

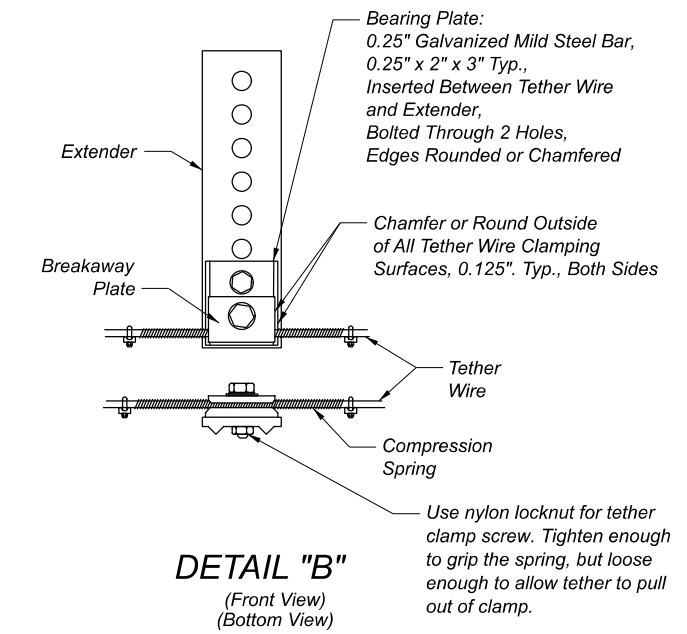
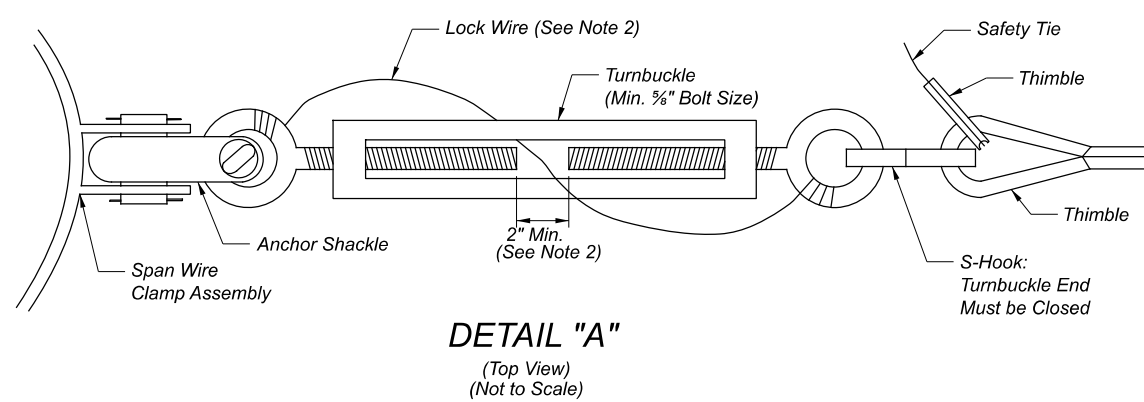
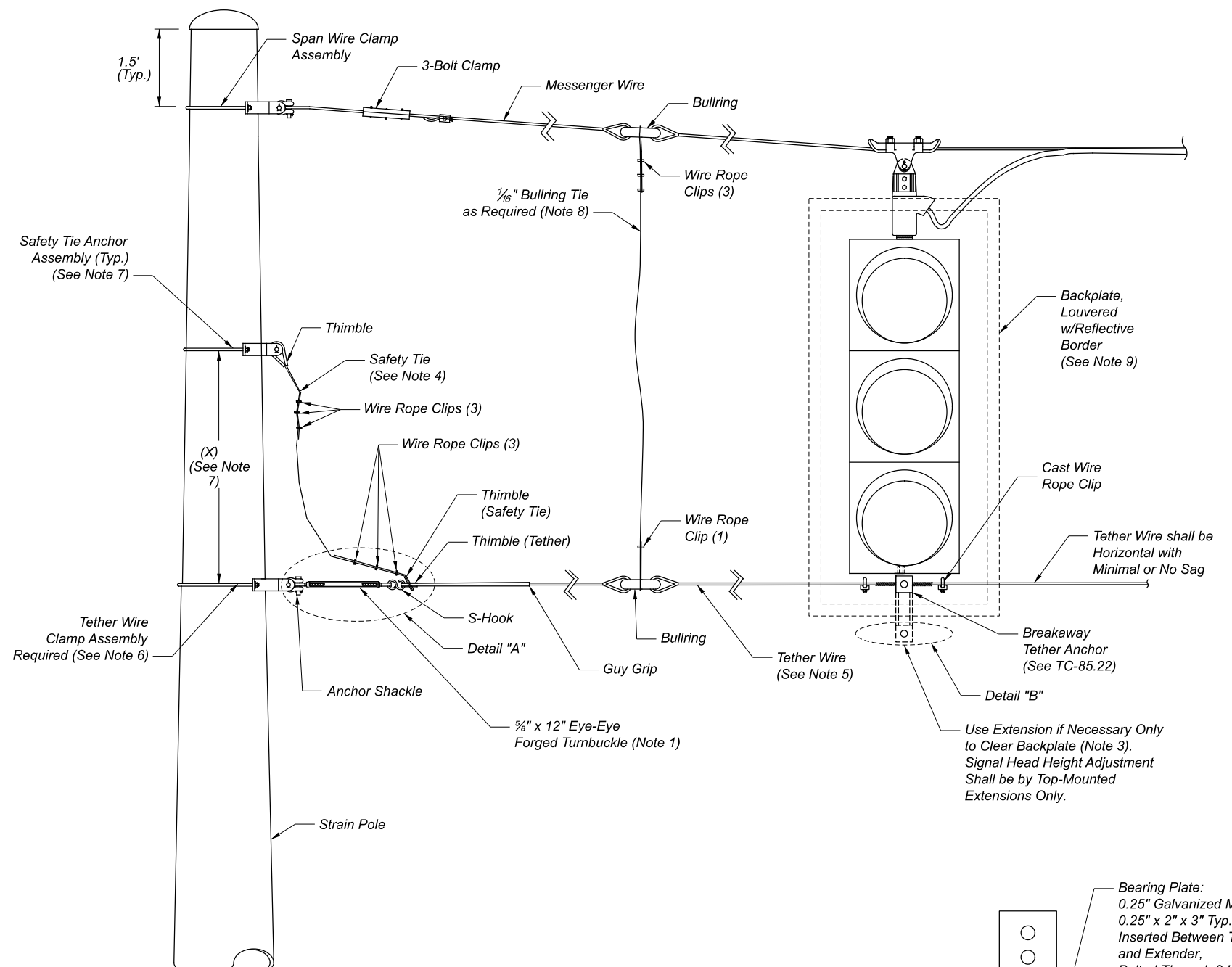
REVISIONS

07-16-2021
04-17-2020
01-17-2020
01-20-2017
07-15-2016
01-16-2015
01-17-2014
01-21-2011...

STDS ENGINEER  
Duemmel

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR  
**Brenton Bogard**

SIGNAL TETHER ATTACHMENT



NOTES:

- S-Hook is matched to the strain pole design number (see table). S-Hook and turnbuckle are required only at one end of simple spans, all ends of complex spans. S-Hook shall be closed at pole end. If S-Hook begins to yield during installation, it shall be removed and replaced. The wire tension shall be adjusted to minimize movement of signal heads in high winds. Typical tension is 600 to 800 lbs. Typical S-hooks are McMaster-Carr 9380T14 (3/8") and 9380T15 (1/2").
- Lock wire shall be stainless steel, 1/8" soft temper, wound to prevent turning of the turnbuckle body. Finished span shall have at least 2" of space for turnbuckle adjustment. Turnbuckle shall not be over-tightened. Use 8" hand tools, maximum.
- If signal orientation is not perpendicular to span and tether wire, then use an anchor extension. Clamp assembly must be attached to the flat side of the extender bar.
- Install safety tie at each turnbuckle. This wire shall be 1 x 19, 1/8" stainless steel. Provide slack in the tie without contacting the pole. Use 3 clips per end at 3- 1/2" spacing.
- Tether wire shall be 7-strand ASTM A475 HS or EHS Grade 1/4". On all spans, install tether horizontally. Maintain clearance of 17' to 19' over roadway.
- Span wire clamp as per Standard Construction Drawing TC-81.11 required for tether wire attachment or approved equal rated at 3650 lbs or higher. Alternate attachment method shall not be permitted.
- Safety tie anchor height above tether is adjusted in the field before S-Hook is installed. Dimension X (Safety Tie Height) shall be adjusted so that the minimum vertical clearance of the sagging tether wire above the pavement without the S-Hook installed is at least 14'. Minimum distance between the safety tie clamp and tether clamp shall be 1.5' and contain enough slack for head to sway in high winds. Safety tie anchor may be any galvanized or stainless steel pole clamp assembly rated at 3650 pounds or higher.
- On spans with bullrings, a tie shall be provided between messenger and tether bullrings if a 14' clearance cannot be maintained after S-Hook opening. This vertical tie shall be 1 x 19, 1/8" stainless steel. Tie shall be slightly slack, tied back using cast wire rope clips as shown. Wire rope clips shall not be over-tightened.
- All backplates shall have louvers and 2" fluorescent yellow reflective border. Border shall not be applied over louvers. Orient louvers to scoop air from the front side and with the openings facing alternate directions by groups as shown. Louver open area shall be at least 8 percent of the total backplate area.
- Do not tether signs on signal spans.

STRAIN POLE DESIGN NO.	GALVANIZED MILD STEEL S-HOOK WIRE DIAMETER (INCHES)	S-HOOK YIELD POINT (+10% / -20%) (POUNDS)
1 - 4	3/8	2000
5 - 14	1/2	3300

DESIGN AGENCY



SCD NUMBER  
TC-85.21

SHEET TOTAL  
1 1