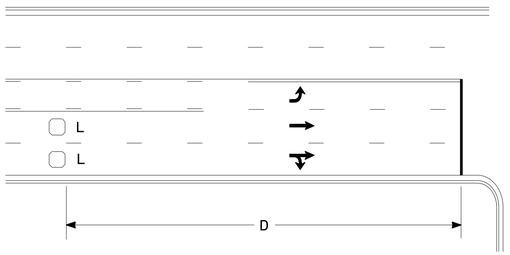
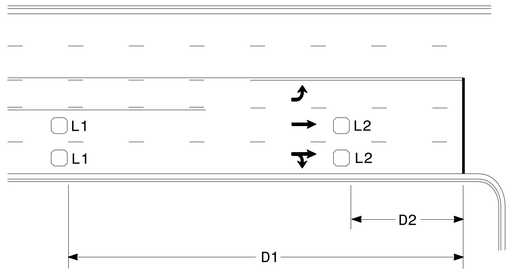
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.12.18.10231, Etc. | SIG-1 |

## High Speed Detection
(≥40 mph)




OR




| Speed Limit mph | D ft |
|---|---|
| 40 | 250 |
| 45 | 300 |
| 50 | 355 |
| 55 | 420 |

L = 6ft X 6ft
Wired in series for TS1 Controllers
Wired separately for TS2, 170, and 2070L Controllers

Volume Density Operation

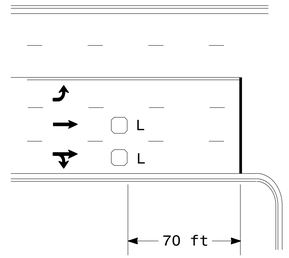
| Speed Limit mph | D1 ft | D2 ft |
|---|---|---|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

## Low Speed Detection
(≤35 mph)

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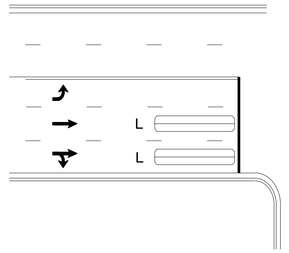
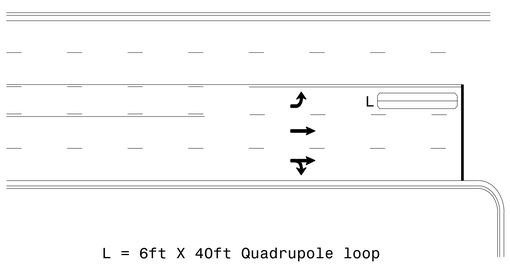


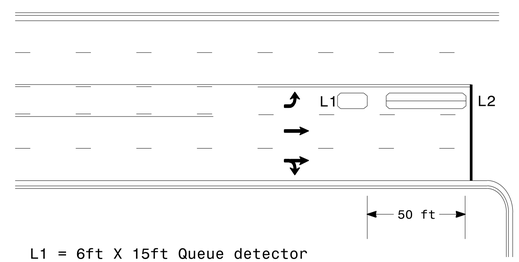

L = 6ft X 6ft
Wired in series

L = 6ft X 40ft
Quadrupole loop, wired separately

## Left Turn Lane Detection




OR



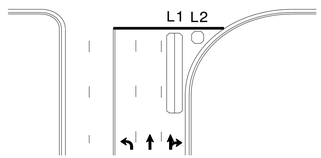

L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

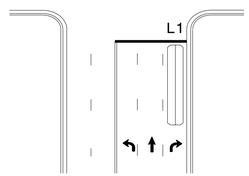
Queue Loop Detection

## Right Turn Lane Detection

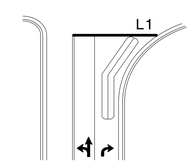



Shared Lane/
Wide Radius Turn

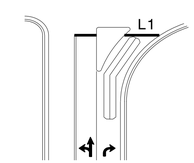
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately




Standard Turn

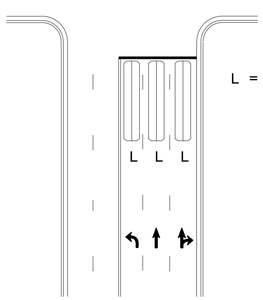



Wide Radius Turn



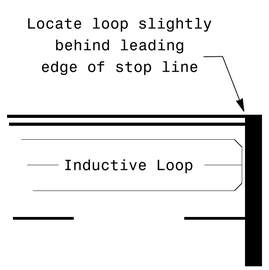

Channelized Turn

## Side Street Detection




L = 6ft X 40ft
Quadrupole loop
Wired to separate detectors/channels

## Presence Loop Placement at Stop Lines




Note:
Loop may be located in advance of stop line under any of the following conditions:
1) stop line is greater than 15′ from edge of intersecting roadway
2) loop detects a permissive or protected/permissive left turn
3) for an exclusive right turn lane

## Recommended Number of Turns

Single 6′ X 6′ loop
(when wired separately):

| Length of Lead-in ft | Number of Turns |
|---|---|
| < 250 | 3 |
| 250-375 | 4 |
| 375-525 | 5 |
| > 525 | 6 |

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ Loops:
Lead-in < 150′, use 2 turns
Lead-in > 150′, use 3 turns

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

| PLAN DATE: January 2015 | REVIEWED BY: JPG |
|---|---|
| PREPARED BY: PLA | REVIEWED BY: |

| REVISIONS | INIT. | DATE |
|---|---|---|

SCALE
N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

DocuSigned by:
P L Alexander
B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:*ITS&SU*ITS Signals*Signal Design Section*Eastern Region*looptypical2015.dgn
palexander