



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

Charles A. Kilpatrick, P.E.
Commissioner

February 26, 2016

MEMORANDUM

To: All Holders of the Virginia Department of Transportation's 2008 Road and Bridge Standards

The following is a list of sheets contained in the 2008 Road and Bridge Standards that have been revised. Please add this page to your copy of the standards. An interim standard sheet will not be required in plan assemblies for the following sheets only. Changes to these sheets will not affect the basis of payment or estimates.

<u>PAGE</u>	<u>REVISION</u>
1300.01	Revised index to reflect revised standard sheets.
1300.02	Revised index to reflect revised standard sheets.
1300.03	Revised index to reflect revised standard sheets.
1300.04	Revised index to reflect revised standard sheets.
1302.10	MP-1 standard is void and shall no longer be used. Mast arm signal pole standards have been migrated to standard MP-3.
1316.10	TS-1 standard is void and shall no longer be used. Temporary signals must be designed for each project when they are needed.

The following is a list of revised standards to the 2008 Road and Bridge Standards that *require* an interim standard sheet to be included in your plan assembly until the next edition of the standards is published. Please add these pages to your copy of the standards. The respective interim standard sheet number has been placed with the revised standard. The interim standard sheets are available on VDOT's web site, on the FTP server, and in Falcon DMS for VDOT personnel. Note that the revised Interim Standard Sheets dated 02/16 will be applicable to Tier 1 projects going to Advertisement on July 26, 2016 (Non Federally Eligible), July 12, 2016 (Federally Eligible) and Tier 2 projects going to Advertisement on July 12, 2016.

<u>PAGE</u>	<u>INTERIM</u>	<u>STANDARD</u>	<u>REVISION</u>
1301.10	IIS013_12	CF-1	REVISED AGGREGATE DEPTH, FOUNDATION DEPTH AND CONCRETE TYPE, CONDUIT REQUIREMENTS, ANCHOR BOLT REQUIREMENTS, CONCRETE PAD NOTES. REVISED NOTES.
1301.20	IIS13_13	CF-2	REVISED AGGREGATE DEPTH, FOUNDATION DEPTH AND CONCRETE TYPE, CONDUIT REQUIREMENTS, ANCHOR BOLT REQUIREMENTS, CONCRETE PAD NOTES. REVISED NOTES.
1301.30	IIS13_14	CF-3	REVISED AGGREGATE DEPTH, FOUNDATION CONCRETE TYPE, CONDUIT REQUIREMENTS, AND CONCRETE PAD NOTES. REVISED NOTES.
1301.31	IIS13_1301_31	CF-3	NEW SHEET TO SHOW THE COMMUNICATIONS SERVICE CONNECTION DETAIL.
1301.40	IIS13_1301_40	CF-4	NEW SHEET TO ADD THE CF-4 (CONTROLLER AND UPS CABINET FOUNDATION AND CONDUIT PLACEMENT DETAILS).
1302.24	IIS13_1302_24	MP-3	NEW SHEET REPLACING PREVIOUS MP-1 STANDARD. NEW REQUIREMENTS FOR LUMINAIRE ARM, MINIMUM AND MAXIMUM SIGNAL HEAD MOUNTING HEIGHTS, AND WIRING HOLE PLACEMENT. REVISED HANDHOLE REQUIREMENTS.
1302.25	IIS13_1302_25	MP-3	NEW SHEET SHOWING REQUIREMENTS FOR LOADS TO BE USED WHEN DESIGNING MAST ARM SIGNAL POLES.

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1302.26	IIS13_1302_26	MP-3	NEW SHEET SHOWING REQUIREMENTS FOR LOADS TO BE USED WHEN DESIGNING MAST ARM SIGNAL POLES.
1302.27	IIS13_1302_27	MP-3	NEW SHEET SHOWING REQUIREMENTS FOR LOADS TO BE USED WHEN DESIGNING MAST ARM SIGNAL POLES.
1303.10	IIS13_18	SW-1	REVISED NOTES AND DRAWING.
1303.20	IIS13_19	SW-2	REVISED NOTES AND DRAWING.
1303.40	IIS13_20	SMB-1	SMB-1, 2, AND 3 STANDARDS WERE SEPARATED INTO INDIVIDUAL SHEETS. REVISED NOTES AND DRAWINGS. ADDED MULTI-WAY MOUNTING ASSEMBLY.
1303.41	IIS13_1303_41	SMB-2	NEW SHEET FOR SMB-2. REVISED NOTES AND DRAWINGS. ADDED MULTI-WAY MOUNTING ASSEMBLY.
1303.42	IIS13_1303_42	SMB-3	NEW SHEET FOR SMB-3. REVISED NOTES AND DRAWINGS.
1304.10	IIS13_21	TA-1	ADDED NOTES AND REVISED DRAWING.
1306.10	IIS13_23	WD-1	REVISED NOTES AND DRAWING.
1306.20	IIS13_24	WD-2	REVISED NOTES AND DRAWING. CONTRACTOR IS REQUIRED TO DESIGN WOOD POLES.
1307.10	IIS13_01	PA-1,2	REVISED NOTES AND DRAWING. PA-3 MOVED TO NEW SHEET.
1307.11	IIS13_1307_11	PA-3,4	NEW SHEET FOR PA-3. REVISED NOTES AND DRAWING. OPTION ADDED TO ALLOW FOR PREAPPROVED BAG MIX FOR CONCRETE FOUNDATION. ADDED PA-4 FOR PUSH BUTTON BREAKAWAY PEDESTAL POLE.

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1308.10	IIS13_1308_10	SP-5,6,7,8,9	NOTE ADDED.
1312.10	IIS13_1312_10	SE-1	ALL NOTES REVISED. CLARIFIED SERVICE THIMBLEYE DRAWING. ADDED PHOTOELECTRIC CONTROL. ADDED HANDHOLE. SEVERAL LABELS CHANGED. "CONCRETE PAD" IS NOW "ELECTRICAL SERVICE WORK PAD" AND MEASUREMENTS HAVE BEEN REMOVED, BUT ARE REFLECTED IN THE SPEC BOOK. BASE OF THE POLE REVISED. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.11	IIS13_29	SE-1	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CONDUIT RUN UP THE POLE CHANGED FOR VISIBILITY. ADDED SEPARATE DETAIL FOR CONNECTION OF CONDUIT TO METER BASE. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.20	IIS13_1312_20	SE-2	ALL NOTES REVISED. CLARIFIED SERVICE THIMBLEYE DRAWING. ADDED PHOTOELECTRIC CONTROL. ADDED HANDHOLE. SEVERAL LABELS CHANGED. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.30	IIS13_1312_30	SE-3	ALL NOTES REVISED. CLARIFIED SERVICE THIMBLEYE DRAWING. BASE OF THE POLE REVISED. ADDED HANDHOLE. GROUNDING ELECTRODES CHANGED IN DRAWING.

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1312.31	IIS13_1312_31	SE-3	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CONDUIT RUN UP THE POLE CHANGED FOR VISIBILITY. ADDED SEPARATE DETAIL FOR CONNECTION OF CONDUIT TO METER BASE. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.40	IIS13_1312_40	SE-4	ALL NOTES REVISED. CLARIFIED SERVICE THIMBLEYE DRAWING. SEVERAL LABELS CHANGED. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.50	IIS13_30	SE-5	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CONDUIT RUN UP THE POLE CHANGED TO MEET NEC CODE. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.60	IIS13_31	SE-6	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.70	IIS13_32	SE-7	NEW DRAWING (SE-4 & SE-7 WERE IDENTICAL). ALL NOTES REVISED. SEVERAL LABELS CHANGED. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.80	IIS13_1312_80	SE-8	ALL NOTES REVISED. CLARIFIED SERVICE THIMBLEYE DRAWING. ADDED PHOTOELECTRIC CONTROL. ADDED HANDHOLE. SEVERAL LABELS CHANGED. GROUNDING ELECTRODES CHANGED IN DRAWING.

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1312.90	IIS13_1312_90	SE-9	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING.
1312.91	IIS13_1312_91	SE-9	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE HAS BEEN REVISED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING. REVISED SERVICE ENTRANCE FOUNDATION DETAIL.
1313.10	IIS13_34	SE-10	ALL NOTES REVISED. SEVERAL LABELS CHANGED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING.
1313.20	IIS13_1313_20	SE-11	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE HAS BEEN REVISED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING. ADDED SEPARATE DETAIL FOR CONNECTION OF CONDUIT TO METER BASE.
1313.21	IIS13_1313_21	SE-11	ALL NOTES REVISED. SEVERAL LABELS CHANGED. BASE OF THE POLE REVISED. CLARIFIED CONDUIT RUN. GROUNDING ELECTRODES CHANGED IN DRAWING. WATERPROOF SPLICE BOX ADDED. SEPARATE DETAIL ADDED FOR CONNECTION OF CONDUIT TO METER BASE.

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1315.10	IIS13_1315_10	TD-1A,B,C	REORGANZIED INFORMATION AND MOVED SOME INFORMATION TO A NEW SHEET. REVISED NOTES AND DRAWING. REVISED NOTES SECTION. OPTION ADDED TO ALLOW INSTALLATION OF LOOP DETECTOR THROUGH FINISHED RIDING SURFACE.
1315.11	IIS13_35	TD-1A,B,C	REORGANZIED INFORMATION AND MOVED SOME INFORMATION TO A NEW SHEET. REVISED NOTES AND DRAWING. REVISED NOTES SECTION.
1315.12	IIS13_1315_12	TD-1A,B,C	NEW SHEET ADDED TO REORGANIZE INFORMATION. REVISED NOTES. REVISED NUMBER OF TWISTS PER FOOT OF LOOP CABLE.
1318.10	IIS13_38	ECI-1/ECI-2	REVISED ALLOWABLE DEPTHS FOR CONDUITS UNDER EXISTING/PROPOSED PAVEMENT TO BE "18-24 IN" INSTEAD OF "18 IN MIN." REVISED NOTE 2 TO CLARIFY THAT NOTE ALSO APPLIES TO CONDUIT UNDER SIDEWALK. ADDED LOCATOR TAPE TO ECI-2.

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1320.10	IIS13_1320_10	WSP-1	WSP-1 STANDARDS HAVE BEEN REVISED TO ALLOW FOR USE OF SQUARE TUBE POSTS FOR TEMPORARY SIGNS, AS ALLOWED BY THE VA WORK AREA PROTECTION MANUAL (VWAPM). NEW REQUIREMENTS FOR MINIMUM AND MAXIMUM MOUNTING HEIGHT. NEW REQUIREMENTS FOR LATERAL PLACEMENT FROM EDGE OF ROAD. NEW REQUIREMENTS FOR ED-2 DELINEATORS TO MATCH THE VWAPM. NEW ALLOWANCE FOR POSTS TO EXTEND ABOVE THE SIGN. CLARIFIED THAT WSP-1 STANDARDS SHALL ONLY BE USED FOR SIGNS THAT WILL BE IN PLACE FOR THREE YEARS OR LESS.
1320.11	IIS13_1320_11	WSP-1	MOVED WOOD POST INSTALLATION DETAILS FROM SHEET 1320.10. CHANGE IN REQUIREMENTS FOR CEMENTICIOUS MATERIAL WHEN SETTING WOOD POSTS IN EARTH. NEW REQUIREMENT THAT SIGNS WIDER THAN 48" BE BRACED. ADDED BRACING AND POST TOLERANCE DETAILS. DELETED FLAT CUT/SHED CUT/PYRAMID CUT DETAILS FOR WOOD POST TOPS.
1320.12	IIS13_1320_12	WSP-1	TABLE HAS BEEN EXPANDED TO LIST MAXIMUM AREAS FOR 9' AND 11' CENTROIDS.
1320.13	IIS13_1320_13	WSP-1	NEW SHEET WITH DETAILS FOR ATTACHING BRACED AND UNBRACED SIGNS TO WOOD POSTS. LAG BOLT DETAIL MOVED FROM SHEET 1320.11. ADDED OPTION FOR ATTACHING SIGN TO WOOD POST WITH HEX HEAD BOLT AND NUT INSTEAD OF LAG BOLT.

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1320.14	IIS13_1320_14	WSP-1	NEW SHEET WITH SQUARE TUBE POST DESIGN TABLE.
1320.15	IIS13_1320_15	WSP-1	NEW SHEET WITH SQUARE TUBE POST SPLICE DETAIL.
1340.12	IIS13_1340_12	PM-10	CORRECTED THE ERADICATION SQUARE FOOTAGE FOR THRU ARROWS.
1340.16	IIS13_1340_16	PM-10	CHANGED THE DESCRIPTION OF THE YIELD LINE TRIANGLES TO MATCH THE PAY ITEM DESCRIPTION.

If you have any questions or comments regarding this revision, please contact Chuck Patterson P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

Signature on File Date: February 26, 2016

B. A. Thrasher, P.E.
State Location & Design Engineer

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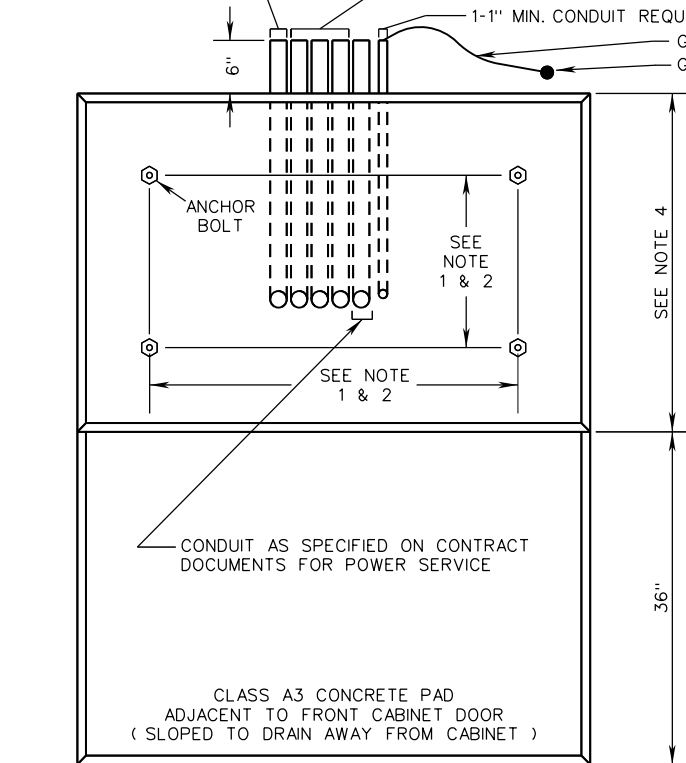
02/16

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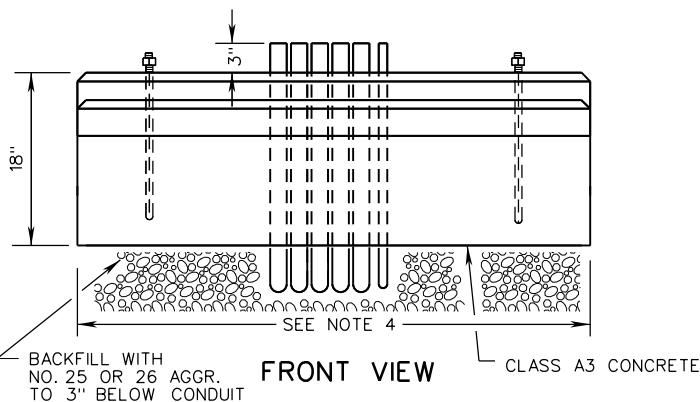
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SIZE AND NUMBER AS REQUIRED BY CONTRACT DOCUMENTS

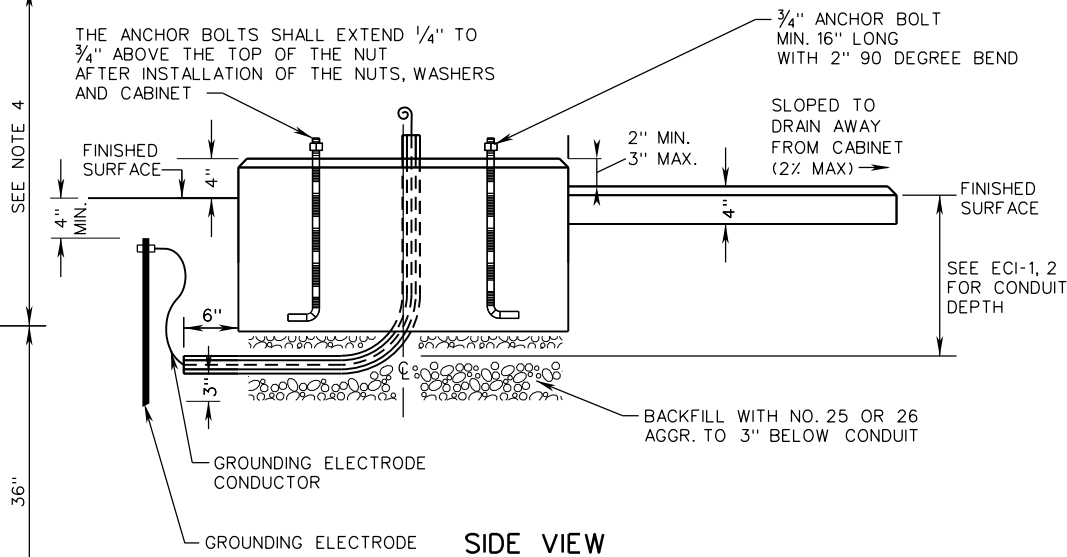
3-2" MINIMUM SPARE CONDUITS REQUIRED FOR FUTURE USE SHALL BE STUBBED OUT AND CAPPED. NOTE THAT ADDITIONAL SPARE CONDUITS MAY BE REQUIRED BY THE CONTRACT DOCUMENTS.



TOP VIEW



FRONT VIEW



SIDE VIEW

NOTES:

1. ANCHOR BOLTS AND BOLT TEMPLATE SHALL BE FURNISHED WITH CABINET.
2. CABINET SHALL BE CENTERED ON FOUNDATION.
3. THE CONTROLLER CABINET AT THE INSIDE AND OUTSIDE FOUNDATION JOINTS SHALL BE SEALED WITH AN APPROVED WATERPROOF SILICONE SEALANT.
4. FOUNDATION LENGTH AND WIDTH SHALL PROJECT A MINIMUM 4" BEYOND ALL SIDES OF THE CABINET.
5. EXCAVATED AREAS SHALL BE BACKFILLED WITH AGGREGATE.
6. CF-1 FOUNDATION IS INTENDED FOR USE WITH TYPE "A" (NEMA TS-2) TRAFFIC SIGNAL EQUIPMENT CABINET.

SPECIFICATION REFERENCE
700 703

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

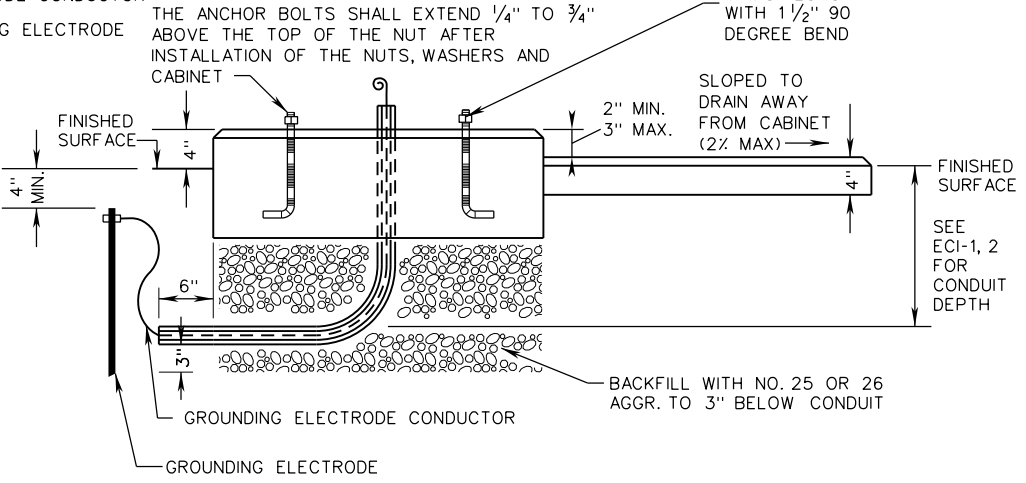
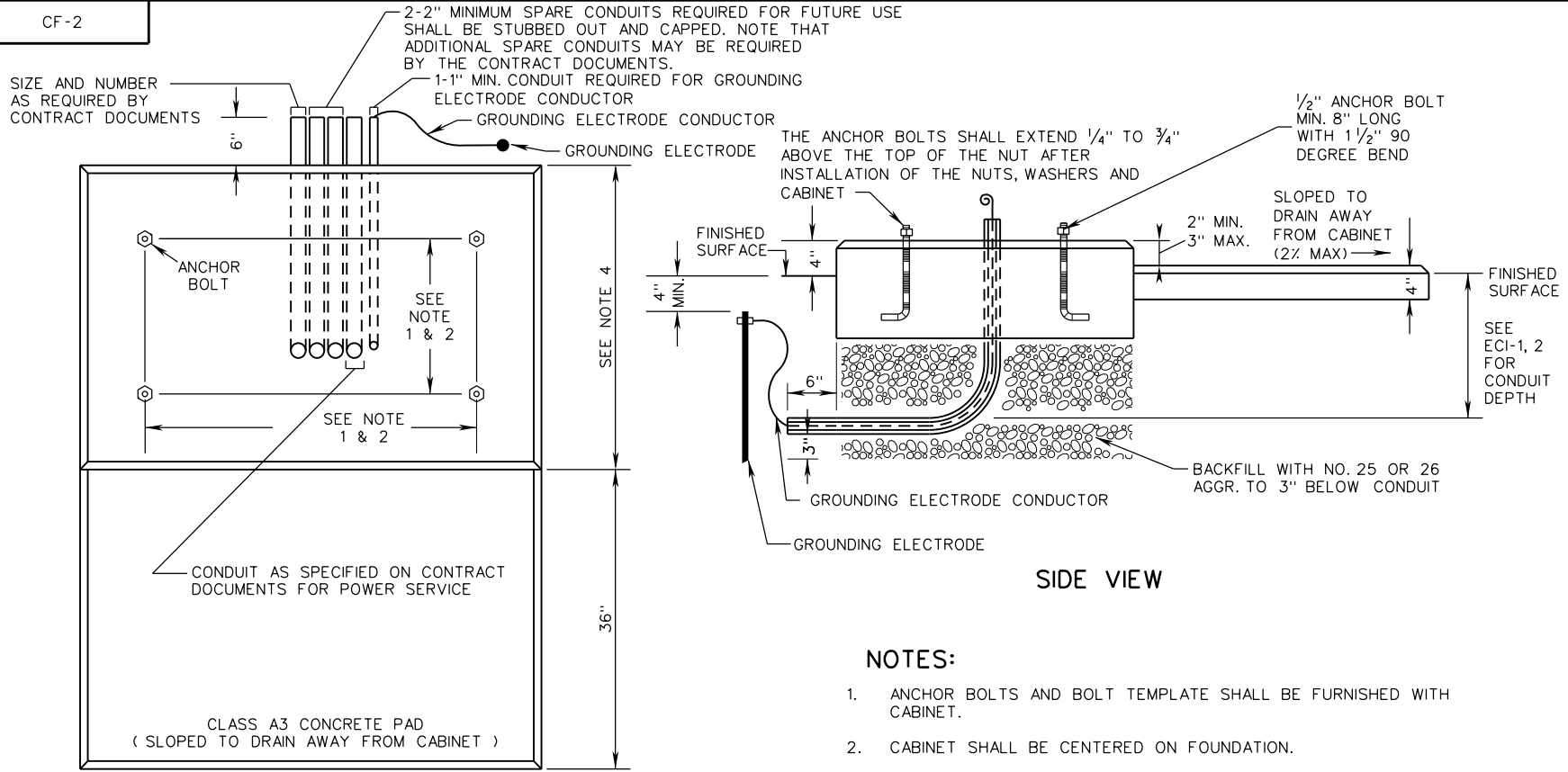
CABINET FOUNDATION DETAILS

TYPE A TRAFFIC SIGNAL EQUIPMENT

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
02/16	1301.10

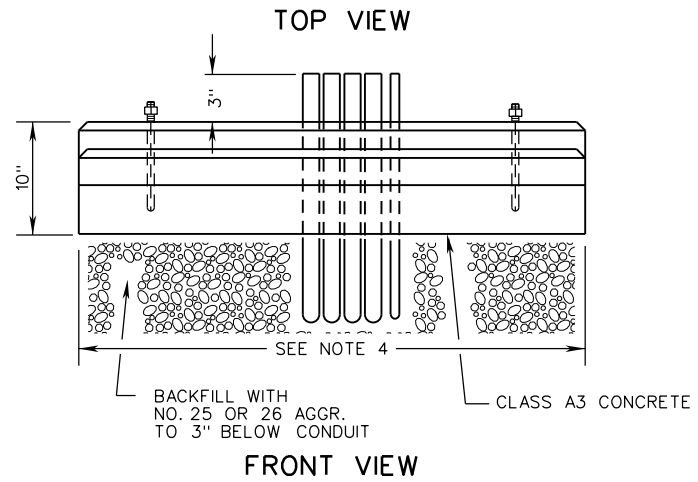
CF-2



SIDE VIEW

NOTES:

1. ANCHOR BOLTS AND BOLT TEMPLATE SHALL BE FURNISHED WITH CABINET.
2. CABINET SHALL BE CENTERED ON FOUNDATION.
3. THE CONTROL CENTER CABINET AT THE INSIDE AND OUTSIDE FOUNDATION JOINTS SHALL BE SEALED WITH AN APPROVED WATERPROOF SILICONE SEALANT.
4. FOUNDATION LENGTH AND WIDTH SHALL PROJECT A MINIMUM 4" BEYOND ALL SIDES OF THE CABINET.
5. EXCAVATED AREAS SHALL BE BACKFILLED WITH AGGREGATE.
6. TYPE A AND TYPE B TRAFFIC SIGNAL CABINETS SHALL NOT BE INSTALLED ON CF-2 FOUNDATIONS.



FRONT VIEW

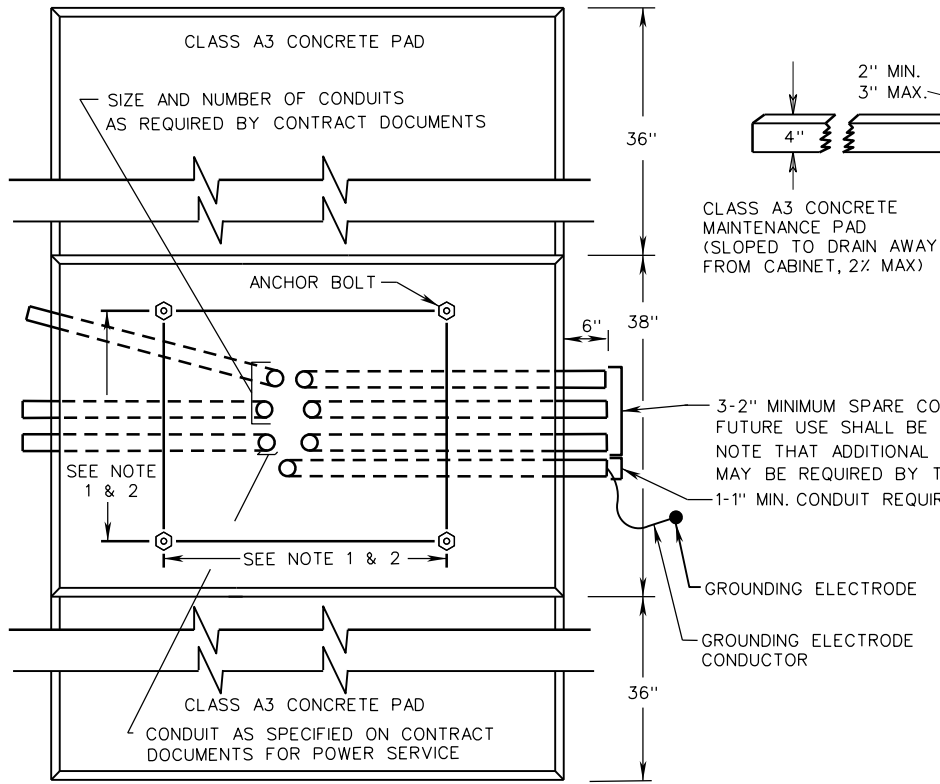
VDOT	
ROAD AND BRIDGE STANDARDS	
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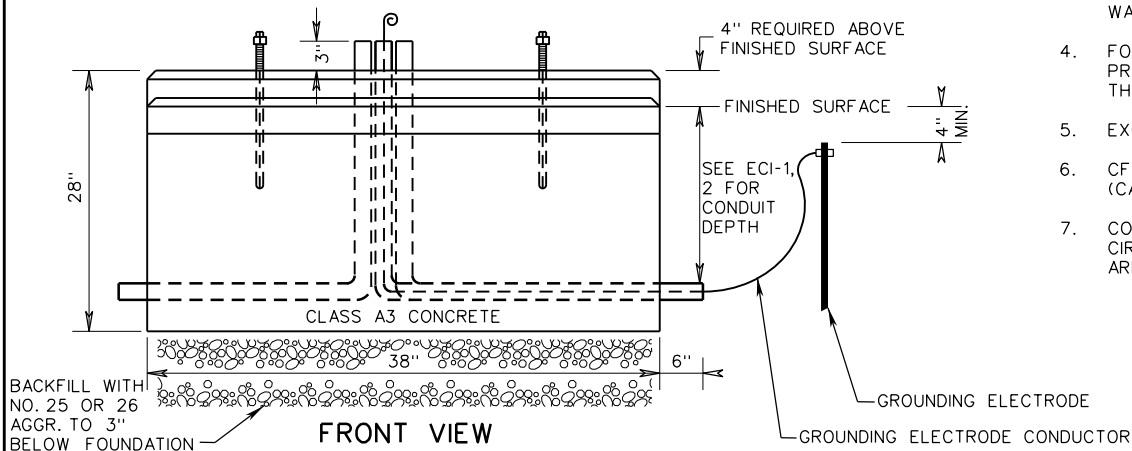
CABINET FOUNDATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

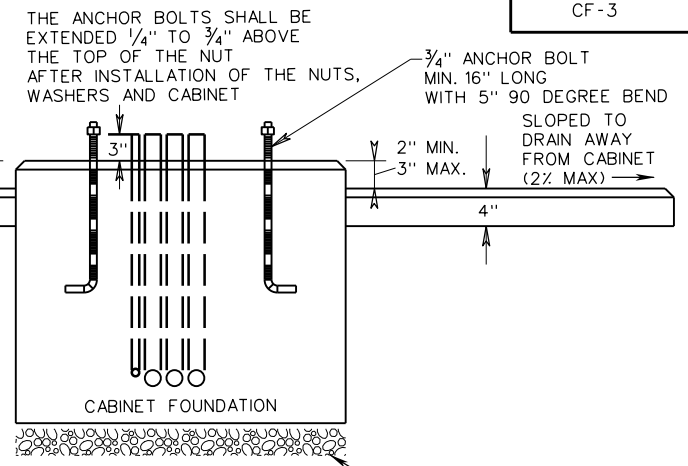
SPECIFICATION REFERENCE
700



TOP VIEW



FRONT VIEW



SIDE VIEW

NOTES:

1. ANCHOR BOLTS, BOLT TEMPLATE, AND BASE ADAPTER (METAL RISER) SHALL BE FURNISHED WITH CABINET.
2. CABINET ON BASE ADAPTER (METAL RISER) SHALL BE CENTERED ON FOUNDATION.
3. THE CONTROLLER CABINET AT THE INSIDE AND OUTSIDE FOUNDATION JOINTS SHALL BE SEALED WITH AN APPROVED WATERPROOF SILICONE SEALANT.
4. FOUNDATION LENGTH AND WIDTH SHALL BE AS REQUIRED TO PROJECT NO LESS THAN A MINIMUM 4" BEYOND ALL SIDES OF THE CABINET.
5. EXCAVATED AREAS SHALL BE BACKFILLED WITH AGGREGATE.
6. CF-3 FOUNDATION IS INTENDED FOR USE WITH TYPE "B" (CALTRANS MODEL 332) TRAFFIC SIGNAL EQUIPMENT CABINET.
7. CONDUITS ENTERING THE FOUNDATION SHALL BE ARRANGED IN A CIRCULAR PATTERN. THE CONTRACTOR SHALL SUBMIT A CONDUIT ARRANGEMENT PLAN FOR APPROVAL PRIOR TO PLACEMENT.

SPECIFICATION REFERENCE
700 703

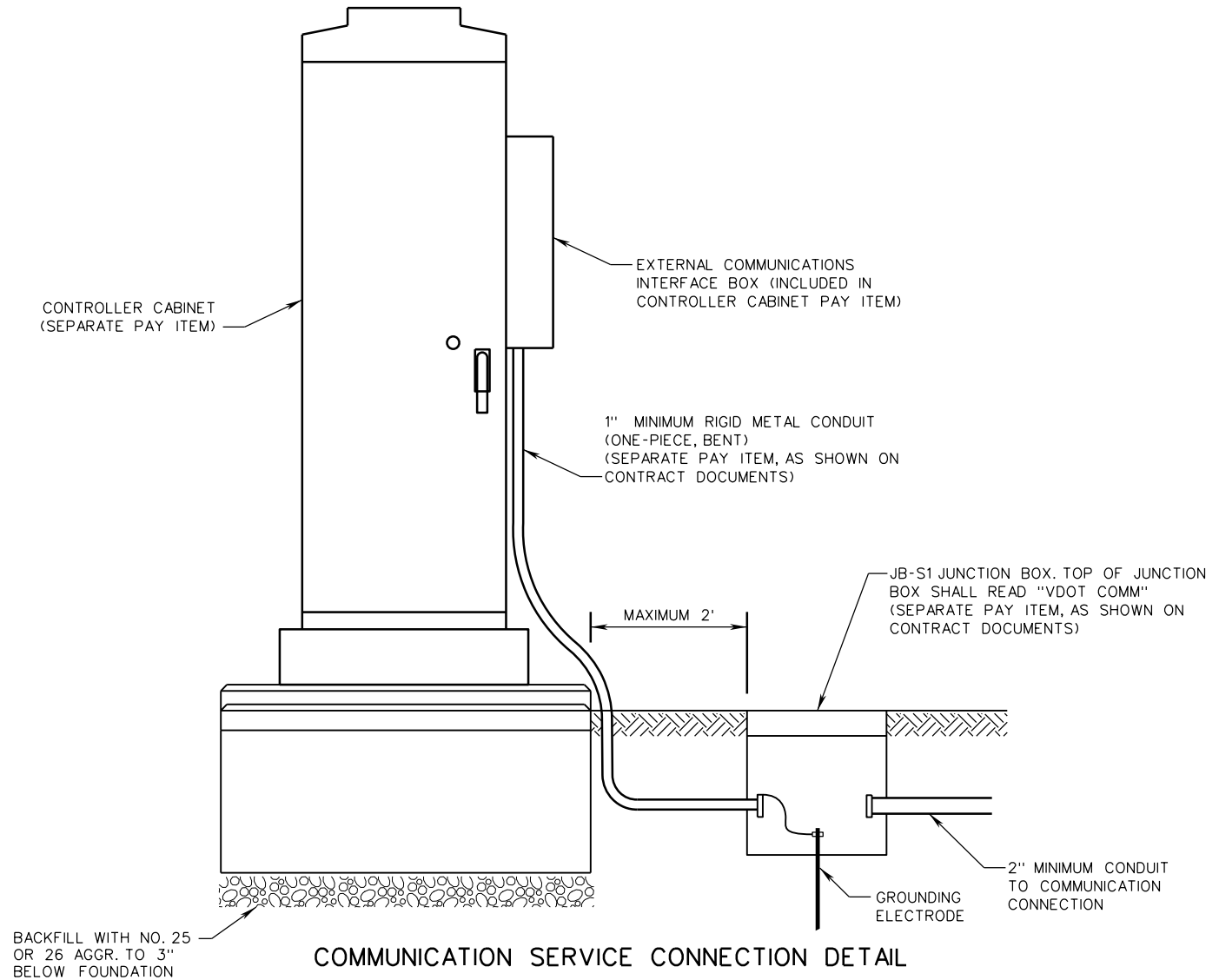
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CABINET FOUNDATION DETAILS

TYPE B TRAFFIC SIGNAL EQUIPMENT

VIRGINIA DEPARTMENT OF TRANSPORTATION

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REFERENCE

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CABINET FOUNDATION DETAILS

TYPE B TRAFFIC SIGNAL EQUIPMENT

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

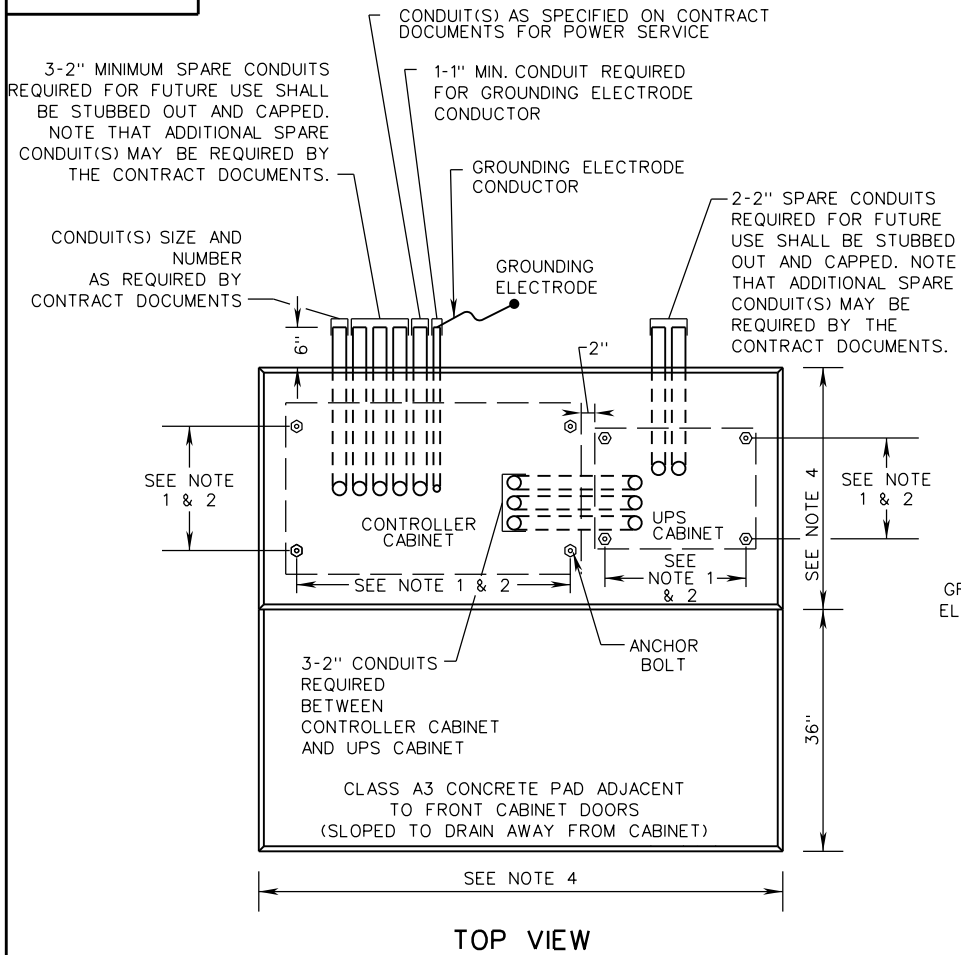
ROAD AND BRIDGE STANDARDS

REVISION DATE

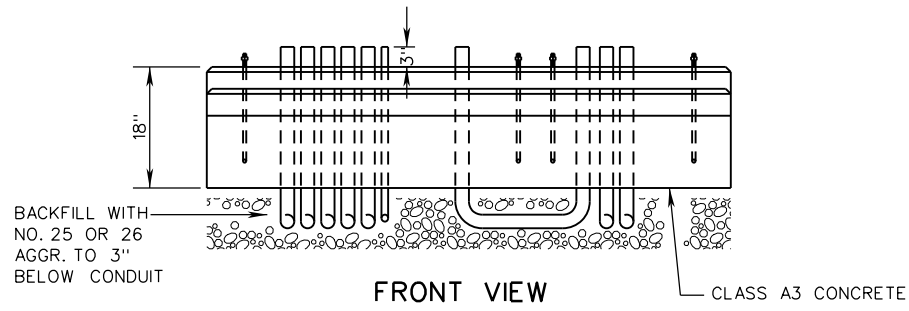
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SHEET 2 OF 2

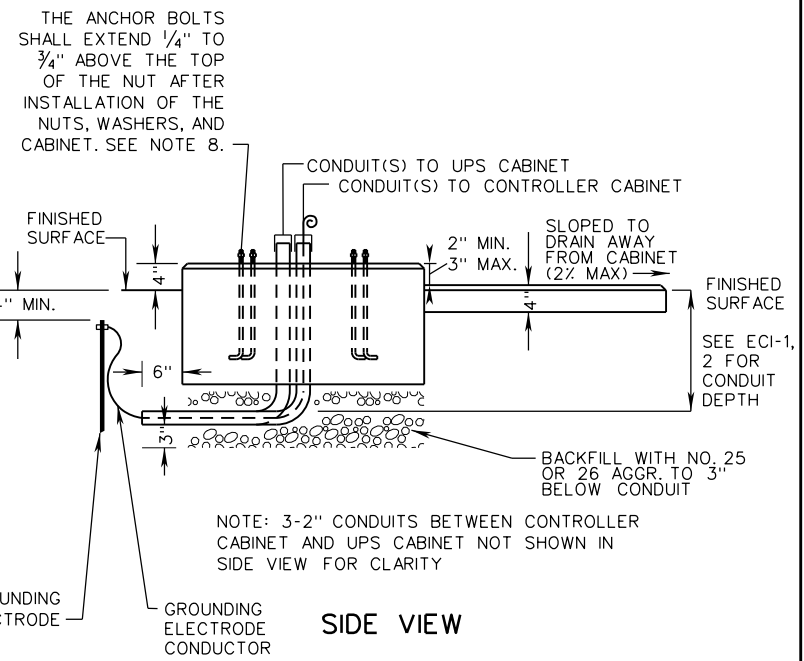
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TOP VIEW



FRONT VIEW



NOTES:

1. ANCHOR BOLTS AND BOLT TEMPLATES SHALL BE FURNISHED WITH BOTH CABINETS.
2. THE CONTROLLER CABINET AND UPS CABINET SHALL BE CENTERED FROM FRONT TO BACK ON THE FOUNDATION. THE TOTAL WIDTH OF THE CONTROLLER CABINET AND UPS CABINET SHALL BE CENTERED FROM SIDE TO SIDE ON THE FOUNDATION.
3. THE CONTROLLER CABINET AND UPS CABINET AT THE INSIDE AND OUTSIDE FOUNDATION JOINTS SHALL BE SEALED WITH AN APPROVED WATERPROOF SILICONE SEALANT.
4. THE FOUNDATION WIDTH AND LENGTH SHALL PROJECT A MINIMUM 4" BEYOND ALL SIDES OF THE CABINETS.
5. EXCAVATED AREAS SHALL BE BACKFILLED WITH AGGREGATE.
6. CF-4 FOUNDATION IS INTENDED FOR USE WITH TYPE "A" (NEMA TS-2) TRAFFIC SIGNAL EQUIPMENT CABINET WITH SEPARATE UPS CABINET.
7. DOOR HINGE LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 703 OF THE SPECIFICATIONS.
8. EACH CABINET SHALL HAVE FOUR 3/4" DIA. X 16" LONG WITH 2" 90 DEGREE BEND ANCHOR BOLTS.

ROAD AND BRIDGE STANDARDS	
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CABINET FOUNDATION DETAILS

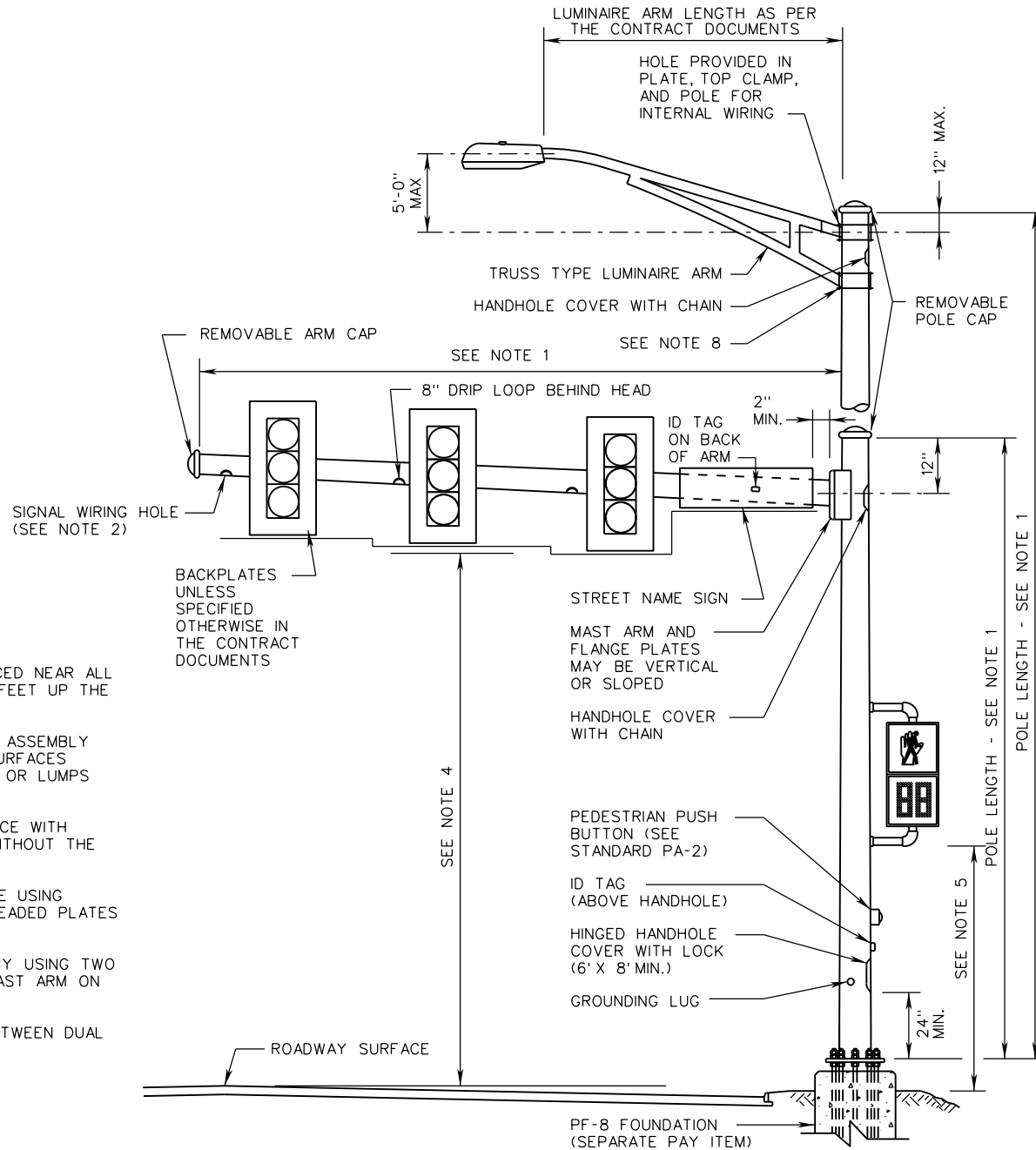
TYPE A TRAFFIC SIGNAL EQUIPMENT CABINET AND UPS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
700 703

NOTES:

1. AS REQUIRED BY THE SPECIFICATIONS.
2. SIGNAL WIRING HOLE SHALL BE LOCATED ON THE BOTTOM OF THE ARM DIRECTLY BEHIND THE HANGER ASSEMBLY WHEN STANDARD SM-3 HANGER ASSEMBLIES ARE REQUIRED. SIGNAL WIRING SHALL BE CONCEALED IN THE STANDARD SM-3 HANGER ASSEMBLIES.
3. THE ALIGNMENT OF THE LUMINAIRE ARM SHALL BE AS SHOWN IN THE CONTRACT DOCUMENTS.
4. AFTER THE LOADS ARE APPLIED, THE VERTICAL CLEARANCE FROM THE HIGHEST POINT OF THE PAVEMENT SURFACE SHALL BE:
 - A. 16' MINIMUM (15' MINIMUM FOR MAINTENANCE ACTIVITIES) TO THE LOWEST POINT OF THE SIGNAL HEAD ASSEMBLIES (INCLUDING BACKPLATES) AND SIGNS.
 - B. 25' MAXIMUM TO THE TOPS OF THE SIGNAL HOUSINGS.
5. THE MOUNTING HEIGHT FROM THE PEDESTRIAN PATH (OR THE HIGHEST POINT OF THE PAVEMENT SURFACE IF THERE IS NO PEDESTRIAN PATH) TO THE LOWEST POINT OF THE SIGNAL HOUSING (INCLUDING BRACKETS AND BACKPLATE) SHALL BE AS PER THE CONTRACT DOCUMENTS.
6. A "J" HOOK FOR WIRE SUPPORT SHALL BE PLACED NEAR ALL HANDHOLES THAT ARE LOCATED MORE THAN 4 FEET UP THE STRUCTURE.
7. MAST ARMS MAY BE SPLICED. IF SPLICED, FIELD ASSEMBLY SHALL ACHIEVE A SNUG TIGHT JOINT. MATING SURFACES SHALL BE SMOOTH AND FREE OF BURRS, DENTS, OR LUMPS OF ZINC.
8. POLE CLAMP SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS WITHOUT THE USE OF SPACERS OR SHIMS.
9. MAST ARMS SHALL BE CONNECTED TO THE POLE USING THRU-BOLTS. NEITHER WELDED STUDS NOR THREADED PLATES WILL BE ALLOWED.
10. DUAL MAST ARM CONNECTIONS MAY BE MADE BY USING TWO SINGLE ARM CONNECTIONS WITH THE LONGER MAST ARM ON THE BOTTOM.
11. SEE THE CONTRACT DOCUMENTS FOR ANGLE BETWEEN DUAL MAST ARMS.



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SIGNAL POLE DETAILS

MAST ARM AND COMBINATION LUMINAIRE MAST ARM POLE

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

700



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 4











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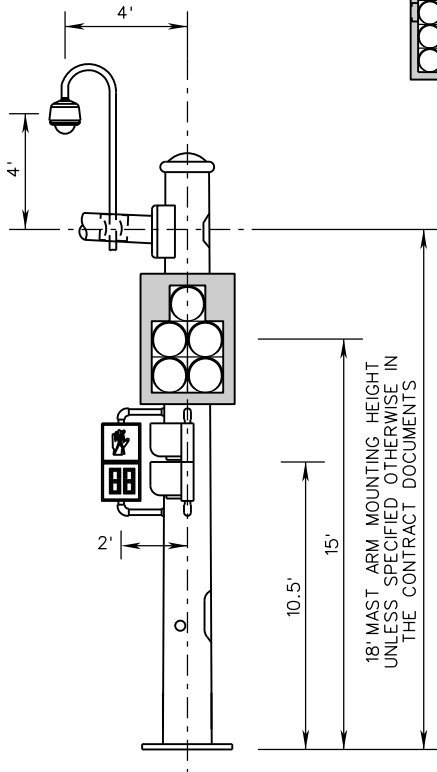
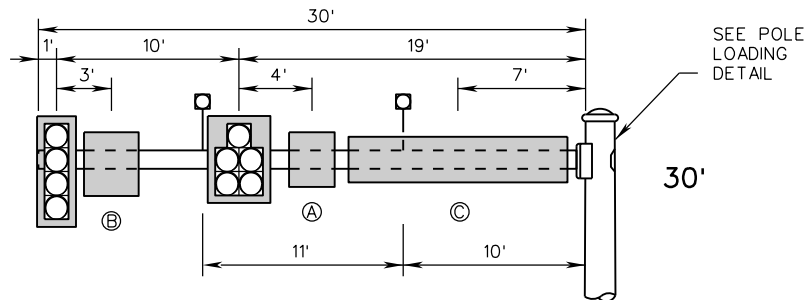
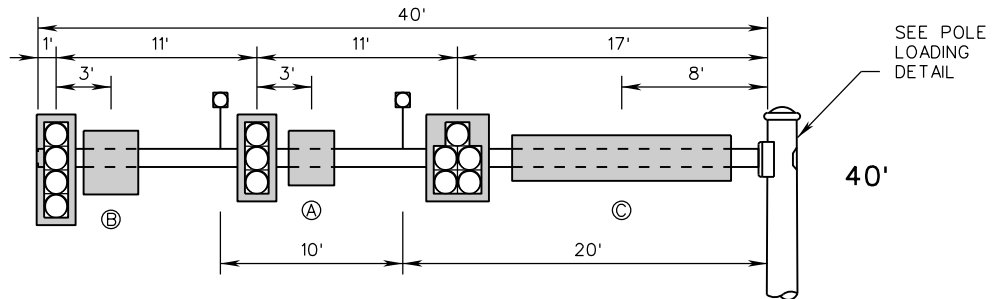
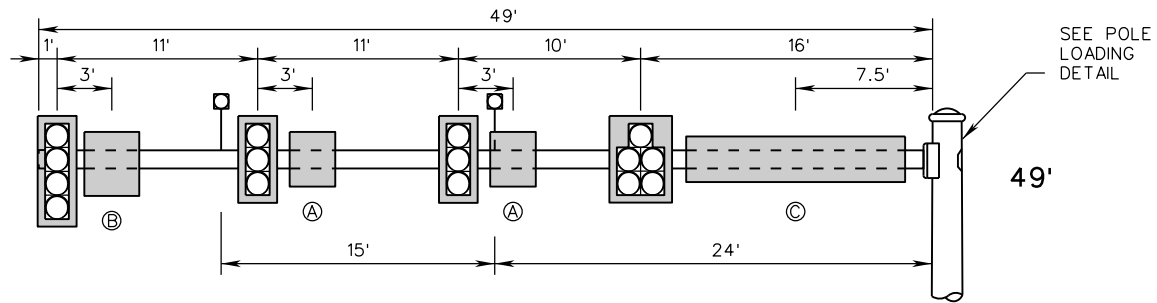
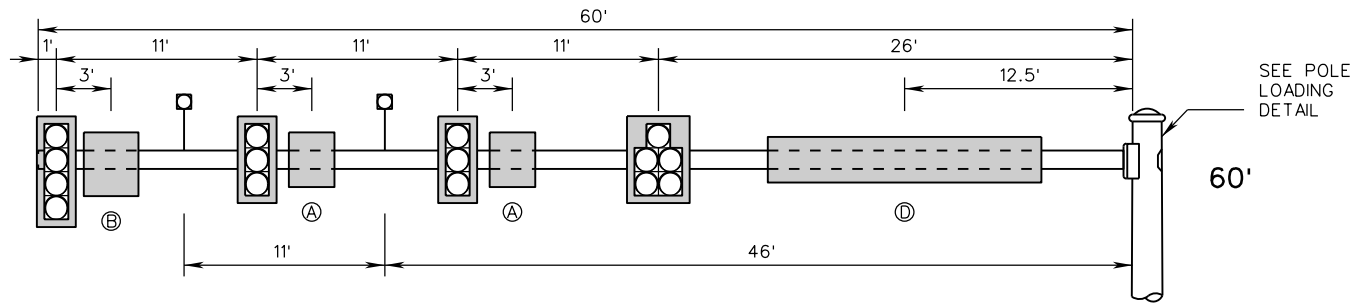
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NOTES:

1. THESE LOADING REQUIREMENTS SHALL BE USED FOR THE DESIGN OF ALL NEW MAST ARM STRUCTURES, EXCEPT IN THE FOLLOWING SITUATIONS WHERE THE STRUCTURE SHALL REQUIRE A PROJECT-SPECIFIC DESIGN:
 - THE WIND LOADS OR DEAD LOADS ON THE MAST ARM STRUCTURE SPECIFIED ON THE PLANS WILL EXCEED WHAT IS SHOWN ON THIS STANDARD FOR THE PROPOSED ARM LENGTH.
 - THE STRUCTURE IS A DUAL ARM STRUCTURE WHERE THE ARMS ARE NOT AT 90 DEGREES TO EACH OTHER.
2. EMERGENCY VEHICLE PREEMPTION DEVICES, PEDESTRIAN PUSH BUTTONS, AND ANTENNAE SHALL BE CONSIDERED TO HAVE NEGLIGIBLE WEIGHT AND SURFACE AREA FOR THE PURPOSES OF STRUCTURAL DESIGN OF THE MAST ARM POLES AND FOUNDATIONS.
3. FOR DUAL MAST ARM STRUCTURES WITH TWO ARMS AT 90 DEGREES TO EACH OTHER, THE POLE AND FOUNDATION SHALL BE DESIGNED FOR THE WORST-CASE DEAD LOAD AND WIND LOAD CONDITIONS FROM EITHER ARM.
4. FOR THE PURPOSES OF WIND LOAD ANALYSIS, ALL LOADS SHALL BE TREATED AS IF THEY ARE POINTED IN THE SAME DIRECTION (FACING WIND). THERE SHALL BE NO DEDUCTIONS FOR DEVICES MOUNTED AT ANGLES.
5. THE AREAS PROVIDED DO NOT TAKE INTO ACCOUNT THE WIND DRAG COEFFICIENT.
6. UNLESS SPECIFIED OTHERWISE IN THE CONTRACT DOCUMENTS, EQUIPMENT LOADS AND SIZES SHOWN IN THIS STANDARD SHALL BE USED FOR THE STRUCTURE AND FOUNDATION DESIGN, EVEN IF LIGHTER LOADS OR SMALLER EQUIPMENT SIZES ARE PROPOSED.

DEVICE		SURFACE AREA (SEE NOTES 5 & 6)	DEAD LOAD (SEE NOTE 6)
	3-SECTION SIGNAL HEAD W/ BACKPLATE	8.7 SF	65 LBS
	4-SECTION SIGNAL HEAD W/ BACKPLATE	11.0 SF	80 LBS
	5-SECTION SIGNAL HEAD W/ BACKPLATE (IN-LINE)	13.4 SF	95 LBS
	5-SECTION SIGNAL HEAD W/ BACKPLATE (DOGHOUSE/CLUSTER)	13.75 SF	105 LBS
	SP-9 PEDESTRIAN SIGNAL HEAD	2.4 SF	30 LBS
	30" x 36" SIGN	7.5 SF	22.5 LBS
	36" x 42" SIGN	10.5 SF	26.7 LBS
	12' x 2.5' STREET NAME SIGN	30 SF	66 LBS
	15' x 2.5' STREET NAME SIGN	37.5 SF	88.5 LBS
	VIDEO CAMERA	1.00 SF	22 LBS

SPECIFICATION REFERENCE 700	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. <h2 style="margin: 0;">SIGNAL POLE DETAILS</h2> <h3 style="margin: 0;">MAST ARM SIGNAL POLE MAXIMUM LOADING STANDARDS</h3> VIRGINIA DEPARTMENT OF TRANSPORTATION	 ROAD AND BRIDGE STANDARDS REVISION DATE NEW 02/16 SHEET 2 OF 4 1302.25
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POLE LOADING DETAIL

18' MAST ARM MOUNTING HEIGHT
UNLESS SPECIFIED OTHERWISE IN
THE CONTRACT DOCUMENTS

NOTES:

SEE SHEET 2 FOR NOTES.



ROAD AND BRIDGE STANDARDS

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SIGNAL POLE DETAILS

MAST ARM SIGNAL POLE MAXIMUM LOADING STANDARDS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

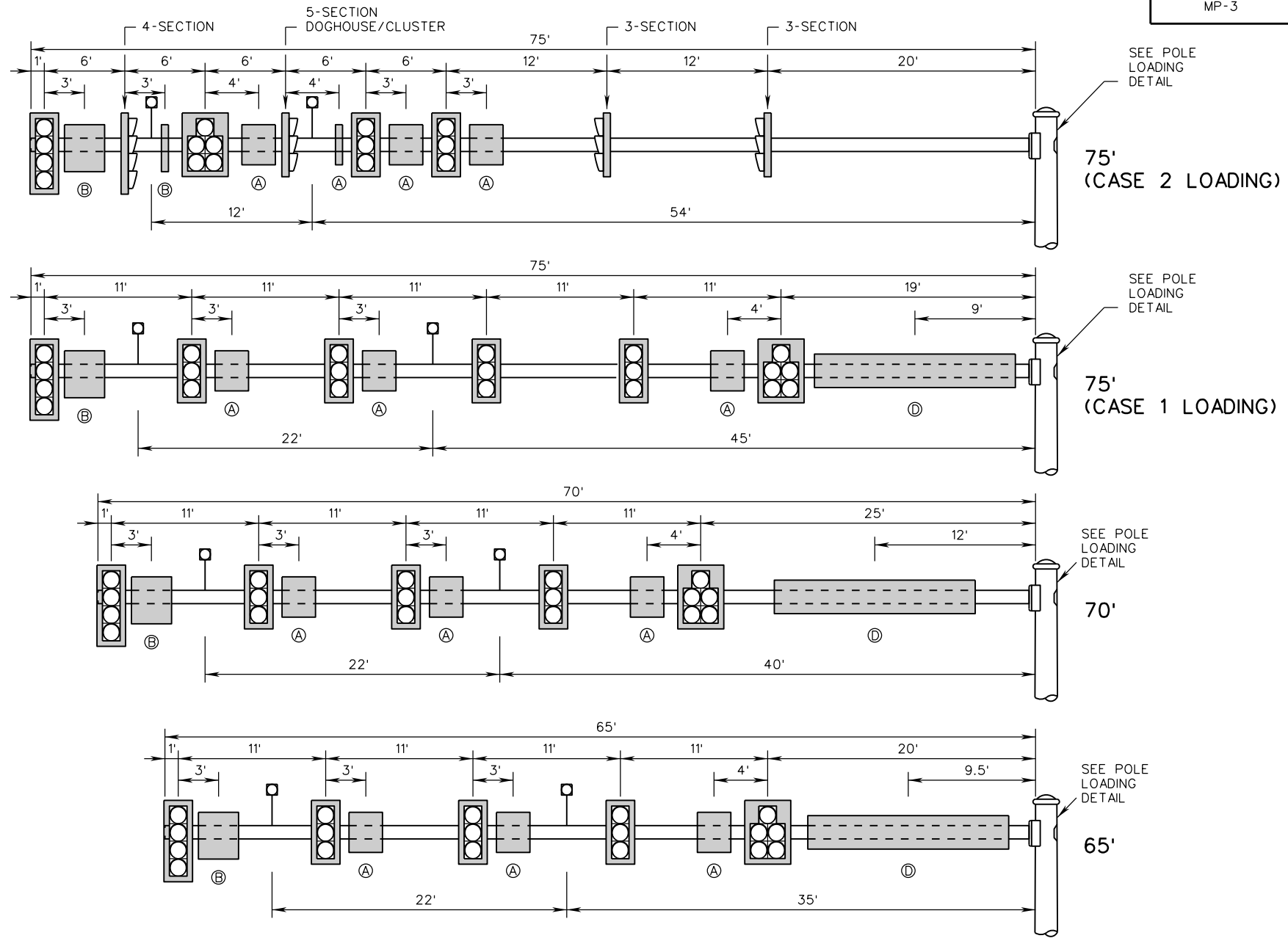
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1302.26

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NOTES:
SEE SHEET 2 FOR NOTES.

SPECIFICATION REFERENCE
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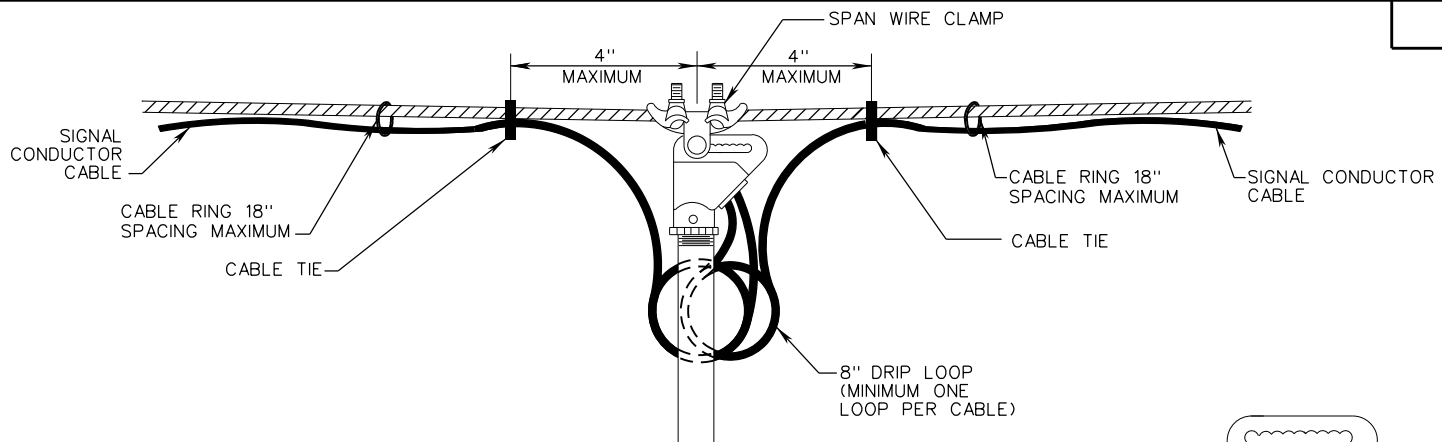
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SIGNAL POLE DETAILS

MAST ARM SIGNAL POLE MAXIMUM LOADING STANDARDS

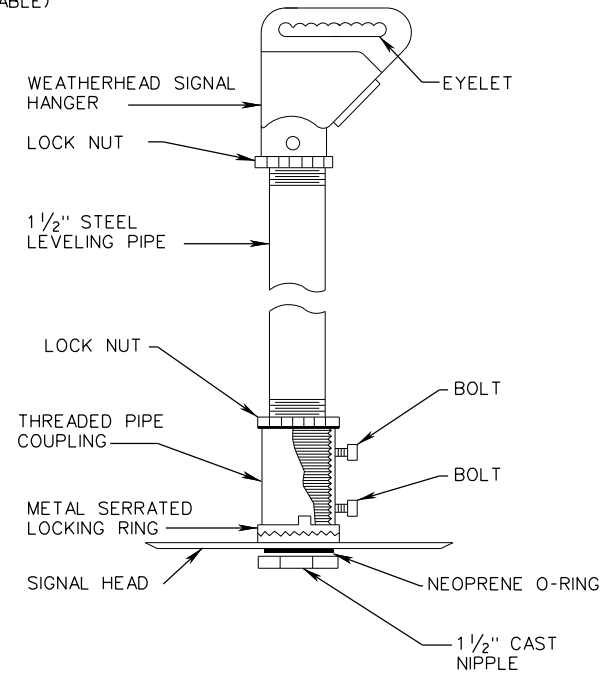
VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT	
ROAD AND BRIDGE STANDARDS	
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AN APPROVED WATERPROOF SILICONE SEALANT SHALL BE APPLIED TO THE THREAD AREA ABOVE THE PIPE COUPLING BEFORE THE LOCK NUT IS TIGHTENED

AN APPROVED WATERPROOF SILICONE SEALANT SHALL BE APPLIED ON THE CONNECTION BETWEEN THE HANGER ASSEMBLY AND SIGNAL HEAD ASSEMBLY



HANGER ASSEMBLY DETAIL

NOTES:

1. SIGNAL HEADS AND SIGNS MOUNTED ON THE SAME SPAN WIRE SHALL BE INSTALLED ON A LEVEL PLANE WITHIN THE HEIGHT CLEARANCE REQUIREMENT IN TA-1.
2. CONDUCTOR CABLES SHALL BE CONTINUOUS FROM THE CABINET TO THE NEAREST SIGNAL HEAD TO WHICH IT APPLIES EXCEPT CABLE TERMINATIONS MAY BE ALLOWED ON THE POLE TERMINAL STRIP WHEN REQUIRED BY THE CONTRACT DOCUMENTS. THE CABLE SHALL ALSO BE CONTINUOUS FROM THE FIRST SIGNAL HEAD TO ANY ADDITIONAL SIGNAL HEADS WITH TERMINATION ON THE TERMINALS WITHIN THE SIGNAL HEAD HOUSING.
3. SPACERS SHALL BE INSTALLED BETWEEN THE EYELET OF THE HANGER ASSEMBLY AND THE INSIDE OF THE SPAN WIRE CLAMP TO ELIMINATE ANY GAP.
4. BACKPLATES INTENTIONALLY NOT SHOWN SO EQUIPMENT DETAIL COULD BE SHOWN MORE CLEARLY.
5. SEE TA-1 FOR TETHER WIRE AND CLAMP DETAILS.

SPECIFICATION REFERENCE
703

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SIGNAL HEAD MOUNTING DETAILS

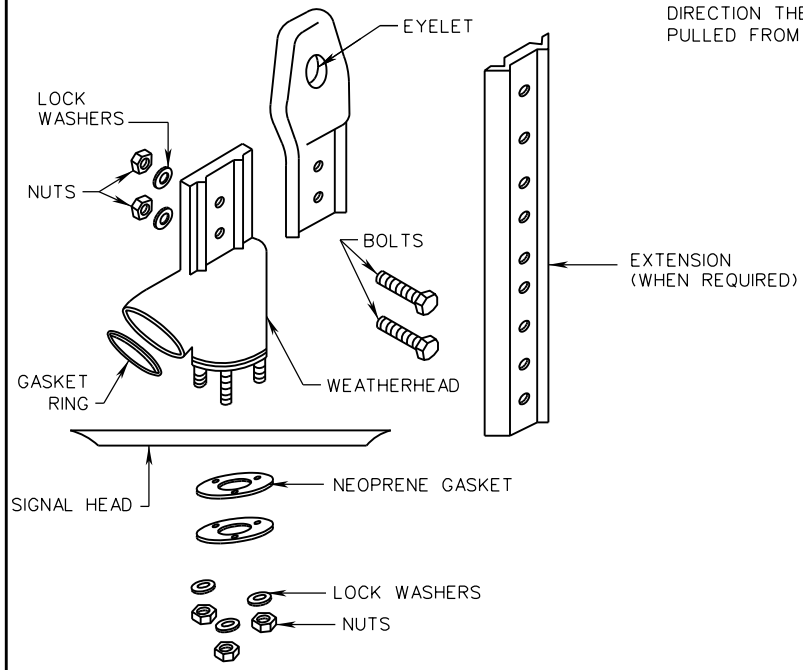
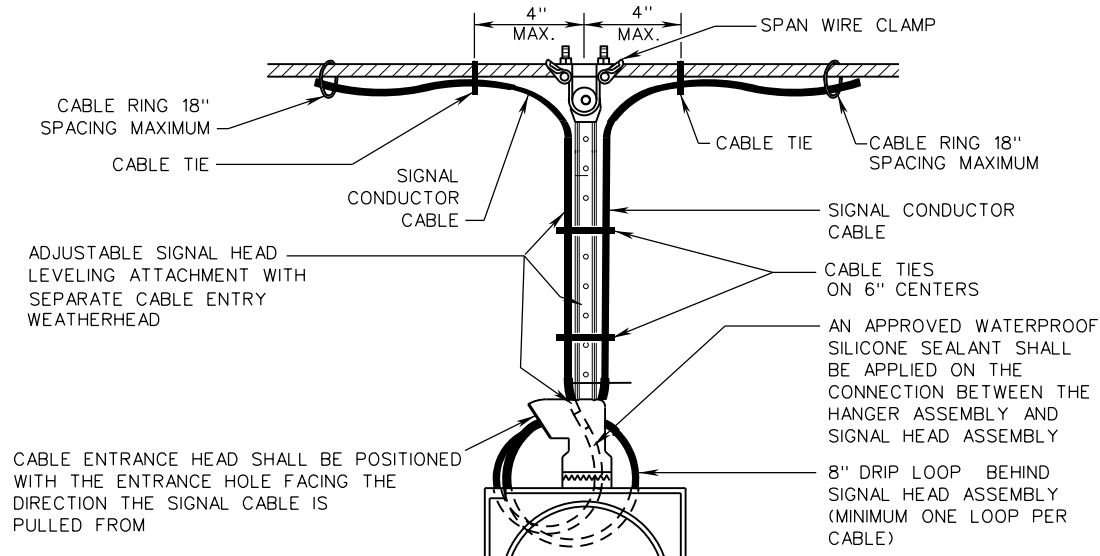
SPAN WIRE

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT	
ROAD AND BRIDGE STANDARDS	
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NOTES:

1. SIGNAL HEADS AND SIGNS MOUNTED ON THE SAME SPAN WIRE SHALL BE INSTALLED ON A LEVEL PLANE WITHIN THE HEIGHT CLEARANCE REQUIREMENT IN TA-1.
2. CONDUCTOR CABLES SHALL BE CONTINUOUS FROM THE CABINET TO THE NEAREST SIGNAL HEAD TO WHICH IT APPLIES EXCEPT CABLE TERMINATIONS MAY BE ALLOWED ON THE POLE TERMINAL STRIP WHEN REQUIRED BY THE CONTRACT DOCUMENTS. THE CABLE SHALL ALSO BE CONTINUOUS FROM THE FIRST SIGNAL HEAD TO ANY ADDITIONAL SIGNAL HEADS WITH TERMINATION ON THE TERMINALS WITHIN THE SIGNAL HEAD HOUSING.
3. SPACERS SHALL BE INSTALLED BETWEEN THE EYELET OF THE HANGER ASSEMBLY AND THE INSIDE OF THE SPAN WIRE CLAMP TO ELIMINATE ANY GAP.
4. BACKPLATES INTENTIONALLY NOT SHOWN SO EQUIPMENT DETAIL COULD BE SHOWN MORE CLEARLY.
5. SEE TA-1 FOR TETHER WIRE AND CLAMP DETAILS.



HANGER ASSEMBLY DETAILS

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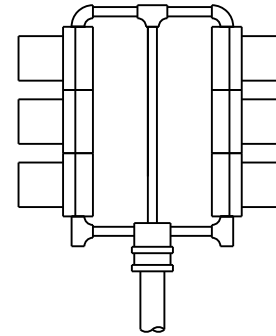
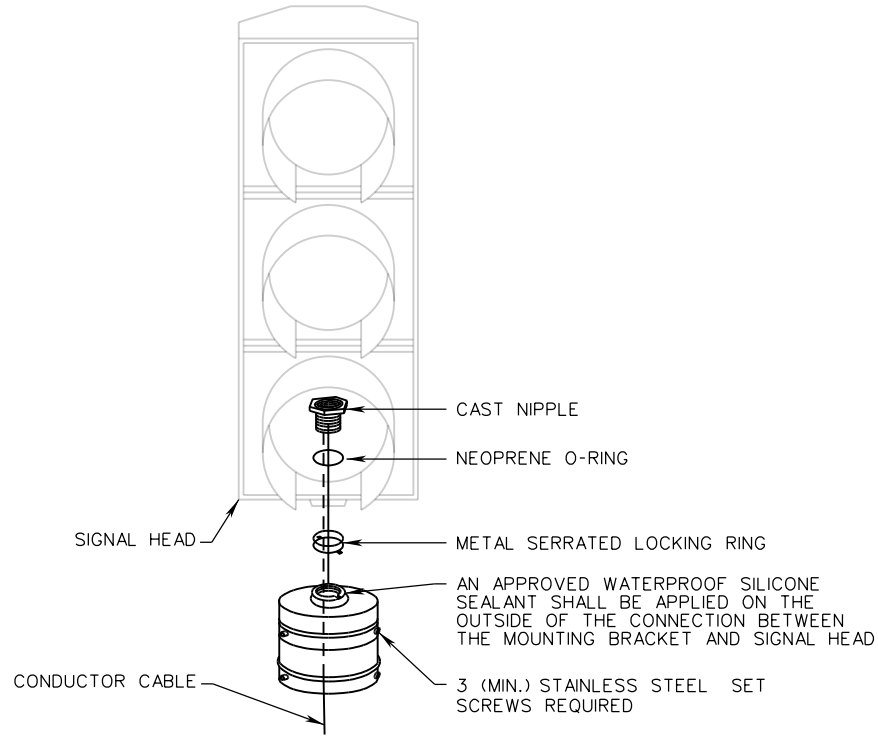
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SIGNAL HEAD MOUNTING DETAILS

SPAN WIRE

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
703



MULTI-WAY MOUNTING
DETAIL

4 1/2" POLE ADAPTOR FOR PF-2 PEDESTAL

**POLE TOP MOUNTING CAST ALUMINUM
SIGNAL HEADS ONLY**

NOTES:

1. IF PEDESTRIAN SIGNAL HEADS ARE BEING INSTALLED, THE MOUNTING ATTACHMENTS SHALL BE A TYPE SPECIFICALLY MANUFACTURED FOR THAT PURPOSE.
2. MOUNTING BRACKETS SHOWN ARE TYPICAL AND FOR ONE-WAY AND MULTI-WAY SIGNAL DISPLAYS.
3. BACKPLATES INTENTIONALLY NOT SHOWN SO EQUIPMENT DETAIL COULD BE SHOWN MORE CLEARLY.
4. SIGNAL HEADS MAY BE MOUNTED USING TRI-STUD ASSEMBLIES INSTEAD OF THE CAST NIPPLE ASSEMBLIES.

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SIGNAL HEAD MOUNTING DETAILS

POLE TOP

VIRGINIA DEPARTMENT OF TRANSPORTATION

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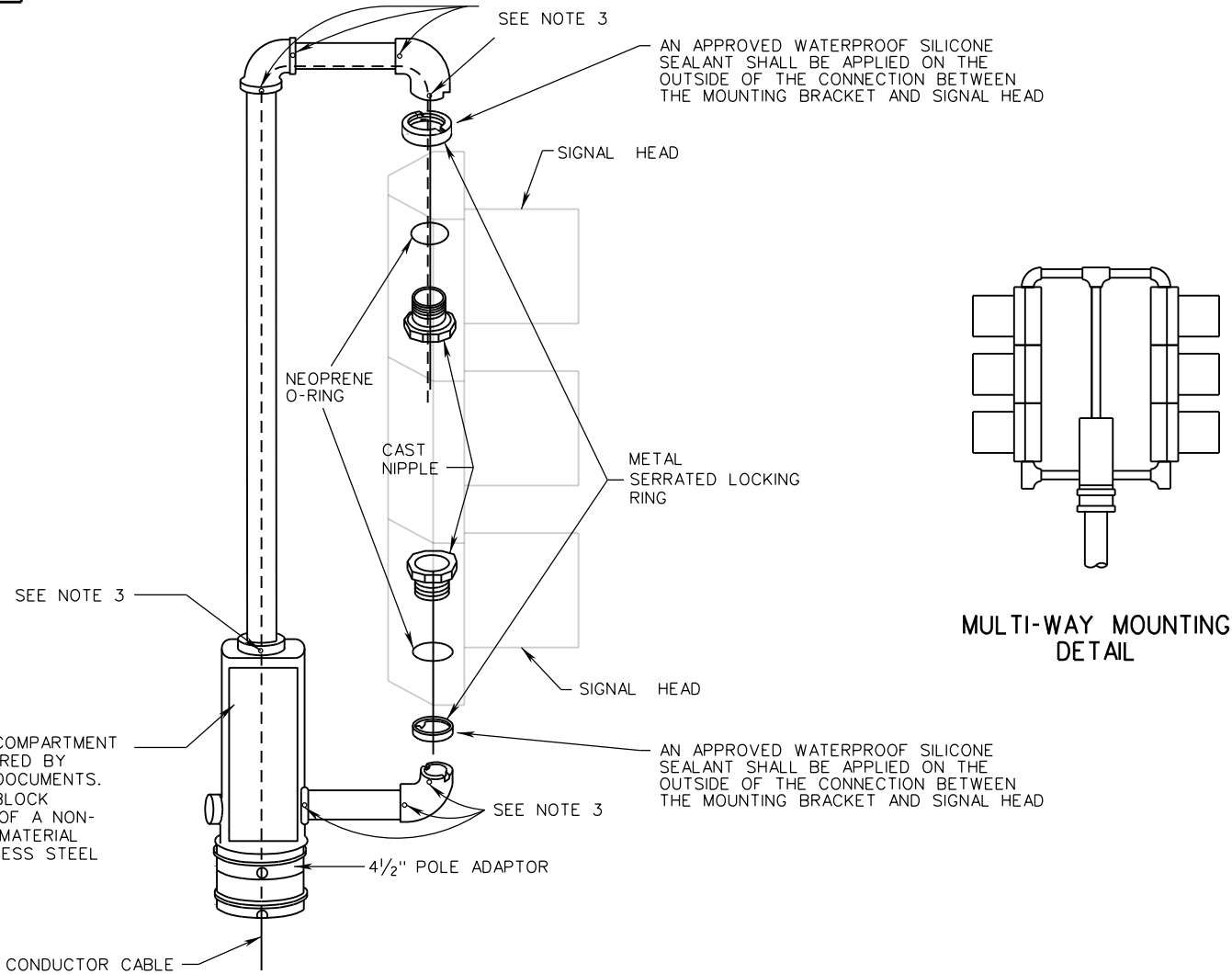
ROAD AND BRIDGE STANDARDS

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**POLE TOP MOUNTING CAST ALUMINUM
OR POLYCARBONATE SIGNAL HEADS**

NOTES:

1. IF PEDESTRIAN SIGNAL HEADS ARE BEING INSTALLED, THE MOUNTING ATTACHMENTS SHALL BE A TYPE SPECIFICALLY MANUFACTURED FOR THAT PURPOSE.
2. MOUNTING BRACKETS SHOWN ARE TYPICAL AND FOR ONE-WAY AND MULTI-WAY SIGNAL DISPLAYS.
3. SET SCREWS SHALL BE STAINLESS STEEL.
4. SIGNAL HEADS MAY BE MOUNTED USING TRI-STUD ASSEMBLIES INSTEAD OF THE CAST NIPPLE ASSEMBLIES.

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SIGNAL HEAD MOUNTING DETAILS
POLE TOP WITH TERMINAL COMPARTMENT AND BRACKET

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

703



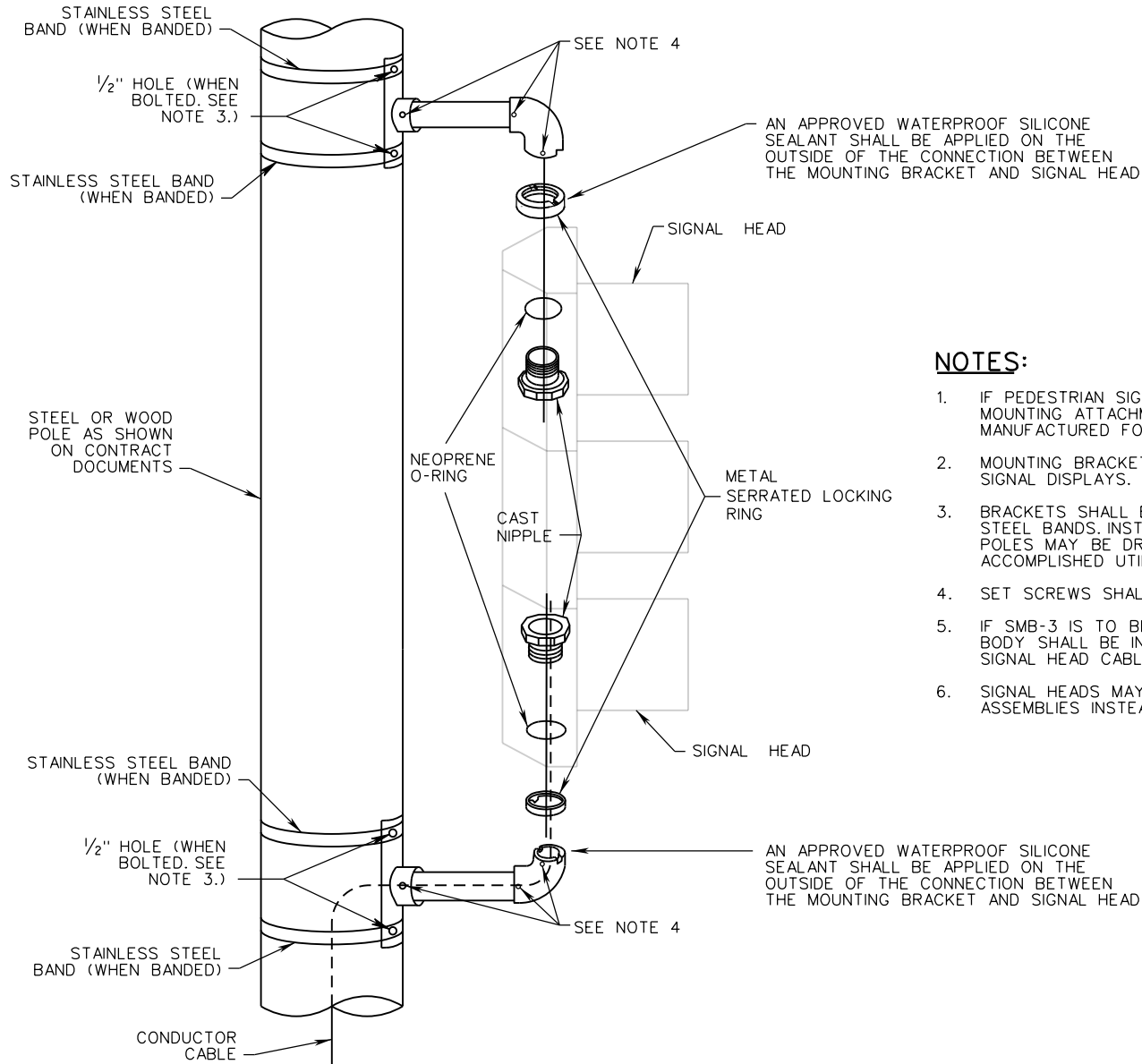
ROAD AND BRIDGE STANDARDS

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1303.41

NEW 02/16



NOTES:

1. IF PEDESTRIAN SIGNAL HEADS ARE BEING INSTALLED, THE MOUNTING ATTACHMENTS SHALL BE A TYPE SPECIFICALLY MANUFACTURED FOR THAT PURPOSE.
2. MOUNTING BRACKET SHOWN IS TYPICAL AND FOR ONE-WAY SIGNAL DISPLAYS.
3. BRACKETS SHALL BE MOUNTED TO POLE WITH STAINLESS STEEL BANDS. INSTEAD OF STAINLESS STEEL BANDS, STEEL POLES MAY BE DRILLED AND TAPPED AND MOUNTING ACCOMPLISHED UTILIZING 1/2" STAINLESS STEEL BOLTS.
4. SET SCREWS SHALL BE STAINLESS STEEL.
5. IF SMB-3 IS TO BE MOUNTED ON WOOD POLE A CONDUIT BODY SHALL BE INSTALLED IN BRACKET ARM TO CONNECT SIGNAL HEAD CABLE CONDUIT.
6. SIGNAL HEADS MAY BE MOUNTED USING TRI-STUD ASSEMBLIES INSTEAD OF THE CAST NIPPLE ASSEMBLIES.

**POLE BRACKET MOUNTING CAST ALUMINUM
OR POLYCARBONATE SIGNAL HEADS**

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SIGNAL HEAD MOUNTING DETAILS

POLE SIDE MOUNTING BRACKET

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

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ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

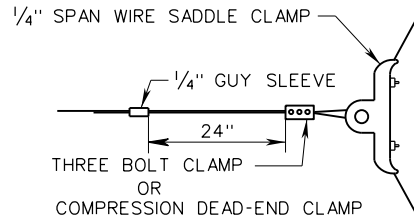
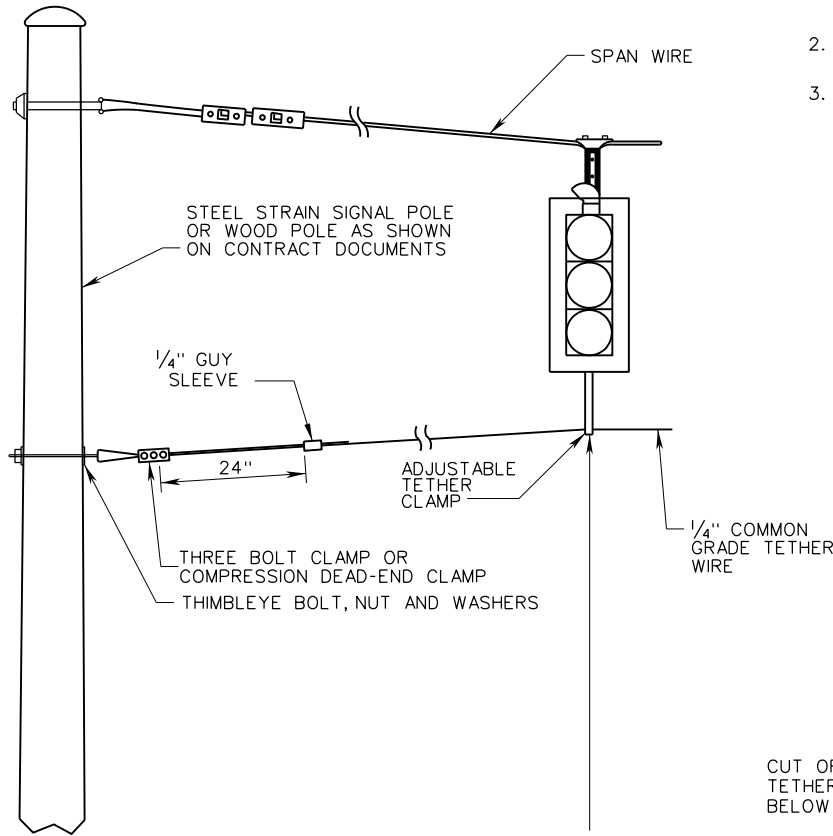
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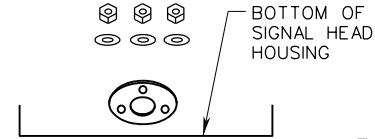
NOTES:

1. WIRING AND RIGGING SHALL BE IN ACCORDANCE WITH STANDARD WD-1 AND WD-2.
2. REFER TO STANDARD SMD-1 FOR SIGN PANEL ATTACHMENT DETAIL.
3. AFTER THE LOADS ARE APPLIED, THE VERTICAL CLEARANCE FROM THE HIGHEST POINT OF THE PAVEMENT SURFACE SHALL BE:
 - A. 16' MINIMUM (15' MINIMUM FOR MAINTENANCE ACTIVITIES) TO THE LOWEST POINT OF THE SIGNAL HEAD ASSEMBLY (INCLUDING BACKPLATE) AND SIGNS.
 - B. 25' MAXIMUM TO THE TOP OF THE SIGNAL HOUSING.

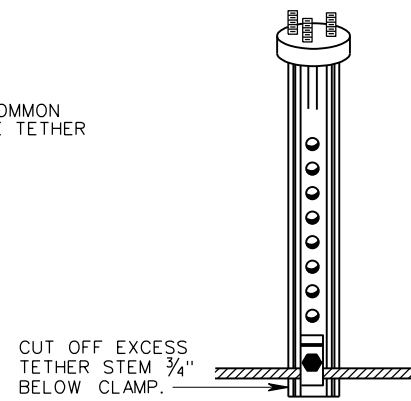


BRIDLE SPAN ATTACHMENT

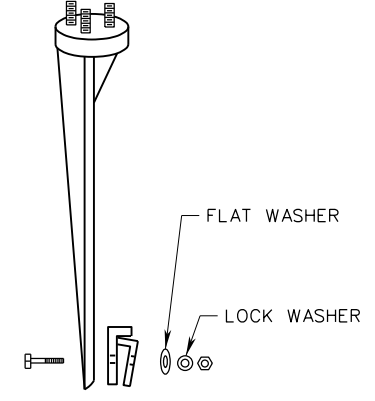
SEE NOTE 3



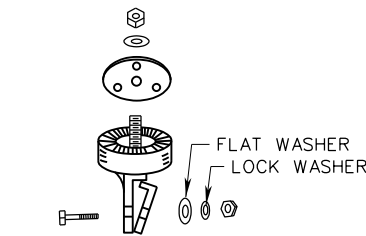
BOTTOM OF SIGNAL HEAD HOUSING



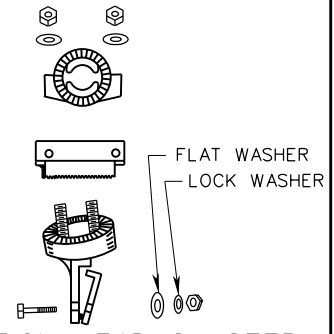
**FRONT VIEW
ADJUSTABLE TETHER CLAMP**



SIDE VIEW



TETHER CLAMP



FIVE-SECTION HEAD CLUSTER TETHER CLAMP

SPECIFICATION REFERENCE

703

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

TETHER WIRE DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

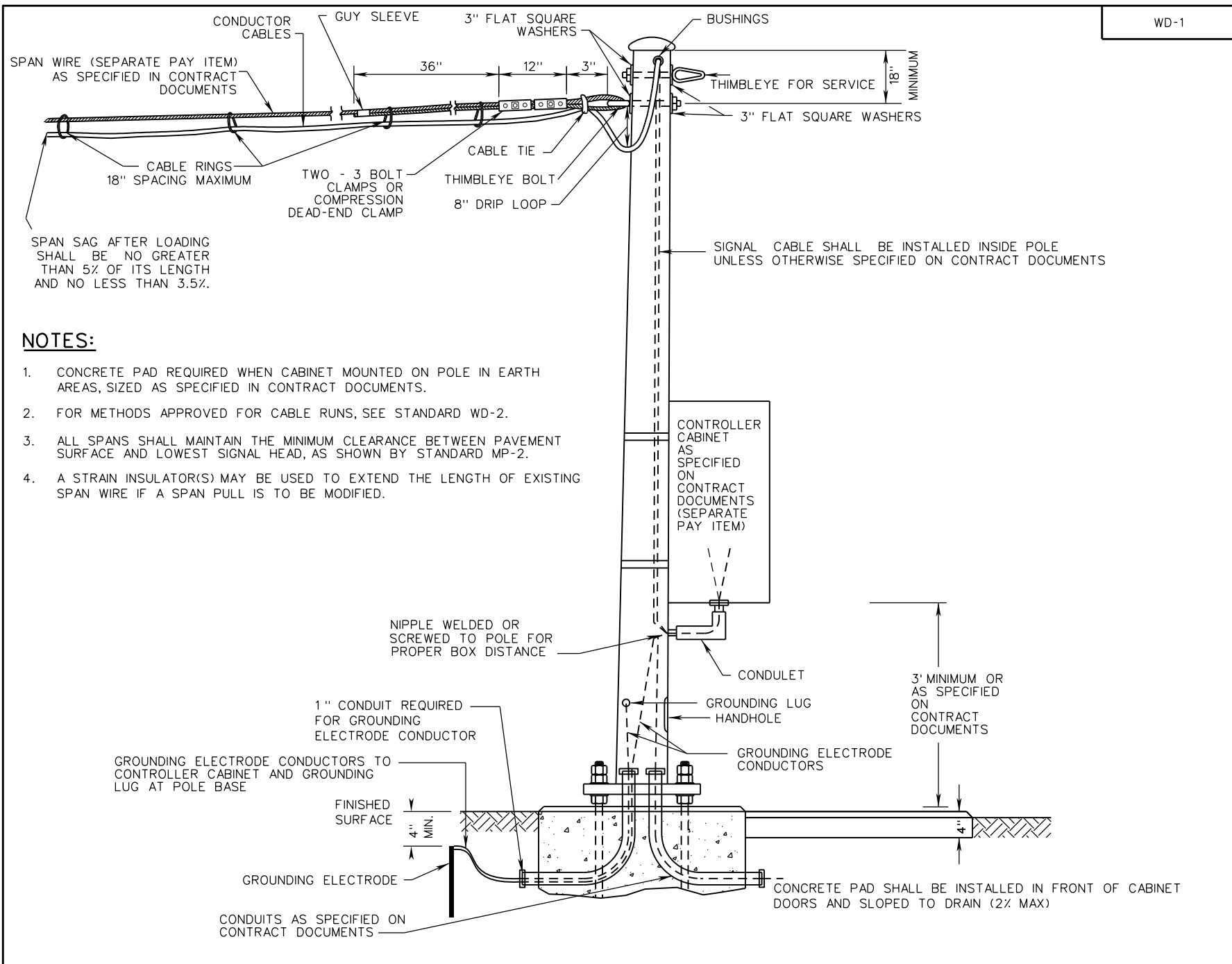
ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

SHEET 1 OF 1

1304.10



NOTES:

1. CONCRETE PAD REQUIRED WHEN CABINET MOUNTED ON POLE IN EARTH AREAS, SIZED AS SPECIFIED IN CONTRACT DOCUMENTS.
2. FOR METHODS APPROVED FOR CABLE RUNS, SEE STANDARD WD-2.
3. ALL SPANS SHALL MAINTAIN THE MINIMUM CLEARANCE BETWEEN PAVEMENT SURFACE AND LOWEST SIGNAL HEAD, AS SHOWN BY STANDARD MP-2.
4. A STRAIN INSULATOR(S) MAY BE USED TO EXTEND THE LENGTH OF EXISTING SPAN WIRE IF A SPAN PULL IS TO BE MODIFIED.

SPECIFICATION REFERENCE
700

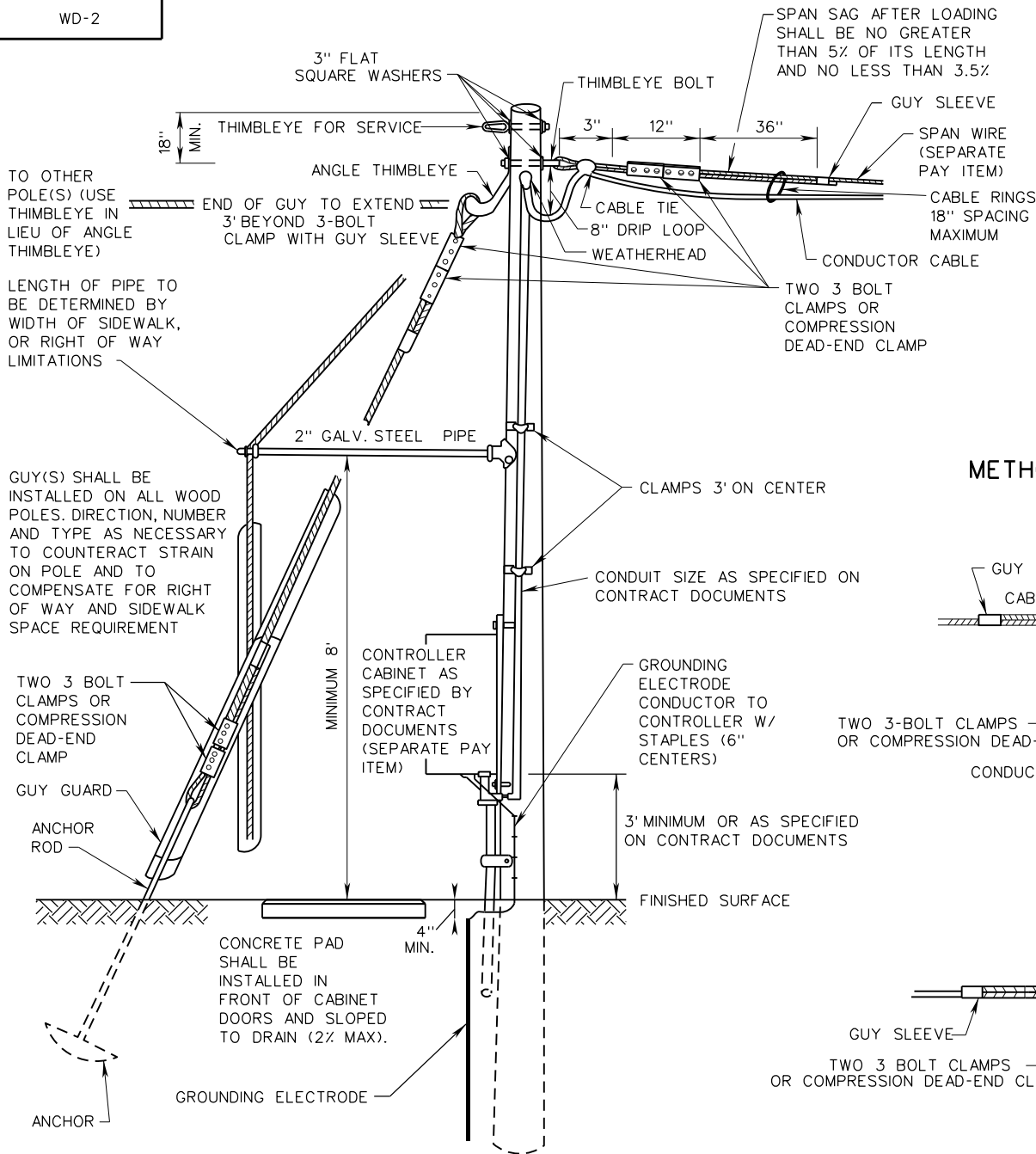
A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

STEEL STRAIN SIGNAL POLE WIRING AND RIGGING

DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

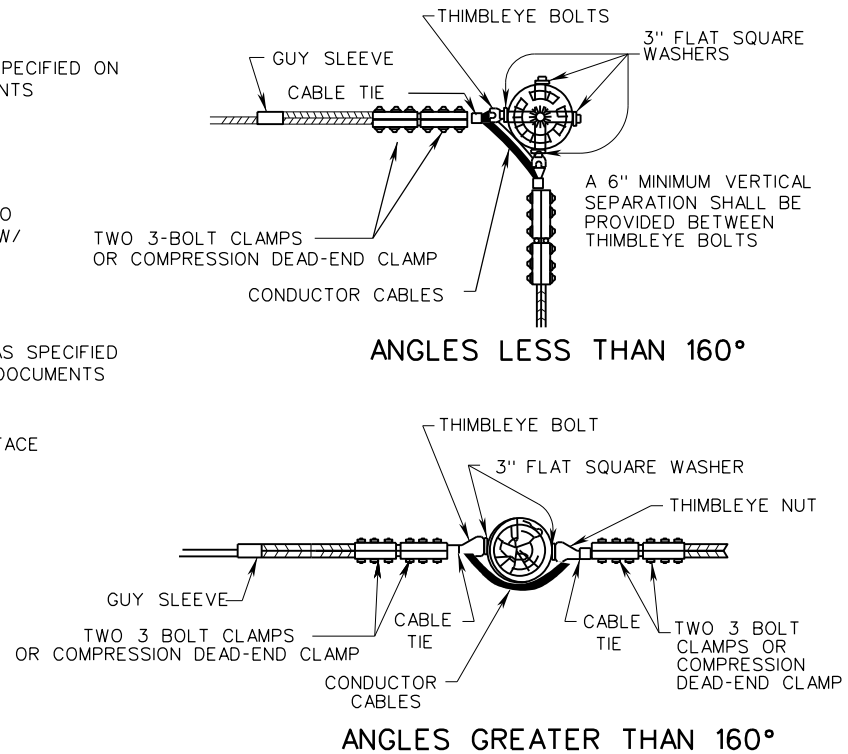
VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
02/16	1306.10



NOTES:

1. CONCRETE PAD REQUIRED WHEN CABINET MOUNTED ON POLE IN EARTH AREAS, SIZED AS SPECIFIED ON CONTRACT DOCUMENTS.
2. ALL SPANS SHALL MAINTAIN THE MINIMUM CLEARANCE BETWEEN PAVEMENT SURFACE AND LOWEST SIGNAL HEAD, AS SHOWN BY STANDARD MP-2.
3. A STRAIN INSULATOR(S) MAY BE USED TO EXTEND THE LENGTH OF EXISTING SPAN WIRE IF A SPAN PULL IS TO BE MODIFIED.
4. CABINET SHALL BE MOUNTED TO ALLOW ADEQUATE CLEARANCE BETWEEN OPEN CABINET DOOR, GUY WIRES, AND ASSOCIATED HARDWARE.
5. CONTRACTOR SHALL FURNISH THE DESIGN OF WOOD POLE TO INCLUDE CLASS, TYPE, DEPTH, AND GUY WIRE SIZE AND PLACEMENT UNLESS OTHERWISE SPECIFIED BY CONTRACT DOCUMENTS.

METHODS APPROVED FOR CABLE RUNS (TOP VIEW)



ROAD AND BRIDGE STANDARDS

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

WOOD POLE WIRING AND RIGGING DETAILS

SPECIFICATION REFERENCE

SHEET 1 OF 1

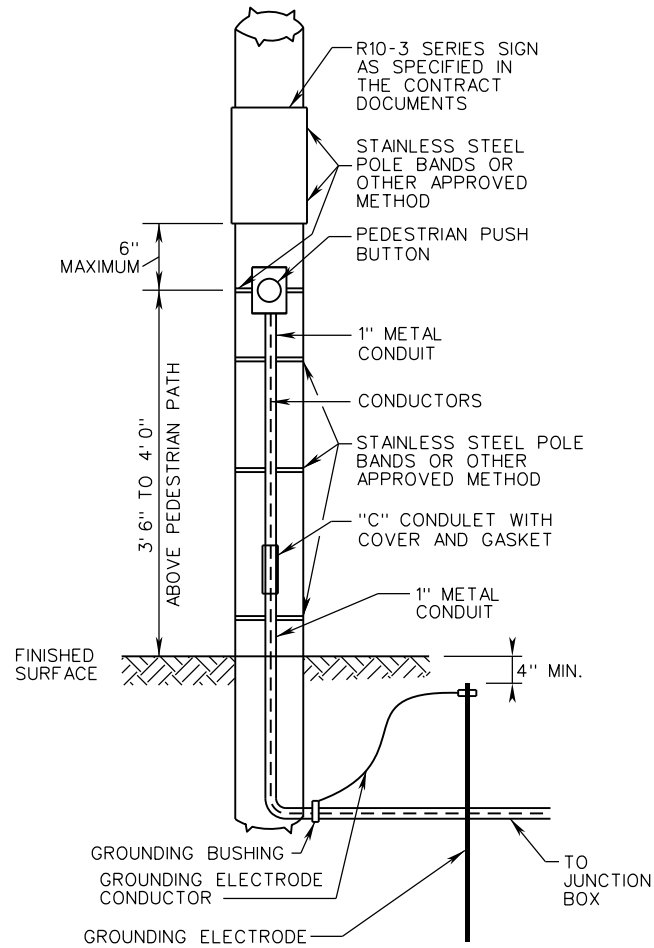
REVISION DATE

1306.20

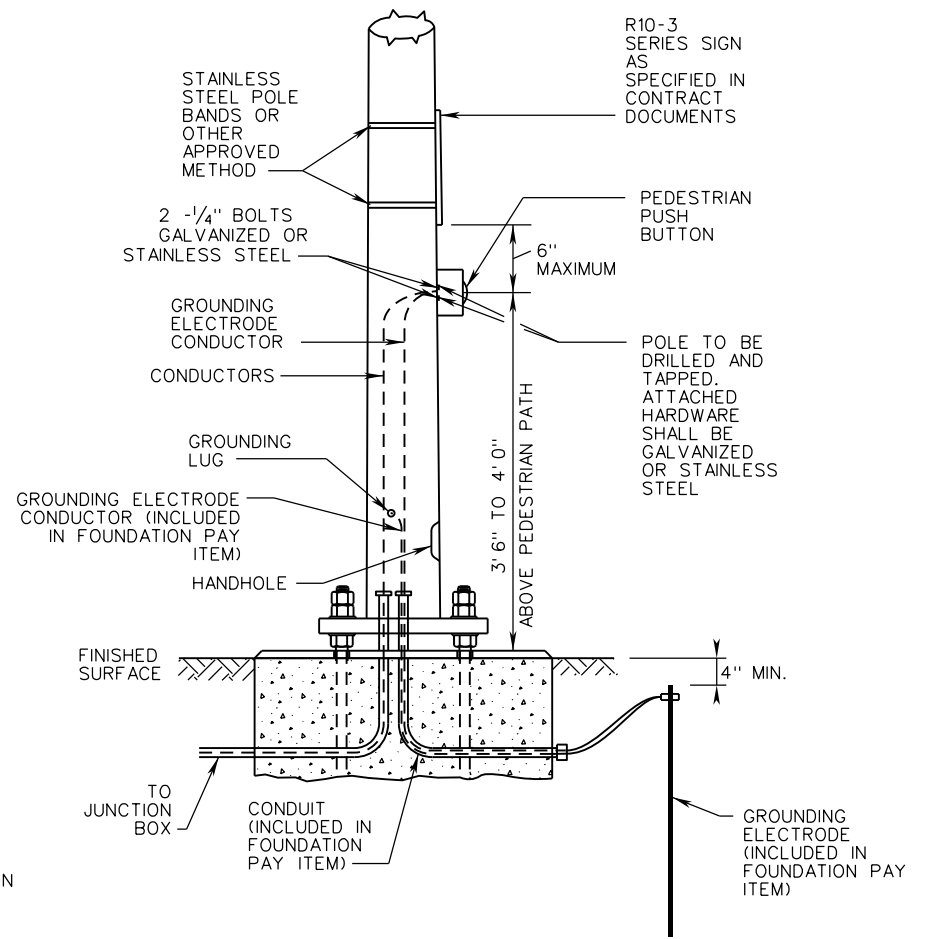
02/16

VIRGINIA DEPARTMENT OF TRANSPORTATION

700
703



PA-1
WOOD/CONCRETE POLE



PA-2
SIGNAL/PEDESTAL POLE

SPECIFICATION REFERENCE

700
703

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**PEDESTRIAN ACTUATION
DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

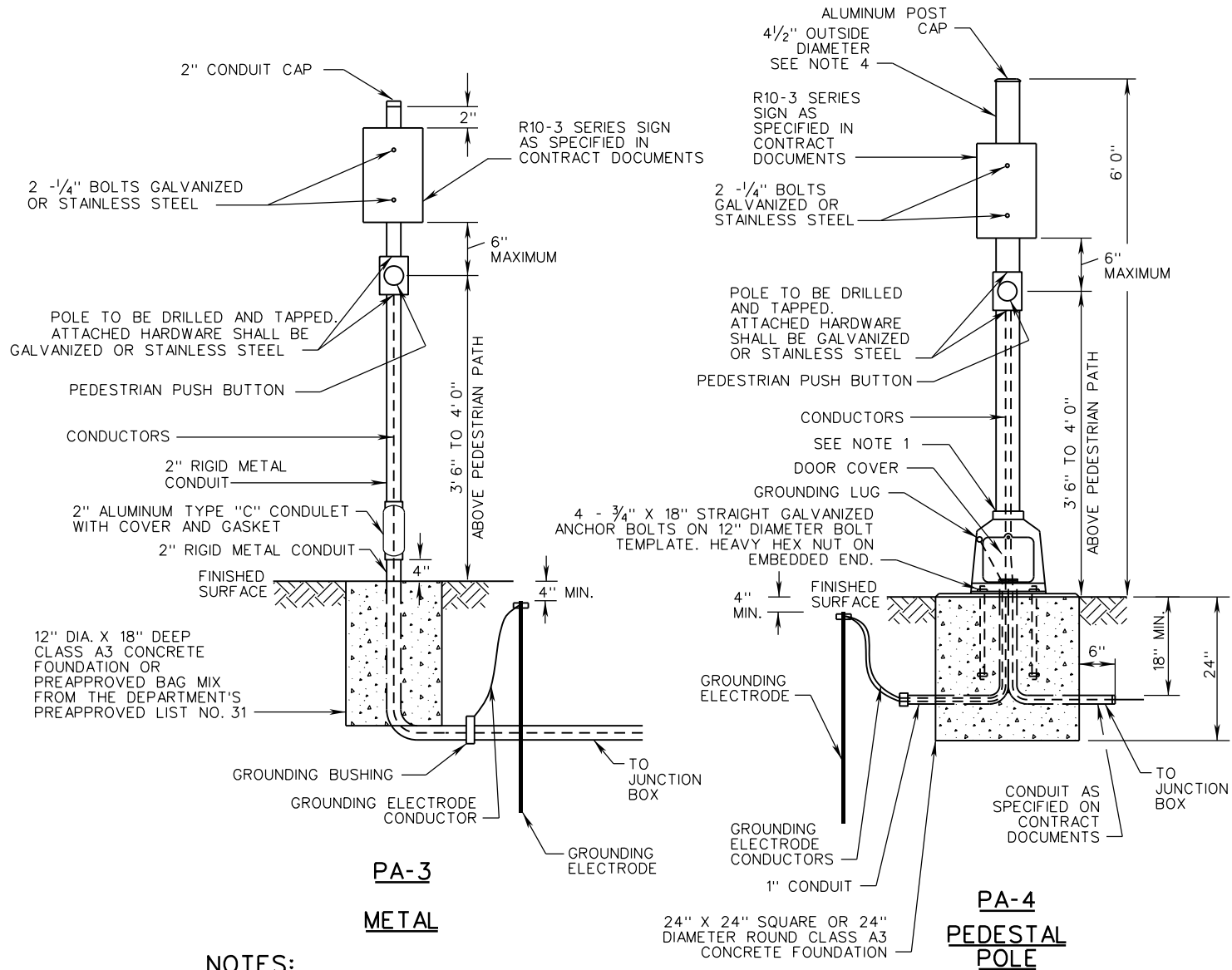
ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

SHEET 1 OF 2

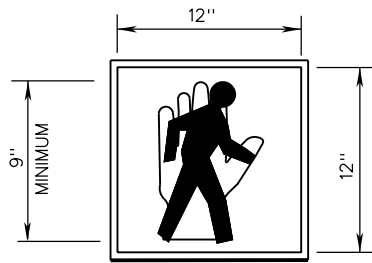
1307.10



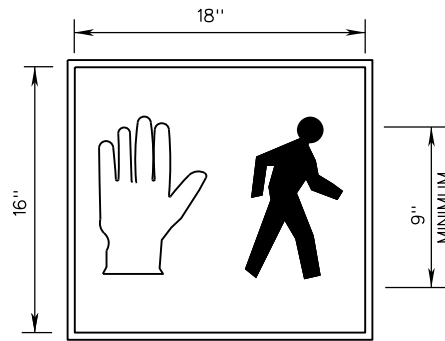
NOTES:

1. IF POLE SHAFT SCREWS INTO TRANSFORMER BASE INSTEAD OF BEING WELDED, THREE SET SCREWS OR OTHER APPROVED METHOD SHALL BE USED TO LOCK SHAFT IN POSITION.
2. PEDESTAL POLE SHALL HAVE A BREAKAWAY TRANSFORMER TYPE BASE. THE TRANSFORMER BASE SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.
3. SEE PEDESTAL POLE STANDARDS (PF-2) FOR INSTALLATION DETAILS.
4. STRUCTURAL TUBE MATERIAL SHALL BE ALUMINUM 6061-T6 WITH MINIMUM 0.337" WALL THICKNESS.

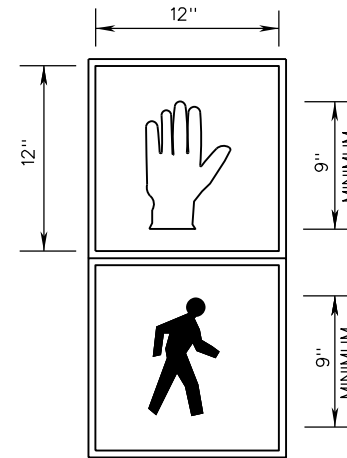
<p>SPECIFICATION REFERENCE</p> <p>700 703</p>	<p>A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.</p> <h2 style="margin: 0;">PEDESTRIAN ACTUATION</h2> <h3 style="margin: 0;">DETAILS</h3> <p style="margin: 0;">VIRGINIA DEPARTMENT OF TRANSPORTATION</p>	<p>VDOT</p> <p>ROAD AND BRIDGE STANDARDS</p> <p>REVISION DATE SHEET 2 OF 2</p> <p>NEW 02/16 1307.11</p>
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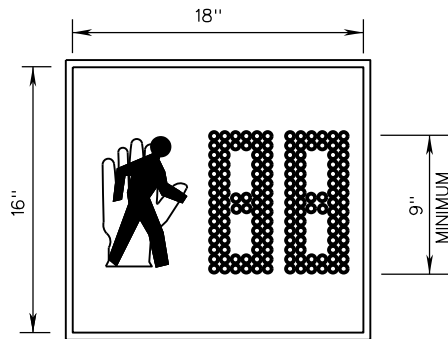
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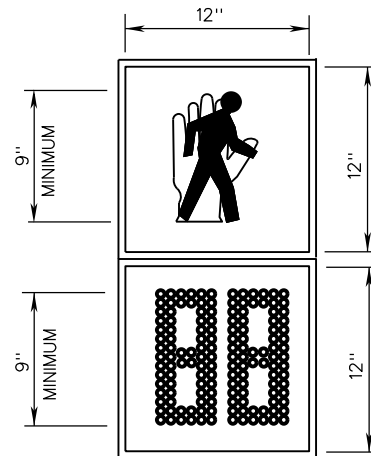
SP-6



SP-7



SP-8



SP-9

NOTES:

1. COUNTDOWN DISPLAYS (SP-8, SP-9) SHALL BE PROVIDED WHERE THE PEDESTRIAN CHANGE INTERVAL IS GREATER THAN 7 SECONDS.



ROAD AND BRIDGE STANDARDS

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

PEDESTRIAN SIGNAL INDICATION
DETAILS

SPECIFICATION
REFERENCE

SHEET 1 OF 1

REVISION DATE

1308.10

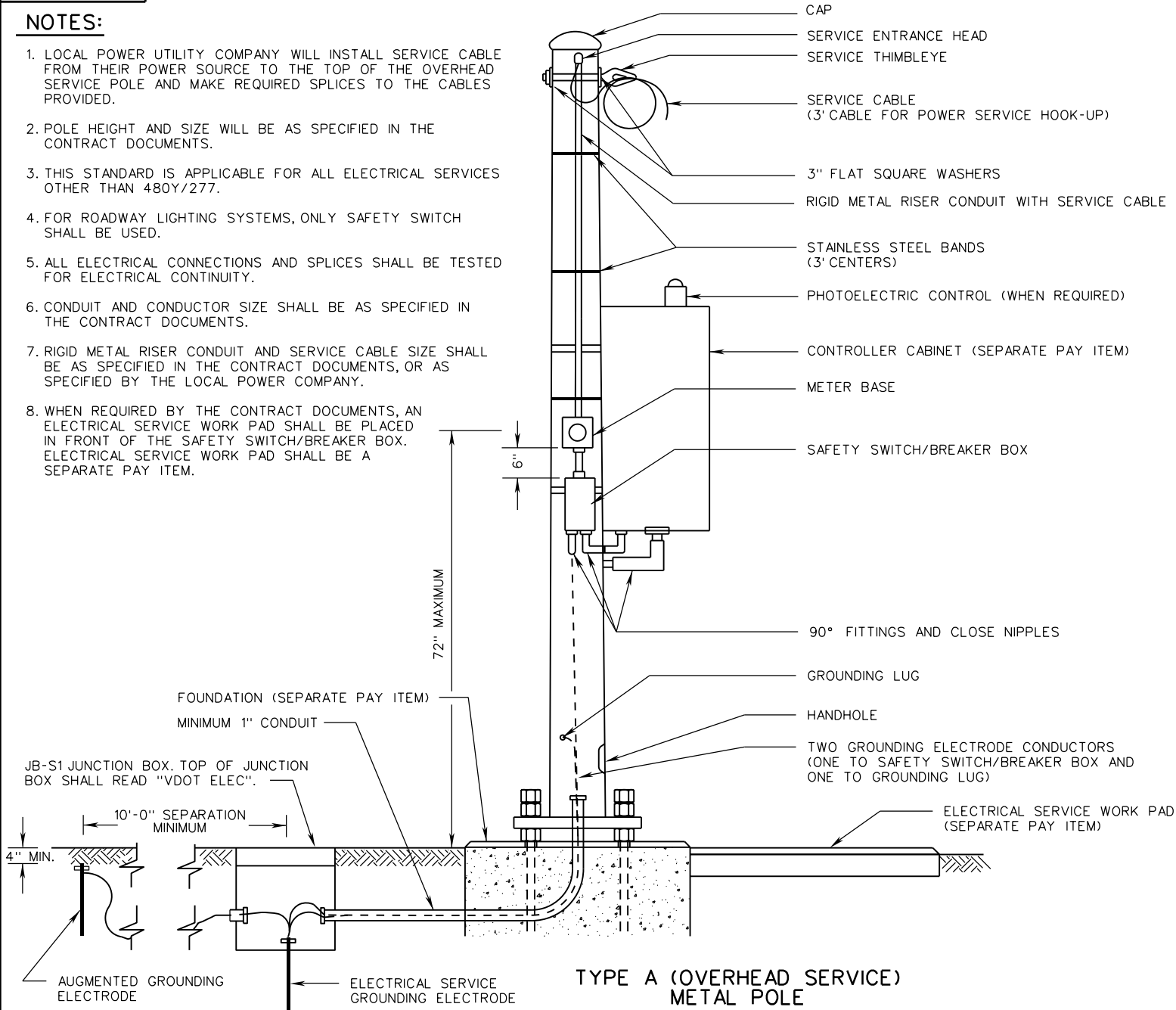
02/16

VIRGINIA DEPARTMENT OF TRANSPORTATION

703
238

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



**TYPE A (OVERHEAD SERVICE)
METAL POLE**

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

700



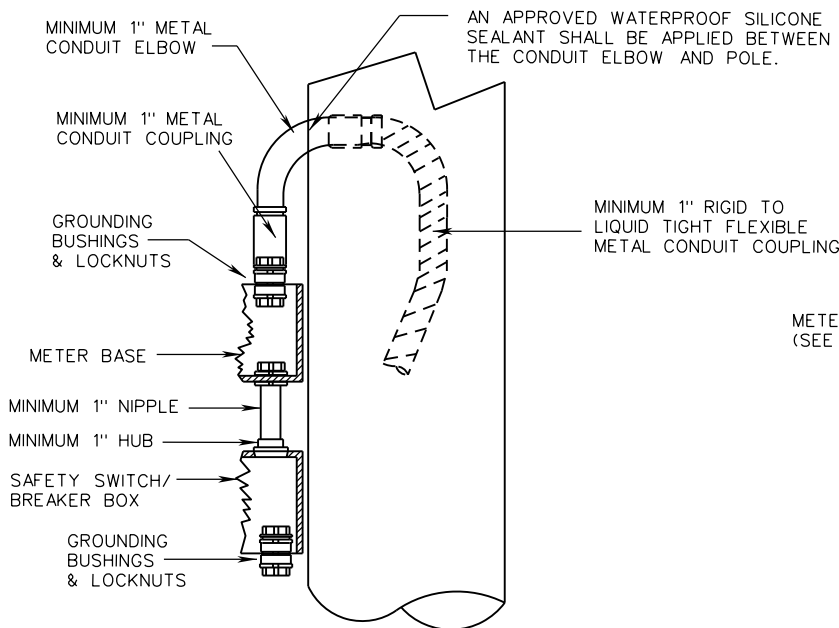
ROAD AND BRIDGE STANDARDS

SHEET 1 OF 2

REVISION DATE

1312.10

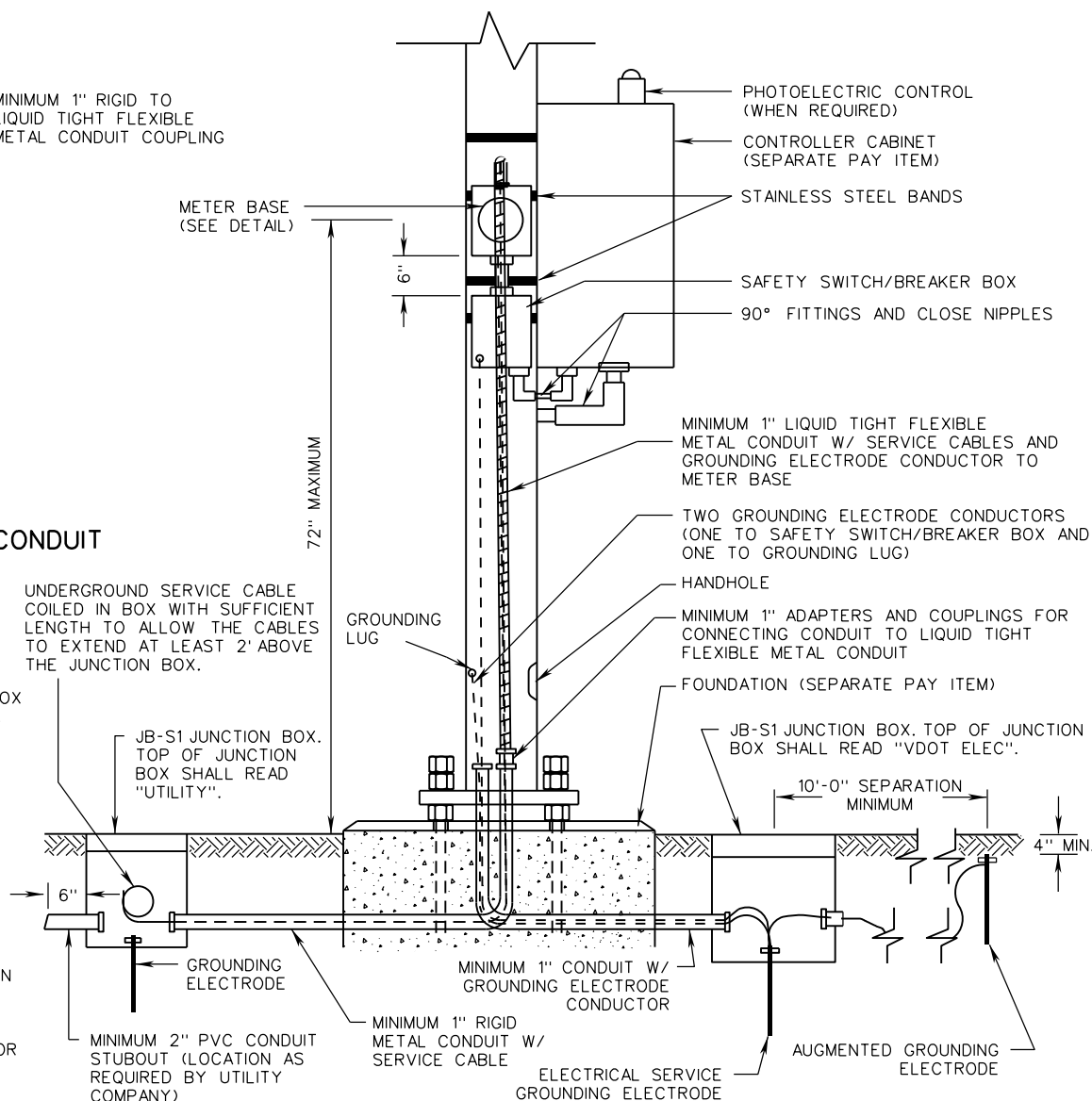
02/16



DETAIL FOR CONNECTION OF CONDUIT TO METER BASE

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



TYPE B (UNDERGROUND SERVICE) METAL POLE

SPECIFICATION REFERENCE

700

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

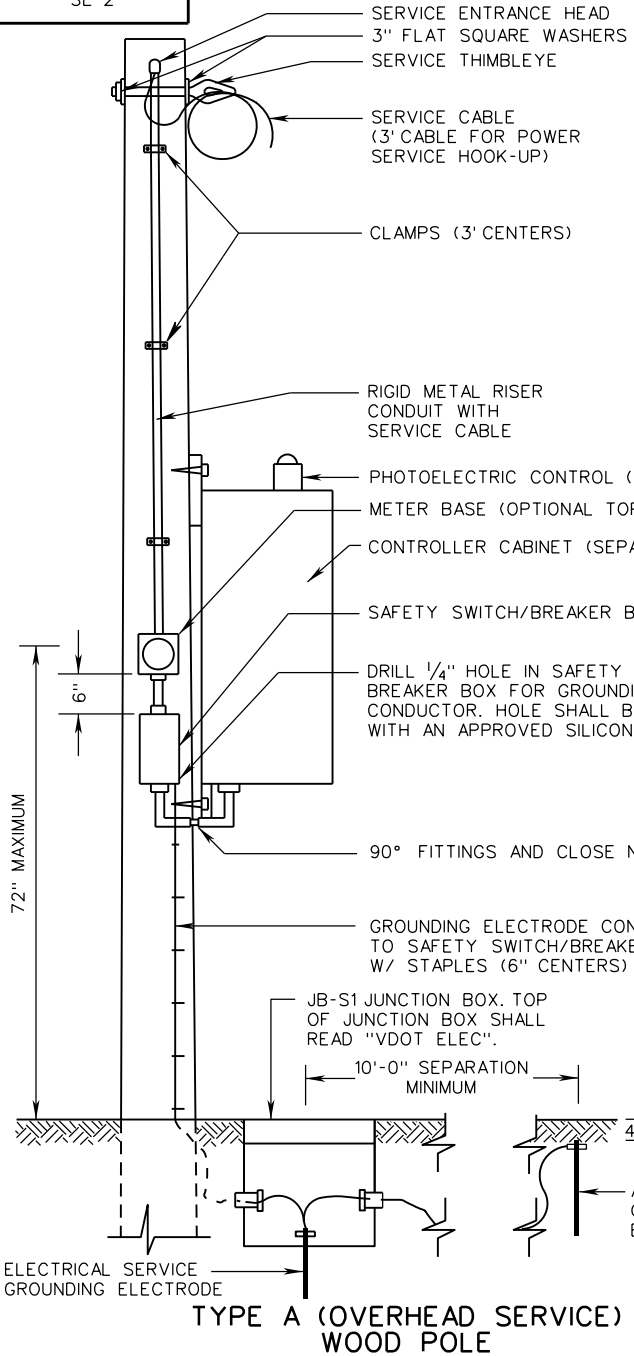
REVISION DATE

02/16

SHEET 2 OF 2

1312.11

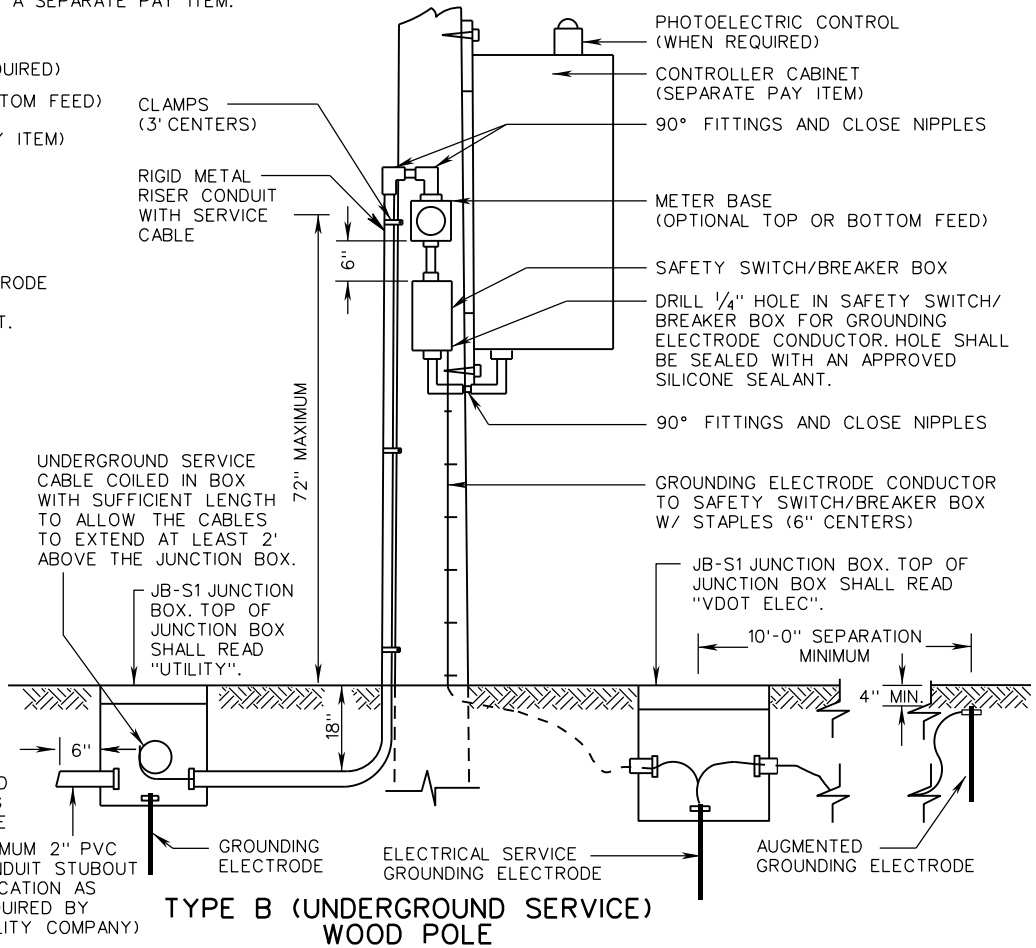
SE-2



TYPE A (OVERHEAD SERVICE) WOOD POLE

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE (FOR TYPE A OVERHEAD SERVICE) OR THE JUNCTION BOX (FOR TYPE B UNDERGROUND SERVICE) AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



TYPE B (UNDERGROUND SERVICE) WOOD POLE

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ELECTRICAL SERVICE INSTALLATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

700



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

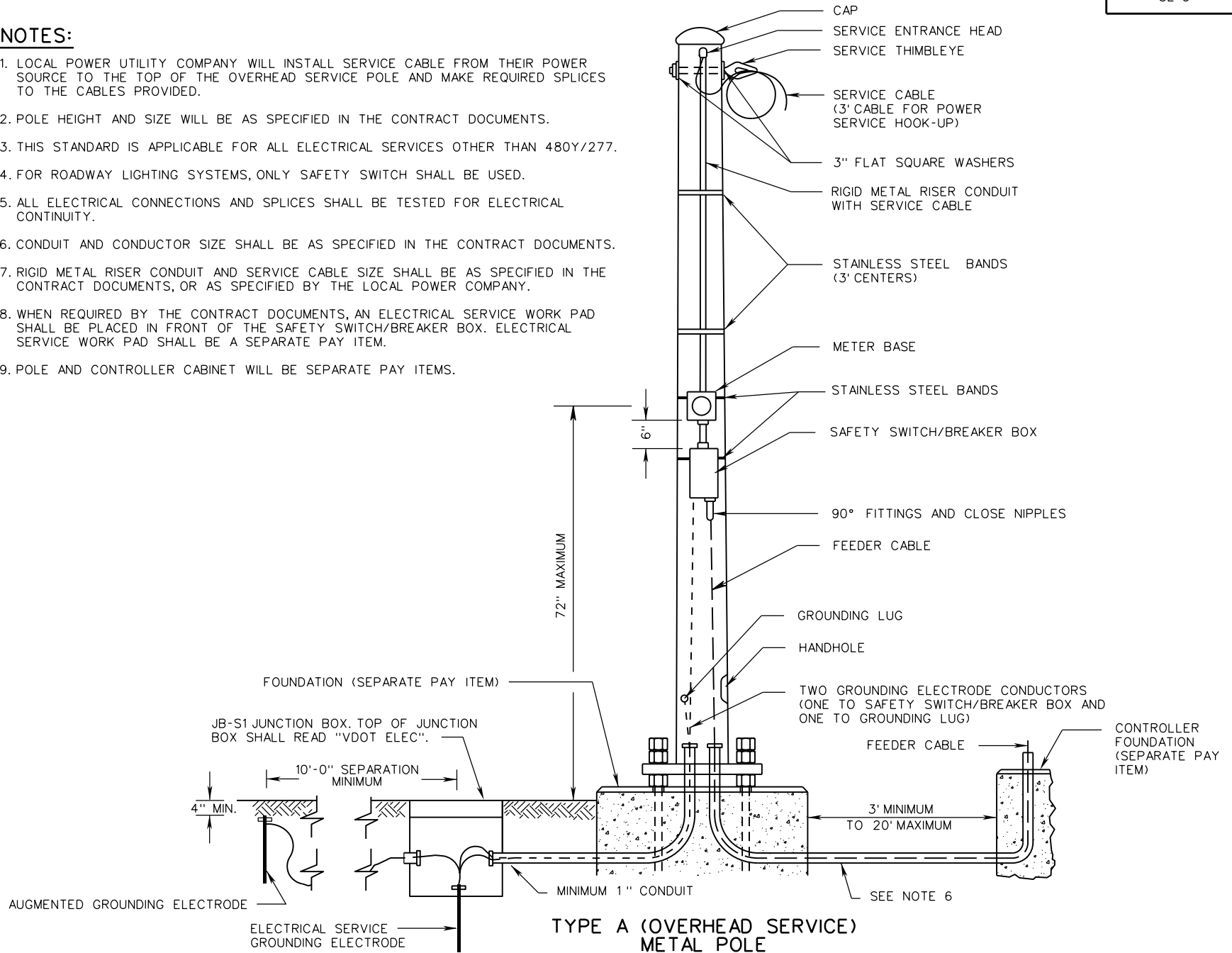
REVISION DATE

1312.20

02/16

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.
9. POLE AND CONTROLLER CABINET WILL BE SEPARATE PAY ITEMS.



TYPE A (OVERHEAD SERVICE) METAL POLE

SPECIFICATION REFERENCE

700

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

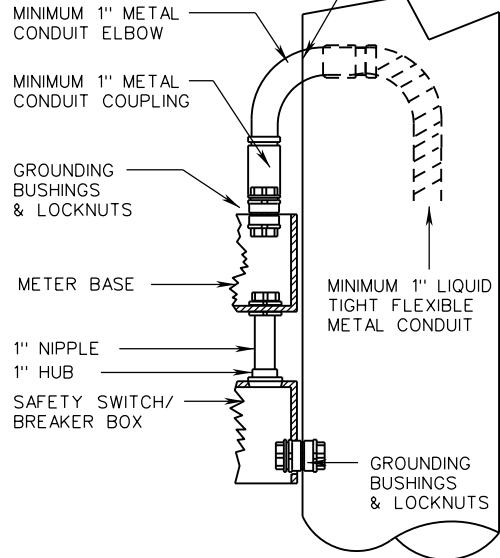
SHEET 1 OF 2

1312.30

NOTES:

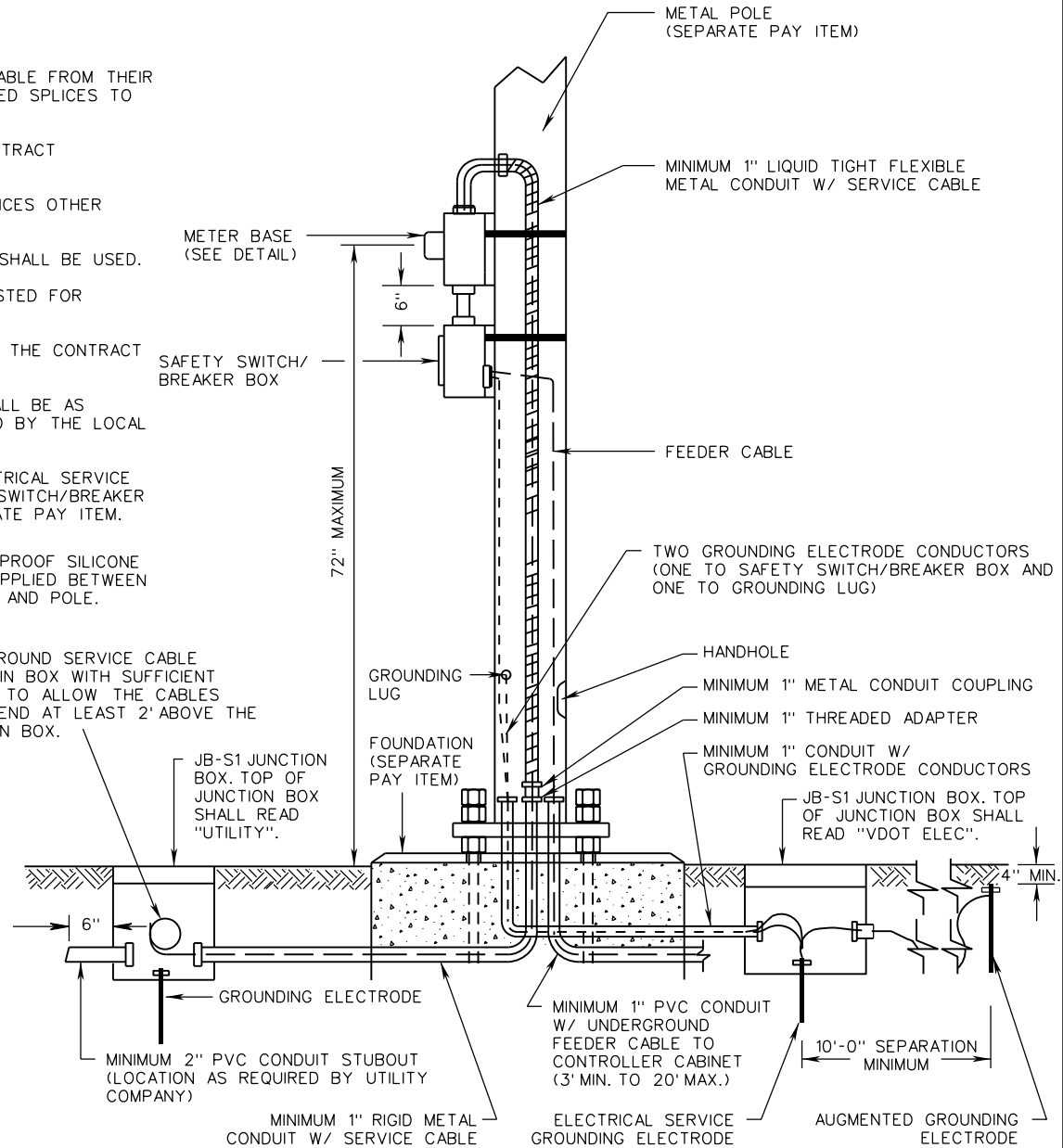
1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.

AN APPROVED WATERPROOF SILICONE SEALANT SHALL BE APPLIED BETWEEN THE CONDUIT ELBOW AND POLE.



DETAIL FOR CONNECTION OF CONDUIT TO METER BASE

UNDERGROUND SERVICE CABLE COILED IN BOX WITH SUFFICIENT LENGTH TO ALLOW THE CABLES TO EXTEND AT LEAST 2' ABOVE THE JUNCTION BOX.



TYPE B (UNDERGROUND SERVICE) METAL POLE

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

700



ROAD AND BRIDGE STANDARDS

SHEET 2 OF 2

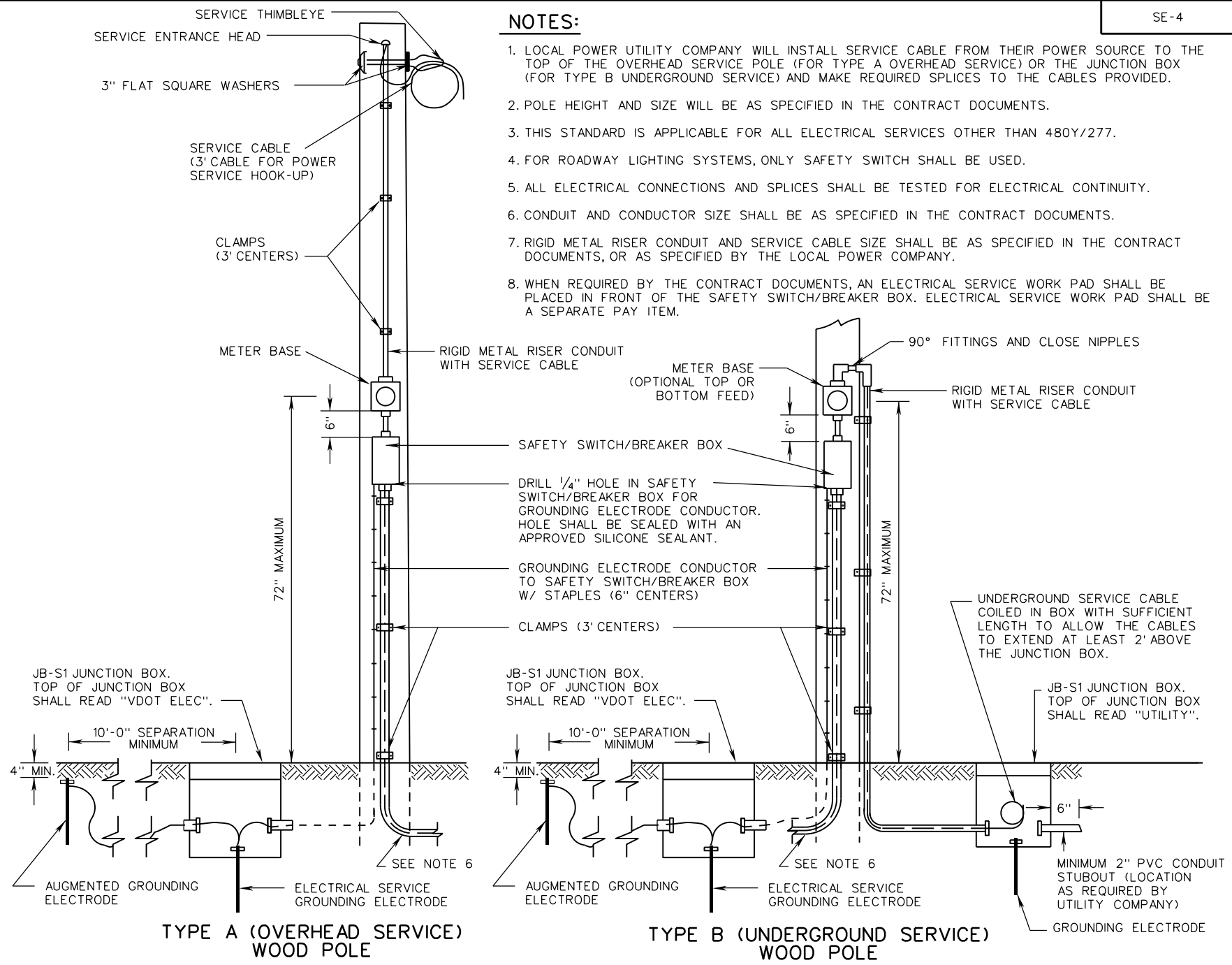
REVISION DATE

1312.31

02/16

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE (FOR TYPE A OVERHEAD SERVICE) OR THE JUNCTION BOX (FOR TYPE B UNDERGROUND SERVICE) AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



**TYPE A (OVERHEAD SERVICE)
WOOD POLE**

**TYPE B (UNDERGROUND SERVICE)
WOOD POLE**

SPECIFICATION REFERENCE

700

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

**ELECTRICAL SERVICE
INSTALLATION DETAILS**

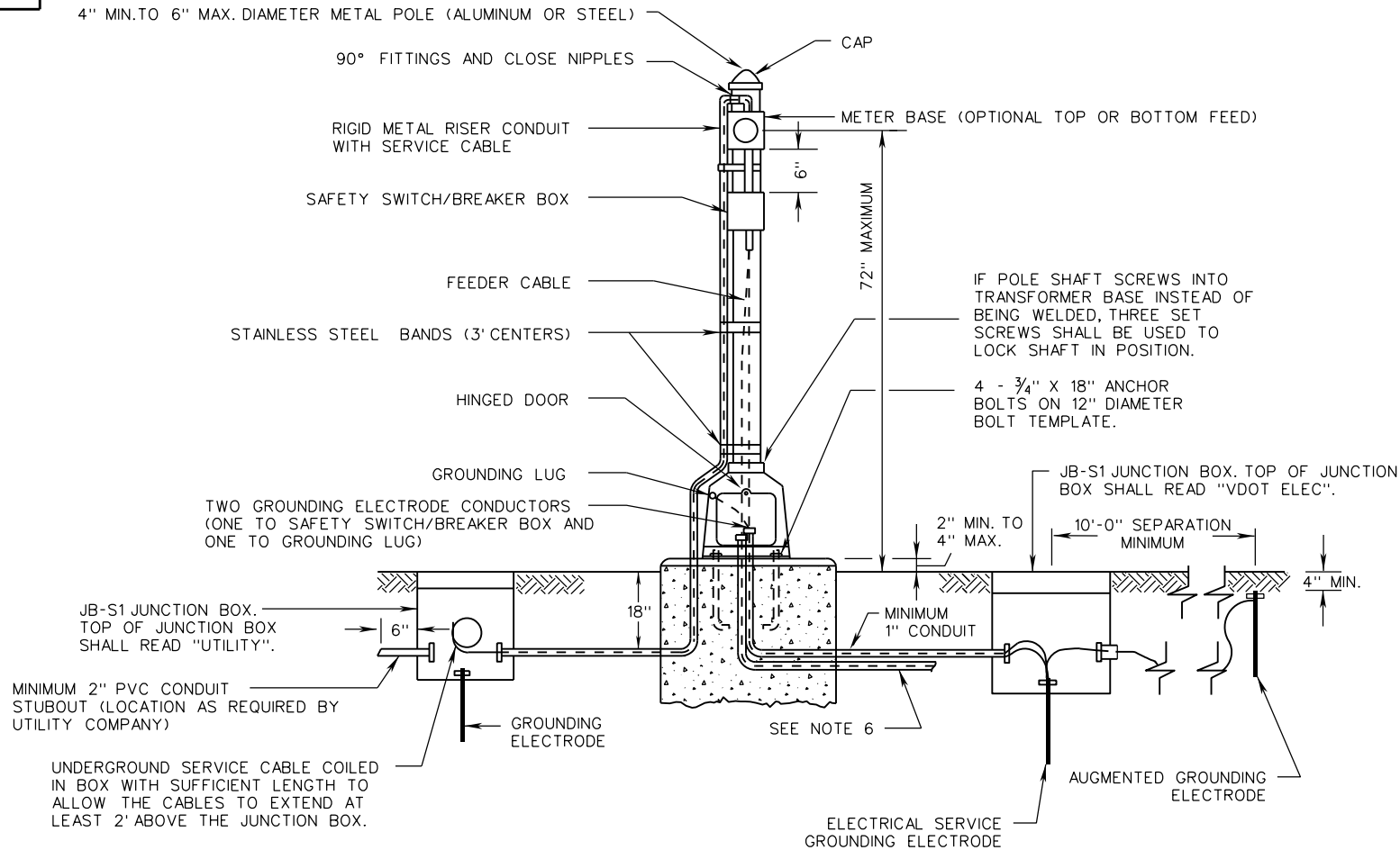
VIRGINIA DEPARTMENT OF TRANSPORTATION



ROAD AND BRIDGE STANDARDS

REVISION DATE
02/16

SHEET 1 OF 1
1312.40

**NOTES:**

- LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
- THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
- FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
- ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
- FOUNDATION SHALL BE CLASS A3 CONCRETE, 24X24 SQUARE OR 24" DIAMETER AND 24" DEEP, AND COST OF FOUNDATION SHALL BE INCLUDED WITH THE PAY ITEM FOR ELECTRICAL SERVICE.
- CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
- WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.
- STAINLESS STEEL BANDS REQUIRED FOR METER BASE AND SAFETY SWITCH/BREAKER BOX.
- ANCHOR BOLTS AND BOLT TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER, AND POLE SHALL BE CENTERED ON FOUNDATION.

VDOT

ROAD AND BRIDGE STANDARDS

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

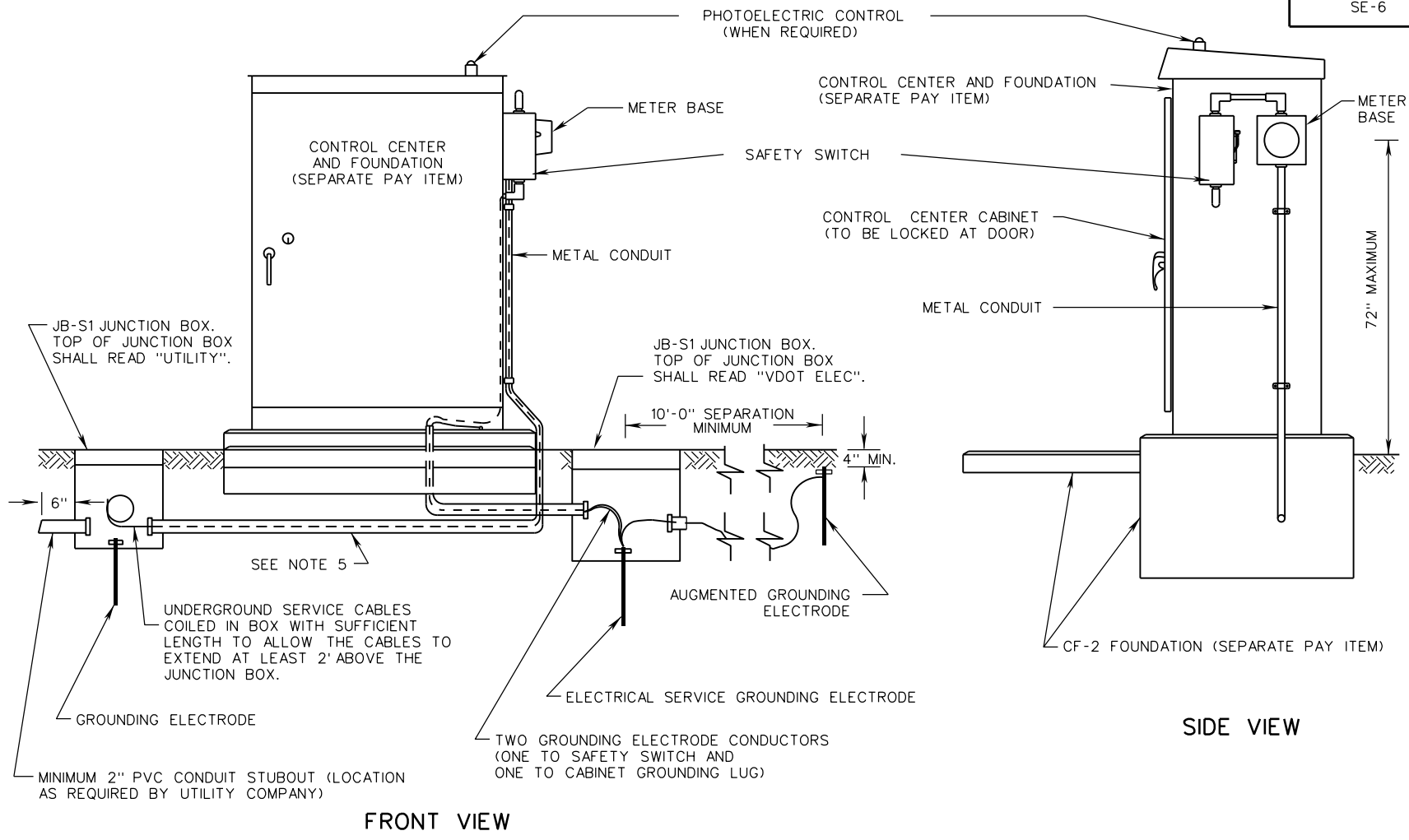
700

SHEET 1 OF 1

REVISION DATE

1312.50

02/16



FRONT VIEW

SIDE VIEW

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
3. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
4. THE CONDUIT AND SERVICE CABLE SHALL EXTEND FROM THE CABINET TO THE UTILITY JUNCTION BOX.
5. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
6. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
7. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.

SPECIFICATION REFERENCE
700

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

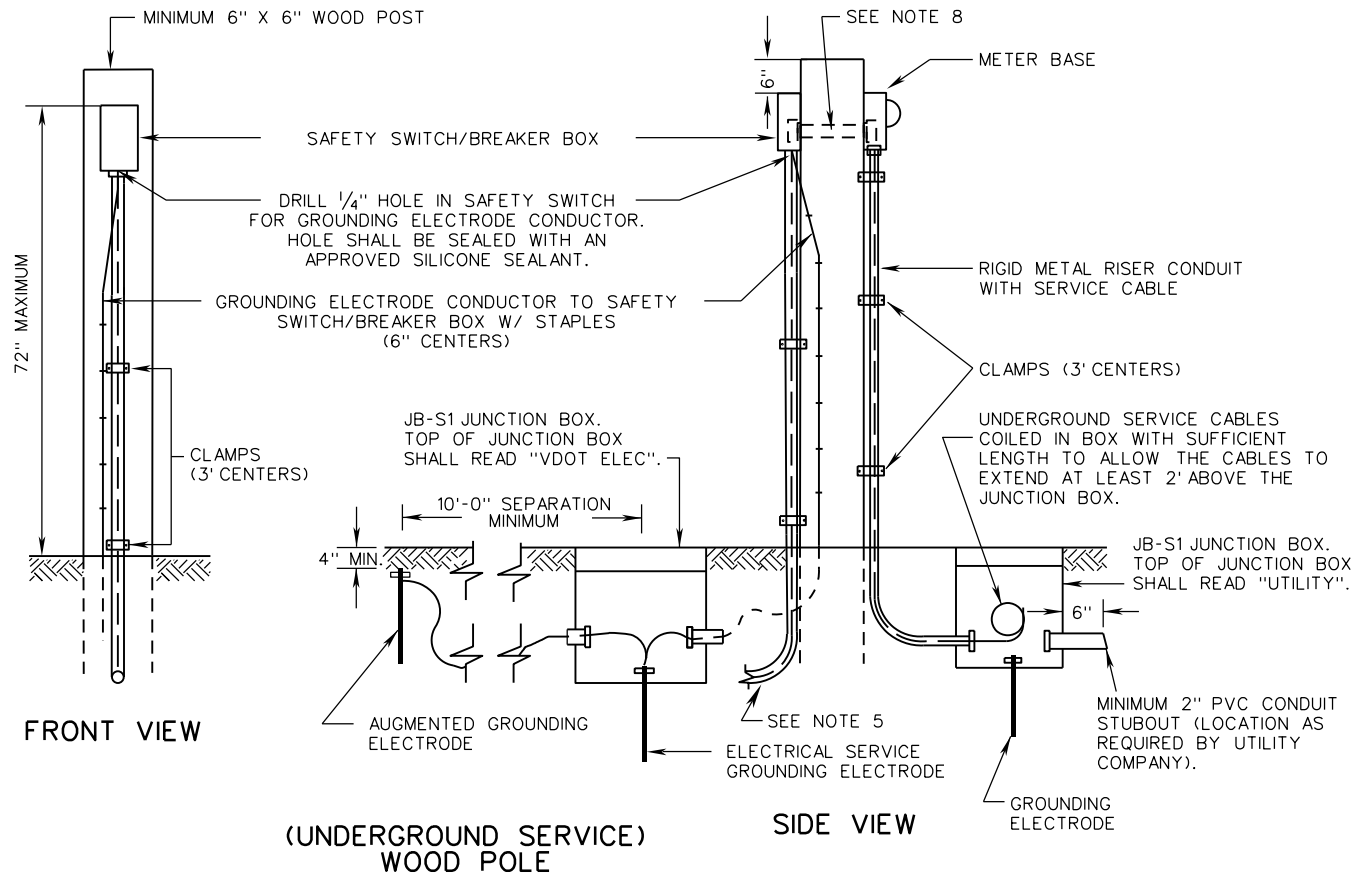
ELECTRICAL SERVICE INSTALLATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
02/16	1312.60

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE POWER UTILITY CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
3. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
4. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
5. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
6. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
7. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.
8. RIGID MINIMUM 1" NIPPLE, THREADED AT BOTH ENDS, HELD IN PLACE WITH BONDING BUSHING AND LOCK NUT. ADDITIONAL 2" LAG SCREWS TO BE USED TO SECURE SAFETY SWITCH/BREAKER BOX AND METER BASE TO WOOD POST. FOUR SCREWS TO BE USED WITH EACH.



VDOT

ROAD AND BRIDGE STANDARDS

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ELECTRICAL SERVICE**INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

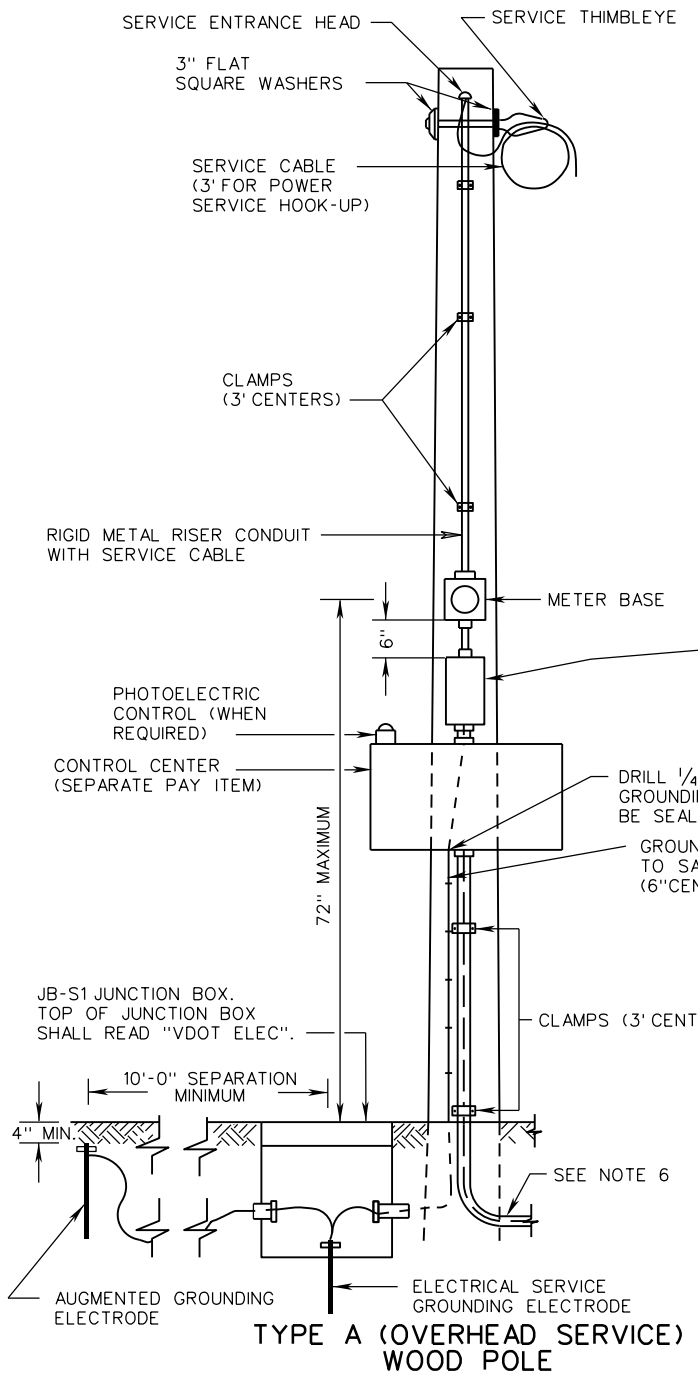
SPECIFICATION
REFERENCE

SHEET 1 OF 1 REVISION DATE

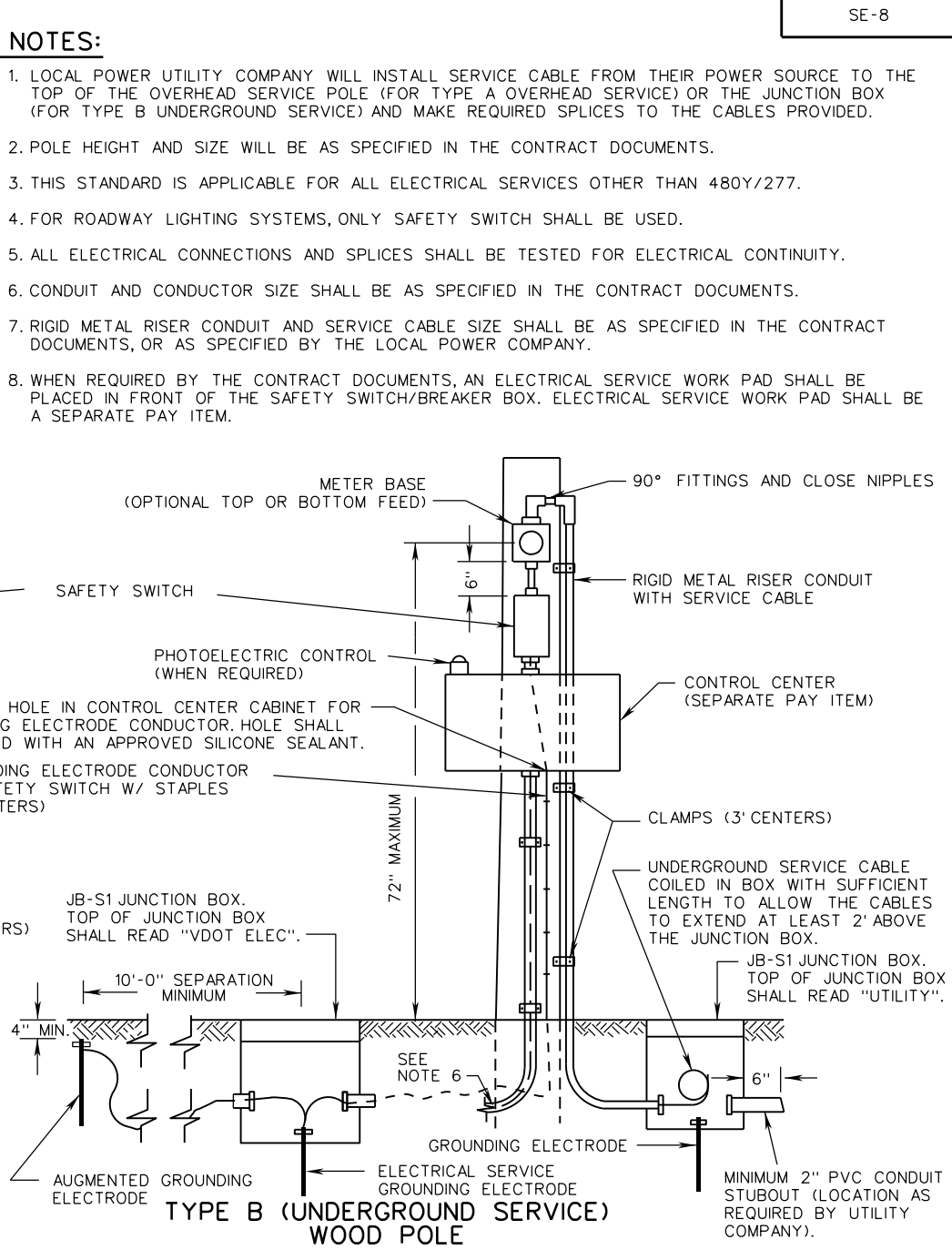
1312.70

02/16

700



TYPE A (OVERHEAD SERVICE) WOOD POLE



TYPE B (UNDERGROUND SERVICE) WOOD POLE

NOTES:

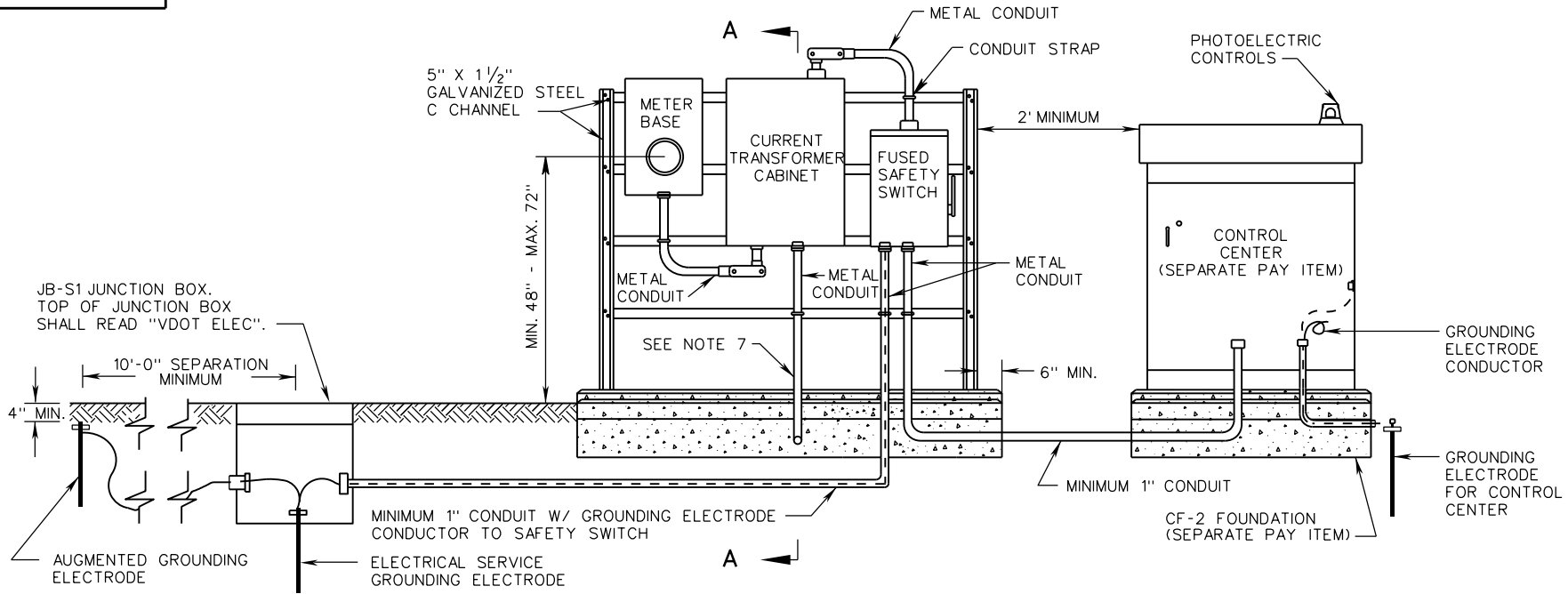
1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE (FOR TYPE A OVERHEAD SERVICE) OR THE JUNCTION BOX (FOR TYPE B UNDERGROUND SERVICE) AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.

SPECIFICATION REFERENCE
700

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

**ELECTRICAL SERVICE
INSTALLATION DETAILS**
VIRGINIA DEPARTMENT OF TRANSPORTATION

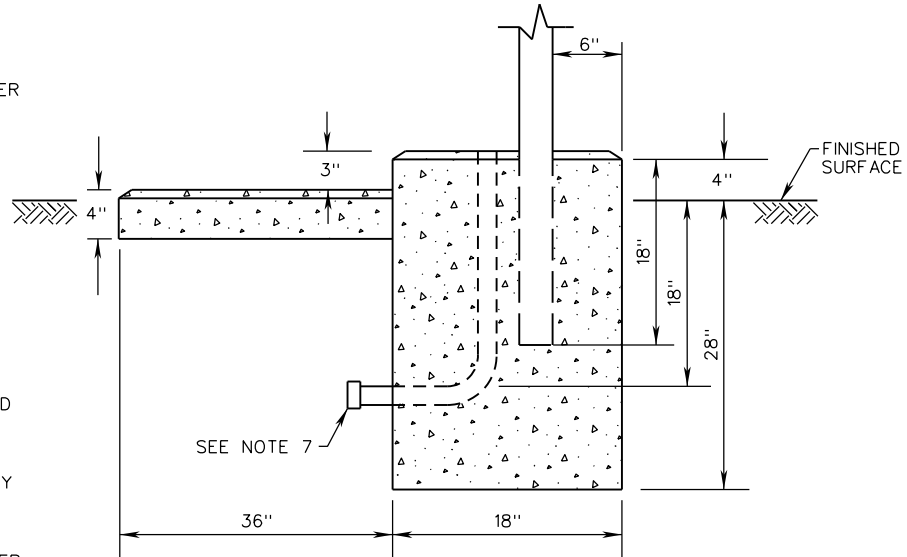
VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
02/16	1312.80



TYPE A

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE CURRENT TRANSFORMER CABINET AND METER BASE THEN MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. THIS STANDARD IS APPLICABLE FOR 480Y/277 ELECTRICAL SERVICE ONLY.
3. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
4. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
5. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
6. SAFETY SWITCH, METER BASE, WIREWAY, CURRENT TRANSFORMER CABINET AND CONTROL CENTER SHALL BE ATTACHED TO THE CHANNELING WITH 3/8" GALVANIZED BOLTS, LOCK WASHERS AND NUTS. FOUR CROSS CHANNELS SHALL BE UTILIZED.
7. MINIMUM 2" METAL CONDUIT SHALL BE STUBBED OUT 6" PAST CONCRETE FOUNDATION PAD. LOCATION OF THE STUBBED CONDUIT SHALL BE AS REQUIRED BY THE LOCAL POWER COMPANY.
8. THE CONTRACTOR SHALL LEAVE A SUFFICIENT AMOUNT OF CONDUCTOR CABLE COILED INSIDE THE CURRENT TRANSFORMER CABINET TO PERMIT THE LOCAL POWER COMPANY TO MAKE THEIR CONNECTION.
9. SERVICE ENTRANCE FOUNDATION, INCLUDING THE CONCRETE PAD, IS INCLUDED IN THE SE-9 PAY ITEM.



SECTION A-A
SERVICE ENTRANCE FOUNDATION DETAIL

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

700



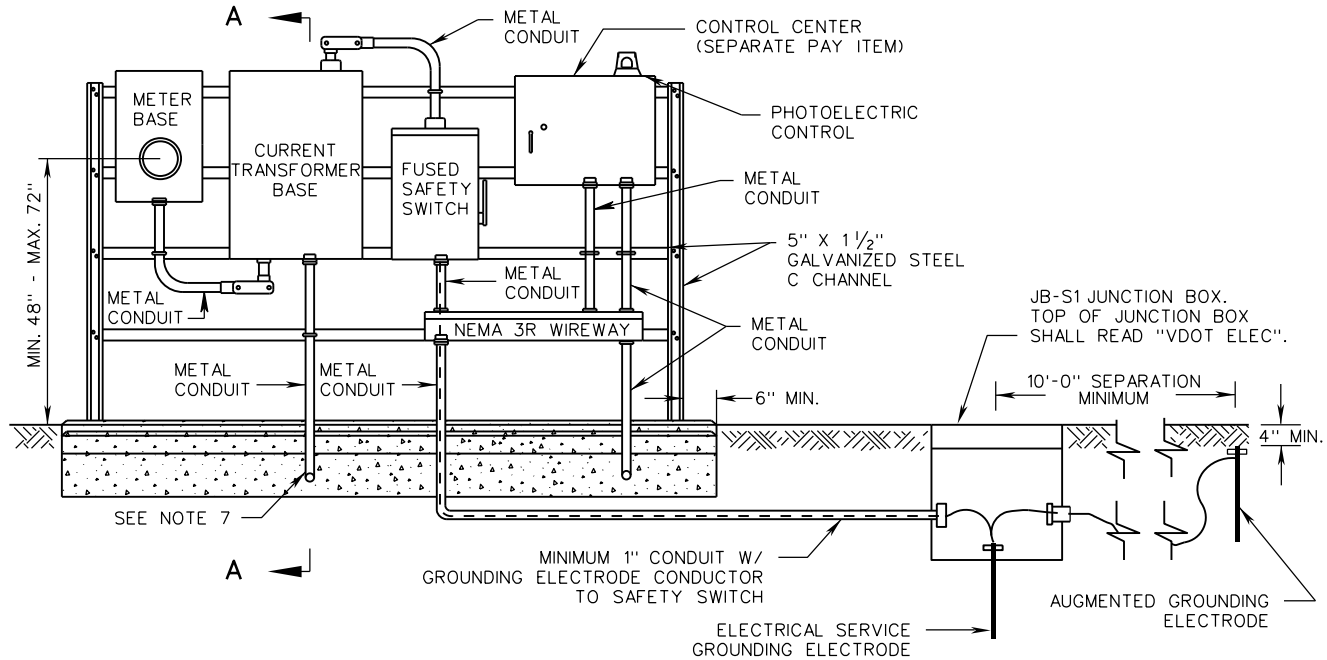
ROAD AND BRIDGE STANDARDS

SHEET 1 OF 2

REVISION DATE

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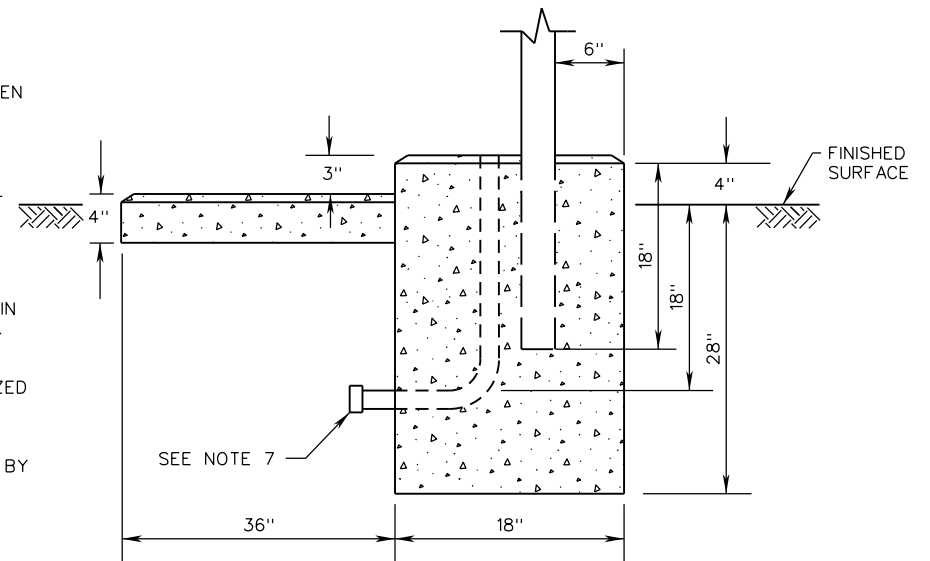
02/16



TYPE B

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE CURRENT TRANSFORMER CABINET AND METER BASE THEN MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. THIS STANDARD IS APPLICABLE FOR 480Y/277 ELECTRICAL SERVICE ONLY.
3. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
4. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
5. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
6. SAFETY SWITCH, METER BASE, WIREWAY, CURRENT TRANSFORMER CABINET AND CONTROL CENTER SHALL BE ATTACHED TO THE CHANNELING WITH 3/8" GALVANIZED BOLTS, LOCK WASHERS AND NUTS. FOUR CROSS CHANNELS SHALL BE UTILIZED.
7. MINIMUM 2" METAL CONDUIT SHALL BE STUBBED OUT 6" PAST CONCRETE FOUNDATION PAD. LOCATION OF THE STUBBED CONDUIT SHALL BE AS REQUIRED BY THE LOCAL POWER COMPANY.
8. THE CONTRACTOR SHALL LEAVE A SUFFICIENT AMOUNT OF CONDUCTOR CABLE COILED INSIDE THE CURRENT TRANSFORMER CABINET TO PERMIT THE LOCAL POWER COMPANY TO MAKE THEIR CONNECTION.
9. SERVICE ENTRANCE FOUNDATION, INCLUDING THE CONCRETE PAD, IS INCLUDED IN THE SE-9 PAY ITEM.



SECTION A-A
SERVICE ENTRANCE FOUNDATION DETAIL

SPECIFICATION REFERENCE

700

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**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

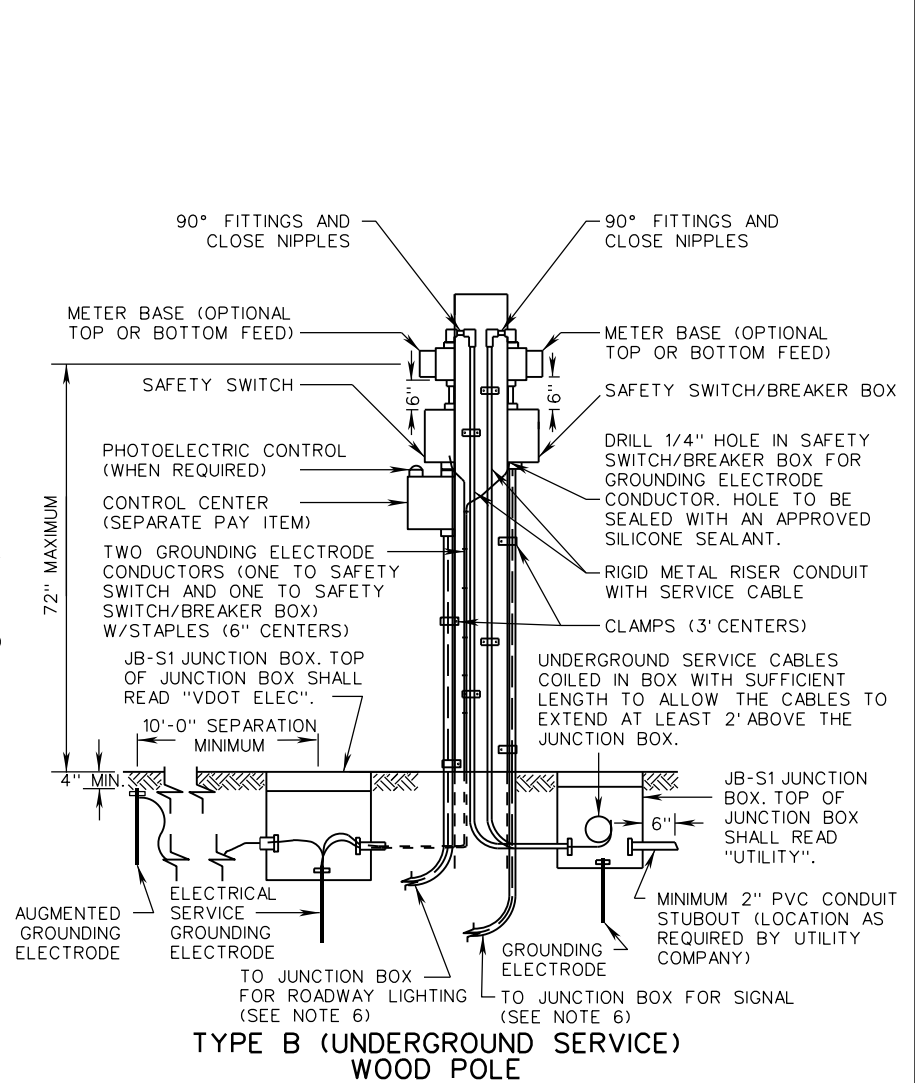
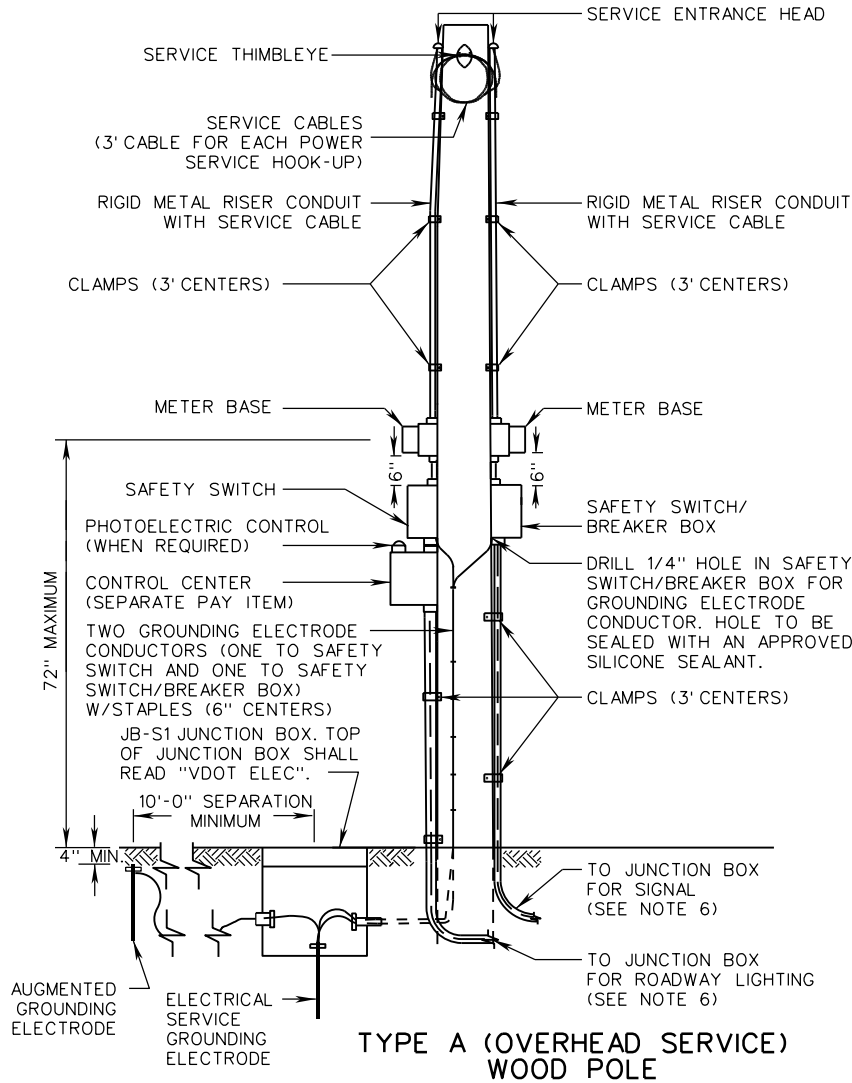
SHEET 2 OF 2

1312.91

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD SERVICE POLE (FOR TYPE A OVERHEAD SERVICE) OR THE JUNCTION BOX (FOR TYPE B UNDERGROUND SERVICE) AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.

5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
8. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



SPECIFICATION REFERENCE
700

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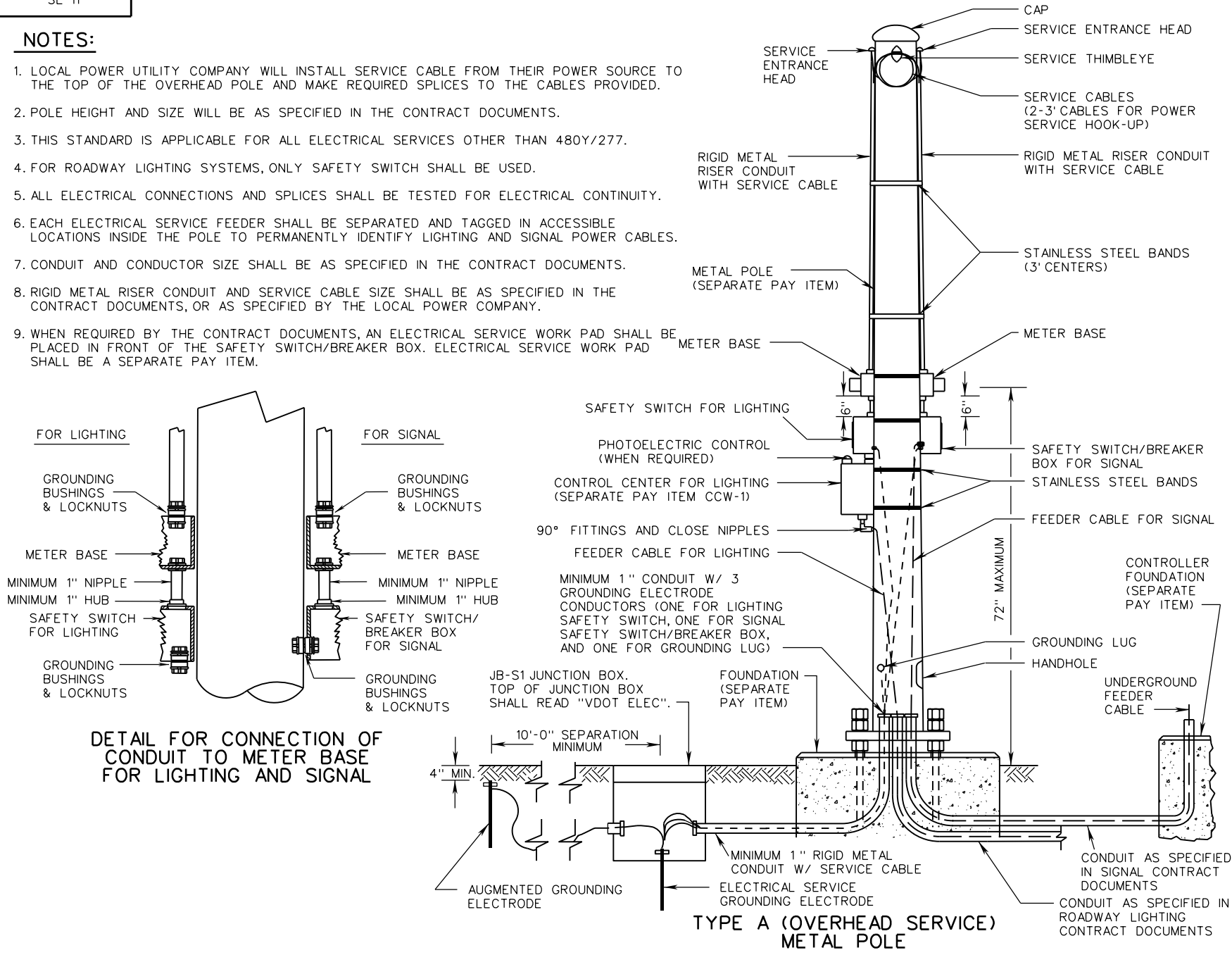
**ELECTRICAL SERVICE
INSTALLATION DETAILS**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
02/16	1313.10

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE TOP OF THE OVERHEAD POLE AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. EACH ELECTRICAL SERVICE FEEDER SHALL BE SEPARATED AND TAGGED IN ACCESSIBLE LOCATIONS INSIDE THE POLE TO PERMANENTLY IDENTIFY LIGHTING AND SIGNAL POWER CABLES.
7. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
8. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
9. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.



TYPE A (OVERHEAD SERVICE) METAL POLE

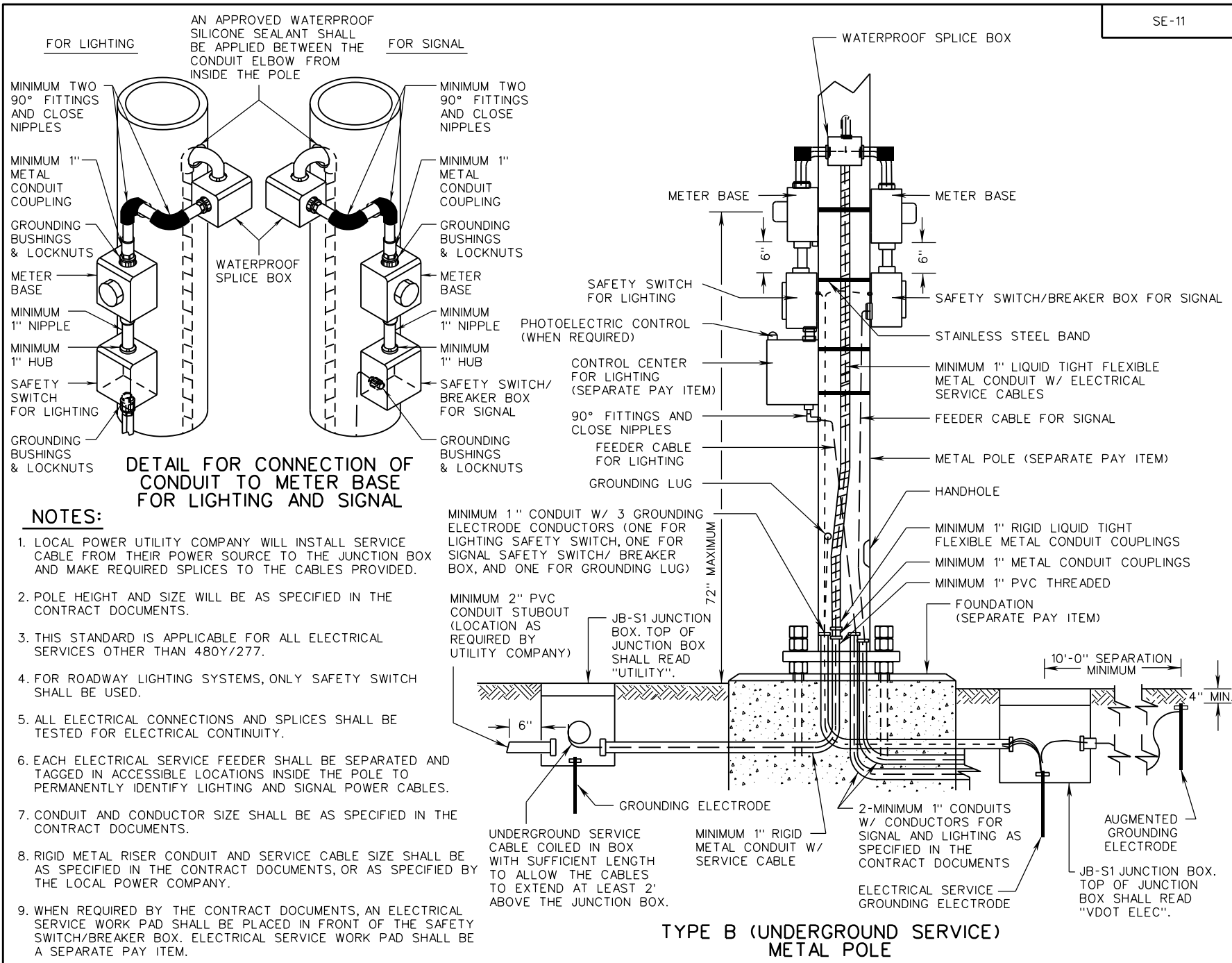
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ROAD AND BRIDGE STANDARDS	
SHEET 1 OF 2	REVISION DATE
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ELECTRICAL SERVICE INSTALLATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
700



DETAIL FOR CONNECTION OF CONDUIT TO METER BASE FOR LIGHTING AND SIGNAL

NOTES:

1. LOCAL POWER UTILITY COMPANY WILL INSTALL SERVICE CABLE FROM THEIR POWER SOURCE TO THE JUNCTION BOX AND MAKE REQUIRED SPLICES TO THE CABLES PROVIDED.
2. POLE HEIGHT AND SIZE WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. THIS STANDARD IS APPLICABLE FOR ALL ELECTRICAL SERVICES OTHER THAN 480Y/277.
4. FOR ROADWAY LIGHTING SYSTEMS, ONLY SAFETY SWITCH SHALL BE USED.
5. ALL ELECTRICAL CONNECTIONS AND SPLICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY.
6. EACH ELECTRICAL SERVICE FEEDER SHALL BE SEPARATED AND TAGGED IN ACCESSIBLE LOCATIONS INSIDE THE POLE TO PERMANENTLY IDENTIFY LIGHTING AND SIGNAL POWER CABLES.
7. CONDUIT AND CONDUCTOR SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
8. RIGID METAL RISER CONDUIT AND SERVICE CABLE SIZE SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS SPECIFIED BY THE LOCAL POWER COMPANY.
9. WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AN ELECTRICAL SERVICE WORK PAD SHALL BE PLACED IN FRONT OF THE SAFETY SWITCH/BREAKER BOX. ELECTRICAL SERVICE WORK PAD SHALL BE A SEPARATE PAY ITEM.

TYPE B (UNDERGROUND SERVICE) METAL POLE

SPECIFICATION REFERENCE
700

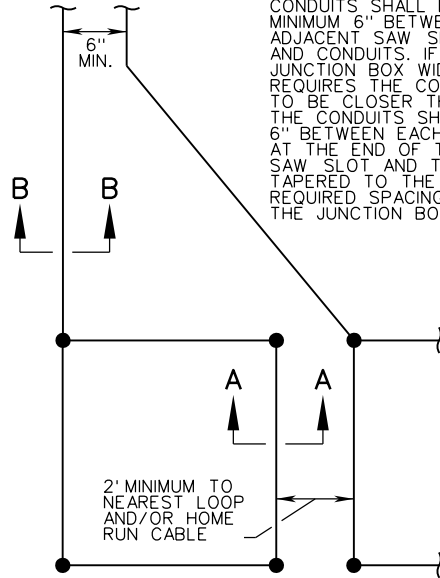
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**ELECTRICAL SERVICE
INSTALLATION DETAILS**
VIRGINIA DEPARTMENT OF TRANSPORTATION

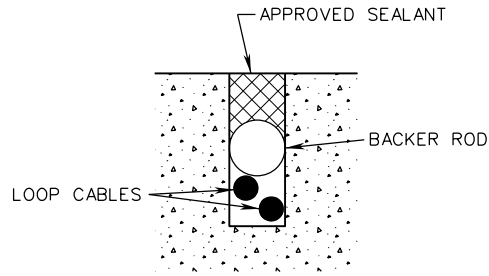
VDOT	
ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 2 OF 2
02/16	1313.21

TO JUNCTION BOX

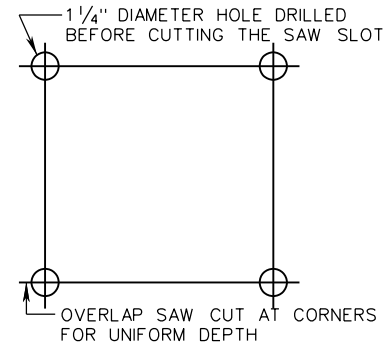
SECTION B-B SAW SLOTS AND PVC CONDUITS SHALL BE A MINIMUM 6" BETWEEN ADJACENT SAW SLOTS AND CONDUITS. IF THE JUNCTION BOX WIDTH REQUIRES THE CONDUITS TO BE CLOSER THAN 6", THE CONDUITS SHALL BE 6" BETWEEN EACH OTHER AT THE END OF THE SAW SLOT AND THEN TAPERED TO THE REQUIRED SPACING AT THE JUNCTION BOX.



TYPICAL LOOP WIRE PLAN



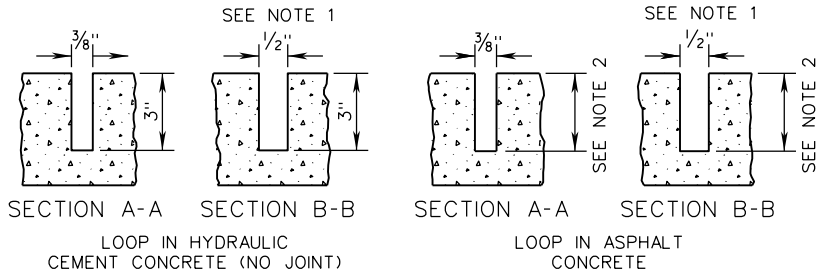
CROSS SECTION TYPICAL SEALED SLOT



TYPICAL SAW CUT DIAGRAM

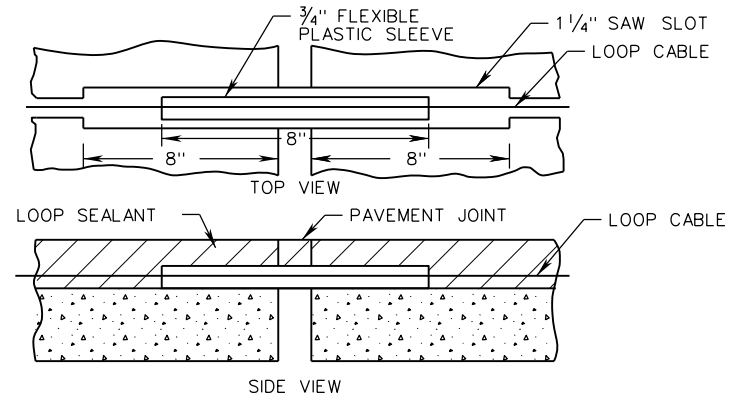
NOTES:

- SAW SLOT SHALL BE 5/8" WHEN LOOP DETECTOR CABLE ENCLOSED IN TUBING IS INSTALLED.
- IN NEW ASPHALT CONCRETE ROADWAYS, SAW SLOTS SHALL BE CUT INTO THE BASE COURSE TO A DEPTH OF 3".
IN EXISTING ASPHALT CONCRETE ROADWAYS WHICH ARE TO BE RESURFACED AS PART OF THE PROJECT, SAW SLOTS SHALL BE CUT INTO THE PLANED SURFACE TO A DEPTH OF 3" PRIOR TO THE OVERLAY. LOOP DETECTORS MAY BE INSTALLED THROUGH FINISHED RIDING SURFACE AS SPECIFIED IN CONTRACT DOCUMENTS. SAW SLOTS IN FINAL RIDING SURFACE SHALL HAVE A 4" MINIMUM AND 4.5" MAXIMUM DEPTH.
- IN EXISTING ASPHALT CONCRETE ROADWAYS WHICH ARE NOT TO BE RESURFACED AS PART OF THE PROJECT, SAW SLOTS SHALL BE CUT INTO THE EXISTING SURFACE TO A DEPTH OF 4".



DEPTH OF SAW SLOT SHALL BE MEASURED FROM PAVEMENT SURFACE AT TIME OF INSTALLATION. NOT NECESSARILY FINISHED GRADE.

TYPICAL SAW SLOT DETAIL



INSTALLATION OF LOOP CABLE ACROSS HYDRAULIC CEMENT CONCRETE PAVEMENT JOINTS



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 3

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1315.10

02/16

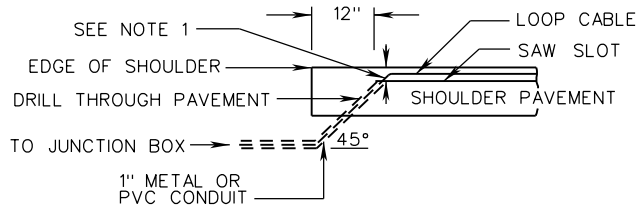
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LOOP DETECTOR
INSTALLATION DETAIL

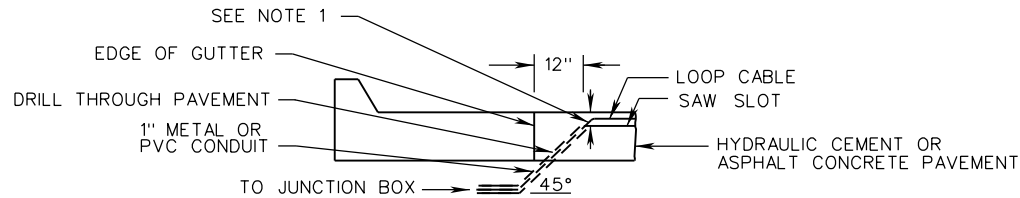
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

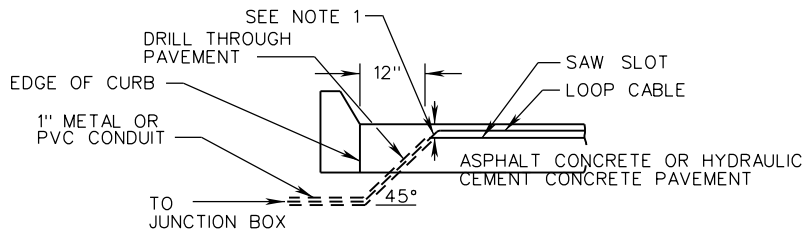
703



SHOULDER SECTION



CURB AND GUTTER SECTION



CURB SECTION (NO GUTTER)

NOTES:

1. THE TOP OF 1" CONDUITS SHALL BE INSTALLED 1" BELOW THE BOTTOM OF THE SAW SLOT.
2. PLASTIC BUSHINGS SHALL BE INSTALLED ON THE ENDS OF THE CONDUITS IN THE PAVEMENT. DUCT SEAL SHALL BE APPLIED TO THE OPEN END OF THE BUSHING.
3. SAW SLOTS SHALL INTERSECT WITH THE HOLES DRILLED FOR INSTALLATION OF THE CONDUITS AND LOOP CABLES.
4. DRILLED HOLES SHALL BE NO LARGER THAN REQUIRED FOR INSTALLATION OF THE CONDUIT AND PLASTIC BUSHING.
5. REMOVAL OF LARGE SECTIONS OF PAVEMENT TO PERFORM THIS WORK WILL NOT BE ALLOWED.
6. ONE CONDUIT SHALL BE PROVIDED FOR EACH SAW SLOT.
7. ALL DIMENSIONS NOT SHOWN SHALL BE AS SPECIFIED ON THE CONTRACT DOCUMENTS.

SPECIFICATION REFERENCE

703

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**LOOP DETECTOR
INSTALLATION DETAIL**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

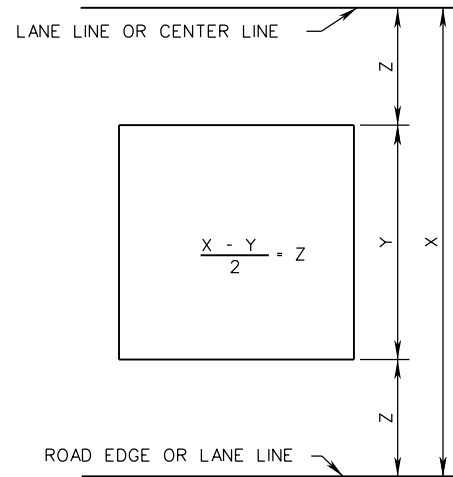
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SHEET 2 OF 3

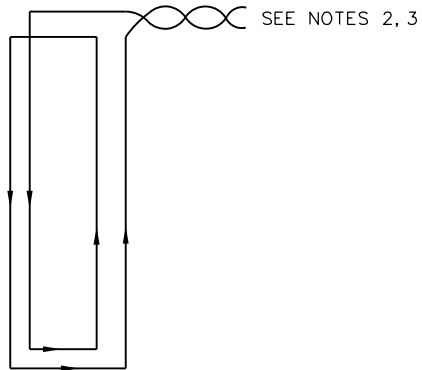
1315.11

NOTES:

1. ALL DIMENSIONS NOT SHOWN SHALL BE AS SPECIFIED ON THE CONTRACT DOCUMENTS.
2. LOOP WIRE TWISTED TOGETHER WITH A MINIMUM OF THREE TURNS PER RUNNING FOOT.
3. BASED ON THE LENGTH OF LEAD-IN CABLE, ADDITIONAL WIRE TURNS PER LOOP MAY BE REQUIRED AS SPECIFIED BY THE CONTRACT DOCUMENTS.

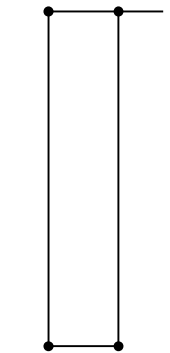


TYPICAL LANE COVERAGE DIAGRAM

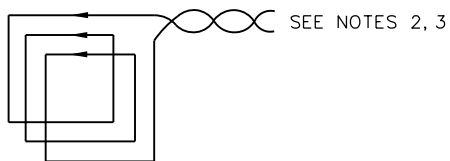


LOOP CABLE INSTALLATION

TD-1A

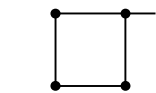


PLAN VIEW

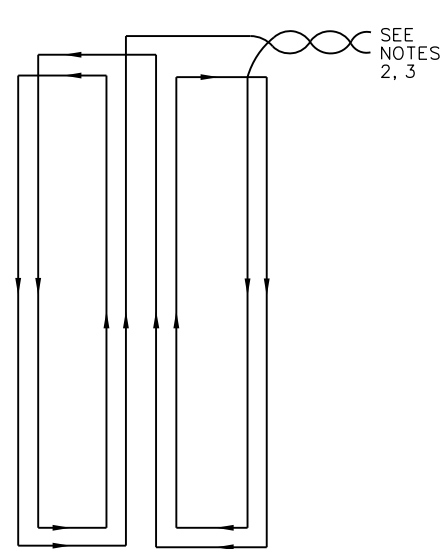


LOOP CABLE INSTALLATION

TD-1B

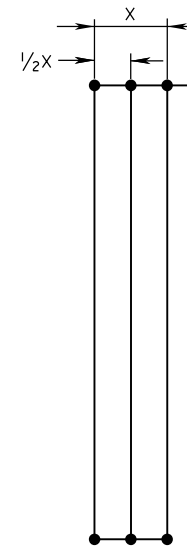


PLAN VIEW



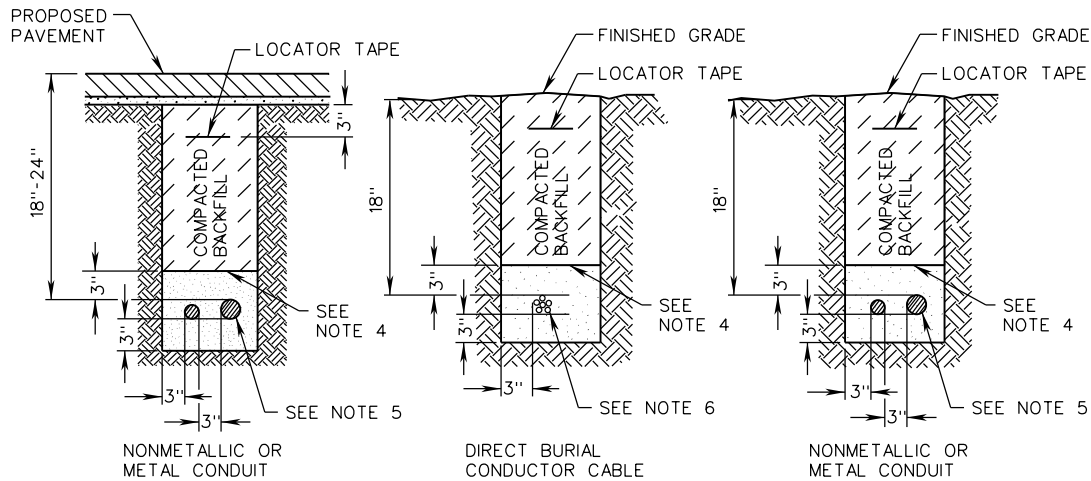
LOOP CABLE INSTALLATION

TD-1C



PLAN VIEW

ECI-1

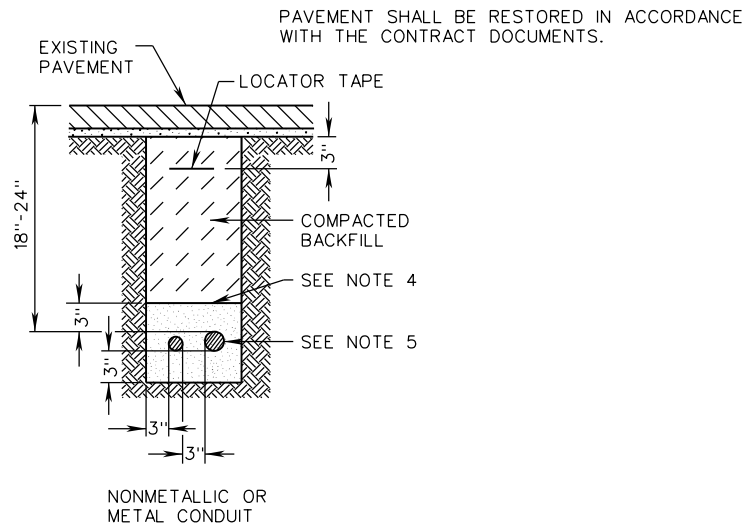


NON - PAVEMENT AND PROPOSED PAVEMENT AREA INSTALLATION

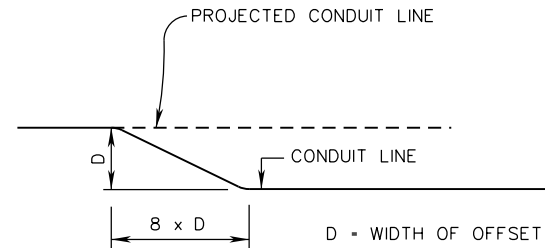
NOTES:

1. CONTRACTOR SHALL INSTALL A 4" MINIMUM TO 6" MAXIMUM WIDE RED PLASTIC LOCATOR TAPE 6" TO 8" BELOW FINISHED GRADE AND DIRECTLY ABOVE BURIED CONDUIT OR CONDUCTOR CABLES.
2. CONDUIT INSTALLED UNDER EXISTING OR PROPOSED ROADWAYS OR SIDEWALK FOR DIRECT BURIED CABLES SHALL EXTEND 24" BEYOND THE PAVED SURFACE AND/OR SIDEWALK.
3. WHERE CONDUIT FOR POWER AND CONDUIT FOR COMMUNICATION ARE TO BE INSTALLED IN CLOSE PROXIMITY TO EACH OTHER, CONDUITS SHALL BE PLACED PARALLEL IN A COMMON TRENCH WITH NO LESS THAN 6" OF SEPARATION BETWEEN CONDUIT SYSTEMS.
4. BACKFILL MATERIAL BELOW THIS LEVEL SHALL BE SANDY FILL (FREE OF ANY STONES, CINDERS, WOOD, ROOTS, DEBRIS, ETC.).
5. ONE OR MORE CONDUITS AS REQUIRED.
6. ONE OR MORE CONDUCTOR CABLES AS REQUIRED.
7. OFFSETTING OF CONDUIT MAY BE USED FOR TYING INTO EXISTING CONDUIT SYSTEMS OR BYPASSING OBSTRUCTIONS AS DIRECTED BY THE ENGINEER.
8. WHEN OFFSETTING CONDUIT TO BYPASS AN OBSTRUCTION, THE CONDUIT SHALL MAINTAIN A MINIMUM CLEARANCE OF 12" FROM THE CLOSEST POINT OF THE OBSTRUCTION.

ECI-2



EXISTING PAVEMENT AREA INSTALLATION



METHOD OF OFFSETTING CONDUIT



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

1318.10

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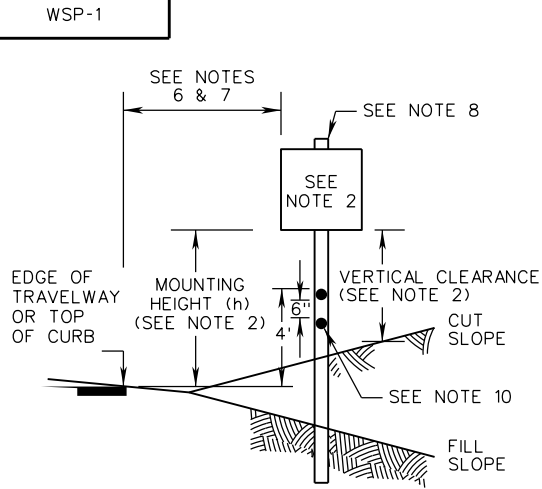
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ELECTRICAL CONDUIT AND CONDUCTOR CABLE

UNDERGROUND INSTALLATION

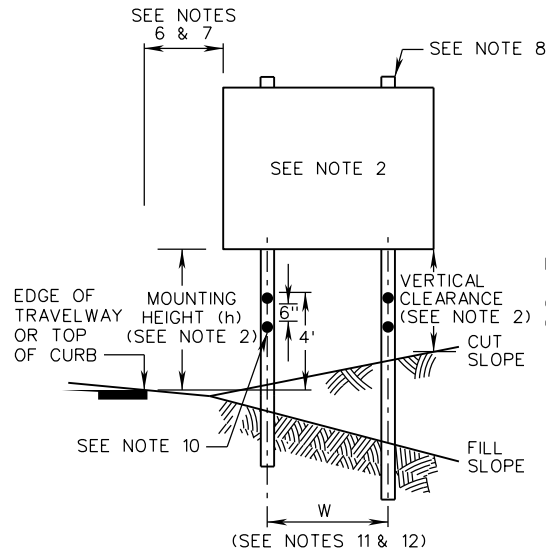
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

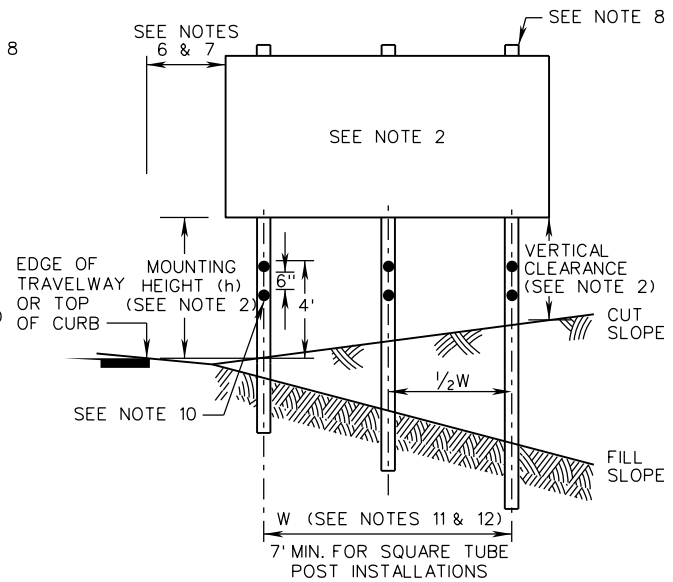
700
302



SINGLE POST INSTALLATIONS



TWO POST INSTALLATIONS



THREE POST INSTALLATIONS

GENERAL NOTES:

1. WSP STANDARDS SHALL ONLY BE USED FOR TEMPORARY SIGN INSTALLATIONS THAT WILL BE IN PLACE FOR A MAXIMUM OF 36 MONTHS.
2. FOR ALL SIGNS EXCEPT STREET NAME SIGNS:
 - A. MINIMUM MOUNTING HEIGHT (h) SHALL BE 7 FEET FOR TEMPORARY SIGNS AND 6 FEET FOR SECONDARY SIGNS (SEE NOTE 4).
 - B. MAXIMUM MOUNTING HEIGHT (h) FOR THE BOTTOM-MOST SIGN(S) SHALL BE 8 FEET, EXCEPT WHEN NECESSARY TO ACHIEVE MINIMUM VERTICAL CLEARANCE BENEATH SIGN AS PER NOTE 2C.
 - C. MINIMUM VERTICAL CLEARANCE (DISTANCE BETWEEN BOTTOM OF SIGN AND FINISHED GRADE BENEATH THE SIGN) SHALL BE 7 FEET FOR ANY PORTION OF THE SIGN WITHIN THE CLEAR ZONE. THIS MINIMUM VERTICAL CLEARANCE MAY BE REDUCED TO 5 FEET FOR EITHER OF THE FOLLOWING CONDITIONS:
 - WHEN SIGNS OR PORTIONS OF SIGNS ARE LOCATED MORE THAN 10 FEET UP A CUT SLOPE GREATER THAN 3:1, OR
 - WHEN THE SIGN IS LOCATED AT LEAST THE MINIMUM DISTANCE BEHIND CURB, BARRIER, OR GUARDRAIL AS PER NOTES 6 AND 7.
3. MOUNTING HEIGHT (h) FOR STREET NAME SIGNS SHALL BE BETWEEN 8'-6" AND 9'-0".
4. A SECONDARY SIGN IS CONSIDERED TO BE A SIGN MOUNTED BELOW ANOTHER SIGN, EXCEPT A ROUTE MARKING ASSEMBLY (CONSISTING OF A ROUTE MARKER WITH AN AUXILIARY PLATE) IS CONSIDERED TO BE A SINGLE SIGN. A SECONDARY SIGN SHALL NOT BE MOUNTED LOWER THAN 7 FEET ABOVE A PEDESTRIAN SIDEWALK OR PATHWAY IF IT WILL PROJECT MORE THAN 4" INTO THE PEDESTRIAN FACILITY.
5. FOR SIGNS LOCATED IN AREAS WHERE PEDESTRIAN MOVEMENTS ARE LIKELY TO OCCUR OR ON-STREET PARKING IS PERMITTED, THE HEIGHT (h) FROM THE LOWEST PORTION OF THE SIGN TO THE FINISHED SURFACE SHALL HAVE A CLEARANCE OF 7 FEET.
6. THE LATERAL CLEARANCE TO THE SIGN EDGE SHALL BE A MINIMUM OF 2 FEET FROM THE FACE OF CURB OR 4 FEET FROM FACE OF PERMANENT CONCRETE BARRIER, IF PRESENT. THE EDGE OF SIGN SHALL BE OUTSIDE THE DEFLECTION ZONE FOR TRAFFIC BARRIER SERVICE.

7. UNLESS OTHERWISE APPROVED BY THE ENGINEER, SIGNS PLACED BEHIND GUARDRAIL SHALL BE LOCATED SUCH THAT THE NEAR SIDE EDGE OF THE SIGN PANEL IS OUTSIDE OF THE GUARDRAIL DEFLECTION DISTANCE.
8. THE TOP OF THE SIGN POST MAY EXTEND NO MORE THAN 2 FEET ABOVE THE TOP OF THE SIGN.
9. THE SIGN POST SHALL BE PLUMB AT INSTALLATION AND SHALL NOT LEAN OR TWIST DURING USE. IN THE EVENT THE POST LEANS OR TWISTS OUT OF POSITION THE CONTRACTOR SHALL TAKE IMMEDIATE CORRECTIVE ACTION.
10. ED-3 TYPE 2 DELINEATORS SHALL BE PLACED ON ALL POSTS DURING ALL TIMES THAT THE SIGN IS COVERED. THE COLOR OF THE ED-3 DELINEATORS SHALL MATCH THE COLOR OF THE ADJACENT EDGE LINE MARKING.

WOOD POST NOTES:

11. MINIMUM SPACING (CENTER TO CENTER) BETWEEN TWO 4" x 4" WOOD POSTS SHALL BE 3 FEET. MINIMUM SPACING (CENTER TO CENTER) BETWEEN TWO WOOD POSTS OF ANY OTHER SIZE SHALL BE 8 FEET.

SQUARE TUBE POST NOTES:

12. $W = (0.60) X$ (SIGN WIDTH)

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TEMPORARY SIGNS
 (FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
WOOD POST AND SQUARE TUBE POST SIGN STRUCTURES
 VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

512
700



ROAD AND BRIDGE STANDARDS

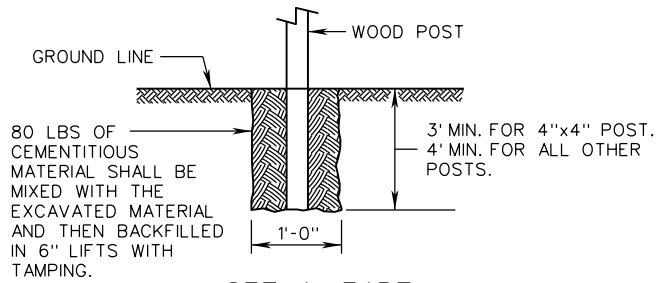
SHEET 1 OF 6

REVISION DATE

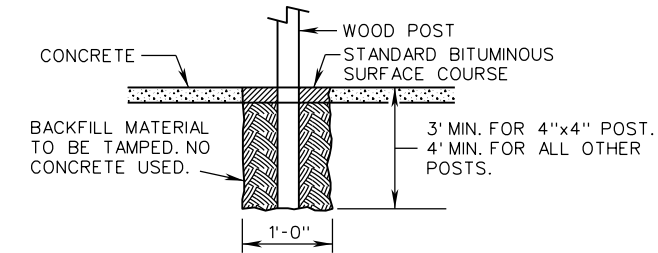
1320.10

02/16

INSTALLATION DETAILS

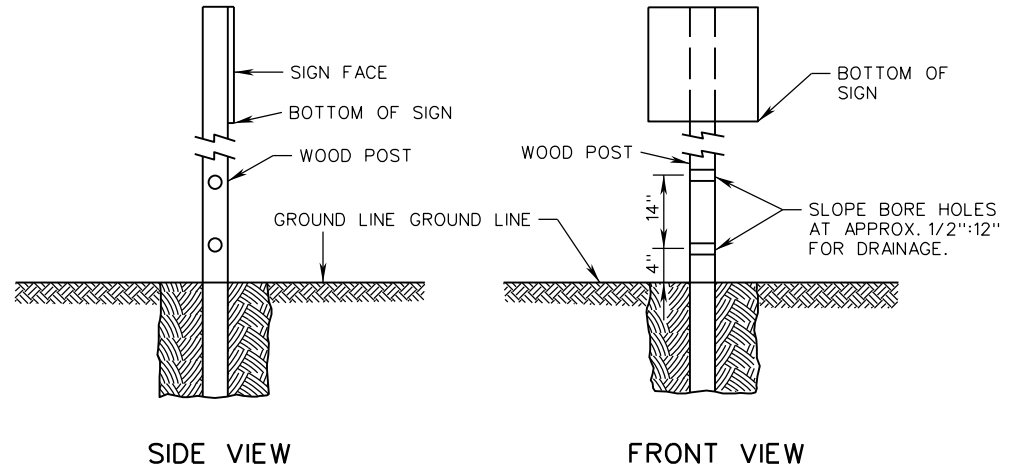


SET IN EARTH



SET IN CONCRETE

METHOD OF POST DRILLING



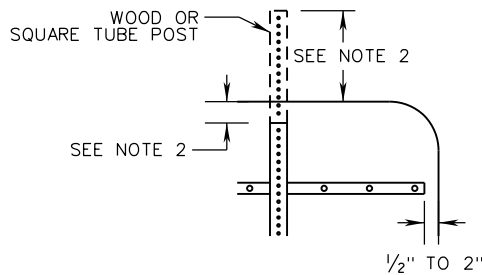
SIDE VIEW

FRONT VIEW

NOTES:

1. 6" X 6" WOOD POST REQUIRES TWO 2" BORE HOLES.
2. 6" X 8" WOOD POST REQUIRES TWO 3" BORE HOLES.
3. POSTS LESS THAN 6" X 6" DO NOT REQUIRE BORE HOLES.

BRACING AND POST TOLERANCE DETAIL



NOTES:

1. SIGN WIDTHS GREATER THAN 48" SHALL REQUIRE SIGN BRACING CONFORMING TO STANDARD STP-1.
2. THE TOP OF POST SHALL BE NO MORE THAN 2" BELOW AND NO MORE THAN 2 FEET ABOVE THE TOP OF THE SIGN.

SPECIFICATION REFERENCE

512
700

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

TEMPORARY SIGNS
(FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
WOOD OR SQUARE TUBE STEEL POST SIGN STRUCTURES
VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

SHEET 2 OF 6

1320.11

DESIGN TABLE FOR WOOD POST

SIZE OF POST	CENTROID (FT)	MAXIMUM AREA (TOTAL OF SIGNS) (FT ²)			COMMENTS
		SINGLE-POST	TWO-POST	THREE-POST	
4" X 4"	8	7	13	20	SEE NOTE 1
	9	6	12	18	
	10	5	11	16	
	11	5	10	15	
	12	4	9	13	
4" X 6" (SEE NOTE 2)	8	18	37	55	
	9	16	33	49	
	10	15	29	44	
	11	13	27	40	
5" X 5"	8	15	31	46	
	9	14	27	41	
	10	12	24	37	
	11	11	22	33	
6" X 6"	8	29	58	87	
	9	26	51	77	
	10	23	46	69	
	11	21	42	63	
	12	19	39	58	
6" X 8" (SEE NOTE 2)	8	52	103	155	
	9	46	92	138	
	10	41	83	124	
	11	38	75	113	
	12	34	69	103	
	13	32	64	95	
	14	22	44	66	

NOTES:

1. FOR A SINGLE 4" X 4" POST THE MAXIMUM TOTAL SIGN CAN BE INCREASED TO 16 SQUARE FEET PROVIDED:

A. THE MAXIMUM VERTICAL CLEARANCE BETWEEN THE GROUND LEVEL AND BOTTOM OF THE SIGN DOES NOT EXCEED 7'-6" WHILE MAINTAINING A 7'-0" MINIMUM MOUNTING HEIGHT (h) BETWEEN BOTTOM OF SIGN AND TOP OF ROADWAY SURFACE AT THE EDGE OF TRAVEL LANE.

B. CONTRACTOR SUPPLIES DEPARTMENT WITH MATERIALS CERTIFICATION FOR WOOD POSTS TO ENSURE CONFORMANCE WITH SECTION 236 OF THE SPECIFICATIONS.

2. LARGER DIMENSION OF WOOD POST SHALL BE IN DIRECTION OF (PARALLEL TO) TRAFFIC.

3. CENTROID SHALL BE DETERMINED IN ACCORDANCE WITH STANDARD PCS-1.



ROAD AND BRIDGE STANDARDS

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TEMPORARY SIGNS
(FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
WOOD POST SIGN STRUCTURES
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

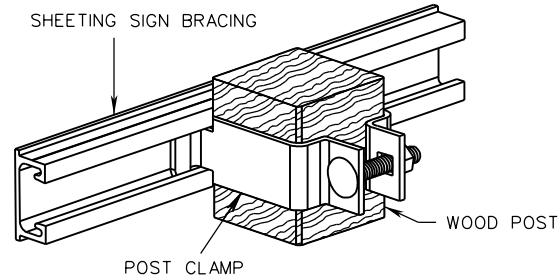
SHEET 3 OF 6

REVISION DATE

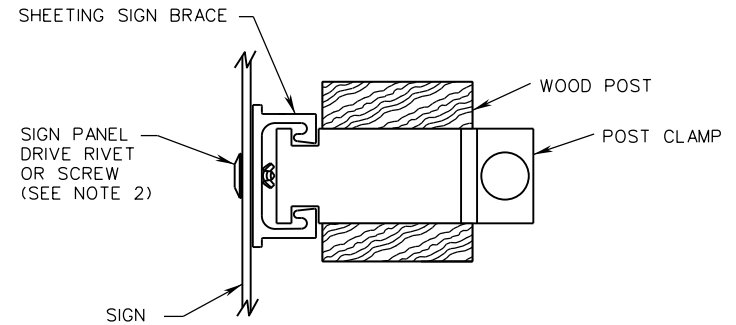
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02/16

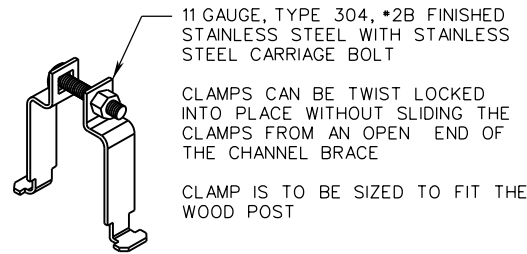
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**WOOD POST & BRACE
(CONNECTING JUNCTION)**



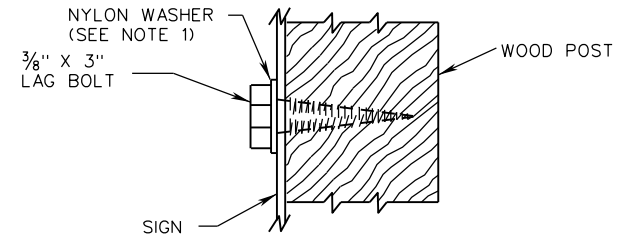
**SIGN PANEL ATTACHMENT DETAILS
FOR WOOD POST REQUIRING BRACING**



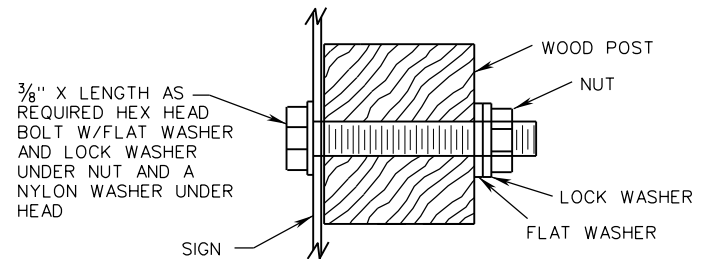
CLAMP DETAIL

NOTES:

1. NYLON WASHER SHALL BE $\frac{1}{16}$ " THICK MINIMUM WITH AN OUTSIDE DIAMETER OF 1" AND AN INSIDE DIAMETER OF $\frac{1}{16}$ ".
2. DRIVE RIVET SHALL BE $\frac{3}{16}$ " OR $\frac{3}{8}$ " ALUMINUM FLAT HEAD RIVET WITH NYLON OR RUBBER WASHER.
3. SIGN PANEL ATTACHMENTS TO SQUARE TUBE POSTS SHALL BE AS PER STANDARD STP-1.
4. THE HEADS OF ALL DRIVE RIVETS AND BOLTS PROTRUDING FROM TEMPORARY SIGNS MAY BE UNCOATED. IF POWDER COATED, THE HEADS SHALL MATCH THE COLOR OF THE SIGN SHEETING.
5. BOLTS, NUTS, AND LOCK WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL.



**SIGN ATTACHMENT DETAILS
WOOD POST WITHOUT BRACING**



SPECIFICATION
REFERENCE

512
700

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TEMPORARY SIGNS
 (FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
WOOD POST SIGN STRUCTURES - ATTACHMENT DETAILS
 VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE
NEW 02/16

SHEET 4 OF 6

1320.13

DESIGN TABLE FOR SQUARE TUBE POST

SIZE OF POST	CENTROID (FT)	MAXIMUM AREA (TOTAL OF SIGNS) (FT ²)			COMMENTS
		SINGLE-POST	TWO-POST	THREE-POST	
2 INCH 14 GA.	8	10.7	21.4		TYPE A, TYPE D, OR TYPE F FOUNDATION (SEE NOTE 4)
	9	9.5	19.0		
	10	8.5	17.0		
	11	7.7	15.4		
	12	7.1	14.2		
	13	6.5	13.0		
	14	6.1	12.2		
2½ INCH 12 GA.	8	21.5			TYPE A OR TYPE E FOUNDATION (SEE NOTE 4)
	9	19.1			
	10	17.2			
	11	15.6			
	12	14.3			
	13	13.2			
	14	12.3			
2½ INCH 10 GA.	8	24.8	49.6	74.4	TYPE B OR TYPE C FOUNDATION (SEE NOTE 4)
	9	22.0	44.0	66.0	
	10	19.8	39.6	59.4	
	11	18.0	36.0	54.0	
	12	16.5	33.0	49.5	
	13	15.2	30.4	45.6	
	14	14.1	28.2	42.3	
2½ INCH 10 GA. WITH 2⅜ INCH 10 GA. INNER POST (SEE NOTE 1)	8	43.4	86.8	130.2	TYPE B OR TYPE C FOUNDATION (SEE NOTE 4)
	9	38.6	77.2	115.8	
	10	34.7	69.4	104.1	
	11	31.6	63.2	94.8	
	12	28.9	57.8	86.7	
	13	26.7	53.4	80.1	
	14	24.8	49.6	74.4	

NOTES:

1. THE INNER POST SHALL BE 6 FEET IN LENGTH.
2. CENTROID SHALL BE DETERMINED IN ACCORDANCE WITH PCS-1.
3. MINIMUM COLD FORMED YIELD STRENGTH SHALL BE:
14 GA. AND 12 GA. = 60 KSI
10 GA. = 55 KSI
4. TYPE A, B, C, D, E, AND F FOUNDATIONS SHALL BE IN ACCORDANCE WITH STANDARD STP-1.



ROAD AND BRIDGE STANDARDS

SHEET 5 OF 6

REVISION DATE

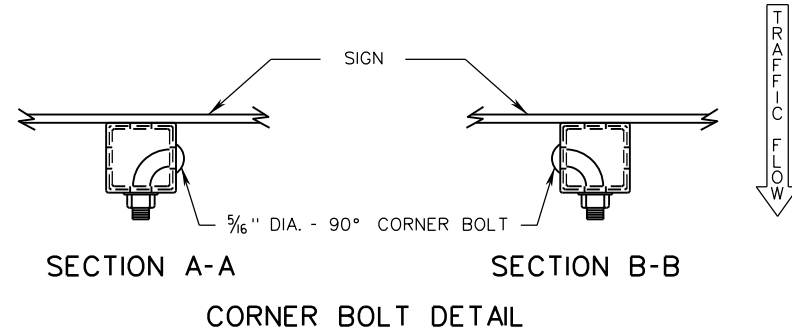
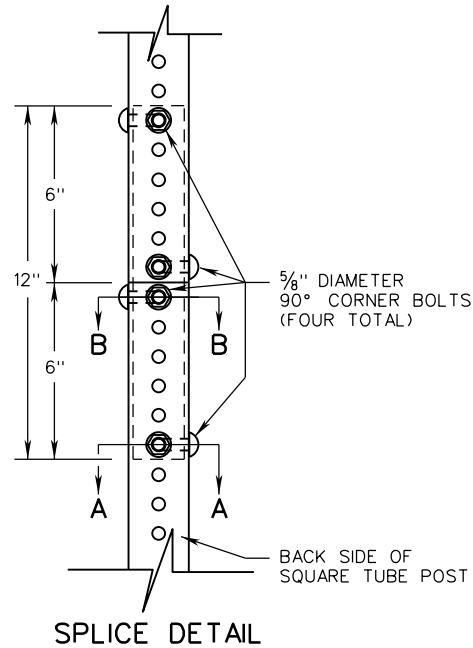
1320.14

NEW 02/16

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TEMPORARY SIGNS
(FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
SQUARE TUBE POST SIGN STRUCTURES
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE512
700



SPLICE SIZE TABLE	
POST SIZE	SPLICE POST SIZE
2 INCH, 14 GAUGE	1 3/4 INCH, 14 GAUGE
2 1/2 INCH, 12 GAUGE	2 1/4 INCH, 12 GAUGE
2 1/2 INCH, 10 GAUGE	2 3/16 INCH, 10 GAUGE

NOTES:

1. ONLY ONE SPLICE PER POST WILL BE ALLOWED.
2. SPLICES SHALL BE A MINIMUM OF 24" ABOVE GROUND LINE.
3. SPLICES SHALL ONLY BE PERMITTED FOR TEMPORARY INSTALLATIONS.
4. CORNER BOLTS SHALL BE INSTALLED SO THE BOLT HEADS ALTERNATE SIDES PER EACH CORNER BOLT. THE BOLT HEAD SHALL BE ON THE LEFT OR RIGHT SIDE OF THE POST. THE NUT SHALL BE ON THE BACK OF THE POST. SEE SPLICE DETAIL.

SPECIFICATION REFERENCE
512 700

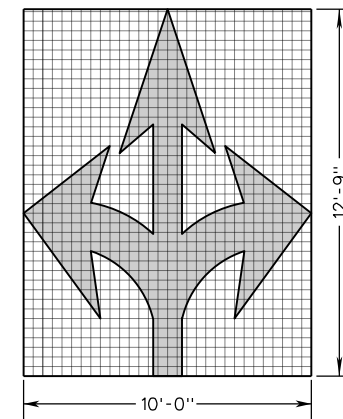
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TEMPORARY SIGNS
 (FOR CONSTRUCTION, MAINTENANCE, PERMIT AND UTILITY ACTIVITIES)
SQUARE TUBE POST SIGN STRUCTURES
 VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE NEW 02/16	SHEET 6 OF 6 1320.15

SQUARE FOOT AREAS OF SYMBOLS AND ARROWS			
SYMBOL	DESCRIPTION	PAINT APPLICATION	ERADICATION
	THRU ARROW	12.0	32.0
	SINGLE TURN ARROW (LEFT OR RIGHT)	17.5	51.0
	DOUBLE TURN ARROW (LEFT/THROUGH OR RIGHT/THROUGH)	28.5	96.0
	TRIPLE TURN ARROW (LEFT/THROUGH/RIGHT)	37.5	127.5
	DOUBLE TURN ARROW ARROW (LEFT/RIGHT)	27.0	80.0
	LANE-REDUCTION ARROW (LEFT OR RIGHT)	44.0	99.0
	WRONG-WAY ARROW	24.0	133.5
	FISH-HOOK LANE-USE ARROW FOR ROUNDABOUTS (LEFT)	20.5	81.0
	FISH-HOOK LANE-USE ARROW FOR ROUNDABOUTS (LEFT/THROUGH)	31.0	114.5
	FISH-HOOK LANE-USE ARROW FOR ROUNDABOUTS (LEFT/THROUGH/RIGHT)	39.5	195.0
	FISH-HOOK LANE-USE ARROW FOR ROUNDABOUTS (THROUGH/RIGHT)	31.5	142.0
	OPTIONAL OVAL FOR FISH-HOOK LANE-USE ARROW FOR ROUNDABOUTS	3.5	4.5
	HOV DIAMOND SYMBOL (ASPHALT SURFACE)	11.5	39.0
	HOV DIAMOND CONTRAST SYMBOL (CONCRETE SURFACE)	35.5	70.0
	YIELD LINE TRIANGLE (1' x 1.5')	0.75 (EACH)	1.5 (EACH)
	YIELD LINE TRIANGLE (2' x 3')	3.0 (EACH)	6.0 (EACH)

SQUARE FOOT AREAS OF SYMBOLS AND ARROWS			
SYMBOL	DESCRIPTION	PAINT APPLICATION	ERADICATION
	BICYCLIST THRU ARROW	5.0	12.0
	BICYCLIST TURN ARROW (LEFT OR RIGHT)	9.5	29.0
	HELMETED BICYCLIST SYMBOL	6.5	20.0
	SHARED LANE MARKING SYMBOL	10.0	31.5
	SMALL YIELD AHEAD TRIANGLE	26.0	78.0
	LARGE YIELD AHEAD TRIANGLE	37.0	120.0
	RAILROAD CROSSING SYMBOL	60.0	160.0
	INTERNATIONAL SYMBOL OF ACCESSIBILITY - SPECIAL SIZED	22.0	22.5



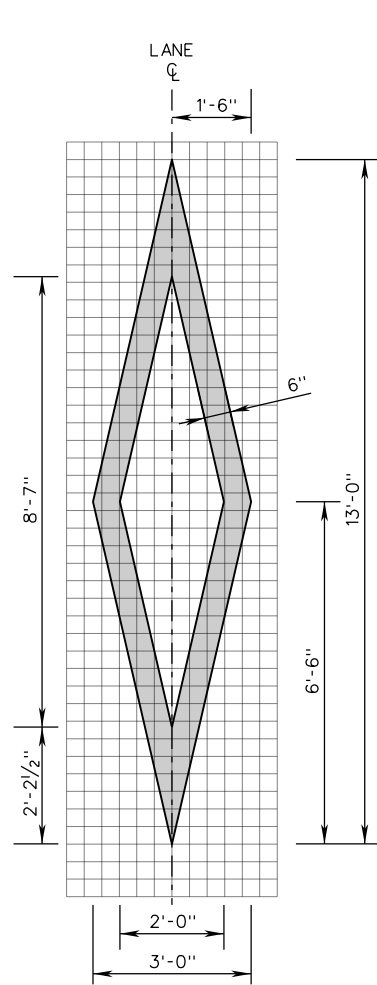
ERADICATION AREA = 12'-9" x 10'-0" ≈ 127.5 SQ.FT.

THEORETICAL BOX ERADICATION AREA EXAMPLE (TRIPLE TURN ARROW)

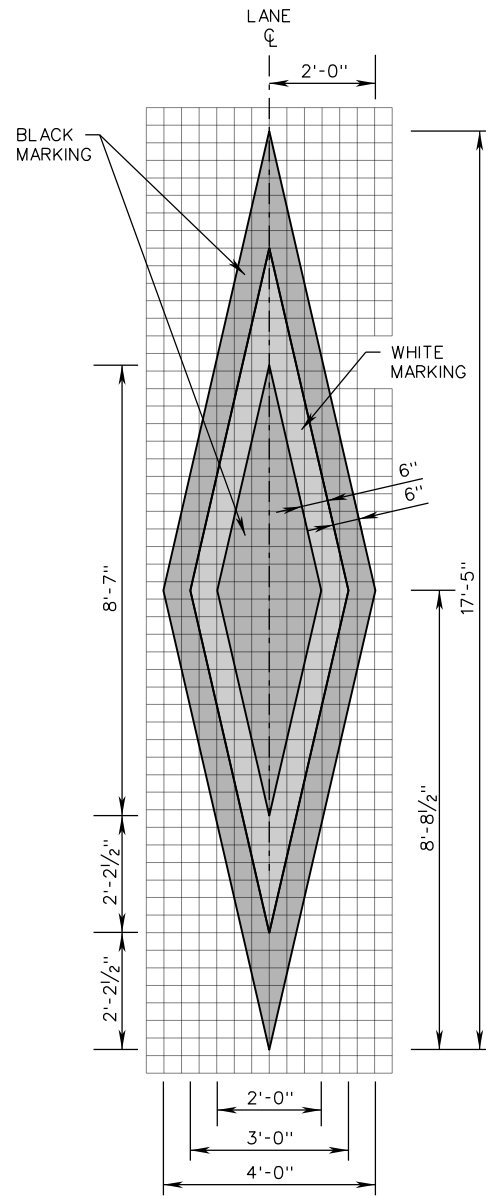
SPECIFICATION REFERENCE
704

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.
PAVEMENT WORD, SYMBOL, AND ARROW MARKINGS
 SQUARE FOOT AREAS OF SYMBOLS AND ARROWS
 VIRGINIA DEPARTMENT OF TRANSPORTATION

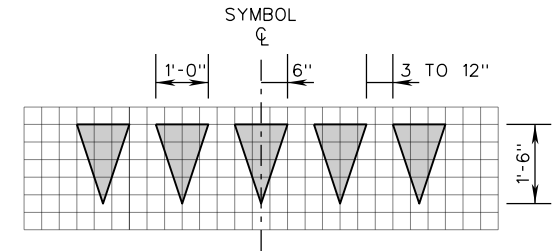
VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE 02/16	SHEET 3 OF 15 1340.12



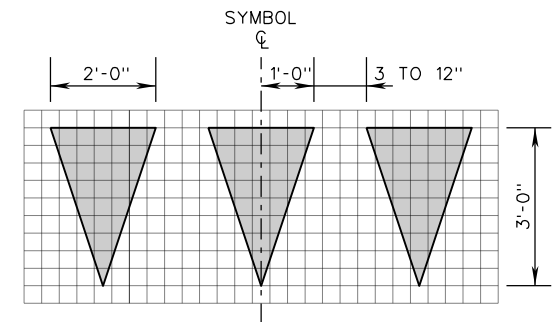
HOV DIAMOND SYMBOL
(ASPHALT SURFACE)



HOV DIAMOND
CONTRAST SYMBOL
(CONCRETE SURFACE)



YIELD LINE TRIANGLE
(1' x 1.5' TRIANGLES)



YIELD LINE TRIANGLE
(2' x 3' TRIANGLES)

NOTES:

1. 1 GRID UNIT = 4 INCHES
2. ALL SYMBOLS/LEGEND SHALL BE WHITE UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

SPECIFICATION
REFERENCE

704

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.
PAVEMENT WORD, SYMBOL, AND ARROW MARKINGS
SYMBOL DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

02/16

SHEET 7 OF 15

1340.16