

5 Legends & Bubbles





The legend sheet for all plan types shall contain all definitions for bubbles that are shown on the Signal, Detector, and any other plan sheets. The legend also shows the signal head types along with the signal and sign mounting options. Other items may be included on this sheet if space allows.

Some of the more common bubble notes are shown in the example below:





Figure 5-1 | Common Bubble Notes

LEGEND



CONTROLLERS

-  Install a model 332S cabinet & control equipment with riser frame, orient louvered door as shown
-  Install model 2070 controller in model 33x cabinet
-  Install Controller cabinet (See Signal Plan)
-  Railroad controller (By Others)




POLES

-  Install (T=type) standard traffic signal mast arm pole (See, "Pole Entrance Chart")
-  Install (L=length) foot traffic signal mast arm
-  Install pedestrian signal pedestal with frangible base
-  Retain and protect existing power pole (Power source)



SIGNALS

-  Install phase (Ph=phase) vehicle signal
-  Install phase (Ph=phase) countdown pedestrian signal with clamshell mount and pushbutton with 'H' mount










SIGNS

-  Install aluminum (30"x36", type "W7") "LEFT TURN YIELD ON GREEN BALL" sign (R10-12)
-  Install (36"x36") NO RIGHT TURN "SYMBOL" part time restriction sign (R3-1)
-  See signing plans for details on sign and attachment




CABINETS

-  Install base mounted service cabinet, 120/240 volt metered, for signal system
-  Install recessed terminal cabinet, see T.R.S. DWG NO. XXXXX

JUNCTION BOXES








-  Install 17"x10"x12" (min. dimension) precast concrete junction box
-  Install 17"x10"x12" (min. dimension) precast concrete junction box with concrete apron
-  Install 22"x12"x12" (min. dimension) precast concrete junction box
-  Install 22"x12"x12" (min. dimension) precast concrete junction box with concrete apron
-  Install 30"x17"x12" (min. dimension) precast concrete junction box
-  Junction box (See Signal Plan)
-  Junction box (See Detector Plan)
-  Junction box installed (By Others)
-  Retain and protect existing junction box

DETECTION









-  Install (X=number of cables) phase (Ph=phase) loop feeder cables
-  Install phase (Ph=phase) 6' round or 4' diamond vehicle detector loop
-  Install (N=number) pair of loop wires

LEGEND CONTINUED



WIRES & CABLES

-  Install (N=number) No. 8 AWG THWN (Signal system common)
-  Install (N=number) No. 12 AWG THWN for (Vehicle, Pedestrian and Ramp meter pedestal common)
-  Install (N=number) No. (G=AWG wire size) XHHW wires
-  Install (N=number) No. (G=AWG wire size) THWN wires
-  Install (N=number) twisted pair PE-39 (gel filled) interconnect cable
-  Install poly pull line
-  Ph Includes 3 spare wires for phase (Ph=phase) as per table

CONDUITS

-  Install (S=size) inch conduit
-  Detector conduit (See Detector Plan)
-  Electrical conduit (See Signal Plan)
-  Install 2" conduit stub (For future use, cap ends)
-  Conduit installed (By Others)
-  Install conduit and wire as required by power company
-  Install 6" max. sand packet block-out with (S=size) inch conduit to junction box
-  Retain and protect existing electrical conduit

FIRE PREEMPTION

-  Install channel (Ch=channel), (N=number) barrel fire preemption detector unit
-  Install channel (Ch=channel) fire preemption detector feeder cable

SIGNAL MOUNTING OPTIONS

B = Adjustable signal bracket assembly w/rain cap(s)
(Install 1" metallic chase nipple)

SIGN MOUNTING OPTIONS

AB = Adjustable sign bracket assembly w/rain cap(s)

SIGNAL HEAD TYPES

- 2 = 12" R, 12" Y, 12" G
- 3L = 12" RLTA, 12" YLTA, 12" GLTA
- 4 = 12" R, 12" Y, 12" G, 12" GLTA

All contract plans shall be plotted “B” size (11”x17”) The Legend sheet is typically scaled at 100:1. This is set with Annotation Scale. You can turn this on and off from many different locations including

- The drawing scale toolbar
- The place active cell dialog
- The place text dialog

For additional information on using Annotation Scale click on the following link:

[MicroStation Users Guide.](#)

The legend plan shall include:

- All definitions (Bubble Notes) for bubbles that are present on the signal and detector plan sheets. This must be shown under the correct heading,
- Show all vehicle signal head types, sign types and signal/sign mounting types,
- Show the cross reference note to all other plan sheets in the signal plan set,
- Title block in the lower right hand corner of the legend sheet,
- Show all the TM450 thru TM498 standard drawings that will be needed for the project in the area provided in the lower right hand title block.

Note: Only the first sheet shall show the standard drawings required for the project. This area on all other signal plan sheets shall be left blank.

See examples on the next 3 pages. The figure below of a Legend sheet shows two legend headings and common bubble note headings already in place. This sheet is ready to have bubble notes placed under the correct headings.

The Headings are in the Install portion of the Place Notes Signals Tool. See Figure 5-3.

The Legend Headings are located under the Signal Plans, Plan Sheet Notes tab. See Figure 5-4.

Figure 5-2 | Sample Legend Sheet

000000
LEGEND
000000

LEGEND
NAME OF HWY. AT NAME OF RD.
ORE.00 AT M.P. 0.00
(CITY / TOWN)

The legend shall show the type of plan sheet Name of hwy. and intersecting road or hwy. Oregon or US Hwy. number, Mile Point and city / town.

Accompanied By Dwg. and standard drawings to be shown only on the first sheet of the signal plans. This sheet will normally be the LEGEND sheet.

LEGEND
NAME OF HWY. AT NAME OF RD.
ORE.00 AT M.P. 0.00
(CITY / TOWN)

Accompanied By Dwg. and standard drawings to be shown only on the first sheet of the signal plans. This sheet will normally be the LEGEND sheet.

THIS NOTE SHOWS THE PLAN SHEETS THAT THE LEGEND covers.
NOTE: Place the second and last assigned sheet numbers here & here. The plan sheet numbers will be given once the number of Plan sheets is finalized. This normally happens at advanced plans or 90%.

NOTE: See T.A.S. Dwg. thru for Signal and Detector Plans

THIS TEXT SHALL INCLUDE THE FILE NAME AND LOCATION DATE AND TIME OF PRINT AND DRAFTERS RATED BY NAME

000000
LEGEND
000000

Figure 5-3 / Bubble Note Headings

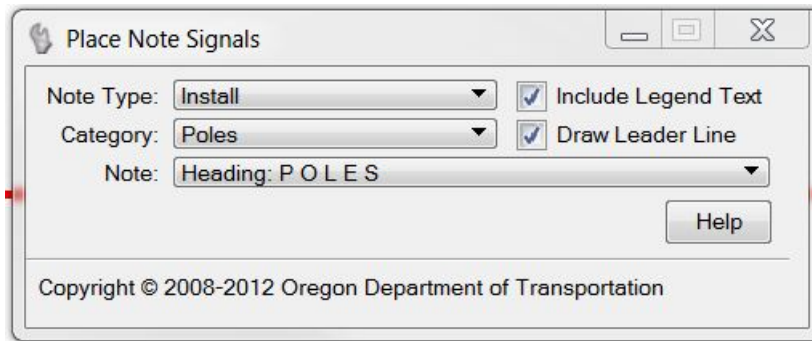
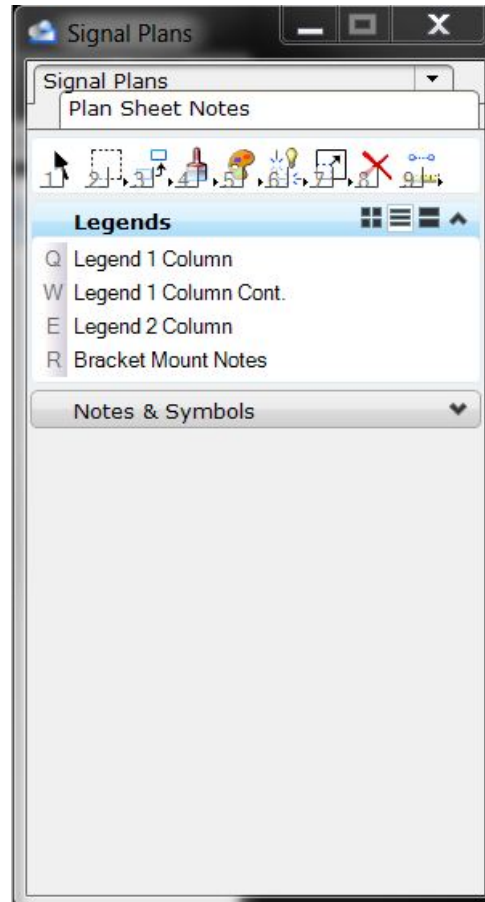


Figure 5-4 / Legend Heading



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