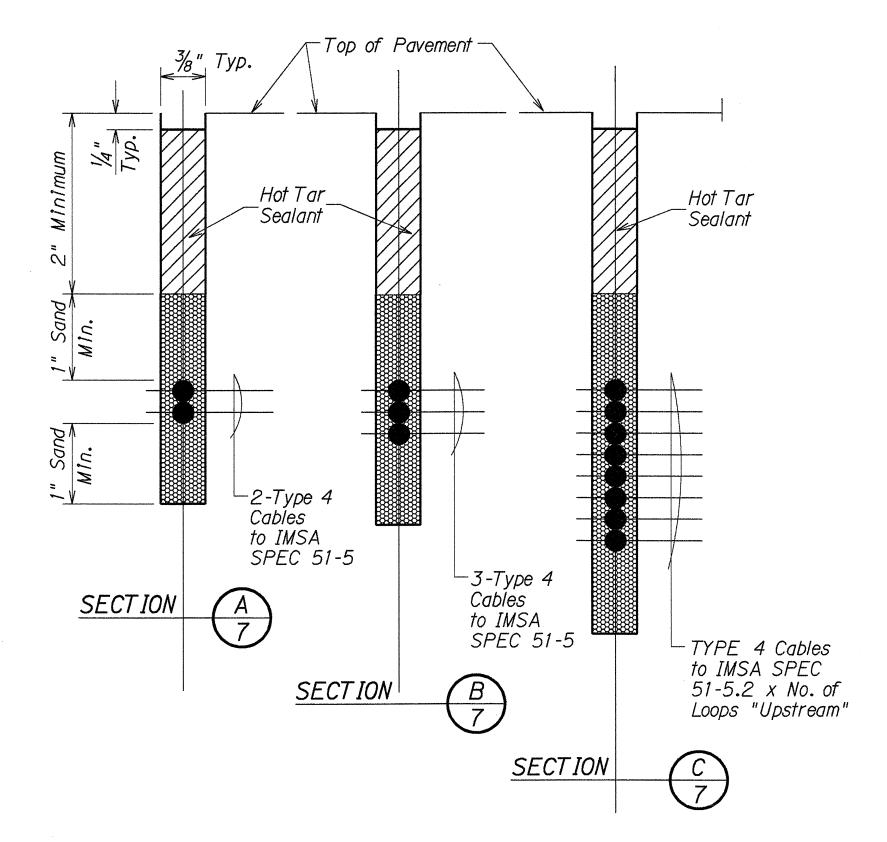
DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY

1. Seal roadway end of conduit after installation of conductors.

TYPICAL SENSOR LOOP WIRING DIAGRAM



TYPICAL SENSOR LOOP SAWCUT DETAIL



TYPICAL SECTION THROUGH SENSOR LOOP

-3 Turns Type 4 Cable Embedded lead in cables shall be twisted 2 turns per foot

TYPES OF CABLES

TYPE 1	Signal Loop Cable: Stranded No. 14, 26 conductors
TYPE 2	Detector Lead-In Cable and Pedestrian Push Button Circuit Cable: Stranded, No. 14, 2 Conductors
TYPE 3	Interconnect Cable: Solid No. 20, 12 Pairs
TYPE 4	Loop Sensor Cable: Solid No. 12, Single Conductor to IMSA SPEC 51-5
TYPE 5	Cable from Signal Loop to Signal Head: Stranded, No. 14, Single Conductor
TYPE 6	Service Cable: Solid, No. 6, 3 Conductors

6/20/95 | Add Loop Detector Details

DATE REVISION STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

LOOP DETECTOR DETAILS

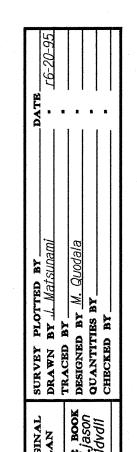
INTERSTATE ROUTE H-1

Pav't. Repair and Rehab. at Kalihi St. to Vic. of Pali Hwy. and Kinau Off-Ramp F.A.I. Project No. IM-H1-1(220)

Scale: As Shown

SHEET No. / OF 2 SHEETS

Date: May, 1995

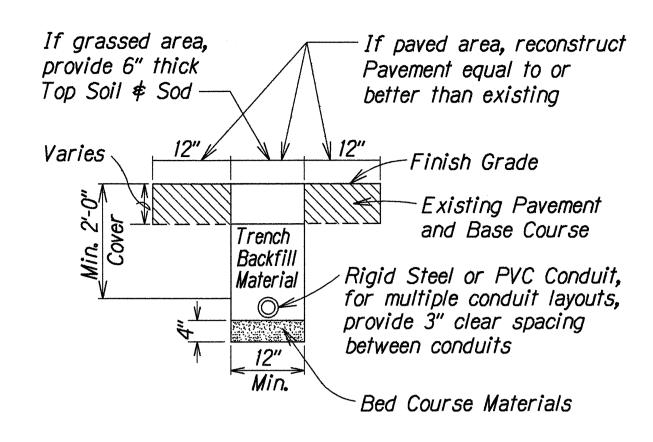


GENERAL NOTES

- 1. The locations of new inductance loops, pullboxes and cabinets/junction boxes shall be staked out in the field by the Contractor and approved by the Engineer prior to installation.
- The contractor shall inform the Engineer at least one day prior to pouring of the concrete slab/pad, saw-cutting pavement and installing inductance loops.
- 3. Continuity of inductance loops and lead-in wires shall be tested and warranted for one year from date of acceptance by the Contractor.
- 4. The Contractor shall restore all affected areas to their original condition. This item of work shall not be paid for separately, but shall be considered incidental to work of other paid items.
- 5. The Contractor shall verify the locations of the existing utilities and underground structures whether or not shown on plans.
- 6. The Contractor shall assume that existing underground utilities not shown on the plans may exist, therefore, he shall contact the different utility companies for information and toning.
- 7. The Contractor shall be held liable for any damages incurred to the existing utilities and underground structures as a result of his operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at no cost to the STATE.
- 8. Changes to the contract plans and specifications shall not be permitted, unless otherwise authorized by the Engineer upon written justification and request for approval by the Contractor.

LOOP LAYOUT NOTES

- 1. Detector loop shall consist of three turns of 1/C 14 AWG RHW-USE-XLP wire or equivalent embedded in a 3/8" minimum saw cut, except as noted.
- 2. Loop and lead-in to the first pullbox shall be one continuous wire. Lead-in wires from the same loop shall be twisted in pairs, two turns per foot. DO NOT twist one loop-pairs with another loop-pairs.
- 3. All lead-in wires shall be crimped with open end lugs that will fit into the terminal board slots snugly.
- 4. Stagger traffic loops on roadway less than 12 foot lane width.
- 5. The Contractor shall connect the inductance wires on each terminal slot.
- 6. The left lane in the direction of traffic flow is designated as lane 1, and the lane next to to its right as lane 2 and so on as indicated on plans.
- 7. Clean sawcut thoroughly before filling with epoxy sealant.
- 8. All loop lead-in wires in all enclosures including pullboxes shall be identified and labeled by direction of traffic flow and lane numbers as shown on plans.
- 9. All cables and wires teminated within an enclosure shall have a minimum 12" additional slack.



TYPICAL TRENCH SECTION FOR CONDUIT

Not to Scale

√Identify lane number ≉ wire to first turn -Soldered connection waterproof insulation Shielded 2/C #14 THWN wire Lead-in wire (+ to first turn Extend and connect lead-in wires to terminal block in the cabinet + Shield Leads Lane 1 Lead-in pairs Identify lane 1/C #14 RHW number Demand load data 120 VAC/1.1 VA± Lane 2 LN2 PULLBOX CABINET/JUNCTION BOX

DETECTOR LOOP LEAD-IN WIRING AND IDENTIFICATION IN PULLBOX AND CABINET

Not to Scale

FED. ROAD DIST. NO. PROJ. NO. YEAR NO. SHEETS 1995 HAW. [M-H1-1(220) HAWAII

FISCAL SHEET TOTAL

6/20/95 Add Loop Detector Details

DATE REVISION

> STATE OF HAWAII **DEPARTMENT OF TRANSPORTATION** HIGHWAYS DIVISION

VEHICLE DETECTOR LOOPS

INTERSTATE ROUTE H-1

Pav't. Repair and Rehab. at Kalihi St. to Vic. of Pali Hwy. and Kinau Off-Ramp F.A.I. Project No. IM-H1-1(220)

Scale: As Shown

SHEET No. 2 OF 2 SHEETS

ADD. 11 S-2

Date: June, 1995

