New York State Electric & Gas Corporation

Steuben-Chemung Area Transmission Enhancement Project

Exhibit E-1

Description of Proposed Transmission Facilities

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LIST OF FIGURES

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EXHIBIT E-1: DESCRIPTION OF PROPOSED TRANSMISSION FACILITIES

E-1.1 Design Standards

The Project[1] will be designed to meet or exceed all requirements for electrical clearances and mechanical strength for Grade B Construction set forth in the American National Standard Institute (ANSI C2, 2023 edition) and the NESC, both as in effect at the time of design. Conductor-to-ground electrical clearances at short-time emergency (STE) New York Power Pool ratings used in the design of the Project will also meet those recommended in the NESC.

TRANSMISSION LINES:

LENGTH OF CONSTRUCTION/RECONSTRUCTION	Proposed Line 68 – 23.6 miles Proposed Line 69 – 1.5 miles Proposed Line 72 – 27.0 miles Proposed Line 74 – 0.4 miles *(Temp) Hillside Bypass – 0.1 miles* *(Temp) Watercure Bypass – 0.1 miles* Total Length (Excluding Temp) – 52.5 miles
DESIGN VOLTAGE	All Proposed Lines – 230 kV
OPERATING VOLTAGE	All Proposed Lines – 230 kV
INITIAL OPERATING VOLTAGE	All Proposed Lines – 230 kV
CONDUCTOR	
Type, Material, and Size:	
Lines 68 & 74	Aluminum Conductor, Steel Reinforced (ACSR) Bundled (2) 1192.5 circular mil (kcmil) 45/7 "Bunting"

[1] For clarity and consistency, the Application includes a Master Glossary of Terms that defines terms and acronyms used throughout the Application.

Lines 69, 72 & *Watercure Bypass*	ACSR 2156 kcmil 84/19 "Bluebird"
Lines 69/72 Double Circuit & *Hillside Bypass*	ACCR 1272 kcmil 51/19 "Bittern"

Quantity:

Lines 68 & 74	6 per circuit, 2 per phase
Lines 69, 72 & *Watercure Bypass*	3 per circuit, 1 per phase
Lines 69/72 Double Circuit & *Hillside Bypass*	3 per circuit, 1 per phase

Overall Diameter:

Lines 68 & 74	1.302 inches
Lines 69, 72 & *Watercure Bypass*	1.762 inches
Lines 69/72 Double Circuit & *Hillside Bypass*	1.350 inches

Cross Sectional Area:

Lines 68 & 74	1.001 square inches
Lines 69, 72 & *Watercure Bypass*	1.8309 square inches
Lines 69/72 Double Circuit & *Hillside Bypass*	1.075 square inches

Rated Strength:

Lines 68 & 74	32,000 pounds per conductor
Lines 69, 72 & *Watercure Bypass*	60,300 pounds
Lines 69/72 Double Circuit & *Hillside Bypass*	38,500 pounds

STATIC WIRE

Type, Material:	OPGW 72 Fibers DNO-11467
Diameter:	0.583 inches
Quantity:	1 per circuit
Rated Strength:	20,723 pounds

Type, Material:	OPGW 72 Fibers DNO-11469
Diameter:	0.913 inches
Quantity:	1 per circuit
Rated Strength:	44,112 pounds

Type, Material:	7#7 Alumoweld
Diameter:	0.443 inches
Quantity:	1 per circuit
Rated Strength:	19,060 pounds

INSULATORS

Type, Material:	Toughened Glass Bells
Diameter:	10 – 11 inches
Quantity:	15-18 (230kV) insulator units per phase, 3-6 insulator strings per circuit
Rated Strength:	30,000 – 50,000 pounds
Types/Design:	Toughened Glass Suspension
Color:	Clear

Type, Material:	Polymer Horizontal Post
Diameter:	5.06
Rated Strength:	Cantilever Bending: 1610 pounds
Types/Design:	Polymer Horizontal Post
Color:	Grey

STRUCTURES – LIGHT DUTY AND ENGINEERED STEEL

Types:

H-Frame V-String
H-Frame V-String with Cross Arm
Single Pole Tangent V-Sting
3-Pole Angle Suspension
3- Pole Angle V-String
3- Pole Angle V-String Guyed
3 Pole Dead-End
Single Pole Dead-End
Single Pole Dead-End Guyed
Single Pole Double Circuit Dead-End

Material:	Steel
Typical Height Above Ground:	92 feet
Preservative Treatment:	Weathering Steel
Color:	Brown

DAVIT ARMS

Material:	Steel
Preservative Treatment:	Weathering Steel
Color:	Brown

CROSSARMS

Material:	Steel
Preservative Treatment:	Weathering Steel
Color:	Brown

STRUCTURES – TEMPORARY WOOD

Types:

Temporary Dead End
Temporary Running
Angle
Temporary Tangent

Material:	Treated Wood
Typical Height Above Ground:	92 feet
Color:	Brown

E-1.1.1 Design References

The Project will be designed in accordance with all applicable federal, state, and local codes and industry standards, unless stated otherwise. The industry codes and standards shall include, but shall not be limited to, the following:

- NESC 2023
- ANSI C2
- American Society of Civil Engineers (ASCE)/Structural Engineering Institute (SEI) 48-19, Design of Steel Transmission Pole Structures
- ASCE Manual No. 74, Guidelines for Electrical Transmission Line Structural Loading, Fourth Edition

The Project will be designed in accordance with the NYSEG Electric Transmission Construction Standards Manual, except to the extent otherwise indicated in the EM&CP.

E-1.2 Insulator, Foundation and Structure Design

Figure E-1-1 illustrates the design standards the Applicant proposes to use for insulators on the Project.

Figure E-1-2 illustrates the design standards the Applicant proposes to use for structure foundations on the Project. Figure E-1-3 illustrates the design standards the Applicant proposes to use for structures on the Project.

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New York State Electric & Gas Corporation

Steuben-Chemung Area Transmission Enhancement Project

Exhibit E-1

Description of Proposed Transmission Facilities

Figures

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New York State Electric & Gas Corporation

Steuben-Chemung Area Transmission Enhancement

Exhibit E-1

Description of Proposed Transmission Facilities

Figure E-1-1

Typical Insulator Details

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

ANSI B 11" X 17"

Drawn:	Date:	Updated:	Date:
L.A. Best	12/15/2020	SAC	5/12/2022

5-3/4" X 10" TOUGHENED GLASS DISC INSULATORS ANSI CLASS 52-5H TYPICALLY USED FOR 115kV & 230kV			
# of DISCS	Compatible Unit (CU)	WEIGHT (pounds)	LENGTH (feet)
7	U*CT-TI-9T-D5-7	71	3.35
8	U*CT-TI-9T-D5-8	81	3.83
9	U*CT-TI-9T-D5-9	91	4.31
10	U*CT-TI-9T-D5-10	101	4.79
11	U*CT-TI-9T-D5-11	112	5.27
13	U*CT-TI-9T-D5-13	132	6.23
14	U*CT-TI-9T-D5-14	142	6.71
15	U*CT-TI-9T-D5-15	152	7.19
16	U*CT-TI-9T-D5-16	162	7.67
17	U*CT-TI-9T-D5-17	172	8.15
18	U*CT-TI-9T-D5-18	182	8.63

15,000# MINIMUM TEST LOAD PROOF
30,000# MINIMUM M&E RATING
MID 30054297

Manufacturer and part number:
SEDIVER/SEVES N14/146DC

5-3/4" X 11" TOUGHENED GLASS DISC INSULATORS ANSI CLASS 52-8H TYPICALLY USED FOR 345kV			
# of DISCS	Compatible Unit (CU)	WEIGHT (pounds)	LENGTH (feet)
18	U*CT-TI-9T-D8-18	231	8.63
19	U*CT-TI-9T-D8-19	244	9.10
20	U*CT-TI-9T-D8-20	256	9.58
21	U*CT-TI-9T-D8-21	269	10.06
22	U*CT-TI-9T-D8-22	282	10.54
23	U*CT-TI-9T-D8-23	295	11.02

20,000# MINIMUM TEST LOAD PROOF
40,000# MINIMUM M&E RATING
MID 30054355

Manufacturer and part number:
SEDIVER/SEVES N180/146DC

Contact Processes & Technologies - Electric Network Standards - Electric
Transmission Standards for the creation/revision of transmission standards & CUs.

Drawing Scale: N/A

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

TRANSMISSION INSULATOR INFORMATION
TOUGHENED GLASS DISC INSULATORS
ANSI CLASS - BALL & SOCKET

Revision: 0-0C
DATE: 02/2025

DRAWN BY	Date Ck.:	Approved By:	Date App.:	File Name: Figure E-1A-001	Sheet 1 of 1
HAR/DAS					

DISC INSULATORS PER STRING

ANSI Class	VOLTAGE	Tangent Suspension or Idler String		Running Angle Suspension String		Dead End String		
		Wood/ Composite Arm or Pole	Steel Arm or Pole/ Tower	Wood/ Composite Arm or Pole	Steel Arm or Pole/ Tower	Wood/ Composite Arm or Pole	Steel Arm or Pole/ Tower	Substation Bay
52-3 52-4	35kV	3	4	4	5	4	5	5
	46kV	4	5	5	6	5	6	6
	69kV	5	6	6	7	6	7	7
52-5 52-6	115kV	7	8	8	9	9	10	11
	230kV	13	15	14	16	15	17	18
52-8 52-11*	345kV	18	20	19	21	20	22	23

* ANSI Class 52-11 used for special applications/long spans

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ANSI A 8-1/2" X 11"

Date Drawn: 9/8/2015

Drawn/Updated By: L.A. Best

Contact Processes & Technologies - Electric Network Standards - Electric Transmission Standards for the creation/revision of transmission standards & CUs.

Drawing Scale: N/A

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

TRANSMISSION INSULATOR INFO
PORCELAIN AND TOUGHENED GLASS DISC INSULATORS
NUMBER OF INSULATORS PER STRING

Revision 0-0C

DATE 02/2025

DRAWN BY	Date Ck.:	Approved By:	Date App.:	File Name:	Sheet
HAR/DAS		M. Sazanowicz/M. Zaffina	3/5/2021	Figure E-1A-002	1 of 1

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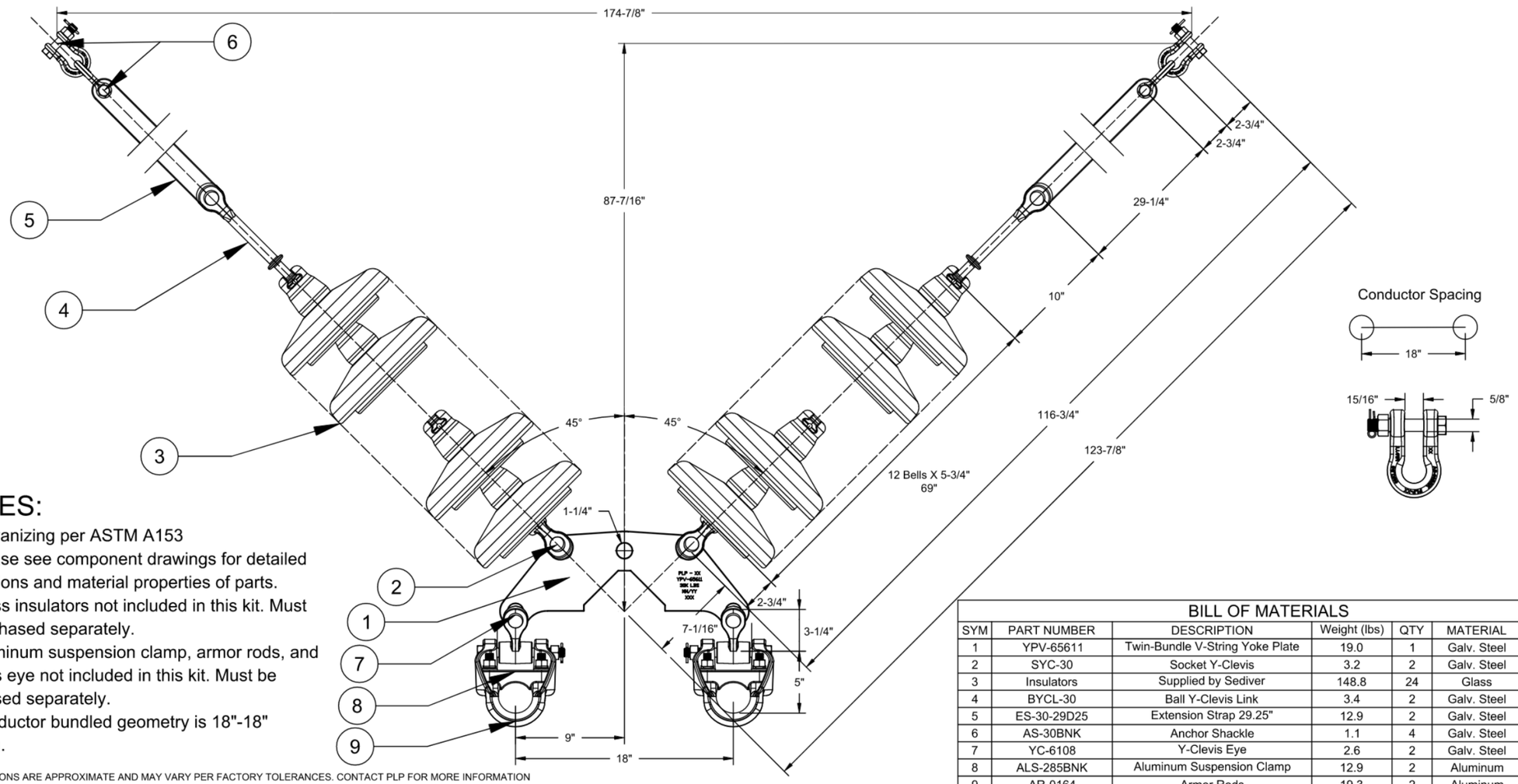
ANSI B 11" X 17"

Drawn:	L.A. Best	
Date:	12/15/2020	
Updated:	SAC	
Date:	5/12/2022	

Tangent Suspension V-String Assembly, 230kV
Twin-Bundle Conductor, Single Insulator, 30k
S-VH-22-30-395



Conductor Spacing

NOTES:

1.) Galvanizing per ASTM A153
2.) Please see component drawings for detailed dimensions and material properties of parts.
3.) Glass insulators not included in this kit. Must be purchased separately.
4.) Aluminum suspension clamp, armor rods, and Y-clevis eye not included in this kit. Must be purchased separately.
5.) Conductor bundled geometry is 18"-18" spacing.

ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY PER FACTORY TOLERANCES. CONTACT PLP FOR MORE INFORMATION

BILL OF MATERIALS

SYM	PART NUMBER	DESCRIPTION	Weight (lbs)	QTY	MATERIAL	RBS
1	YPV-65611	Twin-Bundle V-String Yoke Plate	19.0	1	Galv. Steel	30,000
2	SYC-30	Socket Y-Clevis	3.2	2	Galv. Steel	30,000
3	Insulators	Supplied by Sediver	148.8	24	Glass	30,000
4	BYCL-30	Ball Y-Clevis Link	3.4	2	Galv. Steel	30,000
5	ES-30-29D25	Extension Strap 29.25"	12.9	2	Galv. Steel	30,000
6	AS-30BNK	Anchor Shackle	1.1	4	Galv. Steel	30,000
7	YC-6108	Y-Clevis Eye	2.6	2	Galv. Steel	30,000
8	ALS-285BNK	Aluminum Suspension Clamp	12.9	2	Aluminum	30,000
9	AR-0164	Armor Rods	19.3	2	Aluminum	-

TYPICAL INSULATOR SET FOR :

H-FRAME V-STRING
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

SINGLE POLE V-STRING
STEEL 230KV SINGLE POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

H-FRAME V-STRING WITH CROSSARM
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

Contact Processes & Technologies - Electric Network Standards - Electric Transmission Standards for the creation/revision of transmission standards & CUs.

Drawing Scale: N/A

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

TRANSMISSION INSULATOR INFORMATION
HORIZONTAL BUNDLED V-STRING

Revision
0-0C
DATE
02/2025

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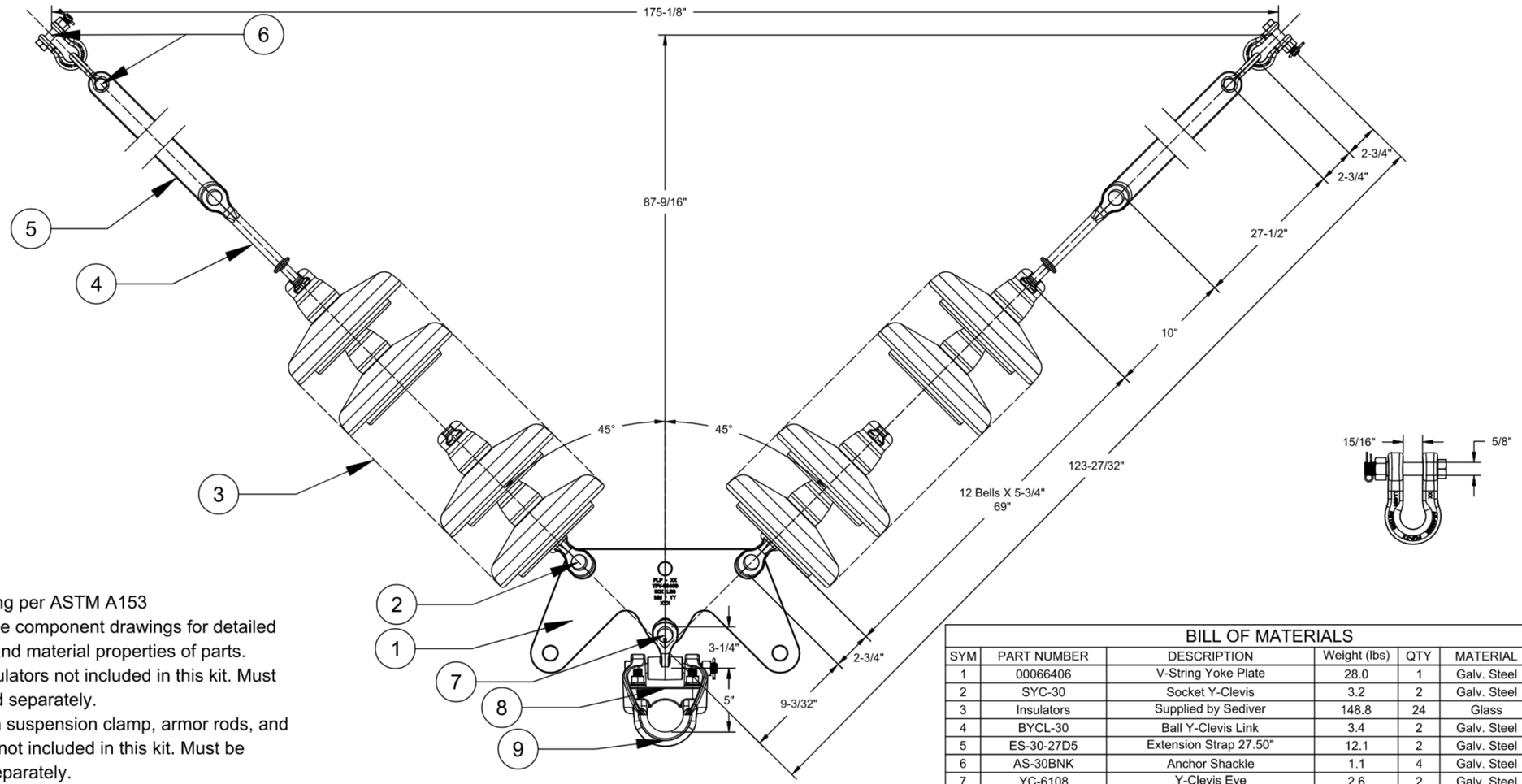
HAR/DAS				Figure E-1A-003	1 of 1

Tangent Suspension V-String Assembly, 230kV
Single Conductor, Single Insulator, 30k
S-VX-12-30-397



NOTES:

1.) Galvanizing per ASTM A153
2.) Please see component drawings for detailed dimensions and material properties of parts.
3.) Glass insulators not included in this kit. Must be purchased separately.
4.) Aluminum suspension clamp, armor rods, and Y-clevis eye not included in this kit. Must be purchased separately.

ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY PER FACTORY TOLERANCES. CONTACT PLP FOR MORE INFORMATION

BILL OF MATERIALS

SYM	PART NUMBER	DESCRIPTION	Weight (lbs)	QTY	MATERIAL	RBS
1	00066406	V-String Yoke Plate	28.0	1	Galv. Steel	30,000
2	SYC-30	Socket Y-Clevis	3.2	2	Galv. Steel	30,000
3	Insulators	Supplied by Sediver	148.8	24	Glass	30,000
4	BYCL-30	Ball Y-Clevis Link	3.4	2	Galv. Steel	30,000
5	ES-30-27D5	Extension Strap 27.50"	12.1	2	Galv. Steel	30,000
6	AS-30BNK	Anchor Shackle	1.1	4	Galv. Steel	30,000
7	YC-6108	Y-Clevis Eye	2.6	2	Galv. Steel	30,000
8	ALS-285BNK	Aluminum Suspension Clamp	12.9	2	Aluminum	30,000
9	AR-0167	Armor Rods	21.3	1	Aluminum	-

TYPICAL INSULATOR SET FOR :

H-FRAME V-STRING
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

SINGLE POLE V-STRING
STEEL 230KV SINGLE POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

H-FRAME V-STRING WITH CROSSARM
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

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ANSI B 11" X 17"

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L.A. Best	12/15/2020	SAC	5/12/2022

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Drawing Scale: N/A

NYSEG

SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S

TRANSMISSION INSULATOR INFORMATION
SINGLE CONDUCTOR V-STRING

Revision 0-0C
DATE 02/2025

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HAR/DAS					

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ANSI B 11" X 17"

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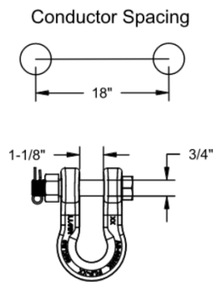
Date:	12/15/2020	
Updated:	SAC	
Date:	5/12/2022	

Angled Suspension V-String Assembly, 230kV
Twin-Bundle Conductor, Single Insulator, 50k
A-VH-22-50-396



ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY PER FACTORY TOLERANCES. CONTACT PLP FOR MORE INFORMATION

NOTES:

1.) Galvanizing per ASTM A153
2.) Please see component drawings for detailed dimensions and material properties of parts.
3.) Glass insulators not included in this kit. Must be purchased separately.
4.) Aluminum suspension clamp, armor rods, and Y-clevis eye not included in this kit. Must be purchased separately.
5.) Conductor bundled geometry is 18"-18" spacing.

BILL OF MATERIALS

SYM	PART NUMBER	DESCRIPTION	Weight (lbs)	QTY	MATERIAL	RBS
1	YPC-69153	Medium Angle Adjustable Yoke Plate	34.0	1	Galv. Steel	50,000
2	SYC-50	Socket Y-Clevis	4.8	2	Galv. Steel	50,000
3	Insulators	Supplied by Sediver	172.8	24	Glass	50,000
4	BYCL-50	Ball Y-Clevis Link	5.5	2	Galv. Steel	50,000
5	EEL-50-12D5	Eye-Eye Link 12.5"	5.4	1	Galv. Steel	50,000
6	AS-60BNK	Anchor Shackle	2.3	2	Galv. Steel	60,000
7	EEL-50-16D5	Eye-Eye Link 16.5"	7.1	1	Galv. Steel	50,000
8	YC-6108	Y-Clevis Eye	2.6	2	Galv. Steel	30,000
9	ALS-285BNK	Aluminum Suspension Clamp	12.9	2	Aluminum	30,000
10	AR-0164	Armor Rods	19.3	2	Aluminum	-

TYPICAL INSULATOR SET FOR :

TM2.23 TESJJ-MOD
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

TM2.23 TESJJ-MOD GUYED
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

Contact Processes & Technologies - Electric Network Standards - Electric
Transmission Standards for the creation/revision of transmission standards & CUs.

Drawing Scale: N/A

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

TRANSMISSION INSULATOR INFORMATION
BUNDLED ANGLE V-STRING

Revision
0-0C
DATE
02/2025

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HAR/DAS				Figure E-1A-005	1 of 1

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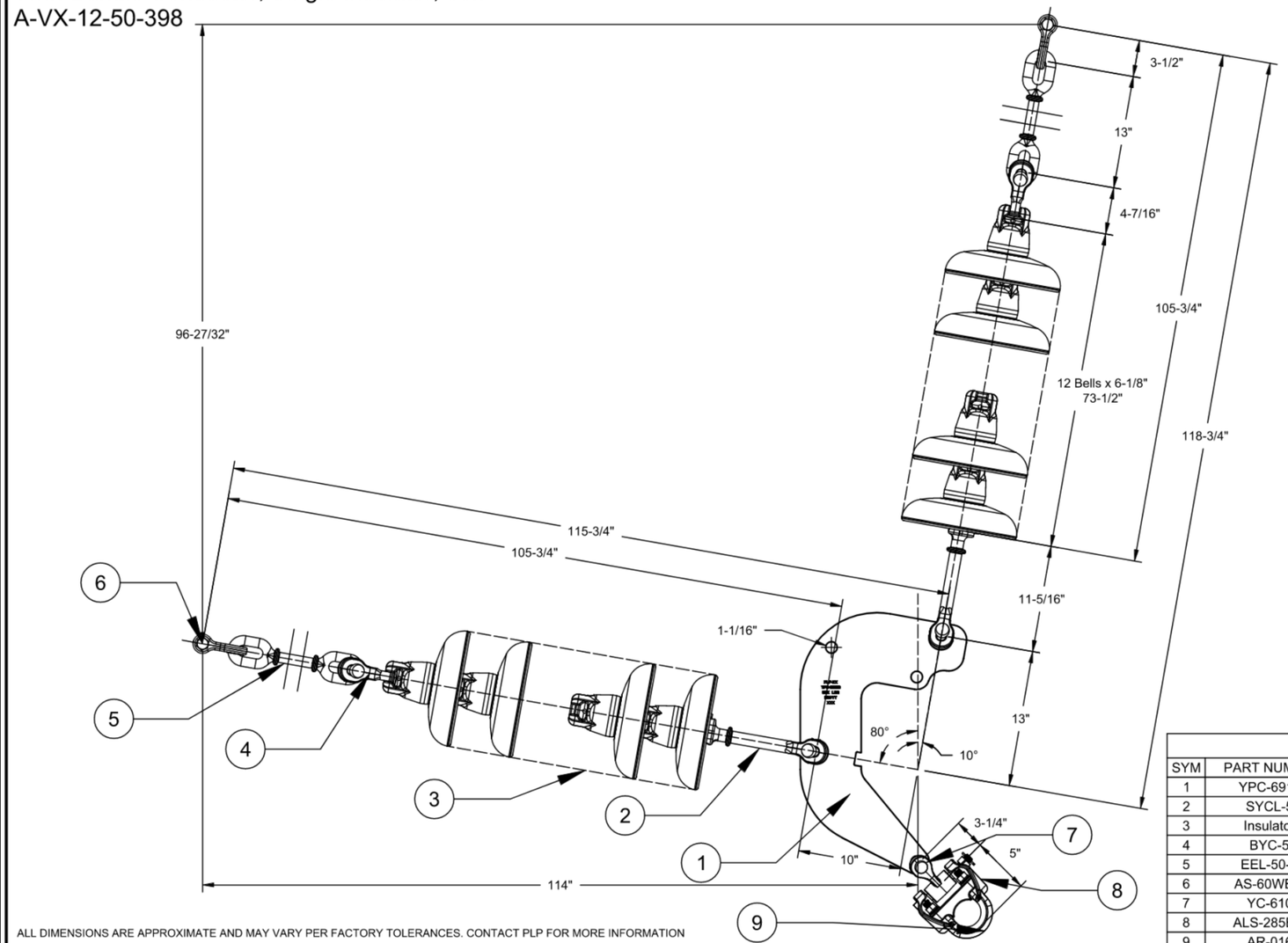
ANSI B 11" X 17"

Drawn:	L.A. Best	
Date:	12/15/2020	
Updated:	SAC	
Date:	5/12/2022	

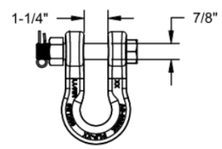
Angled Suspension V-String Assembly, 230kV
Twin-Bundle Conductor, Single Insulator, 50k
A-VX-12-50-398



ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY PER FACTORY TOLERANCES. CONTACT PLP FOR MORE INFORMATION

NOTES:

1.) Galvanizing per ASTM A153
2.) Please see component drawings for detailed dimensions and material properties of parts.
3.) Glass insulators not included in this kit. Must be purchased separately.
4.) Aluminum suspension clamp, armor rods, and Y-clevis eye not included in this kit. Must be purchased separately.



BILL OF MATERIALS

SYM	PART NUMBER	DESCRIPTION	Weight (lbs)	QTY	MATERIAL	RBS
1	YPC-69153	Crescent Yoke Plate	42.4	1	Galv. Steel	50,000
2	SYCL-50	Socket Y-Clevis Link	5.8	2	Galv. Steel	50,000
3	Insulators	Supplied by Sediver	172.8	24	Glass	50,000
4	BYC-50	Ball Y-Clevis	4.0	2	Galv. Steel	50,000
5	EEL-50-13	Eye-Eye Link 13"	5.6	2	Galv. Steel	50,000
6	AS-60WBNK	Anchor Shackle	3.5	2	Galv. Steel	60,000
7	YC-6108	Y-Clevis Eye	2.6	1	Galv. Steel	30,000
8	ALS-285BNK	Aluminum Suspension Clamp	12.9	1	Aluminum	30,000
9	AR-0167	Armor Rods	21.3	1	Aluminum	-

TYPICAL INSULATOR SET FOR :

TM2.23 TESJJ-MOD

STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

TM2.23 TESJJ-MOD GUYED
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

Contact Processes & Technologies - Electric Network Standards - Electric
Transmission Standards for the creation/revision of transmission standards & CUs.

Drawing Scale: N/A

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

TRANSMISSION INSULATOR INFORMATION
SINGLE CONDUCTOR ANGLE V-STRING

Revision
0-0C
DATE
02/2025

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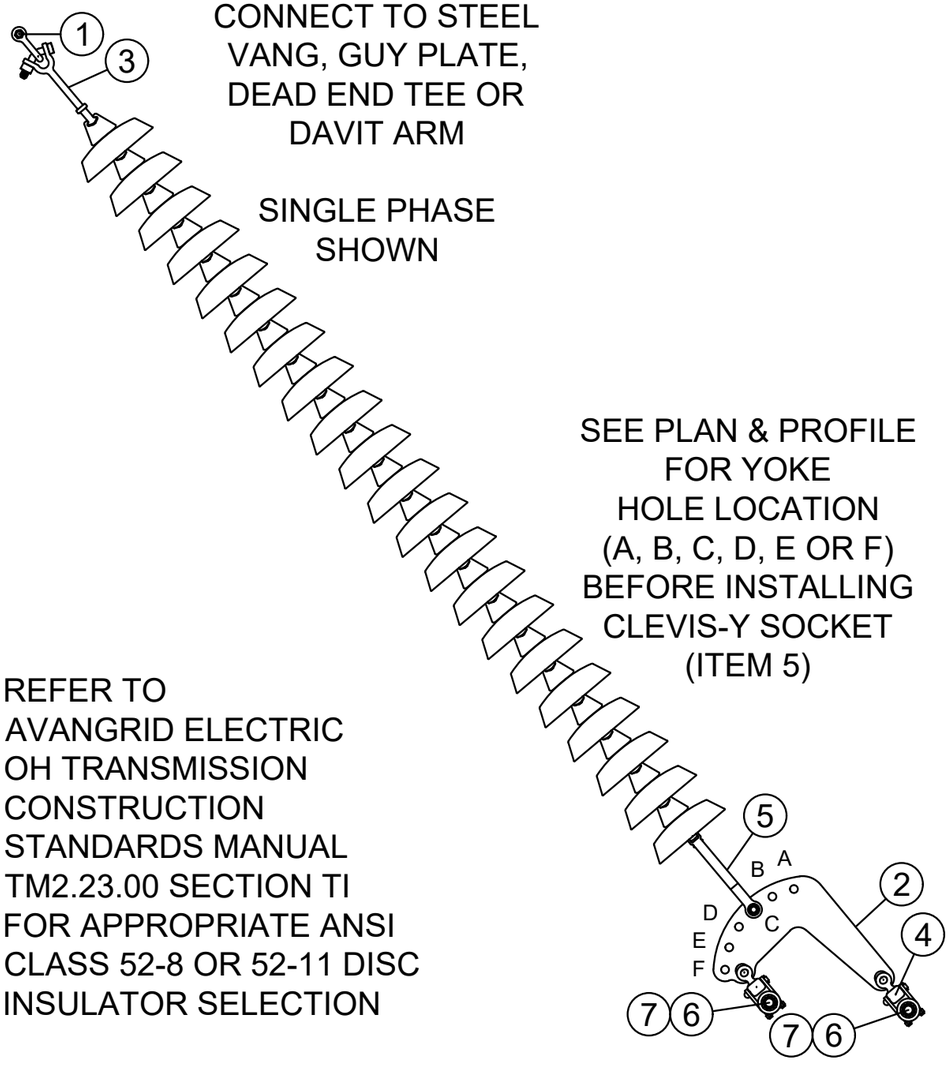
HAR/DAS				Figure E-1A-006	1 of 1

BILL OF MATERIALS			1192.5 ACSR 45/7 Bunting 1.302" diameter and ANSI class 52-8 or 52-11	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-SD17-ID
1	3	ST	30923932	SHACKLE ANCH 7/8 BNK 1-1/4 OPNG 60K
2	3	ST	30923953	YOKE STL CAST BOOMERANG SHAPE 40K
3	3	ST	30924090	FTTG Y-CLV BALL L HL 9-11/16 LNG 50K
4	6	ST	30924102	FTTG Y-CLV EYE S NHL 90 DEG 40K
5	3	ST	30924103	FTTG Y-CLV SCKT L HL 10-5/16 LNG 50K
6	6	ST	30925810	ROD ARMR PREFRM AL 100 IN 1.270-1.327
7	6	ST	30926109	CLAMP SUSP AL EHV NO CONN 25K 2.71 MAX

TYPICAL INSULATOR SET FOR :

CUSTOM THREE POLE SUSPENSION RUNNING ANGLE STEEL 230kV THREE POLE SINGLE CIRCUIT RUNNING ANGLE STRUCTURE



CONNECT TO STEEL VANG, GUY PLATE, DEAD END TEE OR DAVIT ARM

SINGLE PHASE SHOWN

SEE PLAN & PROFILE FOR YOKE HOLE LOCATION (A, B, C, D, E OR F) BEFORE INSTALLING CLEVIS-Y SOCKET (ITEM 5)

REFER TO AVANGRID ELECTRIC OH TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.00 SECTION TI FOR APPROPRIATE ANSI CLASS 52-8 OR 52-11 DISC INSULATOR SELECTION

ANSI B 11" X 17"

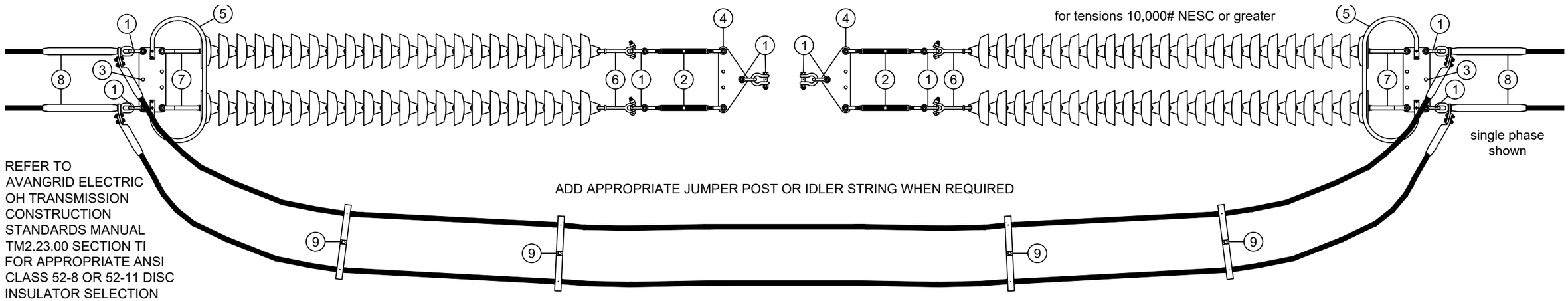
NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS BUNDLED CONDUCTOR ANGLE SUSPENSION				Revision 0-0C Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-007

BILL OF MATERIALS			1192.5 ACSR 45/7 Bunting 1.302" diameter and ANSI class 52-8 or 52-11	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-CH56-ID
1	36	ST	30923925	SHACKLE ANCH 1 BNK 1-7/16 OPNG 80K
2	12	ST	30923942	TURNBUCKLE JAW-EYE 45K 1 X 12
3	6	ST	30923954	YOKE STL CAST RECTANGLE 18 SPC 80K
4	6	ST	30923956	YOKE STL CAST TRIANGLE 18 SPC 80K
5	6	ST	30924069	RING CORONA 4 SLOT HOLES OB 94487-4008
6	12	ST	30924090	FTTG Y-CLV BALL L HL 9-11/16 LNG 50K
7	12	ST	30924103	FTTG Y-CLV SCKT L HL 1-5/16 SHANK 50K
8	12	ST	30926077	CLAMP COMP DE ASSY VES 1192 ACSR 45/7
9	12	ST	30926191	SPCR COND BUNDLED 18 IN RIGID 1.29-1.30

TYPICAL INSULATOR SET FOR :

SINGLE POLE DEAD END
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

TM2.23.TES2JP
STEEL 230kV THREE POLE SINGLE CIRCUIT DEAD END STRUCTURE



REFER TO AVANGRID ELECTRIC OH TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.00 SECTION TI FOR APPROPRIATE ANSI CLASS 52-8 OR 52-11 DISC INSULATOR SELECTION

ANSI B 11" X 17"

NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS BUNDLED CONDUCTOR DEAD END				Revision 0-0C
						Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-008

BILL OF MATERIALS			Jumper Post for Bundled Conductor diameters 1.00" to 1.40"	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-PJ04-01
1	3	ST	30048079	CLAMP DUAL FOR JUMPER POST 1.00-1.40
manufacturers: HUBBELL 2717243001 or MACLEAN NPH3D-18-140				

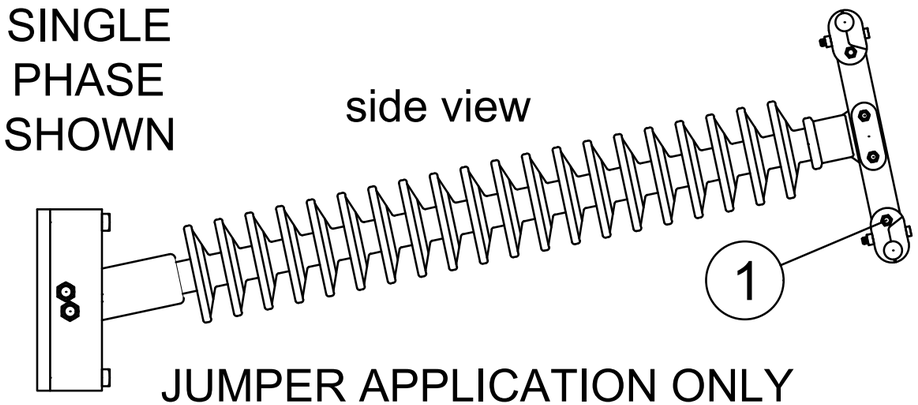
TYPICAL INSULATOR SET FOR :

SINGLE POLE DEAD END
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

REFER TO AVANGRID OH ELECTRIC TRANSMISSION
CONSTRUCTION STANDARDS MANUAL TM2.23.00
SECTION TI FOR APPROPRIATE INSULATOR SELECTION

SINGLE PHASE SHOWN

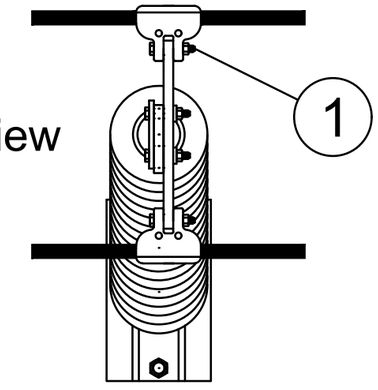
side view



JUMPER APPLICATION ONLY

polymer drop tongue horizontal post insulator

front view



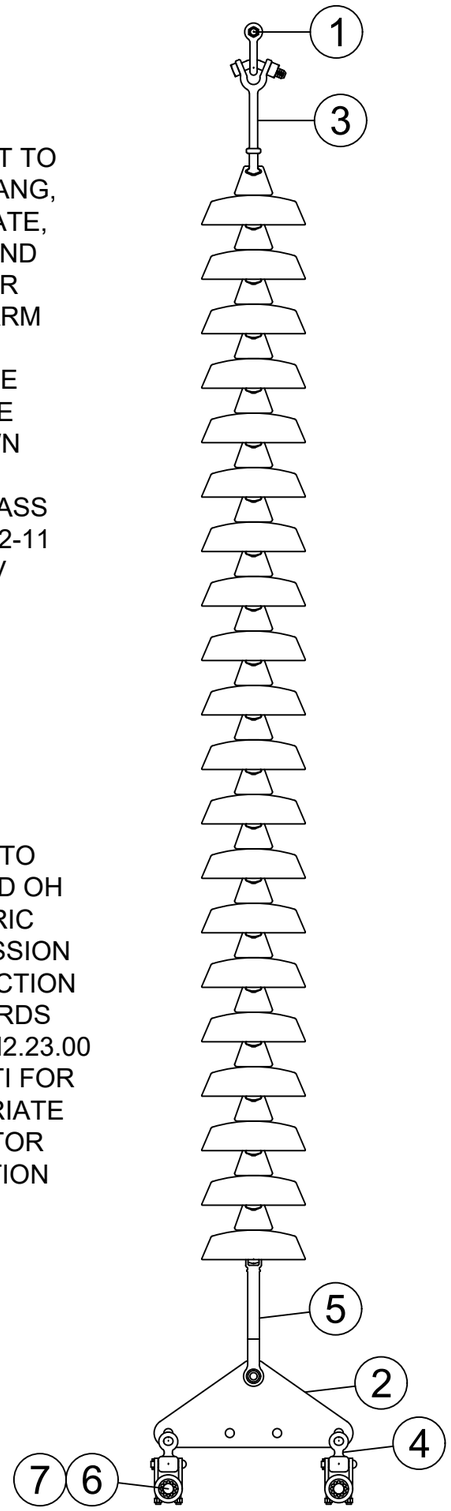
ANSI B
11" X 17"

NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS BUNDLED CONDUCTOR DEAD END				Revision 0-0C
						Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-009

CONNECT TO
STEEL VANG,
GUY PLATE,
DEAD END
TEE OR
DAVIT ARM

SINGLE
PHASE
SHOWN

ANSI CLASS
52-8 or 52-11
345kV



REFER TO
AVANGRID OH
ELECTRIC
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL TM2.23.00
SECTION TI FOR
APPROPRIATE
INSULATOR
SELECTION

TYPICAL INSULATOR SET FOR :

TM2.23.TES2JP
STEEL 230kV THREE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

BILL OF MATERIALS			1192.5 ACSR 45/7 Bunting 1.302" diameter and ANSI class 52-8 or 52-11		CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-SD16-ID	
1	3	ST	30923932	SHACKLE ANCH 7/8 BNK 1-1/4 OPNG 60K	
2	3	ST	30923961	YOKE STL PLT TRIANGLE 18 SPC 60K	
3	3	ST	30924090	FTTG Y-CLV BALL L HL 9-11/16 LNG 50K	
4	6	ST	30924102	FTTG Y-CLV EYE S NHL 90 DEG 40K	
5	3	ST	30924103	FTTG Y-CLV SCKT L HL 10-5/16 LNG 50K	
6	6	ST	30925810	ROD ARMR PREFRM AL 100 IN 1.270-1.327	
7	6	ST	30926109	CLAMP SUSP AL EHV NO CONN 25K 2.71 MAX	

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

230 kV INSULATOR DETAILS
BUNDLED CONDUCTOR DEAD END
ON DAVIT ARMS JUMPER

Revision
0-0C
Date
02/2025

Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
HAR/DAS	11/22/2024				

Figure E-1A-010

ANSI B
11" X 17"

BILL OF MATERIALS			2156 ACSR 84/19 Bluebird 1.762" diameter	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-SA11-GR
1	3	ST	30923932	SHACKLE ANCH 7/8 BNK 1-1/4 OPNG 60K
2	3	ST	30924092	FTTG Y-CLV BALL S HL 9-5/16 LNG 30K
3	3	ST	30925811	ROD ARMR PREFRM AL 100 IN 1.729-1.809
4	3	ST	30926131	CLAMP SUSP AL W/SCKT 40K 2.40-2.80

TYPICAL INSULATOR SET FOR :

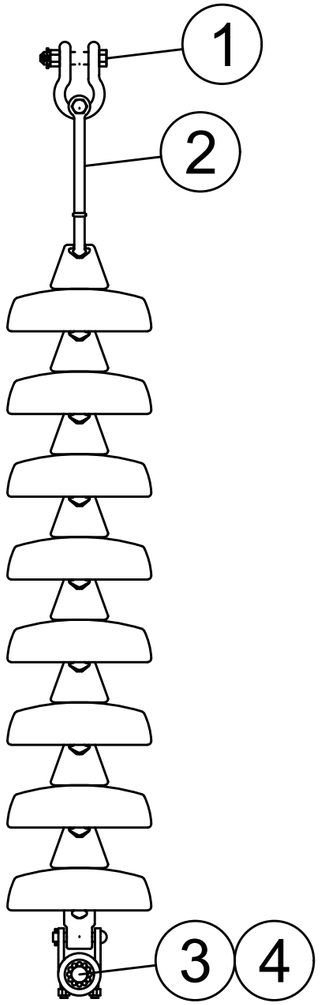
TM2.23.TES2JP
STEEL 230kV THREE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

DOUBLE CIRCUIT DEAD END
STEEL 230kV SINGLE POLE DOUBLE CIRCUIT
DEAD END STRUCTURE

CONNECT TO STEEL VANG, GUY PLATE, DEAD END TEE OR DAVIT ARM

SINGLE PHASE SHOWN

REFER TO AVANGRID OH ELECTRIC TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.00 SECTION TI FOR APPROPRIATE INSULATOR SELECTION



NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS DEAD END ON DAVIT ARMS JUMPER				Revision 0-0C Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-011

ANSI B
11" X 17"

BILL OF MATERIALS			2156 ACSR 84/19 Bluebird 1.762" diameter ANSI class 52-8 or 52-11 ball & socket disc insulators	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-CC32-GR
1	12	ST	30923925	SHACKLE ANCH 1 BNK 1-7/16 OPNG 80K
2	6	ST	30923942	TURNBUCKLE JAW-EYE 45K 1 X 12
3	6	ST	30924090	FTTG Y-CLV BALL L HL 9-11/16 LNG 50K
4	6	ST	30924103	FTTG Y-CLV SCKT L HL 1-5/16 SHANK 50K
5	6	ST	SEDA6328	CLAMP COMP DE ASSY VES 2156 ACSR 84/19

TYPICAL INSULATOR SET FOR :

SINGLE POLE DEAD END
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

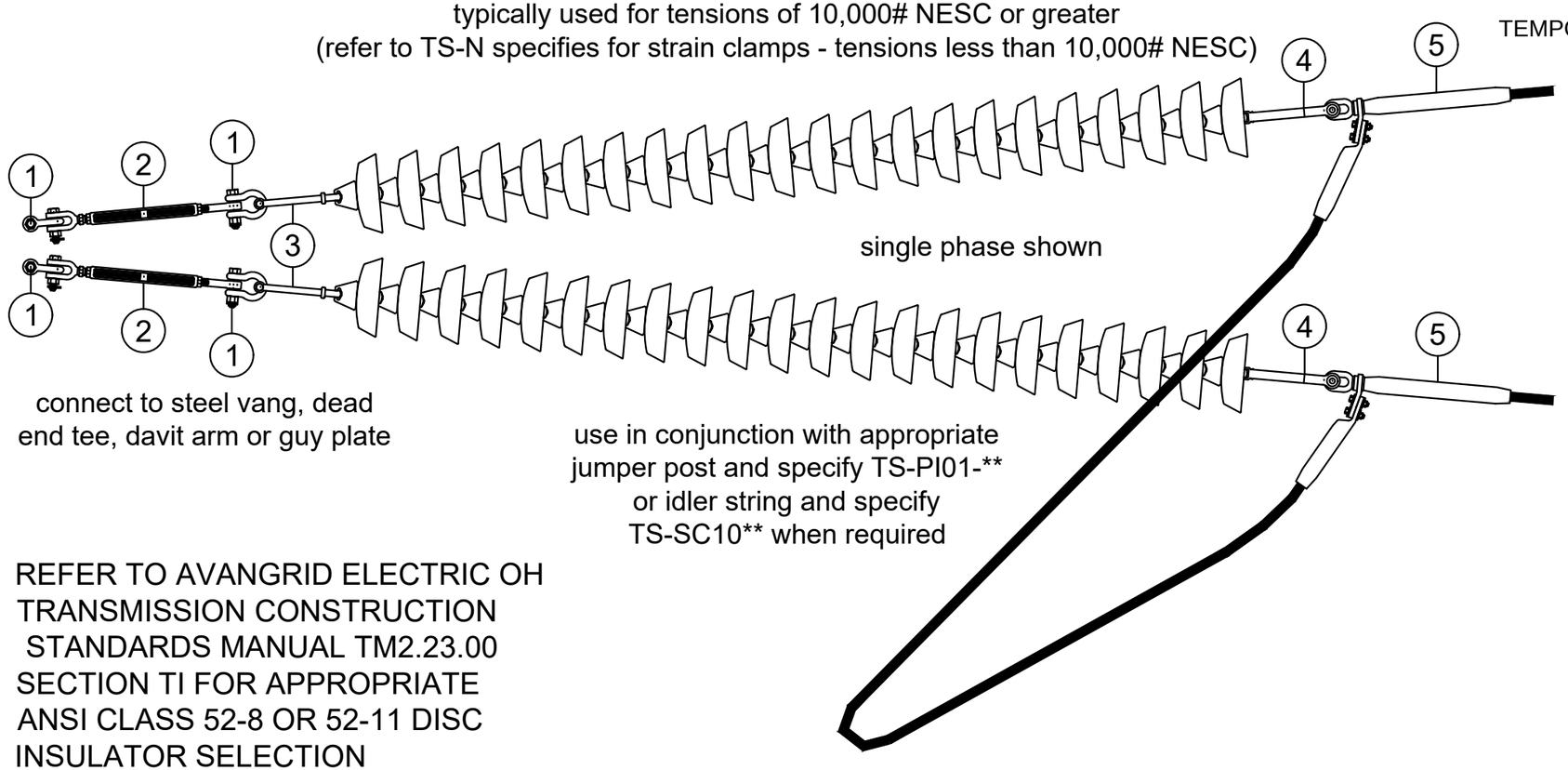
SINGLE POLE DEAD END GUYED
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

TM2.23.TES2JP
STEEL 230kV THREE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

DOUBLE CIRCUIT DEAD END
STEEL 230kV SINGLE POLE DOUBLE CIRCUIT
DEAD END STRUCTURE

TEMPORARY DEAD END

typically used for tensions of 10,000# NESC or greater
(refer to TS-N specifies for strain clamps - tensions less than 10,000# NESC)



single phase shown

connect to steel vang, dead end tee, davit arm or guy plate

use in conjunction with appropriate jumper post and specify TS-PI01-** or idler string and specify TS-SC10** when required

REFER TO AVANGRID ELECTRIC OH TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.00 SECTION TI FOR APPROPRIATE ANSI CLASS 52-8 OR 52-11 DISC INSULATOR SELECTION

ANSI B
11" X 17"

NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS DEAD END				Revision 0-0C
						Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-012

BILL OF MATERIALS			2156 ACSR 84/19 Bluebird 1.762" diameter	CU Type: UC_CNDO
Item #	QTY	UOM	MID	CU: U*CT-TS-PI02-05
1	3	ST	30051467	ROD ARMR PREFRM AL 100 IN 1.652-1.728
2	3	ST	30926174	CLAMP POST TANG AL 1.50-2.00

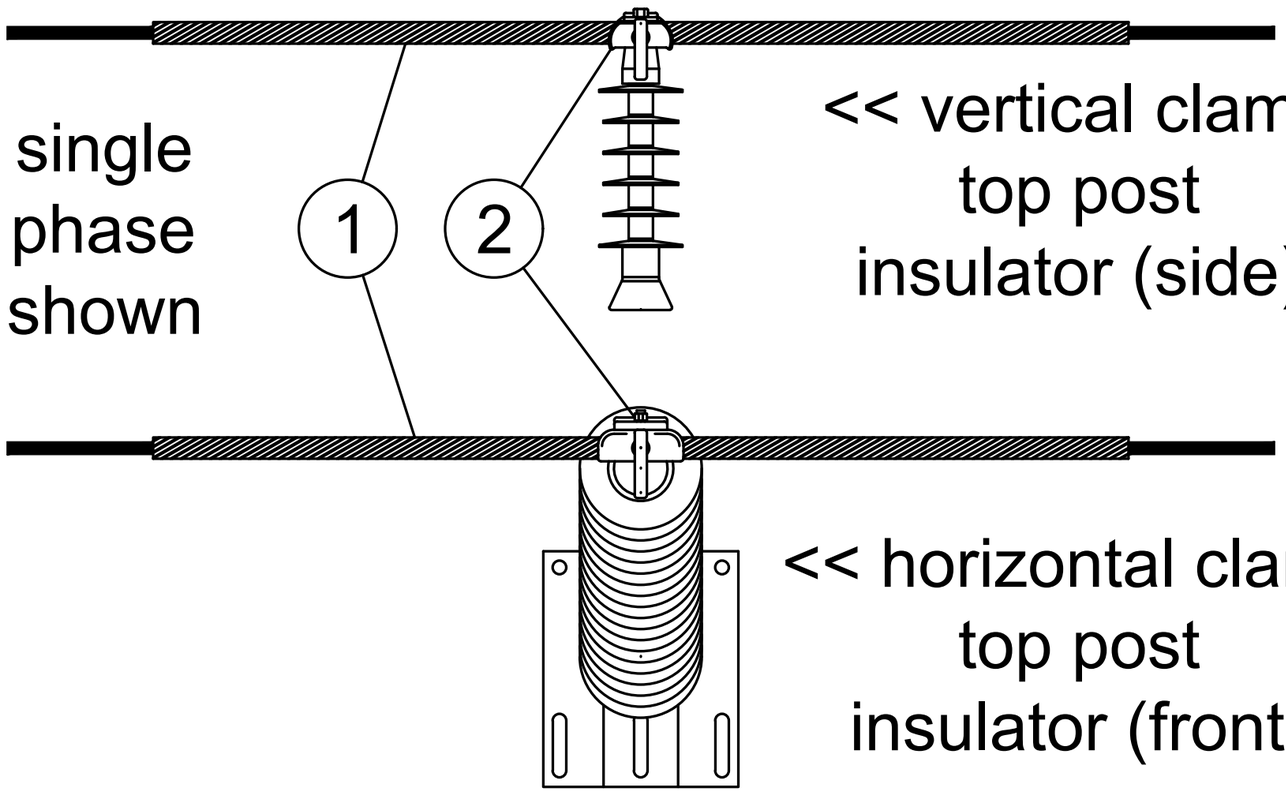
TYPICAL INSULATOR SET FOR :

SINGLE POLE DEAD END
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

SINGLE POLE DEAD END GUYED
STEEL 230kV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

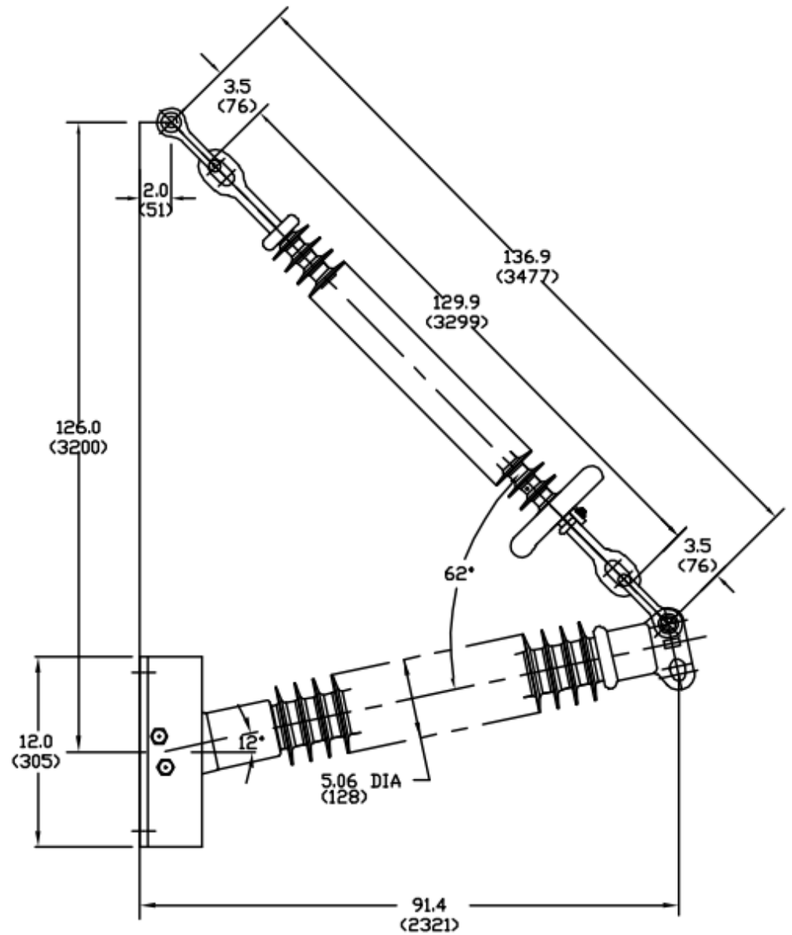
TEMPORARY DEAD END

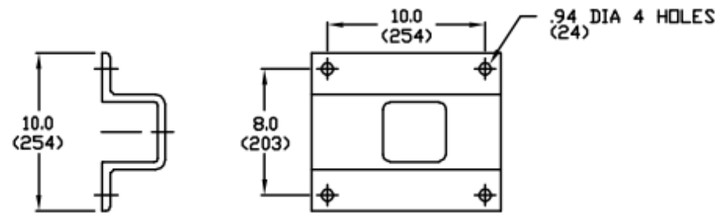
REFER TO AVANGRID OH ELECTRIC TRANSMISSION
CONSTRUCTION STANDARDS MANUAL TM2.23.00
SECTION TI FOR APPROPRIATE INSULATOR SELECTION



NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	230 kV INSULATOR DETAILS DEAD END				Revision 0-0C Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 11/22/2024	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1A-013

ANSI B
11" X 17"





MOUNTING BASE DETAIL

ELECTRICAL CHARACTERISTICS IN ACCORDANCE WITH ANSI C29.11-1988

DRY 60 Hz FLASHOVER	795
WET 60 Hz FLASHOVER	670
IMPULSE POSITIVE FLASHOVER	1220
IMPULSE NEGATIVE FLASHOVER	1320

ELECTRICAL CHARACTERISTICS IN ACCORDANCE WITH IEC-60383

WET 60 Hz 1-MIN WITHSTAND	500
IMPULSE POSITIVE WITHSTAND	1095
IMPULSE NEGATIVE WITHSTAND	1185

MAX WORKING LOADS, LBS(KN)

VERTICAL	11260 (50)
TRANSVERSE TENSION	7500 (33.3)
COMPRESSION	7500 (33.3)
LONGITUDINAL	930 (4.1)

LEAKAGE DISTANCE	208
STRIKE DISTANCE	79

Post	P250080S0030	1
Suspension	S025116S000A	1
Anchor Shackle	AS-50	2
	Part Number	Qty

OHIO BRASS
TOLERANCE CHART

HUBBELL POWER SYSTEMS

TITLE: QUADRI SIL BRACED LINE POST ASSY

SIZE	DWG NO.	CAT / PART / ASSY NO.	REV
B	--	BLP080F12000	1

DO NOT SCALE THIS DRAWING | DRN BY JVR | DATE 03/24/08 | SHEET 1 OF 1

REV DATE 03/31/08

TYPICAL INSULATOR SET FOR :

TEMPORARY RUNNING ANGLE

TEMPORARY TANGENT

NYSEG

SCATE 230kV LINES
74/68/69/72
CANANDAIGUA S/S TO
WATERCURE S/S

230 kV INSULATOR DETAILS
DEAD END

Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
HAR/DAS	11/22/2024				

Figure E-1A-014

Revision
0-0C
Date
02/2025

ANSI B
11" X 17"

New York State Electric & Gas Corporation

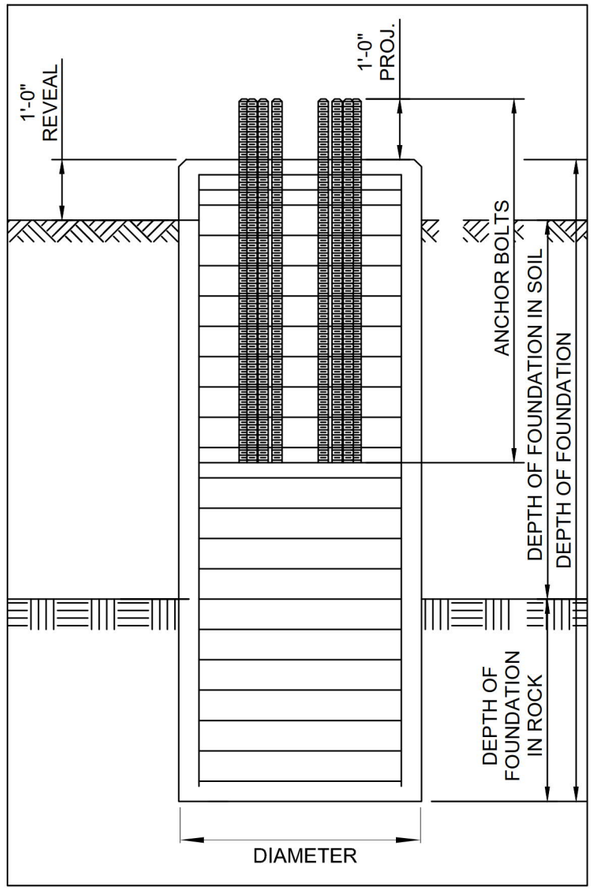
Steuben-Chemung Area Transmission Enhancement Project

Exhibit E-1

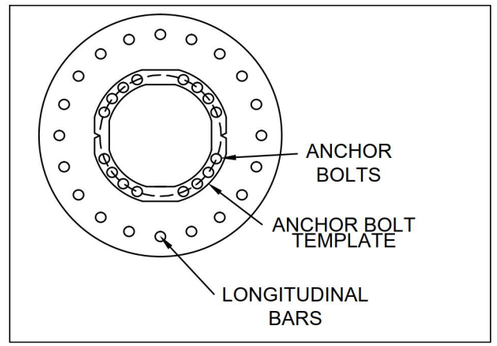
Description of Proposed Transmission Facilities

Figure E-1-2

Typical Foundation Details



DRILLED PIER FOUNDATION ELEVATION VIEW

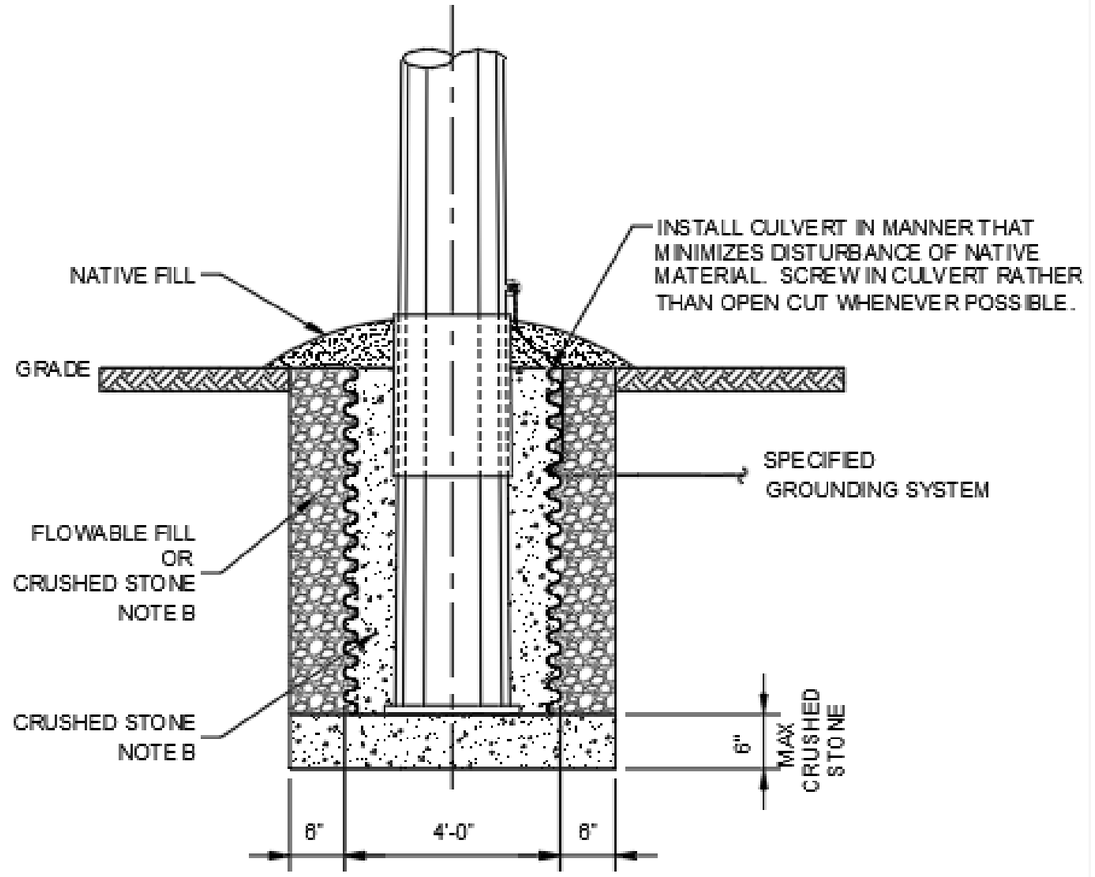


DRILLED PIER FOUNDATION PLAN VIEW

TYPICAL CONCRETE FOUNDATION FOR 230KV SINGLE CIRCUIT STEEL POLES

TM2.23.TE-S2JP THREE POLE DEAD END
SINGLE POLE V-STRING
SINGLE POLE DEAD END
THREE POLE SUSPENSION RUNNING ANGLE
TM2.23. TES2JJ-MOD
DOUBLE CIRCUIT DEAD END

ESTIMATED GENERAL PIER DIAMETER WILL BE BETWEEN 6 AND 9 FEET WIDE DEPENDING ON STRUCTURE SIZE AND LINE ANGLE
ESTIMATED GENERAL PIER DEPTH WILL BE BETWEEN 12 AND 21 FEET DEEP DEPENDING ON STRUCTURE SIZE AND LINE ANGLE



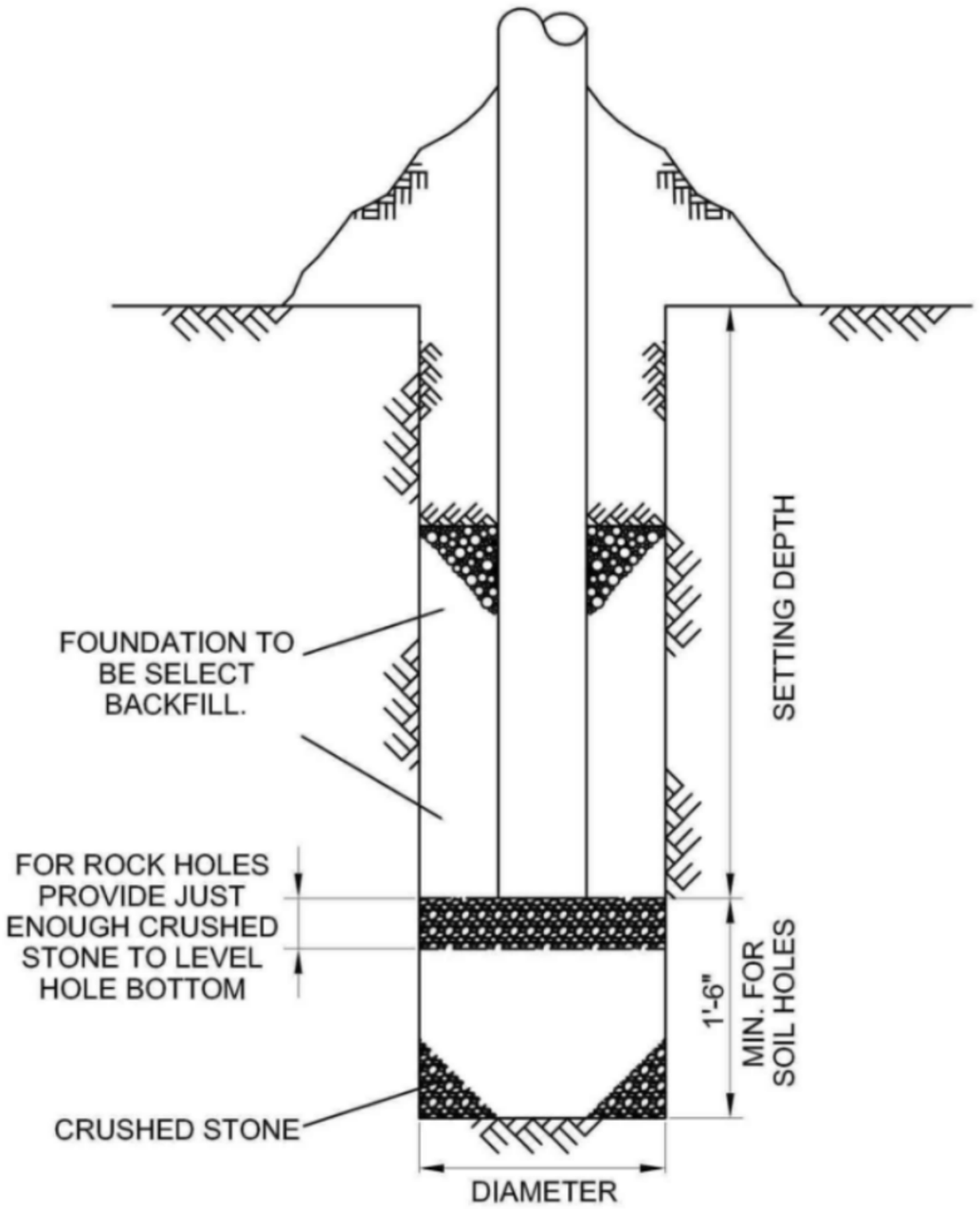
TYPICAL FOUNDATION FOR DIRECT EMBEDDED 230KV SINGLE CIRCUIT STEEL POLES

H-FRAME V-STRING
H-FRAME V-STRING WITH CROSS ARM
SINGLE POLE DEAD END GUYED
TM2.23. TES2JJ-MOD GUYED

ESTIMATED GENERAL BORE DIAMETER WILL BE 4 FEET WIDE DEPENDING ON POLE BASE DIMENSIONS
ESTIMATED GENERAL EXCAVATION DEPTH WILL BE 12 FEET DEEP DEPENDING ON POLE LENGTH

ANSI B
11" X 17"

NYSEG	SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	STRUCTURE STANDARDS - STEEL FOUNDATION DETAIL FOR STEEL POLES				Revision 0-0C
						Date 02/2025
Drwn. By: HAR/DAS	Date Dr.: 02/2025	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1B-001



TYPICAL FOUNDATION FOR DIRECT EMBEDDED
230KV WOOD POLES CLASS H1 AND HIGHER

TEMPORARY DEAD END

TEMPORARY RUNNING ANGLE

TEMPORARY TANGENT

ANSI B
11" X 17"

NYSEG		SCATE 230kV LINES 74/68/69/72 CANANDAIGUA S/S TO WATERCURE S/S	STRUCTURE STANDARDS - STEEL FOUNDATION DETAIL FOR WOOD POLES				Revision 0-0C Date 02/2025
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	Figure E-1B-002	
HAR/DAS	02/2025						

New York State Electric & Gas Corporation

Steuben-Chemung Area Transmission Enhancement Project

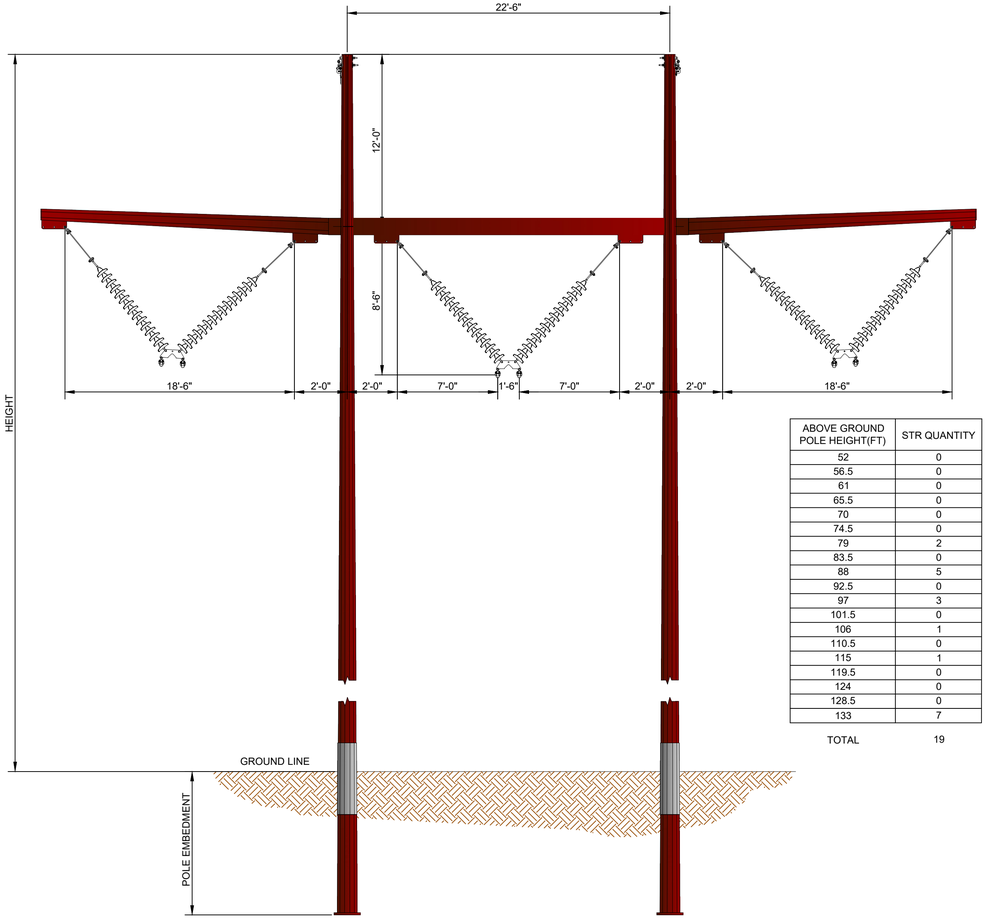
Exhibit E-1

Description of Proposed Transmission Facilities

Figure E-1-3

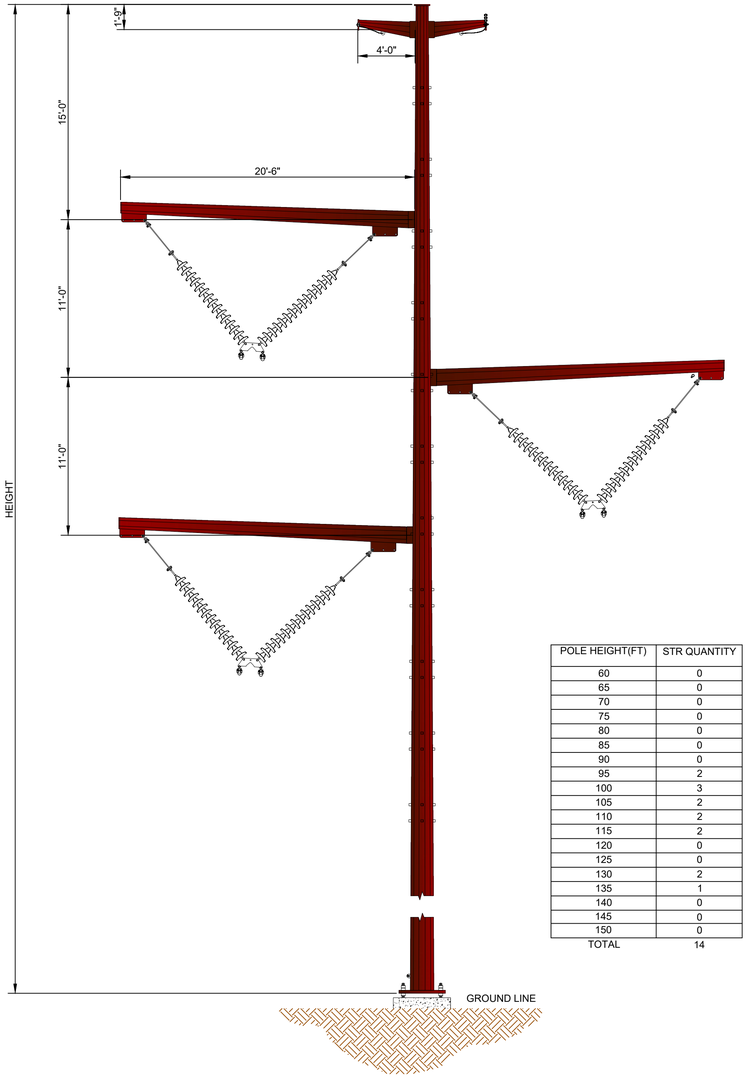
Typical Structure Type Details

PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
THE MATERIAL OF THE INSULATORS WILL BE TOUGHENED GLASS (CLEAR COLOR) FOR STRING INSULATORS OR SILICONE RUBBER (GRAY COLOR) FOR THE POST AND BRACED POST INSULATORS. L68 AND L74 WILL USE BUNDLED CONDUCTOR WHILE L72 AND L69 WILL USE SINGLE. FOR STRUCTURES WITH MULTIPLE HEIGHTS THE TALLEST POLE IS LISTED IN THE TABLE.



ABOVE GROUND POLE HEIGHT(FT)	STR QUANTITY
52	0
56.5	0
61	0
65.5	0
70	0
74.5	0
79	2
83.5	0
88	5
92.5	0
97	3
101.5	0
106	1
110.5	0
115	1
119.5	0
124	0
128.5	0
133	7
TOTAL	19

H-FRAME V-STRING
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	0
70	0
75	0
80	0
85	0
90	0
95	2
100	3
105	2
110	2
115	2
120	0
125	0
130	2
135	1
140	0
145	0
150	0
TOTAL	14

SINGLE POLE V-STRING (ON FOUNDATION)
STEEL 230KV SINGLE POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

PLAN	SURVEYED	BY	DATE
NOTEBOOK NO.	REVIEWED		
	ROW CHKD		

PROFILE	SURVEYED	BY	DATE
NOTEBOOK NO.	REVIEWED		
	NOTES REDUCED		

CADD Drawing, DO NOT REVISE MANUALLY

ANSI D

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

PE Stamp

AVANGRID ENGINEERING

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NYSEG

REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT

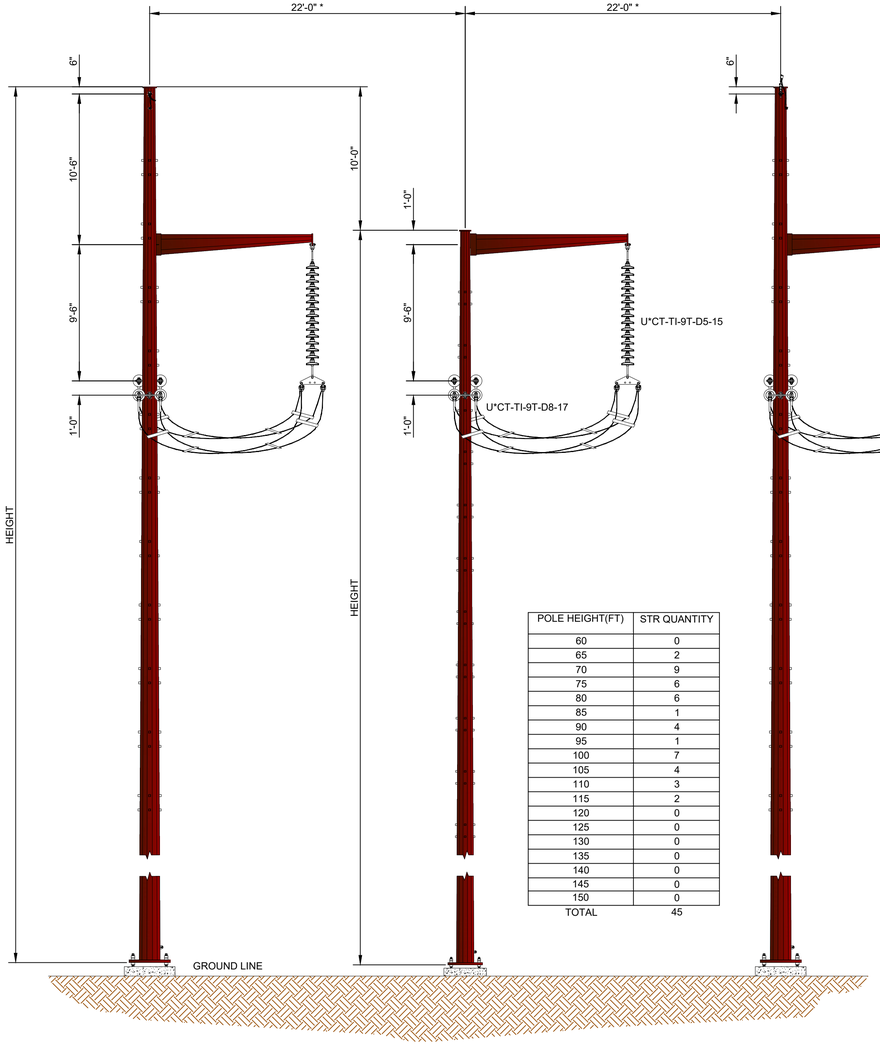
TYPICAL STRUCTURE TYPE DETAILS

SHEET 1 OF 6

DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV. 0-0D
APP.	ZRH/DAS		
DATE:	03/2025		

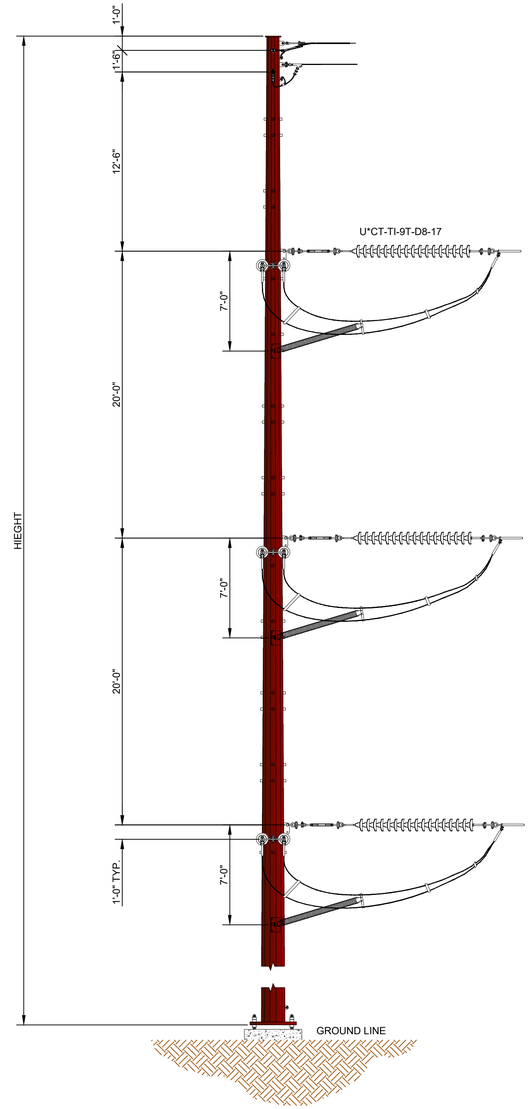
PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
THE MATERIAL OF THE INSULATORS WILL BE TOUGHENED GLASS (CLEAR COLOR) FOR STRING INSULATORS OR SILICONE RUBBER (GRAY COLOR) FOR THE POST AND BRACED POST INSULATORS. L68 AND L74 WILL USE BUNDLED CONDUCTOR WHILE L72 AND L69 WILL USE SINGLE. FOR STRUCTURES WITH MULTIPLE HEIGHTS THE TALLEST POLE IS LISTED IN THE TABLE.

* POLE SPACING VARIES FROM 22' TO 26' BASED ON LINE ANGLE



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	2
70	9
75	6
80	6
85	1
90	4
95	1
100	7
105	4
110	3
115	2
120	0
125	0
130	0
135	0
140	0
145	0
150	0
TOTAL	45

TM2.23.TES2JP (ON FOUNDATION)
STEEL 230KV THREE POLE SINGLE CIRCUIT
DEAD END STRUCTURE



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	0
70	0
75	0
80	0
85	0
90	0
95	2
100	2
105	0
110	0
115	3
120	3
125	0
130	0
135	0
140	0
145	3
150	0
TOTAL	13

SINGLE POLE DEAD END (ON FOUNDATION)
STEEL 230KV SINGLE POLE SINGLE CIRCUIT
DEAD END STRUCTURE

PLAN	SURVEYED	BY	DATE
NOTEBOOK NO.	REVIEWED		
	ROW CHKD		

PROFILE	SURVEYED	BY	DATE
NOTEBOOK NO.	REVIEWED		
	NOTES REDUCED		

CADD Drawing, DO NOT REVISE MANUALLY.

ANSI D

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

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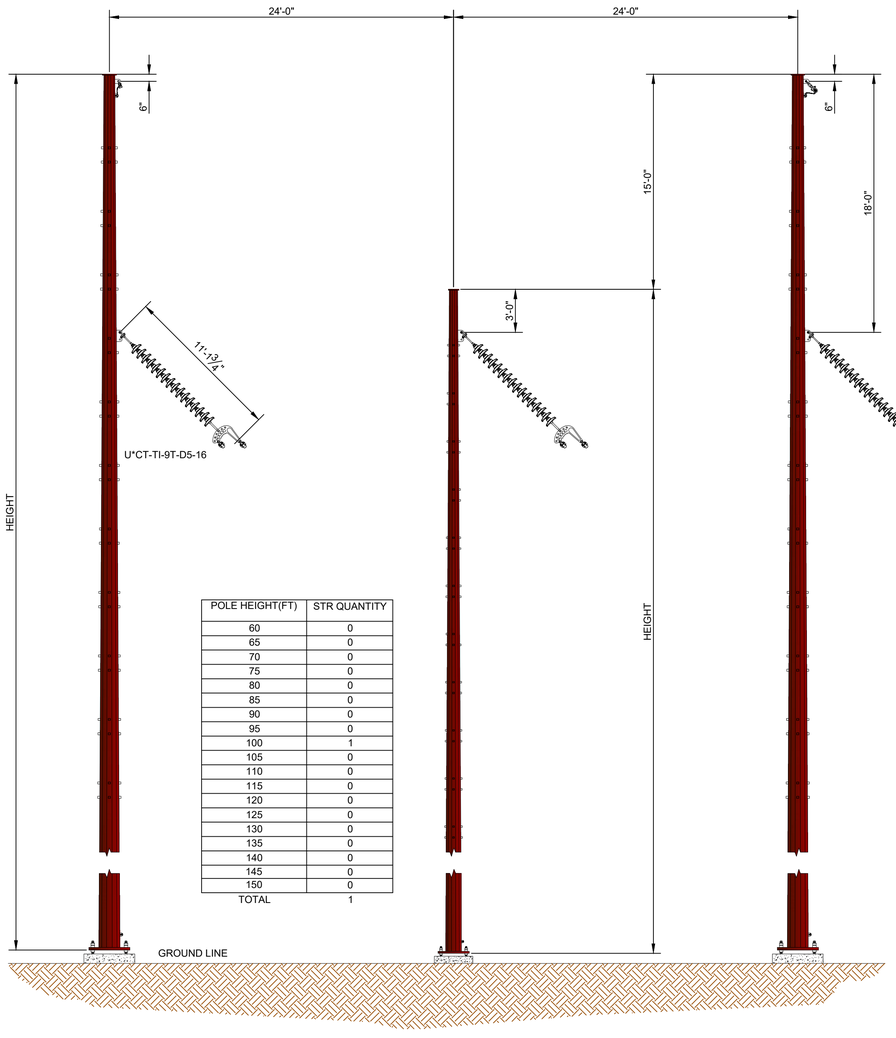
NYSEG

REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT
TYPICAL STRUCTURE TYPE DETAILS
SHEET 2 OF 6

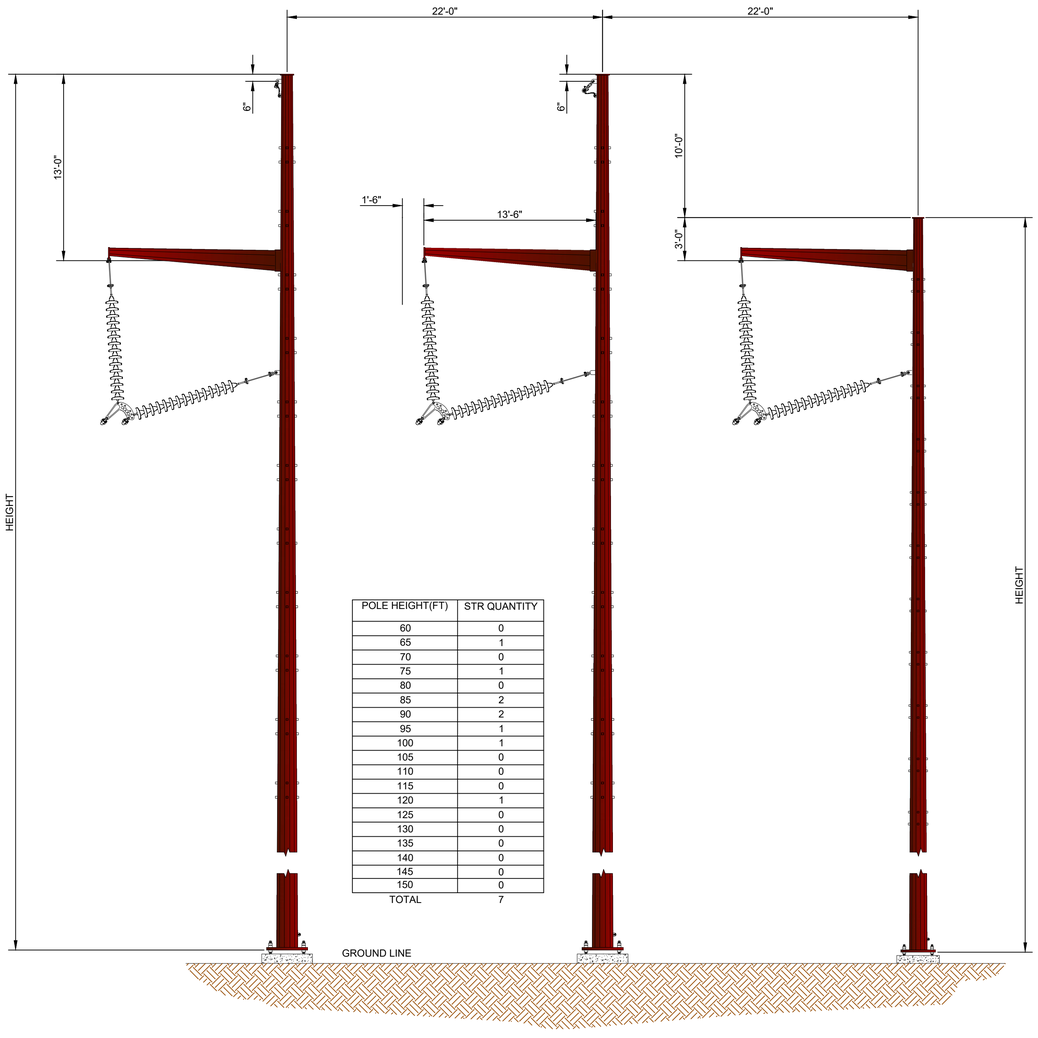
DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV. 0-0D
APP.	ZRH/DAS		
DATE:	03/2025		

PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
THE MATERIAL OF THE INSULATORS WILL BE TOUGHENED GLASS (CLEAR COLOR) FOR STRING INSULATORS OR SILICONE RUBBER (GRAY COLOR) FOR THE POST AND BRACED POST INSULATORS. L68 AND L74 WILL USE BUNDLED CONDUCTOR WHILE L72 AND L69 WILL USE SINGLE. FOR STRUCTURES WITH MULTIPLE HEIGHTS THE TALLEST POLE IS LISTED IN THE TABLE.



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	0
70	0
75	0
80	0
85	0
90	0
95	0
100	1
105	0
110	0
115	0
120	0
125	0
130	0
135	0
140	0
145	0
150	0
TOTAL	1

THREE POLE SUSPENSION RUNNING ANGLE (ON FOUNDATION)
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	1
70	0
75	1
80	0
85	2
90	2
95	1
100	1
105	0
110	0
115	0
120	1
125	0
130	0
135	0
140	0
145	0
150	0
TOTAL	7

TM2.23.TES2JJ-MOD
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

PLAN			
NOTEBOOK NO.	SURVEYED		DATE
	REVIEWED		BY
	ROW CHKD		

PROFILE			
NOTEBOOK NO.	SURVEYED		DATE
	REVIEWED		BY
	NOTES REDUCED		

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

PE Stamp

AVANGRID ENGINEERING
Property of AVANGRID

NYSEG

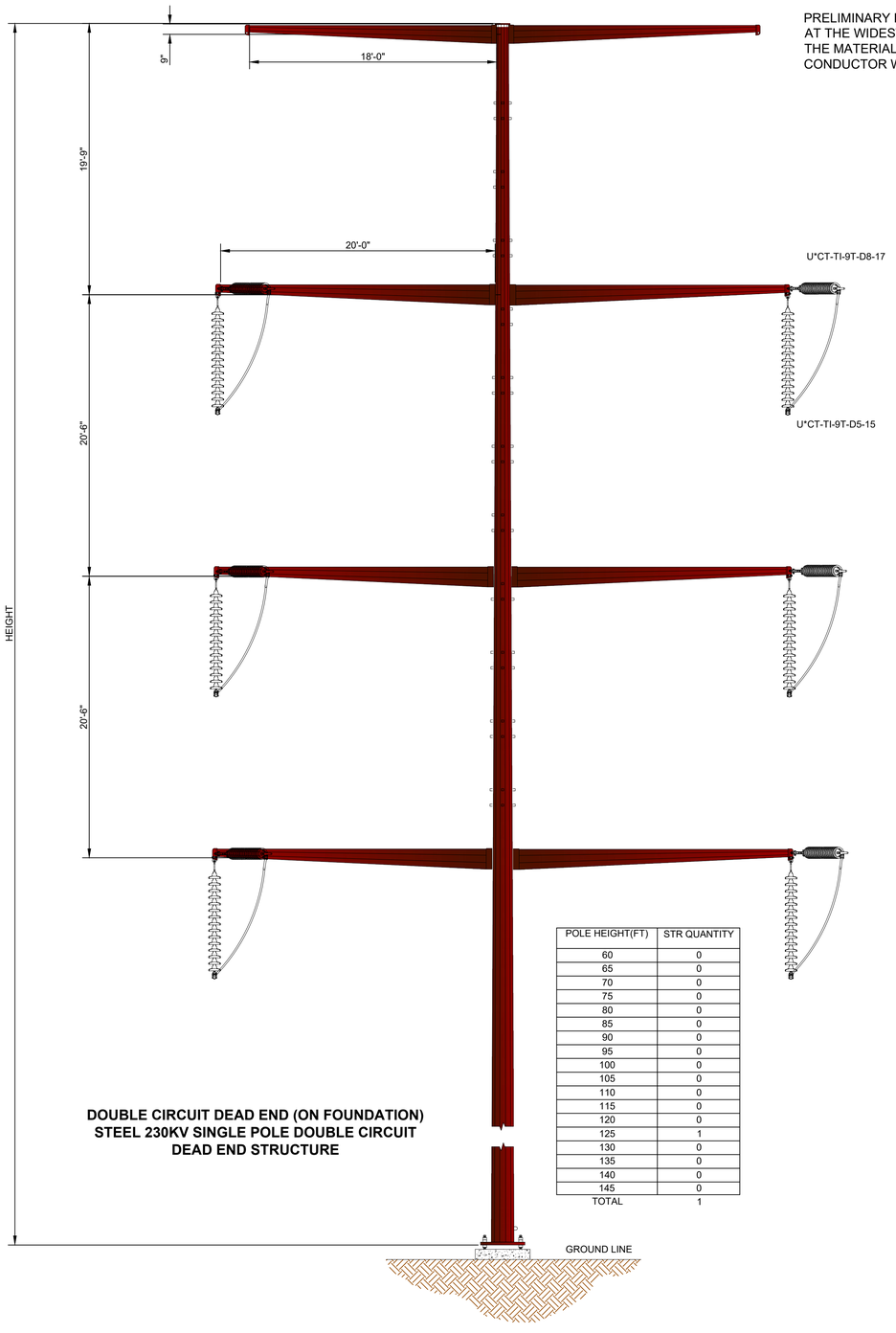
REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT
TYPICAL STRUCTURE TYPE DETAILS
SHEET 3 OF 6

DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV. 0-0D
APP.	ZRH/DAS		
DATE:	03/2025		

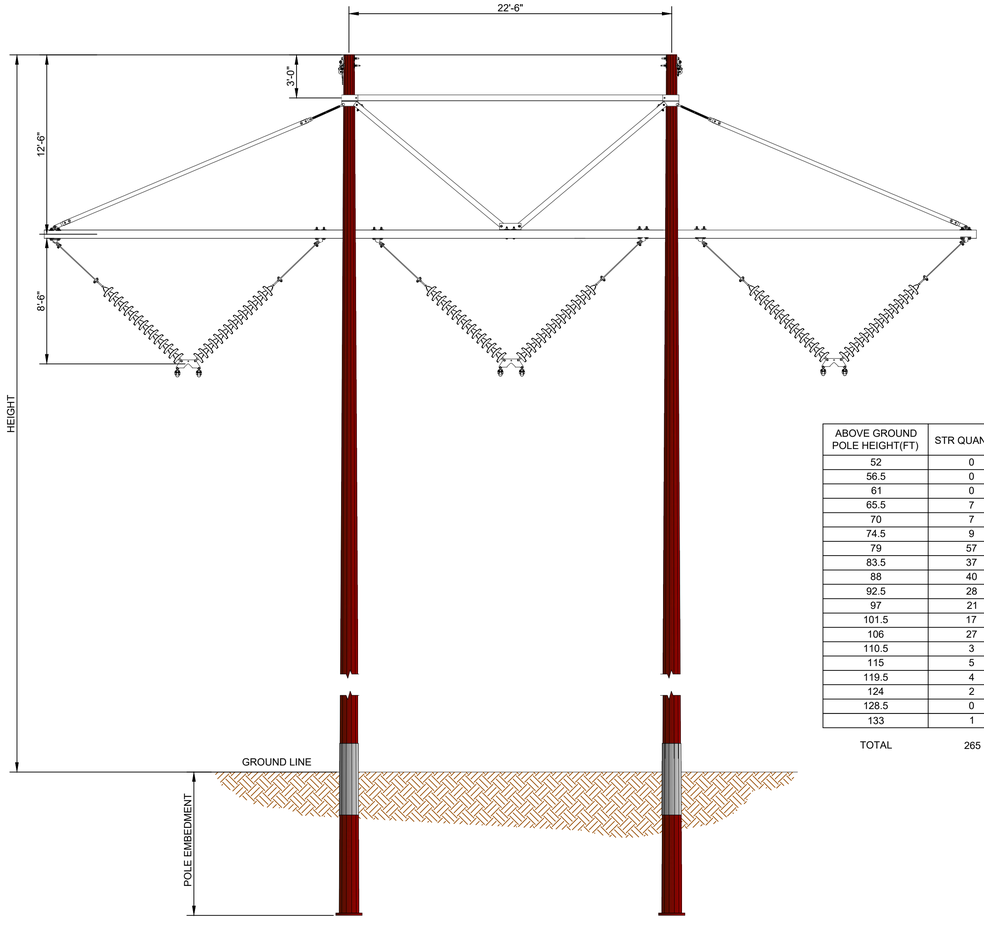
CADD Drawing, DO NOT REVISE MANUALLY
ANSI D

PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
THE MATERIAL OF THE INSULATORS WILL BE TOUGHENED GLASS (CLEAR COLOR) FOR STRING INSULATORS OR SILICONE RUBBER (GRAY COLOR) FOR THE POST AND BRACED POST INSULATORS. L68 AND L74 WILL USE BUNDLED CONDUCTOR WHILE L72 AND L69 WILL USE SINGLE. FOR STRUCTURES WITH MULTIPLE HEIGHTS THE TALLEST POLE IS LISTED IN THE TABLE.



POLE HEIGHT(FT)	STR QUANTITY
60	0
65	0
70	0
75	0
80	0
85	0
90	0
95	0
100	0
105	0
110	0
115	0
120	0
125	1
130	0
135	0
140	0
145	0
TOTAL	1

DOUBLE CIRCUIT DEAD END (ON FOUNDATION)
STEEL 230KV SINGLE POLE DOUBLE CIRCUIT
DEAD END STRUCTURE



ABOVE GROUND POLE HEIGHT(FT)	STR QUANTITY
52	0
56.5	0
61	0
65.5	7
70	7
74.5	9
79	57
83.5	37
88	40
92.5	28
97	21
101.5	17
106	27
110.5	3
115	5
119.5	4
124	2
128.5	0
133	1
TOTAL	265

H-FRAME V-STRING WITH CROSS ARM
STEEL 230KV TWO POLE SINGLE CIRCUIT
TANGENT SUSPENSION STRUCTURE

PLAN			
NOTEBOOK NO.	SURVEYED		
	REVIEWED		
	ROW CHKD		
	BY		
	DATE		

PROFILE			
NOTEBOOK NO.	SURVEYED		
	REVIEWED		
	NOTES REDUCED		
	BY		
	DATE		

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

PE Stamp

AVANGRID ENGINEERING

Property of AVANGRID

NYSEG

REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT

TYPICAL STRUCTURE TYPE DETAILS

SHEET 4 OF 6

DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV.
APP.	ZRH/DAS		0-0D
DATE:	03/2025		

CADD Drawing. DO NOT REVISE MANUALLY.

ANSI D

PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
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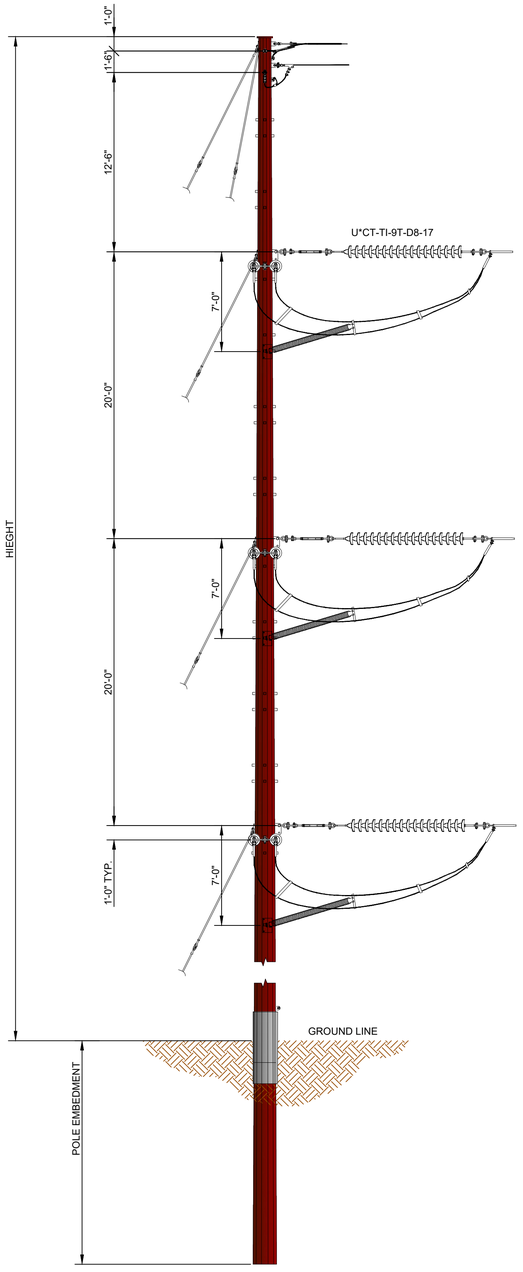
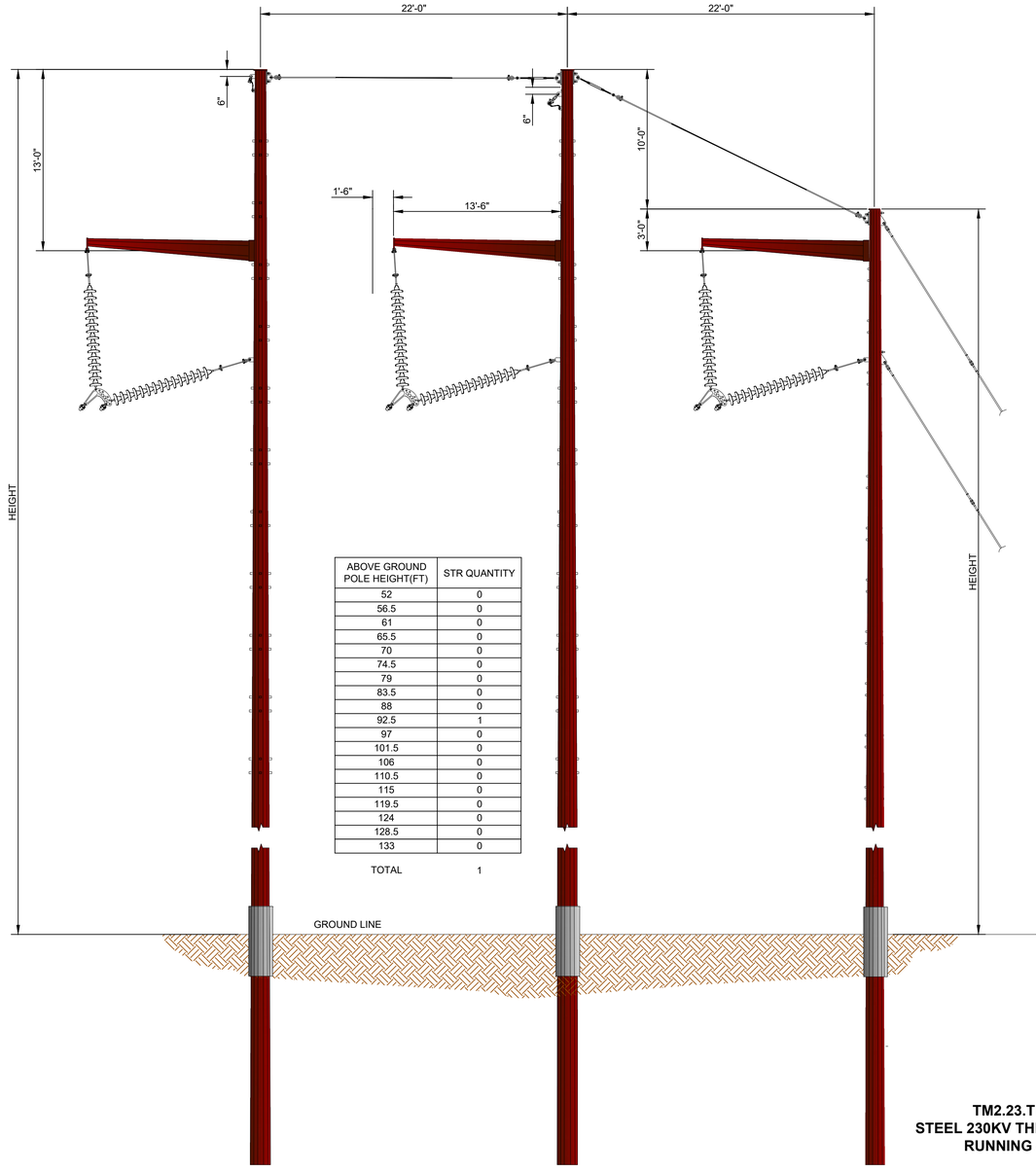


ABOVE GROUND POLE HEIGHT(FT)	STR QUANTITY
52	0
56.5	0
61	0
65.5	0
70	0
74.5	0
79	0
83.5	0
88	0
92.5	0
97	0
101.5	0
106	1
110.5	0
115	0
119.5	0
124	1
128.5	0
133	0
TOTAL	2

SINGLE POLE DEAD END GUYED
STEEL 230KV SINGLE POLE SINGLE CIRCUIT
DEAD-END STRUCTURE



ABOVE GROUND POLE HEIGHT(FT)	STR QUANTITY
52	0
56.5	0
61	0
65.5	0
70	0
74.5	0
79	0
83.5	0
88	0
92.5	1
97	0
101.5	0
106	0
110.5	0
115	0
119.5	0
124	0
128.5	0
133	0
TOTAL	1

TM2.23.TES2JJ-MOD GUYED
STEEL 230KV THREE POLE SINGLE CIRCUIT
RUNNING ANGLE STRUCTURE

PLAN			
NOTEBOOK NO.	SURVEYED		
	REVIEWED		
	ROW CHKD		

PROFILE			
NOTEBOOK NO.	SURVEYED		
	REVIEWED		
	NOTES REDUCED		

BY	DATE

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

PE Stamp

AVANGRID ENGINEERING
Property of AVANGRID

NYSEG

REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT
TYPICAL STRUCTURE TYPE DETAILS
SHEET 5 OF 6

DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV.
APP.	ZRH/DAS		0-0D
DATE:	03/2025		

CADD Drawing, DO NOT REVISE MANUALLY.
ANSI D

PRELIMINARY ENGINEERING INDICATES THAT THE MOST COMMON ABOVE GROUND HEIGHT WILL BE APPROXIMATELY 92 FEET AT THE HIGHEST POINT (THE TOP OF THE VERTICAL POLES), AND THE MOST COMMON WIDTH AT THE WIDEST POINT WILL BE APPROXIMATELY 65 FEET. THE MATERIAL OF THE STRUCTURE WILL BE STEEL, THEIR COLOR WILL BE RUST, THE FINISH WILL BE SELF-WEATHERING.
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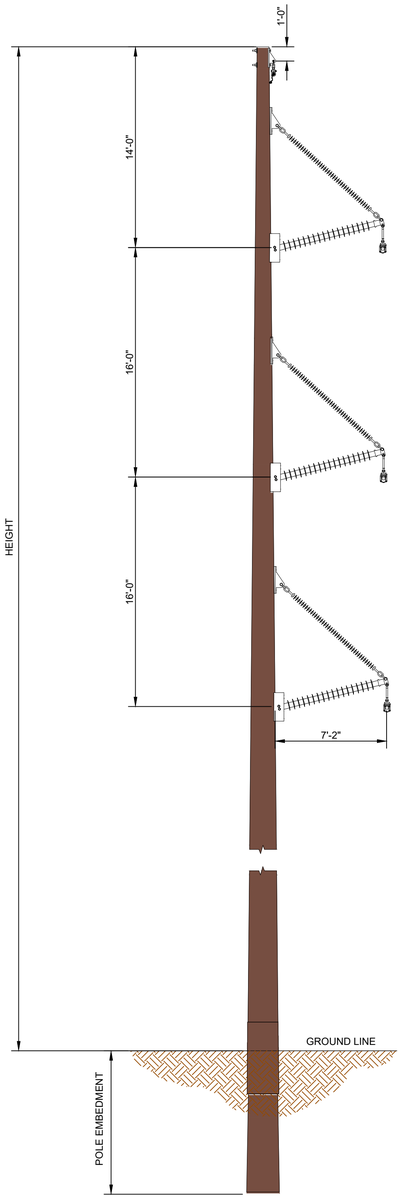
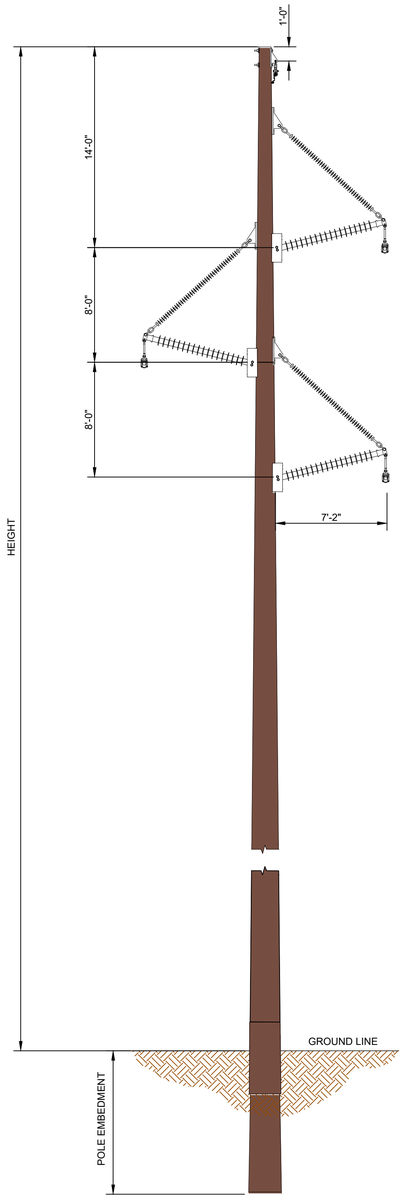
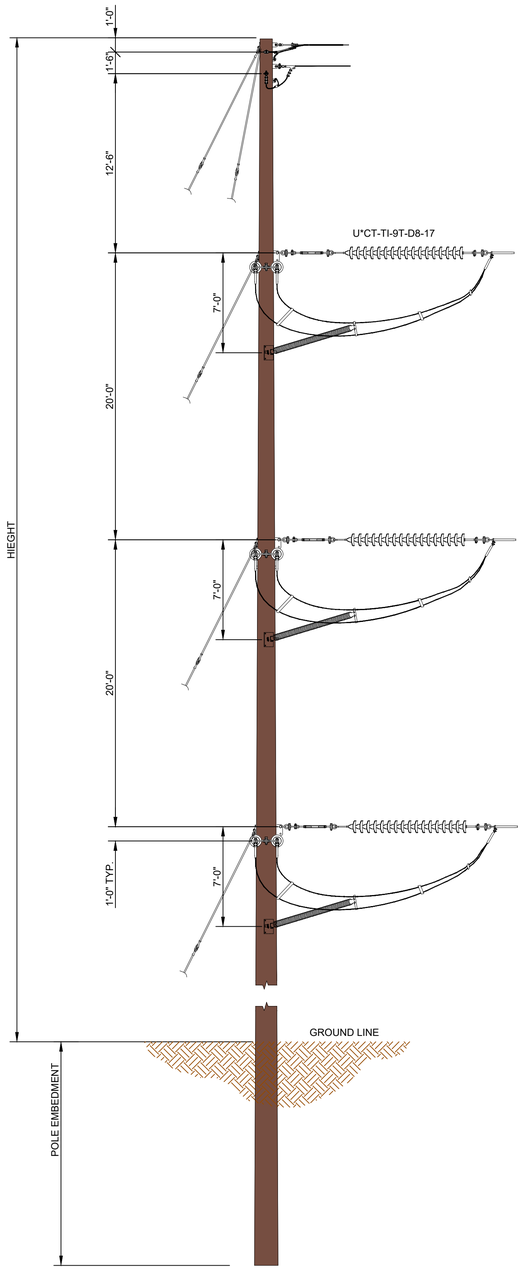


TEMPORARY RUNNING ANGLE
WOOD 230KV SINGLE POLE SINGLE CIRCUIT
RUNNING ANGLE BRACED POST STRUCTURE



TEMPORARY TANGENT
WOOD 230KV SINGLE POLE SINGLE CIRCUIT
TANGENT BRACED POST STRUCTURE



TEMPORARY DEAD END
WOOD 230KV SINGLE POLE SINGLE CIRCUIT
DEAD-END STRUCTURE

PLAN	DATE
SURVEYED	BY
REVIEWED	
NOTEBOOK NO.	ROW CHKD

PROFILE	DATE
SURVEYED	BY
REVIEWED	
NOTEBOOK NO.	NOTES REDUCED

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OHSW TYPE	CONDUCTOR TYPE
N/A	N/A		N/A
TENSION	TENSION	TENSION	TENSION
N/A	N/A	N/A	N/A
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.
N/A	N/A	N/A	N/A

YR. CONST. W/O

NOTES: DRAWING NOT TO SCALE

REV.	DATE	BY	DESCRIPTION	APP.

PE Stamp

AVANGRID ENGINEERING
Property of AVANGRID

NYSEG

REV.	DATE	BY	DESCRIPTION	APP.
0-0D	03/2025	ADR/DAS	ISSUED FOR PERMITTING	ZRH/DAS
0-0C	02/2025	ADR/DAS	ISSUED FOR PREMITTING	ZRH/DAS
0-0B	11/22/2024	ADR/DAS	ISSUED FOR APPROVAL	ZRH/DAS
0-0A	03/14/2024	NJP/DAS	ISSUED FOR REVIEW	ZRH/DAS

STUEBEN - CHEMUNG AREA TRANSMISSION ENANCEMENT

TYPICAL STRUCTURE TYPE DETAILS

SHEET 6 OF 6

DR.	NJP/DAS	MILE	FILE:
CK.	ADR/DAS	NO.	REV. 0-0D
APP.	ZRH/DAS		
DATE:	03/2025		

CADD Drawing. DO NOT REVISE MANUALLY.

ANSI D