FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0900(080)	2013	27	47

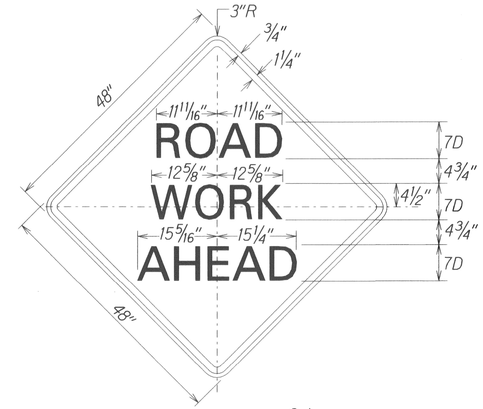
LEGEND

- 4 each Type A Raised Pavement Markers
  Type C Raised Pavement Markers @ 40'-0" o.c.
- 4 each Type J Raised Pavement Markers
  Type D Raised Pavement Markers @ 40'-0" o.c.
- 8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion))
- 4" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion))
- 4" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion))
- 4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- Lane Change Restriction Marking
  4 each Type A Raised Pavement Markers
  Type C Raised Pavement Markers @ 20'-0" o.c.
  4" White Stripe (Tape, Type I or Thermoplastic Extrusion)
- 4" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays)
- Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)
- Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)
- Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)
- Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)
- Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)
- STOP — Pavement Word (Tape, Type III or Thermoplastic Extrusion)
- 4 Each Type J Raised Pavement Markers
  Type D Raised Pavement Markers @ 40'-0" o.c.
  Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)
  4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)
- 10' 10' 10' 10' — Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

ORIGINAL PLAN
SURVEY PLOTTED BY — DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

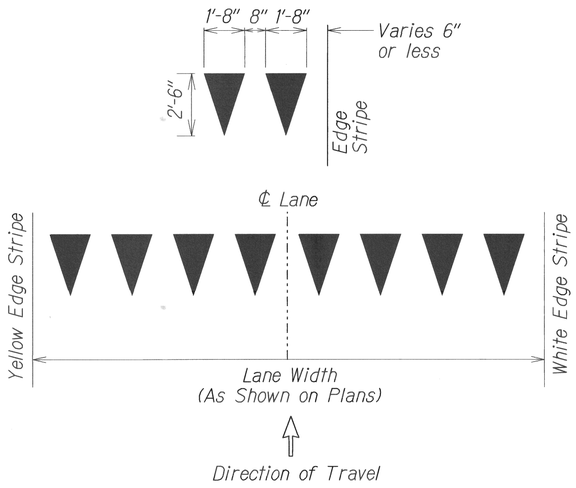
NOTES

1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Final locations of all signs shall be approved by the Engineer prior to any installation work.
4. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
5. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
6. All pavement striping shall be as noted on the legend or plans.
7. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.

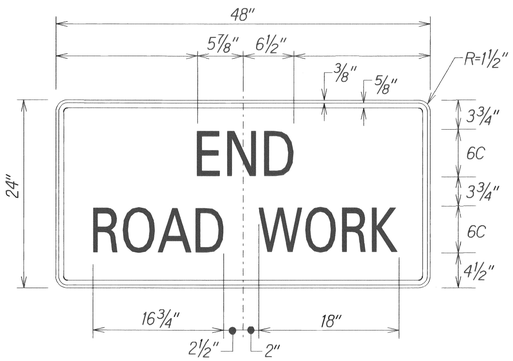


CW20-1Ad
Scale: 1" = 1'-0"

Colors:
Legend: Black (Non Refl)
Background: Orange



YIELD LINE DETAIL
Not to Scale



CG20-2A
Scale: 1 1/2" = 1'-0"

Colors:
Legend: Black (Non Refl)
Background: Orange (Refl)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING LEGEND, DETAILS, NOTES & SIGN PANEL LAYOUT

KUIHELANI HWY. & HONOAPIILANI HWY. PAVEMENT PREVENTIVE MAINT.
Puunene Avenue to Honoapiilani Highway and Kuihelani Highway to Kapoli Street
Federal-Aid Project No. NH-0900(080)

Scale: As Noted — Date: May, 2012

SHEET No. 1 OF 1 SHEETS

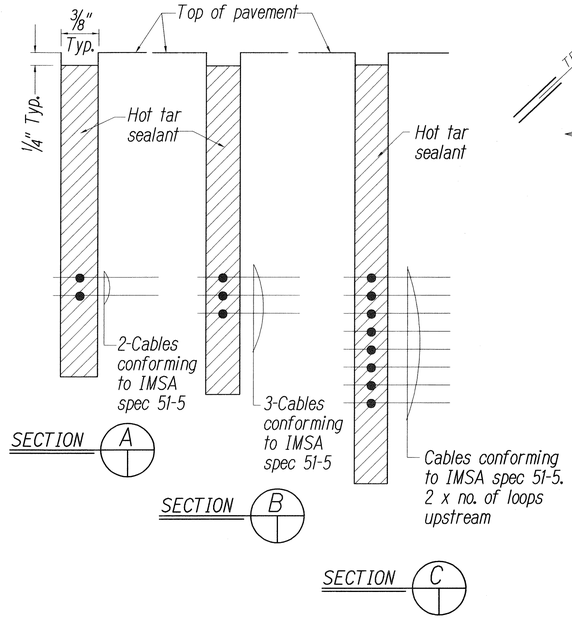
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0900(080)	2013	ADD.27S-1	47

GENERAL NOTES:

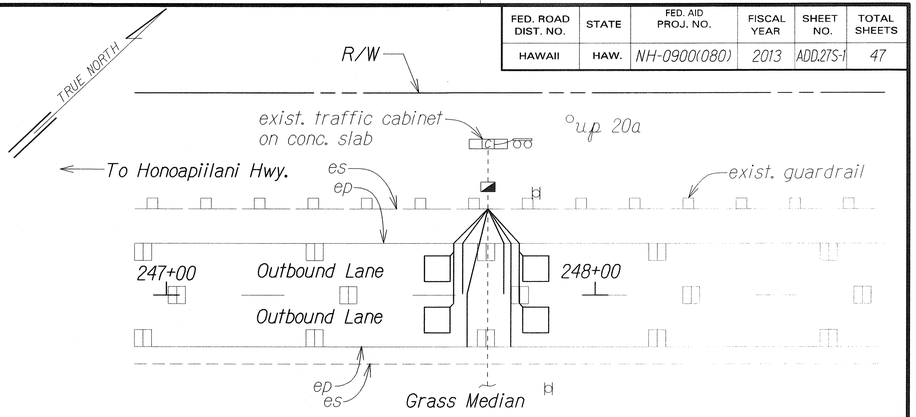
1. The location of new inductance loops, shall be staked out in the field by the Contractor and approved by the Engineer prior to installation.
2. The Contractor shall inform the Engineer the Planning Branch @ 808 587-1838 at least three days prior to saw-cutting pavement and installing inductance loops.
3. Continuity of inductance loops and liad-in wires shall be tested and warranted for one year from date of acceptance by the Contractor.
4. Upon completion of sleeve, pull in in-bound lanes loop detector's cable and class 1 BI sensor cables, cables shall be tested for acceptance before and after installation into sleeve.
5. 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 of work of other paid items.
6. 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.

LOOP LAYOUT NOTES:

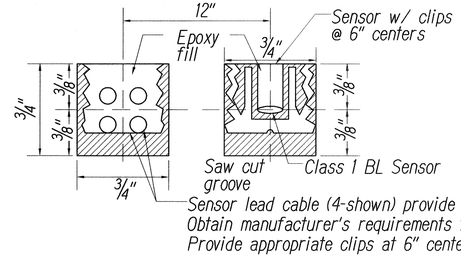
1. Detector loop shall consist of four turns of 1c#12 cable meeting IMSA spec 51-5 or equivalent embedded in a 3/8" minimum sawcut, except as noted.
2. Loop and lead-in to the first pullbox shall be one continuous wire. Lead -in wires from the same loop shall be twisted in pairs, two turns per foot. Do not twist on loop-pair with another loop-pair.
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 its right as lane 2 and so on as indicated on plans.
7. Vaccuum and clean sawcut thoroughly before installing sensors and/or cables and filling with hot tar or 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 number as shown on plans.
9. All cables and wires terminated within an enclosure shall have a minimum 12" additional slack.



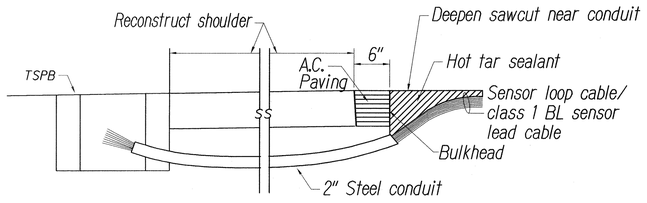
TYPICAL SECTION THROUGH SENSOR LOOP
Not to Scale



STA. 26 ON KUIHELANI HIGHWAY
ROUTE 380, M.P. 1.525
Not To Scale

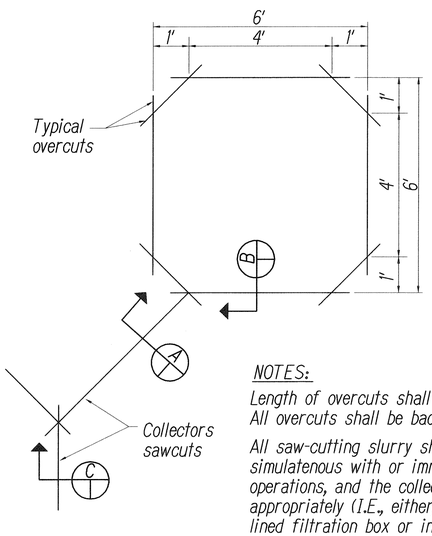


CLASS 1 BL SENSOR AND LEAD INSTALLATION DETAIL
Not to Scale



NOTES ON CONSTRUCTION AT END OF SAWCUT
1. Seal roadway end of conduit after installation of conductors
2. Install bulkhead across conduit trench.
3. Place hot tar in sawcut.
4. Backfill over conduit with new A.C.
5. Reconstruct curb and gutter as required.

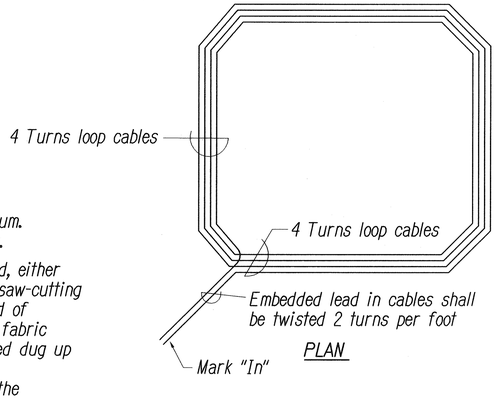
DETAIL OF SENSOR LOOP/ CLASS 1 BL SENSOR AT EDGE OF ROADWAY
Not to Scale



NOTES:
Length of overcuts shall be kept to a minimum. All overcuts shall be backfilled with hot tar.

All saw-cutting slurry shall be wet vaccumed, either simulatenous with or immediately after the saw-cutting operations, and the collected slurry disposed of appropriately (I.E., either, placed in a filter fabric lined filtration box or in a filter fabric lined dug up retention/percolation basin, and after filtration/percolation, the filter fabric and the retained sediments, disposed of appropriately).

TYPICAL SENSOR LOOP SAWCUT DETAIL
Not to Scale



PLAN

TYPICAL SENSOR LOOP WIRING DIAGRAM
Not to Scale

DATE	REVISION
2-22-13	Added Traffic Counting Station Details Sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION DETAILS

KUIHELANI HWY. & HONOAPIILANI HWY. PAVEMENT PREVENTIVE MAINT.
Puunene Avenue to Honoapiilani Highway and Kuihelani Highway to Kapoli Street
Federal-Aid Project No. NH-0900(080)

Scale: As Shown Date: February, 2013

SHEET No. 1 OF 1 SHEETS

ADD. 27S-1

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
NOTE BOOK
QUANTITIES BY
CHECKED BY
DATE
No.