Equipment Cable, 5 ft. long, furnished separately (ref. sheet no. 4)

J1 recept. with alum. mtg. bracket for lanes 1 to 4

Cabinet cable

Surge suppressors (furnished separately)

Speed/Classification Unit and Modem furnished separately

Veh. speed/ class. unit

Modem

Adjustable shelf

Cable to

Loop term. strip

Battery terminal

Solar power surge suppression

Solar terminal

110 volt storage battery

10 in.

Bracket shall be fabricated of 0.090 - 0.125 inch thick aluminum.

Dimensions may vary depending on the manufacturer of the J1 receptacle being furnished.

The cabinet manufacturer will construct the mtg. bracket to fit the receptacle.

1. Traffic monitoring site cabinet includes:
   A. One adjustable shelf;
   B. One backplane assy;
   C. One J1 receptacle with mounting bracket;
   D. All associated wiring and wiring harnesses.

2. Basic backplane assembly consists of:
   A. Two inductive loop terminal strips;
   B. One vehicle sensor terminal strip;
   C. One battery terminal strip;
   D. One solar panel terminal strip.

CABINET LAYOUT DETAIL (For Up To Four Lanes)
Equipment Cable, 5 ft. long, furnished separately (ref. sheet no. 4)

J1 recept. with alum. mtg. bracket for lanes 1 to 4

Adjustable shelf

Cabinet cable

Surge suppressors (furnished separately)

Loop term. strip

Loop term. strip

Loop term. strip

Loop term. strip

Veh. speed/ class. unit

Veh. speed/ class. unit

Modem

Battery terminal

Solar power surge suppressor

Solar terminal

Backplane for lanes 1 to 4

12 volt storage battery

10 in.

Backplane for lanes 5 to 8 (Does not require battery terminal, solar terminal, voltage regulator, or solar power surge suppressor.)

J1 recept. with alum. mtg. bracket for lanes 5 to 8

Cabinet Cable

Equipment Cable

Alum. Bracket for J1 Recept. (Ref. Detail, Sheet 1) (Attach to shelf mounting rail to cabinet)

PI Equipment Cable Plug (Lanes 1 through 4)

PI Equipment Cable Plug (Lanes 5 through 8)

Ref. Sheet 4 For Proabh Chart, Receptacle and plug details.

Cable Arrangement For More Than Four Lanes Monitored By a Single Vehicle Speed/Classification Unit

1. Traffic monitoring site cabinet includes:
   A. One adjustable shelf;
   B. Two backplane assemblies (equipped as shown);
   C. Two J1 receptacles with mtg. brackets;
   D. All associated wiring and wiring harnesses.

2. Basic backplane assembly consists of:
   A. Two inductive loop terminal strips;
   B. One vehicle sensor terminal strip;
   C. One battery terminal strip;
   D. One solar panel terminal strip.

CABINET LAYOUT DETAIL
(For More Than Four Lanes And Up to Eight Lanes)

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TRAFFIC MONITORING SITE
All terminal strip contacts are on 9/32 inch centers (Cinch 142 Series or equal)
Use Insulated fork wire terminations
Alum. Bracket for J1 Recept.
(Attach to shelf mounting rail in cabinet)
J1 Receptacle (Amphenol 28-12 recept, W/Male Pins and MS type clamp, or equal.)
Cabinet Cable

Wiring To Backplane

<table>
<thead>
<tr>
<th>J1 Receptacle Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 Recessed Male Pins</td>
</tr>
<tr>
<td>A Loop la (5a) yellow</td>
</tr>
<tr>
<td>B Loop la (5a) purple</td>
</tr>
<tr>
<td>C Loop lb (5b) gray</td>
</tr>
<tr>
<td>D Loop lb (5b) pink</td>
</tr>
<tr>
<td>E Loop 2a (5a) brown</td>
</tr>
<tr>
<td>F Loop 2a (5a) blue</td>
</tr>
<tr>
<td>G Loop 2b (16b) orange</td>
</tr>
<tr>
<td>H Loop 2b (16b) tan</td>
</tr>
<tr>
<td>J Loop 3a (7a) white</td>
</tr>
<tr>
<td>K Loop 3a (7a) green</td>
</tr>
<tr>
<td>L Loop 3b (7b) red</td>
</tr>
<tr>
<td>M Loop 3b (7b) black</td>
</tr>
<tr>
<td>N Gnd</td>
</tr>
<tr>
<td>P Loop 4a (8a) w/yellow</td>
</tr>
<tr>
<td>Q Loop 4a (8a) w/purple</td>
</tr>
<tr>
<td>S Loop 4b (8b) w/grey</td>
</tr>
<tr>
<td>T Loop 4b (8b) w/brown</td>
</tr>
<tr>
<td>U Plezo 1(5) (+) w/blue</td>
</tr>
<tr>
<td>V Plezo 2(5) sh w/orange</td>
</tr>
<tr>
<td>W Plezo 2(6) (+) w/green</td>
</tr>
<tr>
<td>X Plezo 2(6) sh w/red</td>
</tr>
<tr>
<td>Y Plezo 3 (7) (+) w/black</td>
</tr>
<tr>
<td>Z Plezo 3 (7) sh w/red/bk</td>
</tr>
<tr>
<td>a Plezo 4 (8) (+) red/green</td>
</tr>
<tr>
<td>b Plezo 4 (8) sh red/orange</td>
</tr>
<tr>
<td>d Gnd red/black</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PI Equipment Cable Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 Female Pin Slots</td>
</tr>
<tr>
<td>A Loop la (5a)</td>
</tr>
<tr>
<td>B Loop la (5a)</td>
</tr>
<tr>
<td>C Loop lb (5b)</td>
</tr>
<tr>
<td>D Loop lb (5b)</td>
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<td>Z Plezo 3 (7)</td>
</tr>
<tr>
<td>a Plezo 4 (8) (+)</td>
</tr>
<tr>
<td>b Plezo 4 (8)</td>
</tr>
</tbody>
</table>

PI Equipment Cable Plug
( Amphenol 28-12 Plug W/Female Pin Slots and MS type clamp, or equal.)
Equipment Cable

NOTE:
The equipment cable can accommodate up to four lanes of inductive loop and vehicle sensor inputs.
(Ref. Sheet No. 1 for cabinet layout)

For more than four lanes and up to eight lanes of inputs, the following options are available:
1. A second Vehicle Speed/Class Unit and separate equipment cable connecting to a second J1 receptacle; or
2. A single Vehicle Speed/Class Unit capable of up to eight lanes of inputs and a single equipment cable with split ends to fit two J1 receptacles. (Ref. Sheet 2 detail)

Numbers in parenthesis in the pinout chart identify lane numbers when a second backplane for lanes 5 through 8 is required.

EQUIPMENT CABLE DETAIL
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
TRAFFIC MONITORING SITE
**SPEED/CLASSIFICATION LOOP ASSEMBLY WITH AXLE SENSORS PLACEMENT DETAIL**

- Lead-in
- Sensor Cable Connection (Boot)
- Axle Sensor
- Edge Strip

**Notes:**

Loop aisle shall be 0.25 inches wide (max.) by 1.5 inches deep. Four turns of #12 AWG, type XHHW stranded copper wire shall be placed in the aisle. Backer rod shall be used to hold the loop wire in the bottom of the aisle.

Loop leads shall be twisted at the rate of 10 to 12 twists per foot. The twisted pair shall extend to the pull box with three feet of spare length coiled in the pull box.

All leads (inductive loop & vehicle sensor) shall be identified according to the lane numbering convention shown on sheet 8 and 9.

**Typical Uncapsulated Class II Vehicle Sensor**

- **Top View:**
  - Roadway Surface
  - Sensor Element
  - Standoff
  - Bonding Agent
  - Plastic Standoff
  - 0.75 in.

- **End View:**
  - Roadway Surface
  - Sensor Element
  - Standoff
  - Bonding Agent
  - Plastic Standoff
  - 0.75 in.

- **Side View:**
  - Roadway Surface
  - Sensor Element
  - Standoff
  - 0.50 in.

**Notes:**

- Some installations may require axle sensors to be placed in the structural course, prior to placement of the friction course.

- These are typical dimensions. Actual dimensions, element cross-sections and standoff may vary depending on manufacturer and model.
The unit must be capable of detecting up to eight lanes of traffic (in either or both directions) when mounted perpendicular to the roadway.

Coverage area of the unit is affected by the roadway geometry: distance from the travel lanes, median type and width, barrier walls, etc.

Mounting height of the unit and offset from the roadway must be determined on a site-by-site basis, in accordance with the manufacturer's recommended guidelines and existing clear zone requirements.
SOLAR POWER POLE
WITH BASE MTD. CABINET

SOLAR POWER POLE
WITH POLE MTD. CABINET

Lightning rod (0.5 in. x 36 in.)
2.5 in. weatherhead mounted on the tenon
(2.5 in. ld threaded galvanized steel pipe
cast into pole)

No. 4 awg. stranded bare
copper wire (cast in pole)
bonded to lightning rod and
ground rod.

\( \theta \) = Latitude at location + 10°

Modified Type N-III
concrete pole
(Ref. Sec. 744)

30 ft.
Telco service box

4 in. x 6 in.
handhole w/cover. Cut
90° with respect to bottom hole.

Pull box

To roadway
3 ft.
3 in. x 5 in. conduit entry hole

0.625 in. x 40 ft. (min.)
copper clad ground rod
with clamp

Cabinet and pole will be 10 ft.,
apart unless otherwise specified
in the plans

Lightning rod (0.5 in. x 36 in.)
Solar panel(s)

\( \theta \) = Latitude at location + 10°

No. 4 awg. stranded bare
copper wire (cast in pole)
bonded to lightning rod and
ground rod.

2.5 in. weatherhead (2.875 in. ad)
mounted on the tenon
(2.875 in. ld threaded galvanized steel pipe
cast into pole)

Telephone co. service box

4 in. x 6 in. handhole
w/cover. Cut 90° with
respect to bottom hole.

Weatherhead (1 in. min.)
phone line to cabinet

3 in. x 5 in. conduit entry hole
0.625 in. x 20 ft. (min.)
copper clad ground rod
with clamp

4 in. i.d.
aluminum pole

Aluminum square base
assembly with plastic
access door

6 in. min.
0.625 in. x 40 ft.
copper clad
ground rod
with clamp

YPESTAL MTD. CABINET

SOLAR POWER POLE DETAIL

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TRAFFIC MONITORING SITE

Signature

Approved by

Drawn by

Revised

Sheet

1 of 9

17900
Vehicle sensors will be identified by, and leads marked with, the letters "VS" followed with the lane number.
Example: "VS2"

A. TWO LANE - TWO WAY

B. FOUR LANE, DIVIDED - TWO WAY

C. FOUR LANE, UNDIVIDED - TWO WAY

D. FOUR LANE/CONTINUOUS LEFT TURN LANE

E. TWO LANE - ONE WAY

F. THREE LANE - ONE WAY

G. SIX LANE, DIVIDED - TWO WAY

H. EIGHT LANE, DIVIDED - TWO WAY

LANE NUMBERING CONVENTION DETAIL

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TRAFFIC MONITORING SITE

[Diagram showing various road configurations with lane numbers and sensor locations]
Vehicle sensors will be identified by, and leads marked with, the letters "VS" followed with the lane number.

Examples: "VS1"

A  TWO LANE - TWO WAY

B  FOUR LANE, UNDIVIDED TWO WAY

C  FOUR LANE, DIVIDED - TWO WAY

D  FOUR LANE/CONTINUOUS LEFT TURN LANE

E  SIX LANE, DIVIDED - TWO WAY

F  EIGHT LANE, DIVIDED TWO WAY

G  TEN LANE, DIVIDED TWO WAY

LANE NUMBERING CONVENTION DETAIL