

Pole Top Tenon Detail, see drawing ITS-XXX. Connection to tenon by Camera Lowering Device Supplier. Provide removable rain tight cover (after galvanizing).

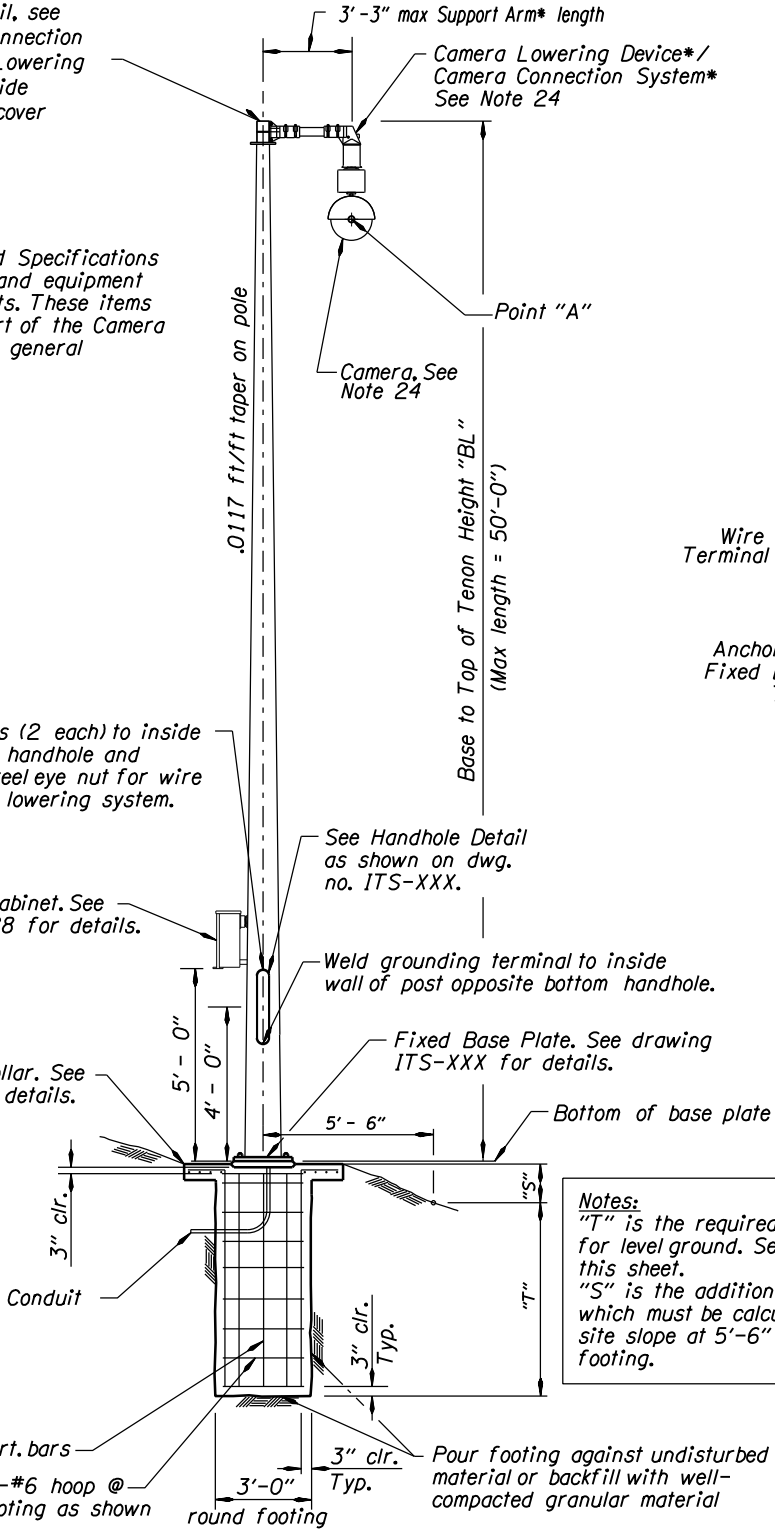
Notes:
*See Project Plans and Specifications for specific hardware and equipment details and requirements. These items are not included as part of the Camera Pole, but are shown for general information.

Weld threaded studs (2 each) to inside wall shaft at top of handhole and connect stainless steel eye nut for wire tie off and camera lowering system.

Terminal Cabinet. See Dwg TM488 for details.

Square reinforced collar. See Dwg ITS-#### for details.

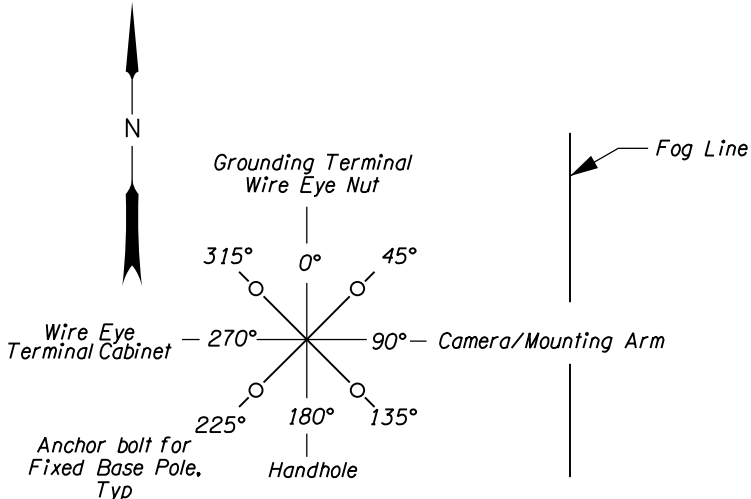
10-#7 equally spaced vert. bars
#4 hoops @ 12in. and 1-#6 hoop @ 4 1/2in. from top of footing as shown



CAMERA SUPPORT ELEVATION

No Scale

DESIGN LOAD APPLIED AT POINT "A"			
Projected Area	Mass	Area for Ice	C _d
5.4 ft ²	121 lb	10.8 ft ²	1.2



ORIENTATION DETAILS

No Scale

- Notes:
- All angles measured clockwise from handholes as viewed from small end of pole.
 - Orientation for optimal view by camera to be field verified by the Engineer.

Notes:
"T" is the required footing length for level ground. See Camera Table, this sheet.
"S" is the additional footing length which must be calculated for the site slope at 5'-6" from center of footing.

CAMERA POLE PLAN AND DESIGN CRITERIA
PROJECT DESCRIPTION/INFORMATION

GENERAL NOTES:

- Provide all materials and perform all work according to the 2008 Standard Specifications for Highway Construction
- Camera Support Poles shall be designed in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (5th Edition 2009)
- The design wind velocity shall be 110 mph (3-second gust) and I_r = 1.0 (50 year recurrence).
- Fatigue design is not required.
- The computed wind induced deflection of the pole at 37 mph (no gust) shall be limited to 1" measured at the top of the pole.
- The Combined Stress Ratio (CSR) of the pole shall not exceed 0.60.
- Grounding terminal and eye nut connection shall be 1/2 in. dia. x 1 5/8 in. Type 308, 309, or 310 threaded stainless steel welded stud.
- Round and smooth all edges along electrical wire way.
- Orientation of camera shall be verified in the field by the Engineer prior to constructing foundation.
- Tenon dimensions are indicative of general configuration desired and may be varied depending on Camera Lowering Device Supplier's connection requirements. Variations from that shown shall be allowed as approved by the Engineer. See Special Provisions for requirements.
- Steel sheet for poles shall conform to ASTM A595, Grade A or B, or approved equal. All other steel sheet and plate shall conform to ASTM A572, or approved equal. Supplement S18 of ASTM A6 regarding maximum tensile strength shall apply.
- All pole shafts may be round, hexadecagonal, or octagonal.
- Anchor rods shall conform to ASTM F1554, Grade 55. Tighten anchor rod nuts with 60° turn past snug tight condition.
- Nuts for anchor rods shall be well lubricated heavy hexagon nuts conforming to ASTM A563, Grade DH.
- Flat washers shall be hardened steel washers conforming to ASTM F436.
- High strength bolts shall conform to ASTM A325.
- All structural steel including fasteners shall be hot-dip galvanized after fabrication unless noted otherwise.
- Silicon content of the base metal shall be in the range of 0 to 0.04% or 0.15 to 0.25%.
- Reinforcing steel shall conform to ASTM A615 Gr 60. A minimum lap splice of 32 bar diameters shall be used unless shown otherwise.
- Footing concrete shall be Commercial Grade Concrete (f'c=3000psi min). Grout in grout pads shall be non-shrink high early strength grout (non-ferrous) with a minimum strength of 5000 psi.
- Longitudinal seam welds shall achieve complete penetration within 6 in. of a circumferential weld. 60% minimum penetration required for the remainder of the seam weld.
- Under no circumstances shall the pole top plate be rotated after the camera is installed without authorization from the Engineer.
- Footing design is based on the Geotechnical Recommendations Report dated Month XX, 20XX for this project.
- CCTV power and communication cable(s) shall be continuous from camera to controller cabinet. No splices will be accepted. Contractor shall field verify length prior to ordering cable.

CAMERA TABLE											
Structure Number	Station	Hwy No.	Mile Point	Anchor Rod Dia.	Rod Circle "B"	Proj. "E" max	Anchor Rod Length	Top Thread Length	Footing Depth "T"	Additional Depth "S"	Total Shaft Depth "D" = "T" + "S"
XXXXX	"XXX" ###+##.##' XX	###	###.##	2"	19 1/2"	5 1/2"	3'-6"	7"	XX'-X"	XX'-X"	XX'-X"
XXXXX	"XXX" ###+##.##' XX	###	###.##	2"	19 1/2"	5 1/2"	3'-6"	7"	XX'-X"	XX'-X"	XX'-X"
XXXXX	"XXX" ###+##.##' XX	###	###.##	2"	19 1/2"	5 1/2"	3'-6"	7"	XX'-X"	XX'-X"	XX'-X"

The selection and use of this detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES
DETAILS

CAMERA POLE PLAN
AND
DESIGN CRITERIA

DETAIL NO.

DET 4640