APPENDIX A

Q195

JOHNS RIVER

DALTON, NH

1. The Q195 line (115 kV) over the Johns River in Dalton, NH, as shown in the attached Exhibit 1, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. Q195 Line:
        i. Conductor: 795 KCMIL ACSR 36/1 with a 3#6 copperweld shield wire.
        ii. Structure Details: Structure number 11 (Type DA) on the east side and structure number 12 (Type DA) on the west side (see Exhibit 3).
        iii. Structure Heights: 47.5 feet above ground, and 61 feet above ground.

3. The location of the structures creates a crossing span of 969 feet.

4. All conductors have been drawn in Exhibit 2 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 18.6 feet for open supply conductors (up to 115 kV) for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawing (See Exhibit 2).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 2).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 2.

APPENDIX B

X178

JOHN RIVER

DALTON, NH

1. The X178 line (115 kV) over the Ammonoosuc River in Bethlehem, NH, as shown in the attached Exhibit 4, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. X178 Line:
        i. Conductor: 795 KCMIL ACSR 36/1 with a 7#8 CW shield wire
        ii. Structure Details: Structure number 505 (Type A2) on the west side and structure number 506 (Type A2) on the east side (see Exhibit 6).
        iii. Structure Heights: 52 feet above ground, and 47.5 feet above ground

3. The location of the structures creates a crossing span of 422.3 feet.

4. All conductors have been drawn in Exhibit 5 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 18.6 feet for open supply conductors (up to 115 kV) for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawing (See Exhibit 5).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 5).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 5.

APPENDIX C

X178

AMMONOOSUC RIVER

BETHLEHEM, NH

1. The X178 line (115 kV) over the Ammonoosuc River in Bethlehem, NH, as shown in the attached Exhibit 7, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. X178 Line:
        i. Conductor: 795 KCMIL ACSR 36/1 with a 7#8 CW shield wire
        ii. Structure Details: Structure number 505 (Type A2) on the west side and structure number 506 (Type A2) on the east side (see Exhibit 6).
        iii. Structure Heights: 52 feet above ground, and 47.5 feet above ground

3. The location of the structures creates a crossing span of 422.3 feet.

4. All conductors have been drawn in Exhibit 8 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 18.6 feet for open supply conductors (up to 115 kV) for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawing (See Exhibit 8).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 8).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 8.

APPENDIX D

348

AMMONOOSUC RIVER

BETHLEHEM, NH

1. The 348 line (34.5 kV) over the Ammonoosuc River in Bethlehem, NH, as shown in the attached Exhibit 9, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. 348 Line:
        i. Conductor: 336 ACSR 18/1, Neutral: 336 ACSR 18/1
        ii. Structure Details: Structure number 117 (Type DX) on the east side and structure number 118 (Type DX) on the west side (see Exhibits 11 and 12).
        iii. Structure Heights: 52 feet above ground, and 56.5 feet above ground.

3. The location of the structures creates a crossing span of 410 feet.

4. All conductors have been drawn in Exhibit 10 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 17 feet for open supply conductors (up to 34.5 kV) for water areas not suitable for sail boating. This distance is 14 feet for neutral conductors for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawings (See Exhibit 10).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 10).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 10.

APPENDIX E

348X1

GALE RIVER

FRANCONIA, NH

1. In order to meet the requirements for reasonable service to the public, the Petitioner currently operates and maintains electric utilities across the Gale River in one (1) location. The crossing is constructed using underground cable in rigid ducts attached to an overhead bridge structure. There are two 2 cable runs in two separate ducts. One cable is the primary feed and the second is an alternate backup feed. It is necessary for the Petitioner to bring this crossing into compliance with RSA 371:17. The 348X1 line is required to supply customer load and reduce reliability exposure to the residents of the Franconia area.

2. The location of the 348X1 line over the Gale River in Franconia, NH as show in the attached Exhibit 13 has been designed and constructed in accordance with the National Electrical Safety Code (NESC).

3. Wire and structure specifications:
    a. 348X1 Line:
        i. Wire: 1/0 Three Phase Primary Underground Cable with Concentric Neutral.

4. The location of the structures creates the following crossing spans:
    a. 348X1 Line: 107 feet

5. All conductors have been drawn in Exhibit 14 to show the location of the cable in reference to the water.

6. The Petitioner will maintain and operate the clearance of the wire crossing over the river in accordance with the 2017 National Electrical Safety Code. The NESC does not specify clearance to water for cables and ducts attached to bridge structures. The crossing has been designed and operated in accordance with NESC Rule 322.B.5 which covers installations attached to bridges. The minimum height over the river is depicted on the attached profile drawings (See Exhibit 14).

7. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1988 (NAVD 1988). Both cables are attached to the bridge in separate rigid conduits and will maintain the same clearance to the river as the bridge and does not restrict public use of the bridge or the river.

8. A New Hampshire Division of Environmental Services (NHDES) Shore land Impact Permit or other permitting is not required as this is an existing installation.

9. It is not anticipated that abutters on either side of the river will be affected, as these are existing lines. The line is located within the existing New Hampshire Department of Transportation (NHDOT) right of way and all required licenses have been or will be obtained.

APPENDIX F

E115

PEMIGEWASSET RIVER

ASHLAND/BRIDGEWATER, NH

1. The E115 line (115 kV) over the Pemigewasset River in Ashland and Bridgewater, NH, as shown in the attached Exhibit 15, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. E115 Line:
        i. Conductor: 795 KCMIL ACSR 26/7 with a 7#8 ALW shield wire
        ii. Structure Details: Structure number 229 (Type D) on the east side and structure numbers 230 (Type D), 231 (Type A), 232 (Type A) on the west side (see Exhibits 11 and 17 respectively).
        iii. Structure Heights: 43 feet above ground, 43 feet above ground, 47.5 feet above ground, and 47.5 feet above ground.

3. The location of the structures creates a crossing span of 1429 feet.

4. All conductors have been drawn in Exhibit 16 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 18.6 feet for open supply conductors (up to 115 kV) for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawing (Exhibit 16).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 16).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 16.

APPENDIX G

E115

SQUAM RIVER

ASHLAND/NEW HAMPTON, NH

1. The E115 line (115 kV) over the Squam River in Ashland and New Hampton, NH, as shown in the attached Exhibit 18, was previously designed, installed, and operated in accordance with the National Electrical Safety Code (NESC) in place at the time of its installation.

2. Wire and structure specifications:
    a. E115 Line:
        i. Conductor: 795 KCMIL ACSR 26/7 with a 7#8 ALW shield wire
        ii. Structure Details: Structure Number 211 (Type A3) on the south side and structure number 212 (Type A2) on the north side (see Exhibits 20 and 6 respectively).
        iii. Structure Heights: 52 feet above ground, and 47.5 feet above ground

3. The location of the structures creates a crossing span of 716.6 feet.

4. All conductors have been drawn in Exhibit 19 to show the maximum sag conditions in reference to the 100-year flood elevation.

5. The Petitioner will maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1). This distance is 18.6 feet for open supply conductors (up to 115 kV) for water areas not suitable for sail boating. The minimum height over the river is depicted on the attached profile drawings (See Exhibit 19).

6. The 100-year flood level was established based upon a combination of field survey, and FEMA flood zone maps for that area (Zone AE, effective date: September 25, 2009). This elevation is based on the national Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance, the 100-year flood elevation was used, as it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement (See Exhibit 19).

7. Since this is an existing crossing, a New Hampshire Division of Environmental Services (NHDES) Shoreland Impact Permit is not required.

8. It is not anticipated that abutters on either side of the river will be affected, as this is an existing line. The properties are encumbered by an existing Eversource easement as shown in Exhibit 19.

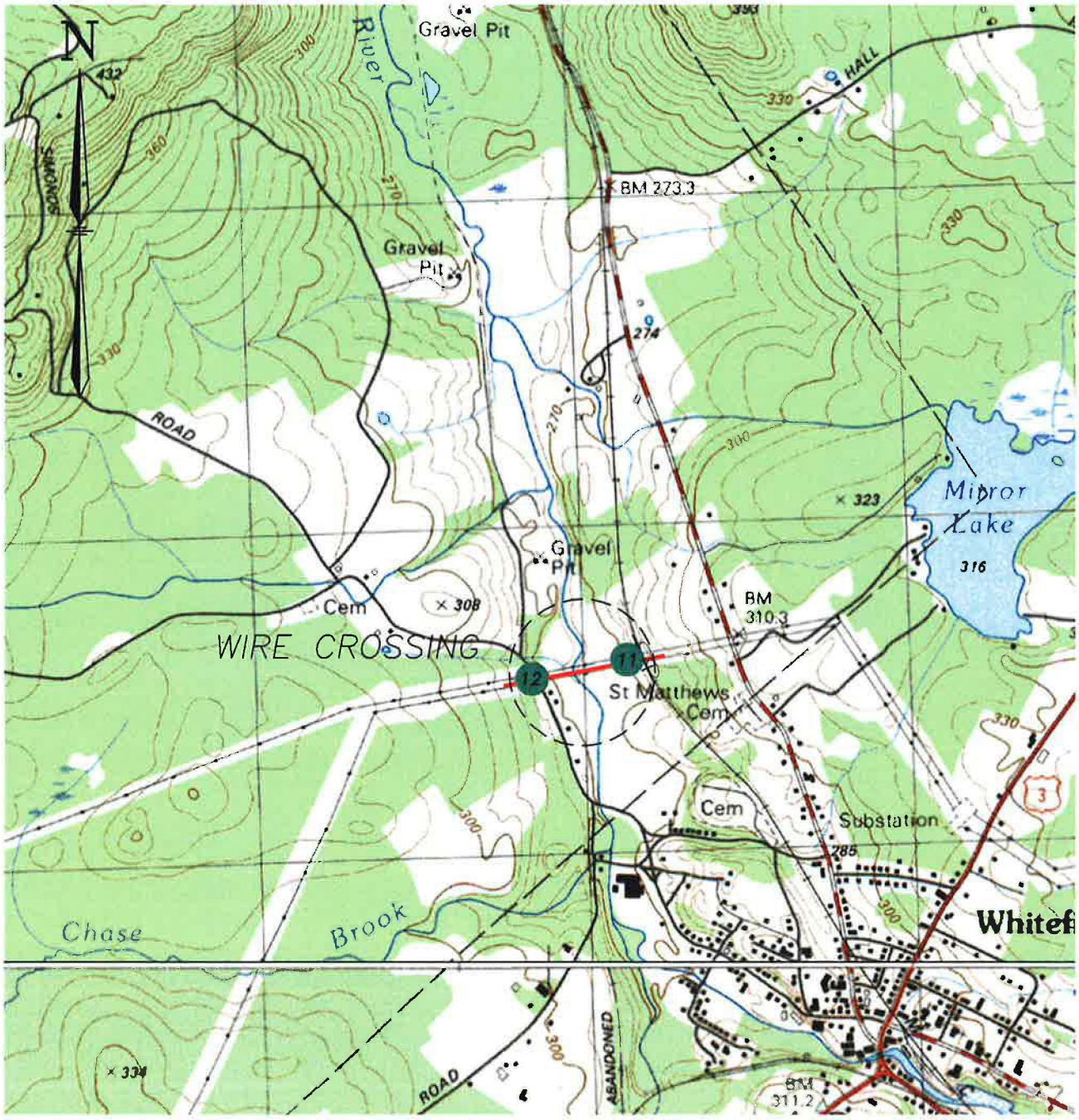


EXHIBIT 1

LEGEND:

Q195 LINE

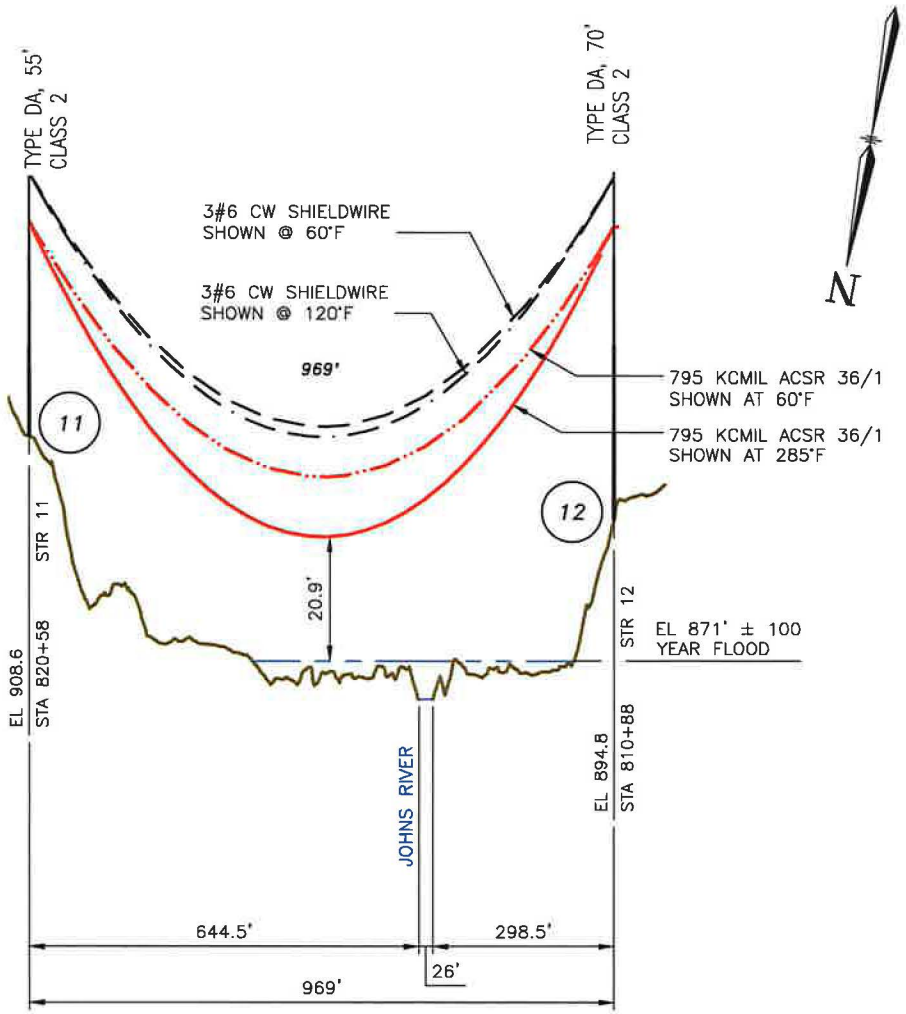
EXISTING Q195 STR. 11

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

EVERSOURCE ENERGY

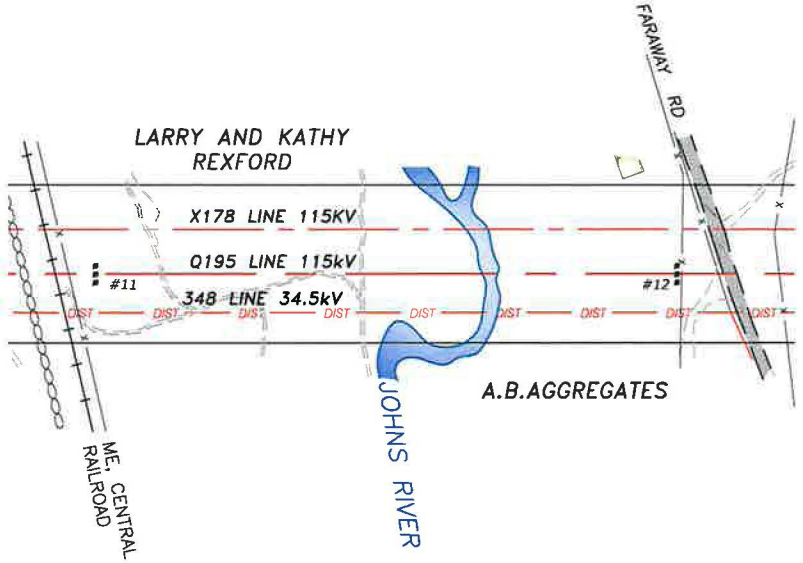
LOCATION PLAN
Q195, 115 kV LINE STR 11 AND 12
JOHNS RIVER
DALTON, NEW HAMPSHIRE

T	1
DRAWN	AJM
ENGINEER	
CHECKED	GBS
APPROVED	DSD
DATE	07/28/17
SCALE	1" = 1000'
FILE: Q19543901.DWG	
IMAGE:	
DRAWING NO.	Q19543901



PROFILE VIEW

SCALE: HORZ 1" = 200'
VERT 1" = 20'



PLAN VIEW

SCALE: 1" = 200'

LEGEND:

3#6 CW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 120°F

795 KCMIL ACSR 36/1
SHOWN AT 60°F
SHOWN AT 285°F

NOTE:
ONLY LOWEST CONDUCTOR
PHASE SHOWN FOR CLARITY

EXHIBIT 2

EVERSOURCE ENERGY

Q195 115 kV TRANSMISSION LINE
BETWEEN STR 11 AND STR 12
JOHNS RIVER, DALTON NEW HAMPSHIRE

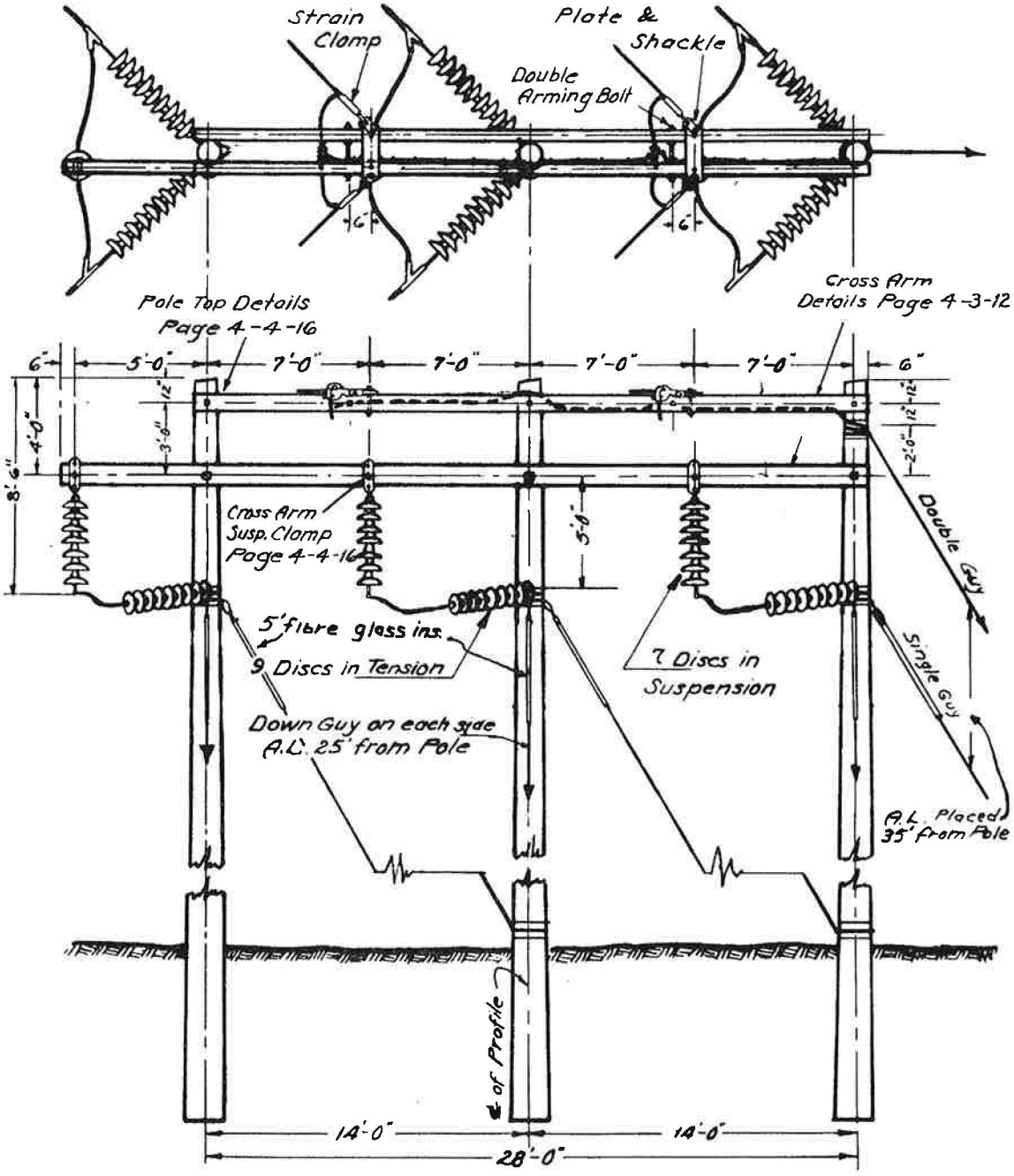
T	1
DRAWN	AMJ
ENGINEER	DSD
CHECKED	GBS
APPROVED	DSD
DATE	06/13/17

DWG REV	DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

SCALE: 1" = 200'
FILE: Q19543901.DWG
IMAGE:
DRAWING NO. Q19543901

4-21-23

TYPE DA
DEAD END STRUCTURE



Method Of Guying Page 4-10-16
Method Of Grounding Page 4-11-3

EXHIBIT 3

PUBLIC SERVICE Company of New Hampshire

115 KV
TRANSMISSION STANDARDS

ISSUE	DATE
ORIGINAL	

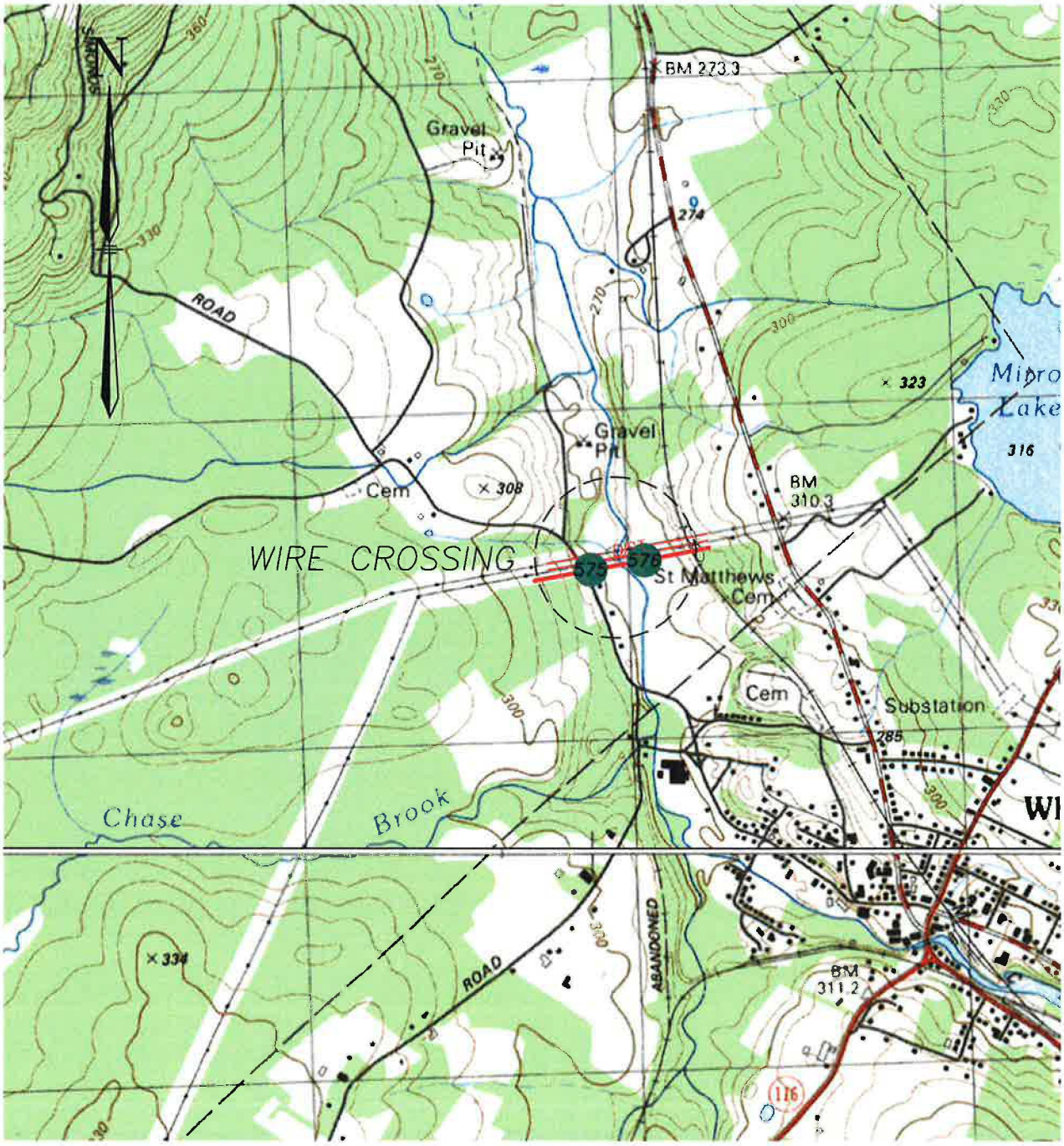


EXHIBIT 4

LEGEND:

X178 LINE

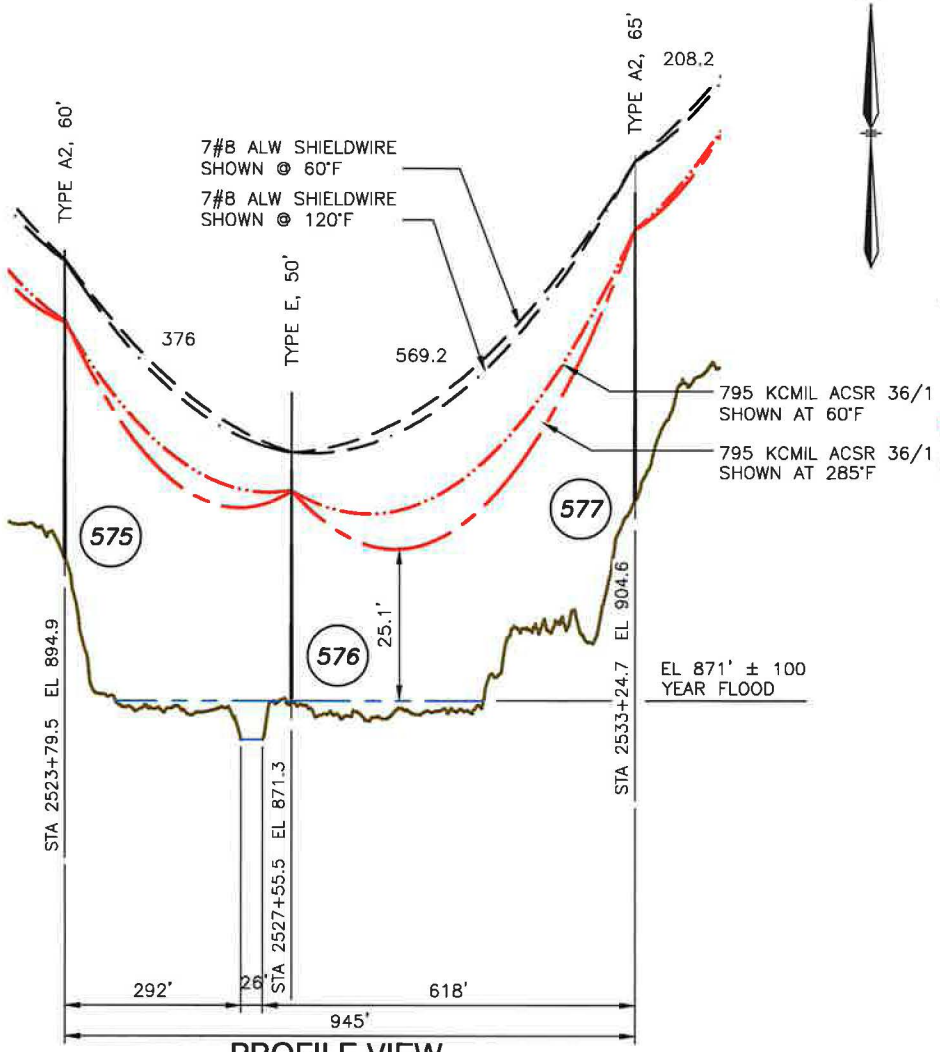
EXISTING X178 STR. 575

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

EVERSOURCE ENERGY

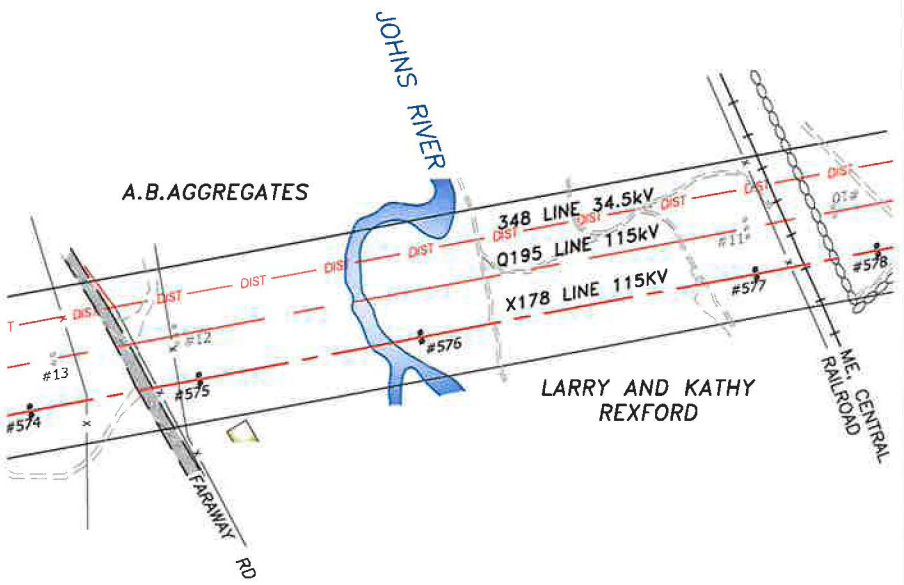
LOCATION PLAN
X178 115kV LINE STR 575 AND 576
JOHNS RIVER
DALTON, NEW HAMPSHIRE

T	1
DRAWN	AJM
ENGINEER	
CHECKED	GBS
APPROVED	DSD
DATE	07/28/17
SCALE	1" = 1000'
FILE:	X17843901.DWG
IMAGE:	
DRAWING NO.	X17843901



PROFILE VIEW

SCALE: HORZ 1" = 200'
VERT 1" = 20'



PLAN VIEW

SCALE: 1" = 200'

LEGEND:

7#8 ALW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 120°F

795 KCMIL ACSR 36/1
SHOWN AT 60°F
SHOWN AT 285°F

NOTE:
ONLY LOWEST CONDUCTOR PHASE SHOWN FOR CLARITY

EXHIBIT 5

EVERSOURCE ENERGY

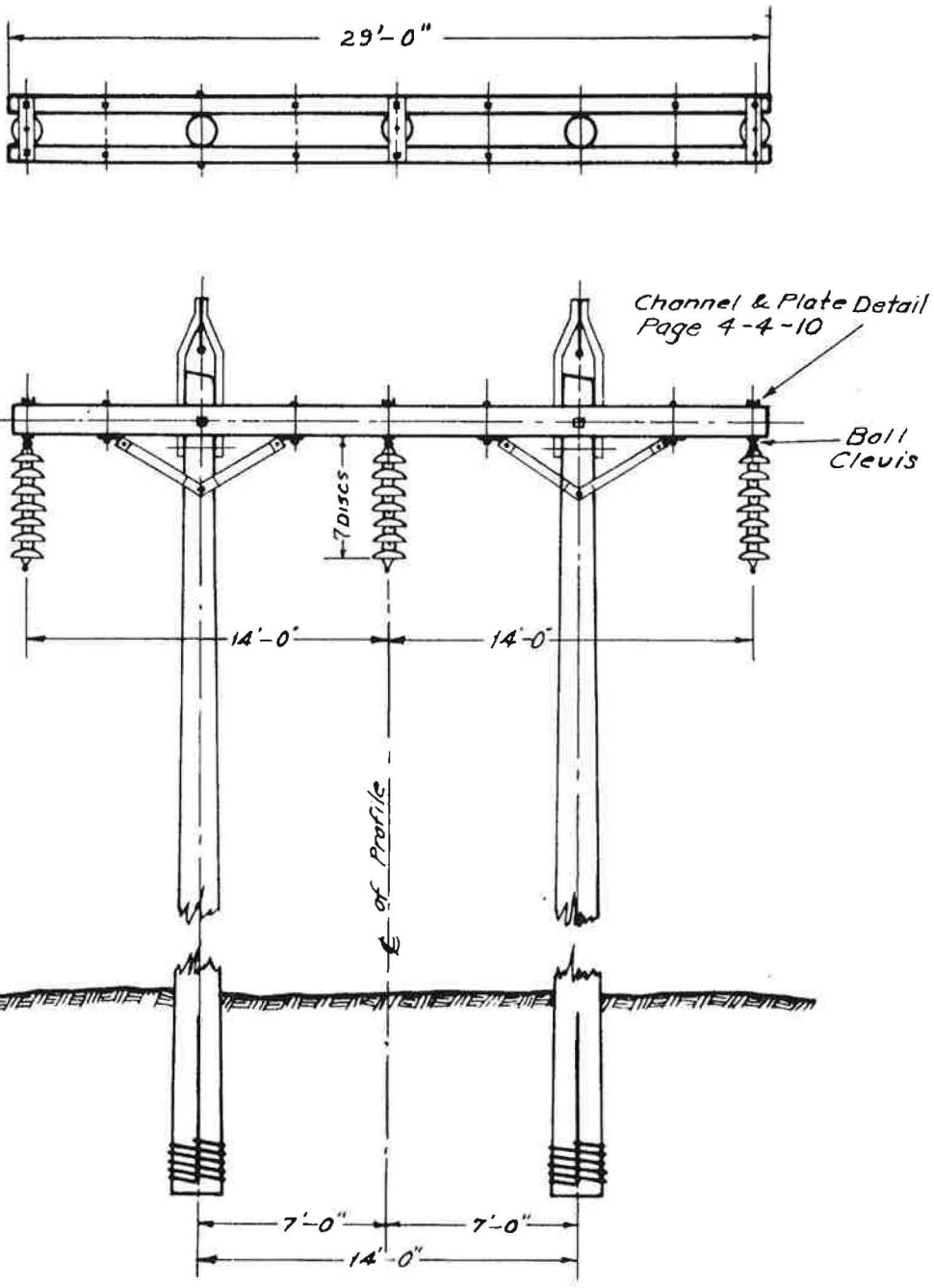
X178 115 kV TRANSMISSION LINE
BETWEEN STR 575 AND STR 576
JOHNS RIVER, DALTON NEW HAMPSHIRE

DWG REV	DSN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

T 1
DRAWN AMJ
ENGINEER DSD
CHECKED GBS
APPROVED DSD
DATE 06/22/17
SCALE 1" = 200'
FILE: X17843901.DWG
IMAGE:
DRAWING NO. X17843901

TYPE A-2

TANGENT STRUCTURE SPECIAL SPANS



NOTE: For Details Not Indicated On This Dwg See Type A Page 4-21-1

EXHIBIT 6

PUBLIC SERVICE Company of New Hampshire	115 KV TRANSMISSION STANDARDS	ISSUE	DATE
		ORIGINAL	

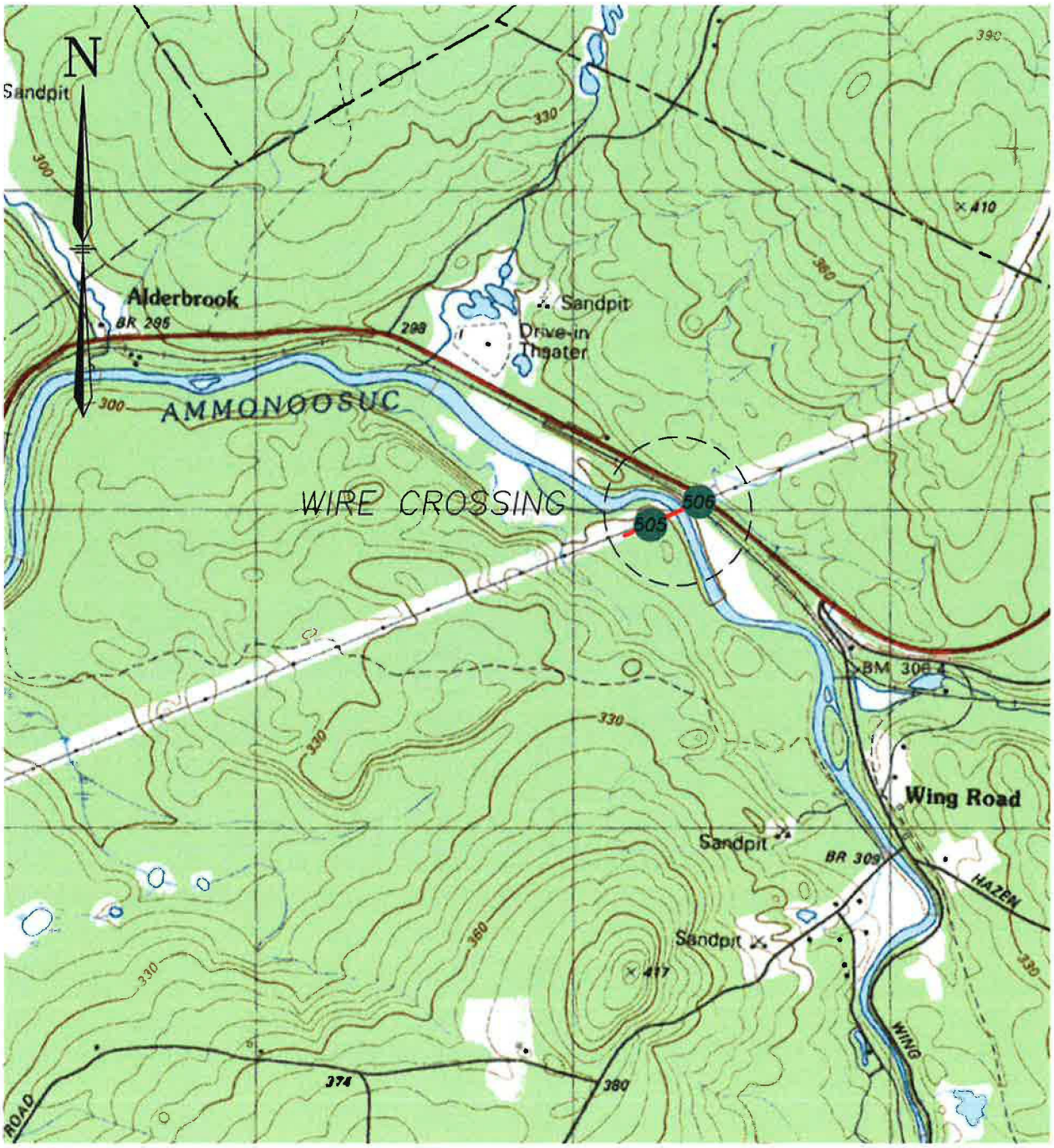


EXHIBIT 7

LEGEND:

X178 LINE

EXISTING X178 STR. 505

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

EVERSOURCE ENERGY

LOCATION PLAN
X178 115kV LINE STR 505 AND 506
AMMONOOSUC RIVER
BETHLEHEM, NEW HAMPSHIRE

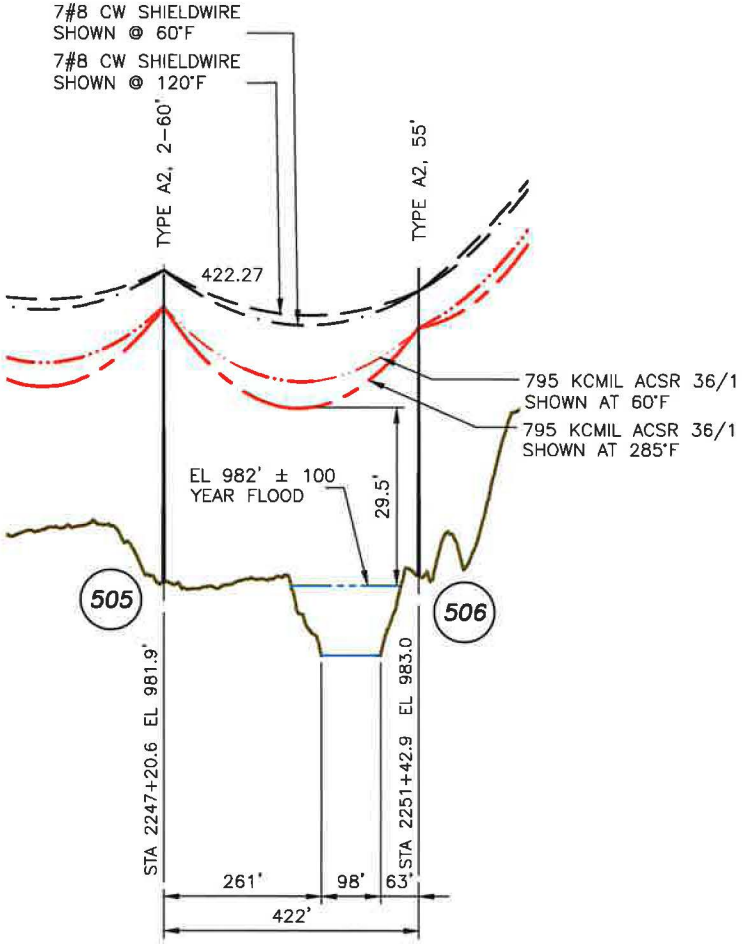
T	1
DRAWN	AJM
ENGINEER	
CHECKED	GBS
APPROVED	DSD
DATE	07/28/17

SCALE 1" = 1000'

FILE: X17843902.DWG

IMAGE:

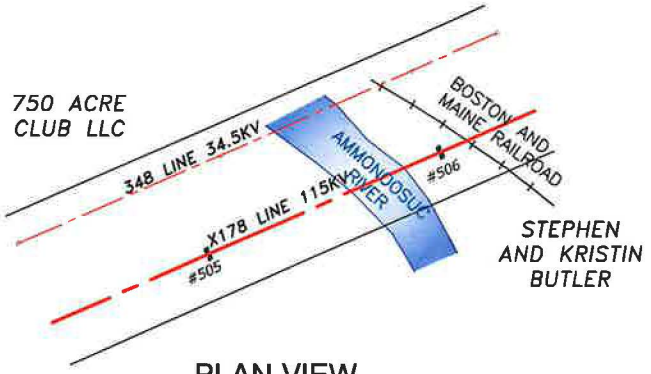
DRAWING NO. X17843902



PROFILE VIEW

SCALE: HORZ 1" = 200'
VERT 1" = 20'

N



PLAN VIEW

SCALE: 1" = 200'

LEGEND:

7#8 CW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 120°F

795 KCMIL ACSR 36/1
SHOWN AT 60°F
SHOWN AT 285°F

NOTE:
ONLY LOWEST CONDUCTOR PHASE SHOWN FOR CLARITY

EXHIBIT 8

EVERSOURCE ENERGY

X178 115 kV TRANSMISSION LINE
BETWEEN STR 505 AND STR 506
AMMONOOSUC RIVER, BETHLEHEM
NEW HAMPSHIRE

T	1
DRAWN	AMJ
ENGINEER	DSD
CHECKED	GBS
APPROVED	DSD
DATE	07/13/17

DWG REV	CPN/DESCRIPTION	CONT/PTE	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

SCALE: 1" = 200' | FILE: X17843902.DWG | IMAGE: | DRAWING NO. X17843902

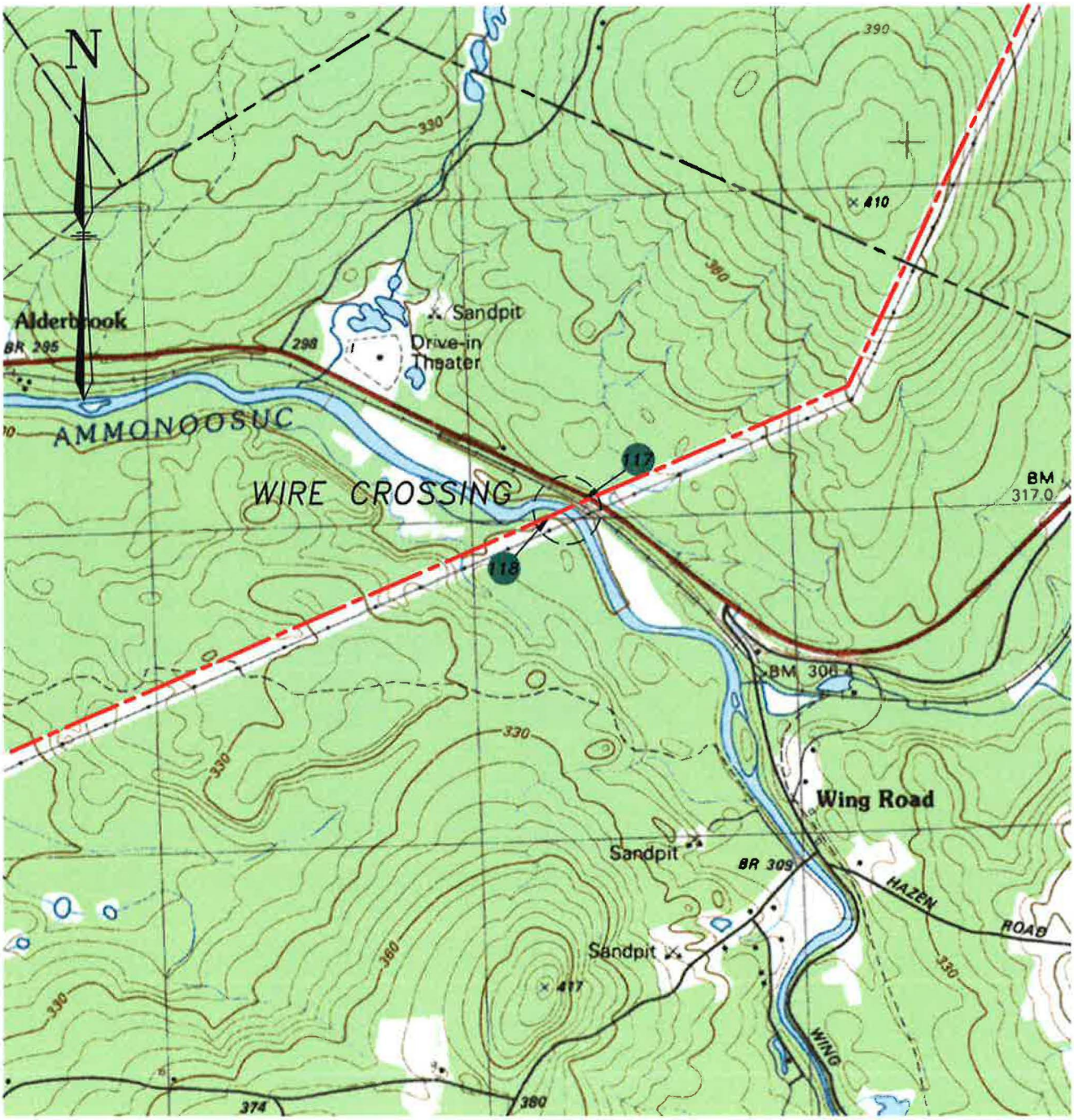


EXHIBIT 9

LEGEND:

348 LINE:

EXISTING 348 STR: 117

EVERSOURCE ENERGY

D | 1

DRAWN: AJM

ENGINEER:

CHECKED: GBS

APPROVED: DSD

DATE: 07/28/17

LOCATION PLAN
348 34.5 kV LINE STR 117 AND 118
AMMONOOSUC RIVER
BETHLEHEM, NEW HAMPSHIRE

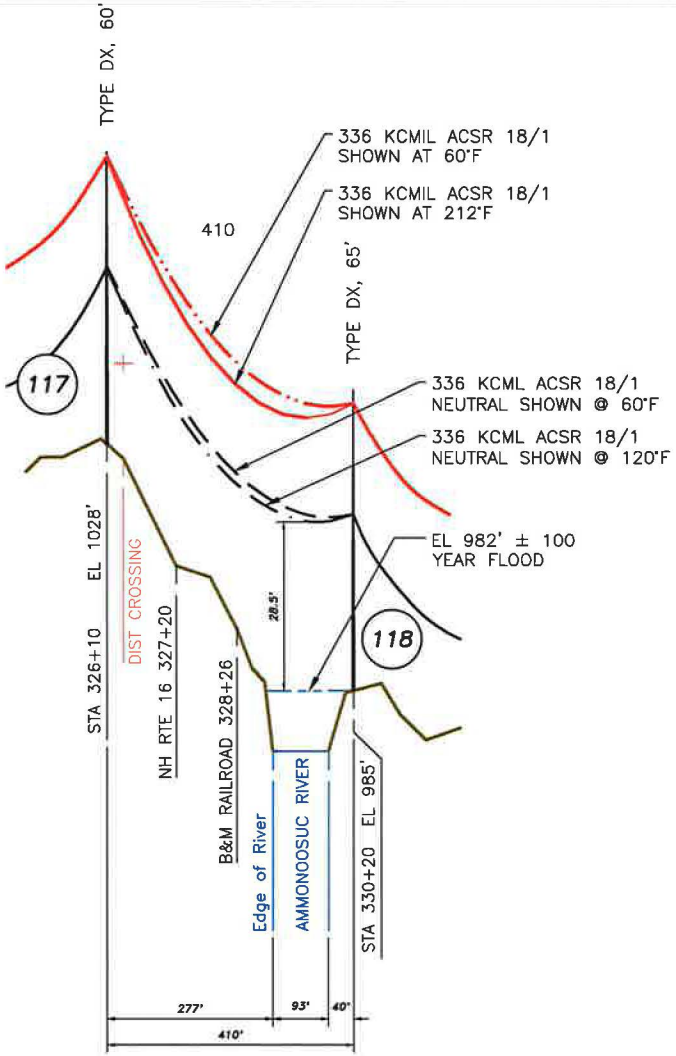
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

SCALE: 1" = 1000'

FILE: 034844901.DWG

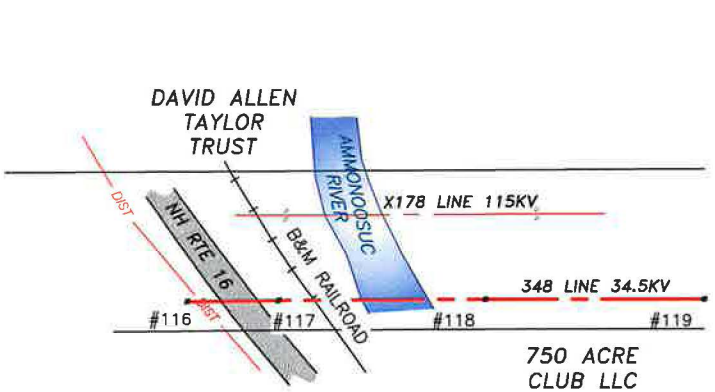
IMAGE:

DRAWING NO.: 034844901



PROFILE VIEW

SCALE: HORZ 1" = 200'
VERT 1" = 20'



PLAN VIEW

SCALE: 1" = 200'

LEGEND:

7#8 CW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 212°F
336 KCMIL ACSR 18/1 NEUTRAL
SHOWN AT 60°F
SHOWN AT 120°F

NOTE:
ONLY LOWEST CONDUCTOR PHASE SHOWN FOR CLARITY

EXHIBIT 10

EVERSOURCE ENERGY

348 34.5 kV TRANSMISSION LINE
BETWEEN STR 117 AND STR 118
AMMONOOSUC RIVER,
BETHLEHEM, NEW HAMPSHIRE

D	1
DRAWN	AMJ
ENGINEER	DSD
CHECKED	GBS
APPROVED	DSD
DATE	08/22/17

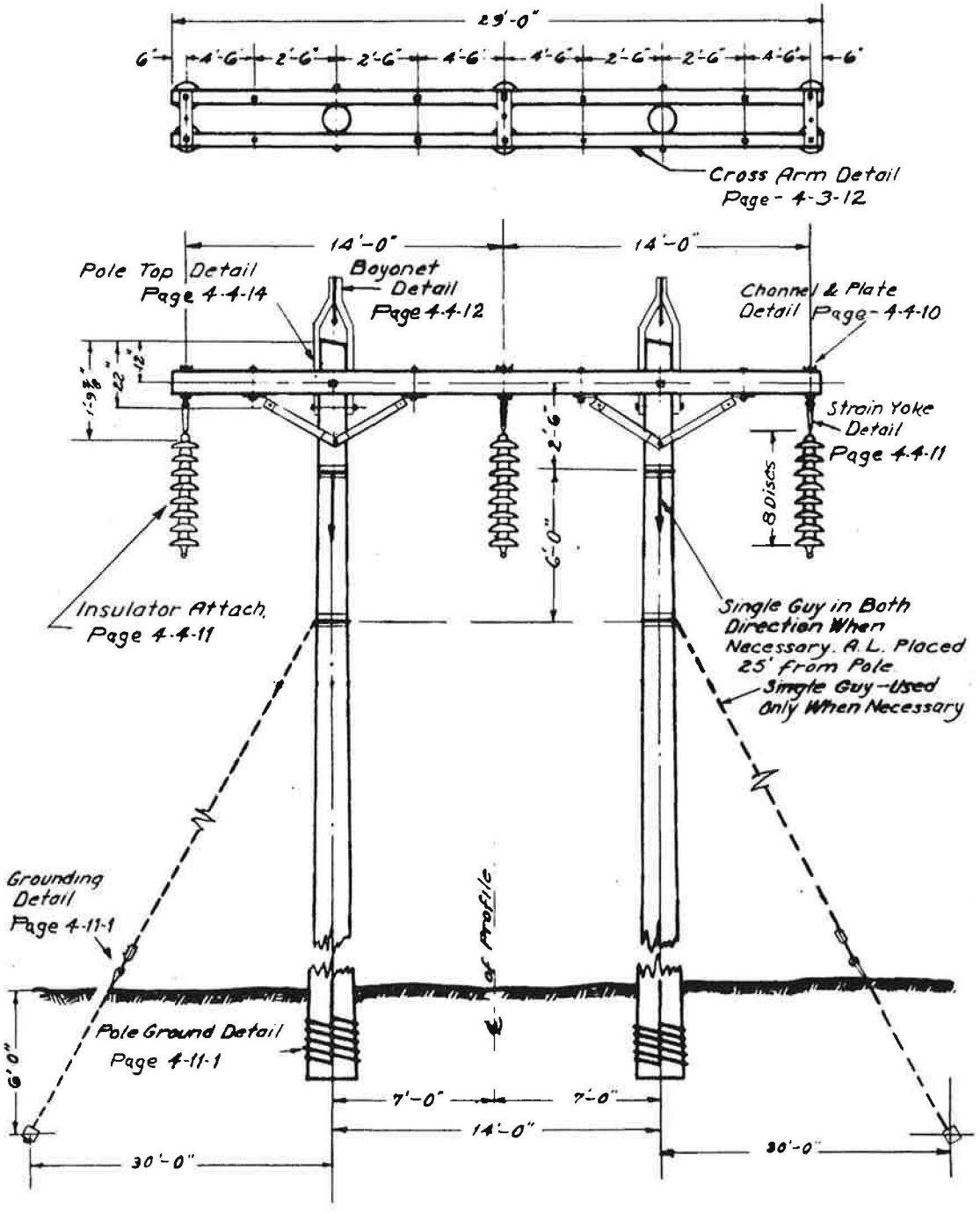
DWG REV	ITEM/DESCRIPTION	CONT/PCE	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

SCALE: AS SHOWN
FILE: 034844901.DWG
IMAGE:
DRAWING NO. 034844901

4-21-13

TYPE D STRUCTURE

HIGHWAY & RAILROAD CROSSINGS



For Method of Pole Guying
See Page 4-10-15
For Method of Pole & Guy
Grounding See Page 4-11-2

EXHIBIT 11

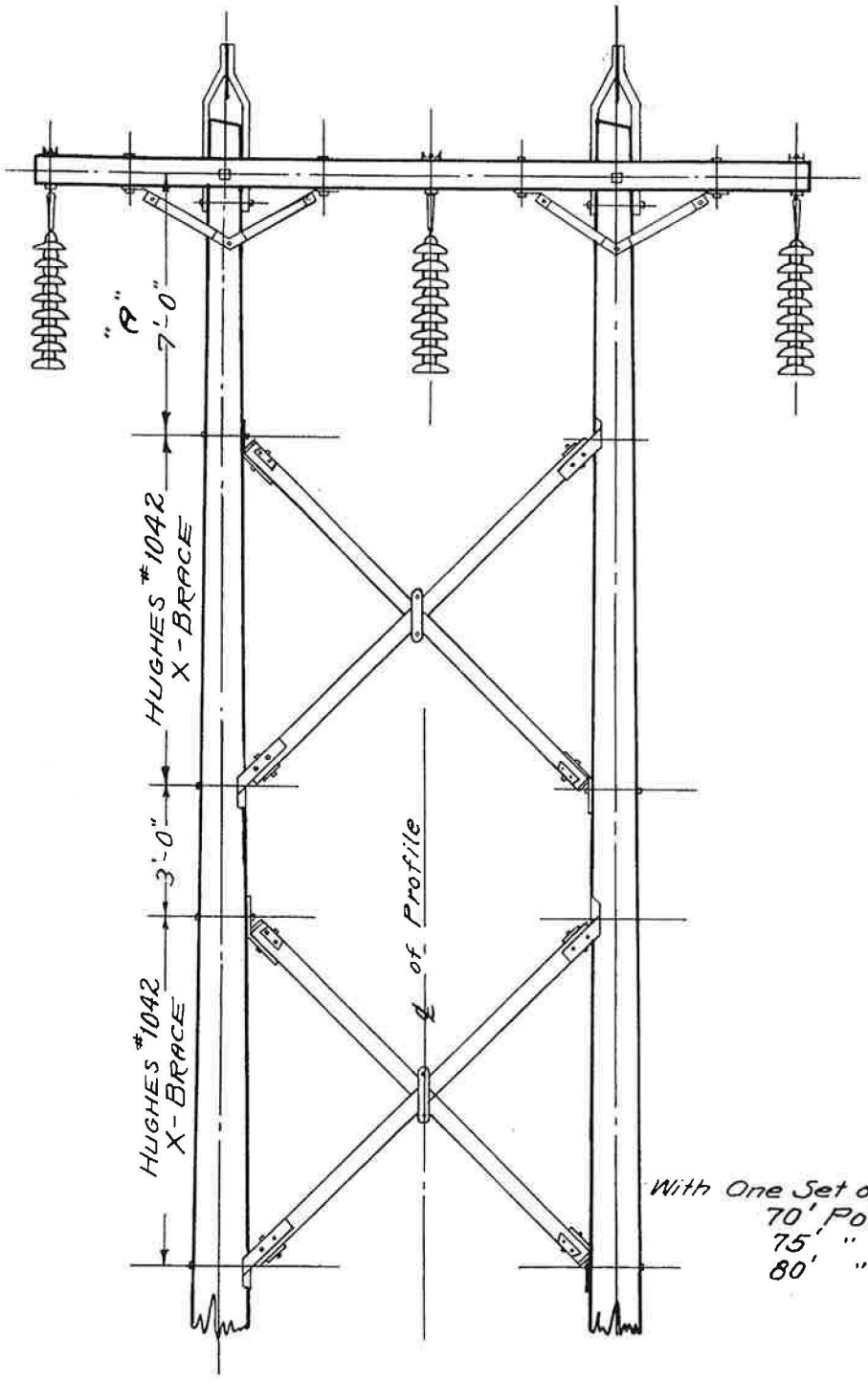
PUBLIC SERVICE Company of New Hampshire

115 KV
TRANSMISSION STANDARDS

ISSUE	DATE
ORIGINAL	

4-21-34

X-BRACING DETAIL



With One Set of X-Bracing	"A" Dist.
70' Pole	13'-0"
75' "	14'-6"
80' "	16'-0"

EXHIBIT 12

PUBLIC SERVICE Company of New Hampshire

115 KV TRANSMISSION STANDARDS

ISSUE	DATE
ORIGINAL	

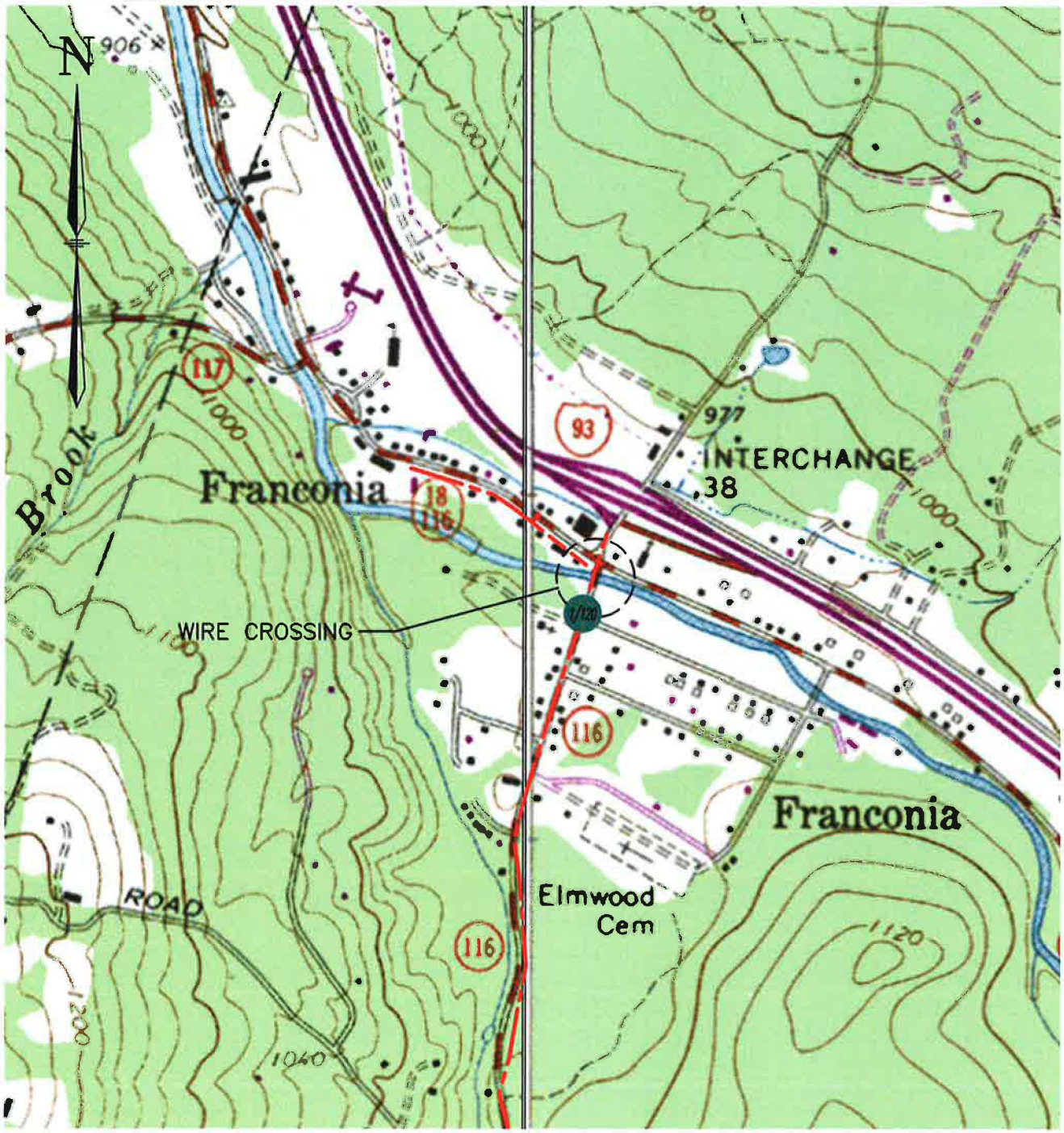


EXHIBIT 13

LEGEND:
- 348X1 LINE
- 1/120 EXISTING STRUCTURE

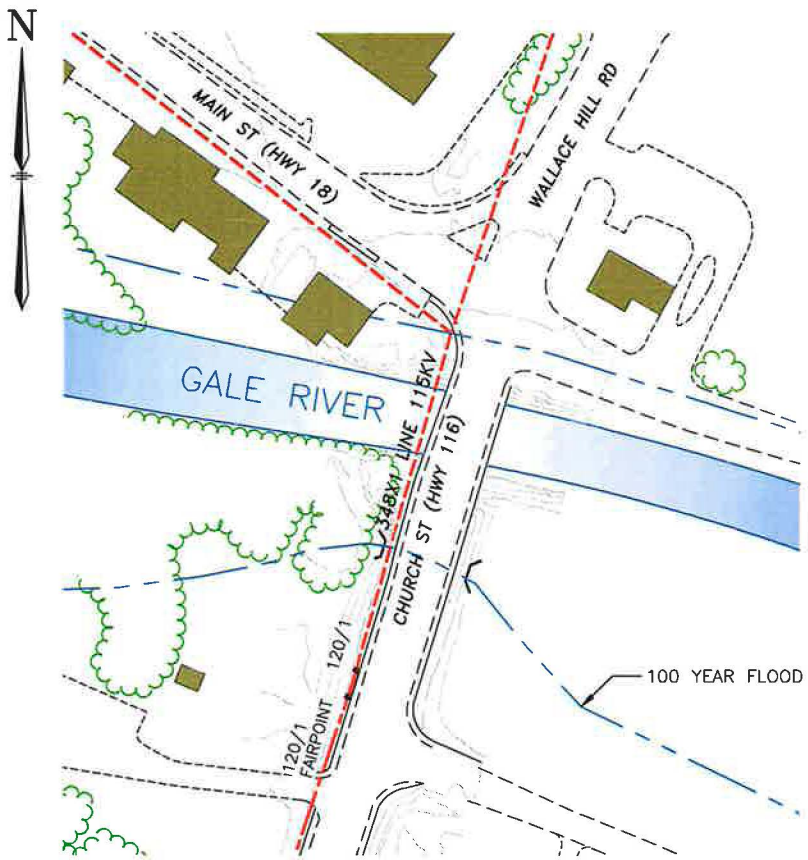
EVERSOURCE ENERGY

LOCATION PLAN
348X1, 34.5 kV LINE
GALE RIVER
FRANCONIA, NEW HAMPSHIRE

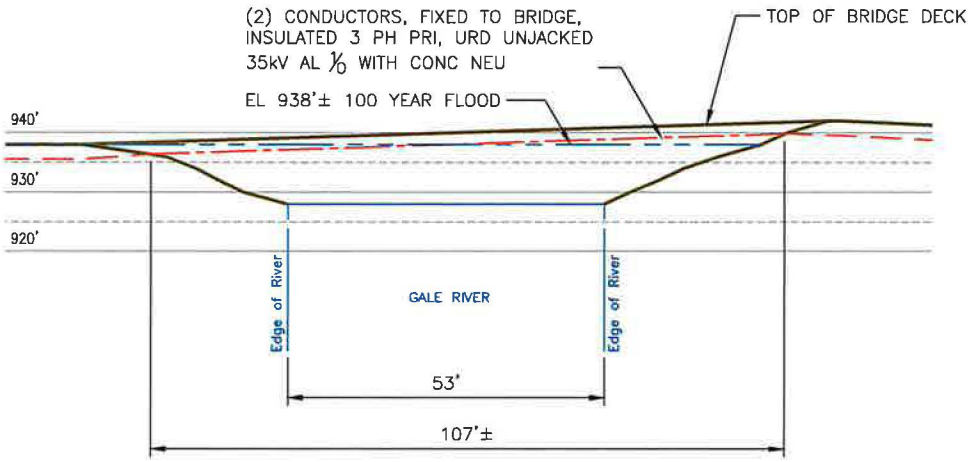
D	1
DRAWN	GBS
ENGINEER	
CHECKED	JRS
APPROVED	DSD
DATE	11/13/17

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	GBS	GBS	DSD

SCALE 1" = 1000'
FILE: 348X44901.DWG
IMAGE: 348X144901-01.tif, 348X144901-02.tif
DRAWING NO. 348X44901



PLAN VIEW
SCALE: 1" = 100'



PROFILE VIEW
SCALE: 1" = 50'

EXHIBIT 14

EVERSOURCE ENERGY

348X1, 34.5 kV TRANSMISSION LINE
BRIDGE CROSSING
GALE RIVER CROSSING
FRANCONIA, NEW HAMPSHIRE

DWG REV	ITEM/DESCRIPTION	CONST/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

D	1
DRAWN	GBS
ENGINEER	
CHECKED	JRS
APPROVED	DSD
DATE	11/16/17
SCALE	AS SHOWN
FILE	348X44901.DWG
IMAGE	
DRAWING NO.	348X144901

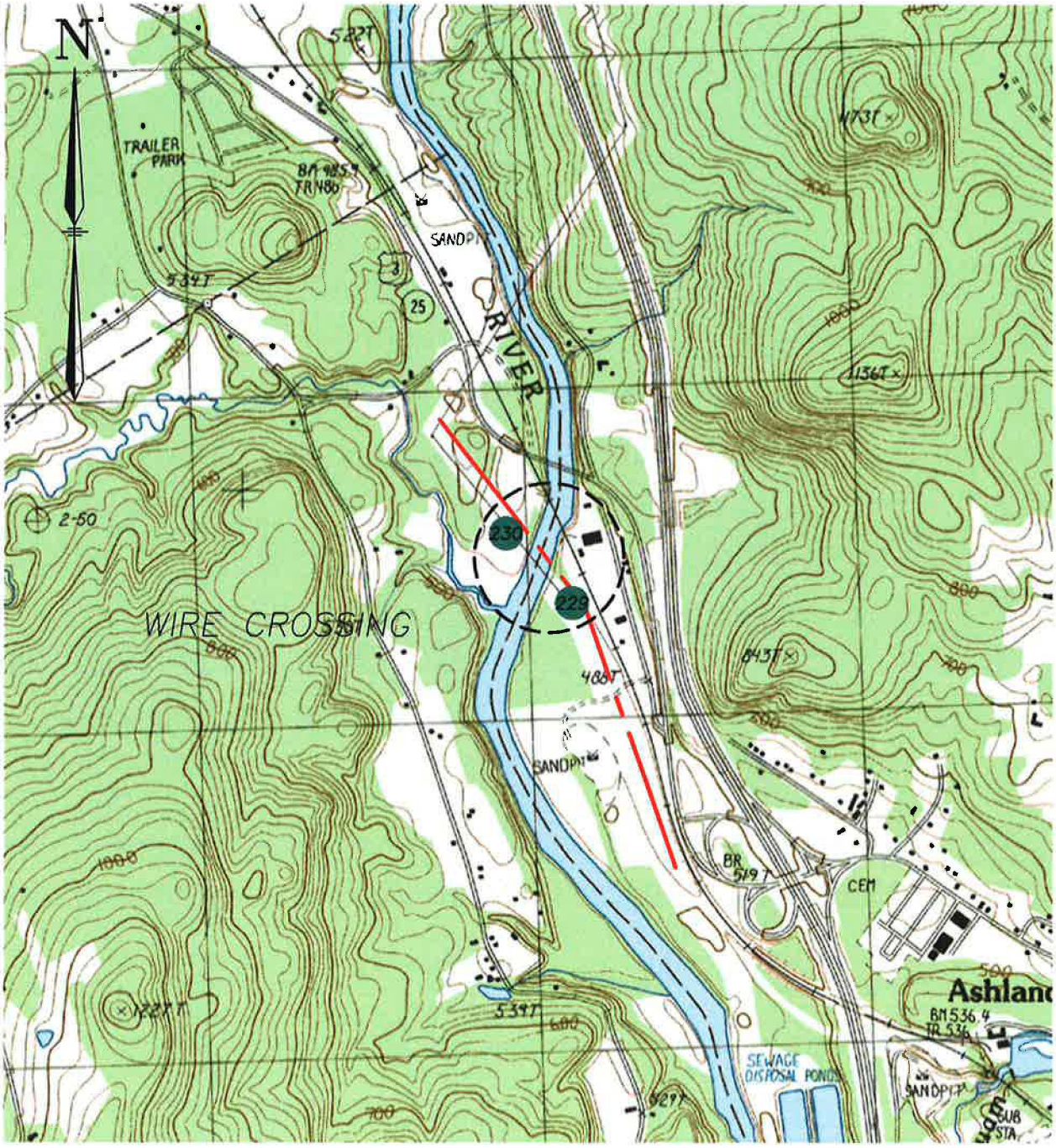


EXHIBIT 15

LEGEND:

E115 LINE

EXISTING E115 STR. 229

EVERSOURCE ENERGY

T	1
DRAWN	AJM
ENGINEER	
CHECKED	GBS
APPROVED	DSD
DATE	12/13/17

LOCATION PLAN
E115 115 kV LINE STR 229 AND 230
PEMIGEWASSET RIVER
BRIDGEWATER / ASHLAND, NEW HAMPSHIRE

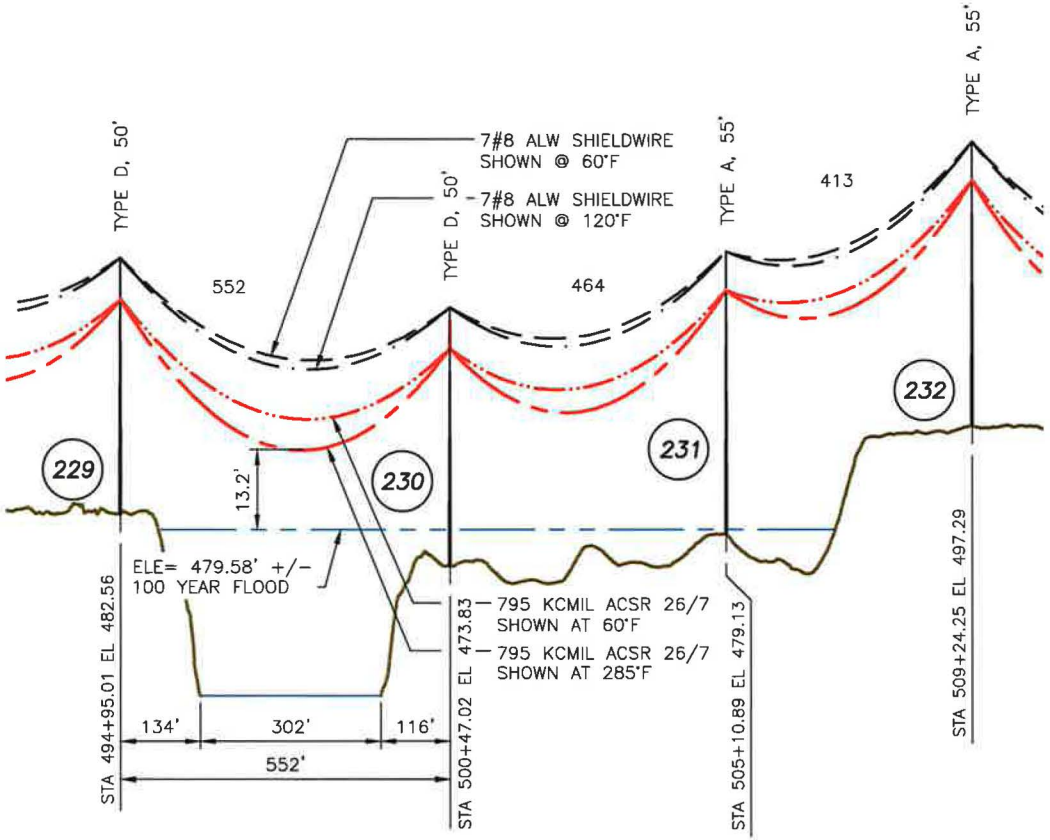
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

SCALE 1" = 1000'

FILE: E11543904.DWG

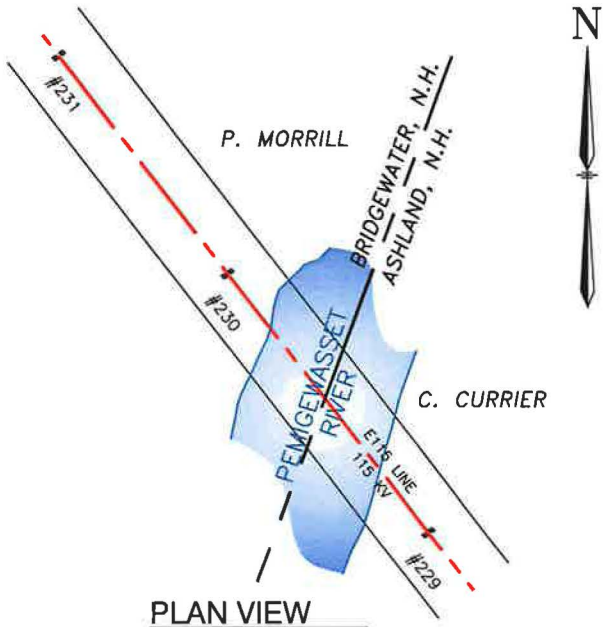
IMAGE:

DRAWING NO. E11543904



PROFILE VIEW

SCALE: HORZ 1"=200'
VERT 1"=20'



PLAN VIEW

SCALE: 1" = 200'

LEGEND:

7#8 ALW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 120°F

795 KCMIL ACSR 26/7
SHOWN AT 60°F
SHOWN AT 285°F

NOTE:
ONLY LOWEST CONDUCTOR PHASE SHOWN FOR CLARITY

EXHIBIT 16

DWG REV	EPM/DESCRIPTION	CONT/PG#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

EVERSOURCE ENERGY

E115 115 kV TRANSMISSION LINE
BETWEEN STR 229 AND STR 230
PEMIGEWASSET RIVER,
BRIDGEWATER / ASHLAND, NEW HAMPSHIRE

T / 1	
DRAWN	GBS
ENGINEER	DSD
CHECKED	GBS
APPROVED	DSD
DATE	12/11/17
SCALE	1" = 200'
FILE	E11543904.DWG
IMAGE	
DRAWING NO.	E11543904

TYPE A
TANGENT STRUCTURE

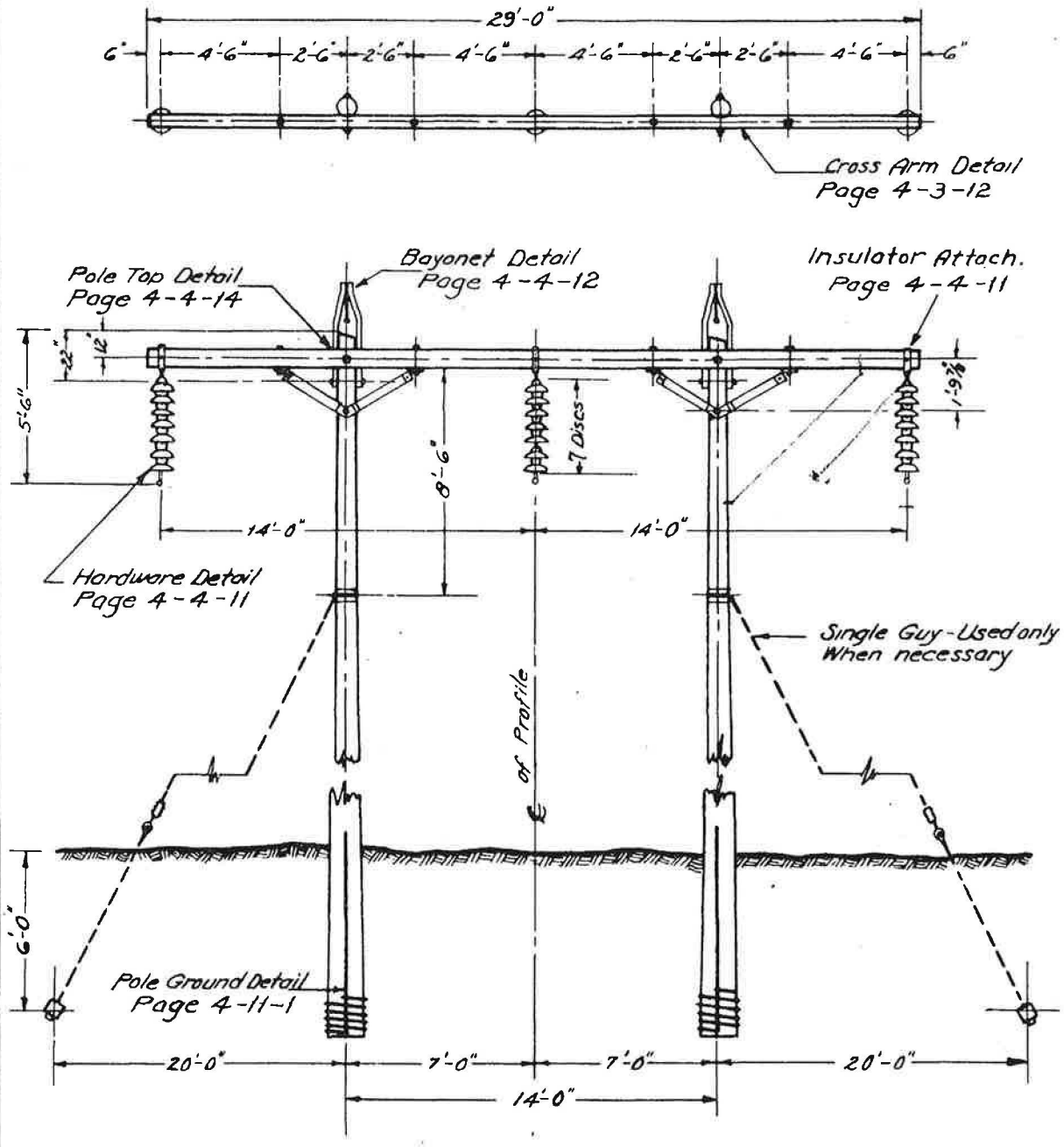


EXHIBIT 17

PUBLIC SERVICE Company of New Hampshire	115 KV TRANSMISSION STANDARDS	ISSUE	DATE
		ORIGINAL	

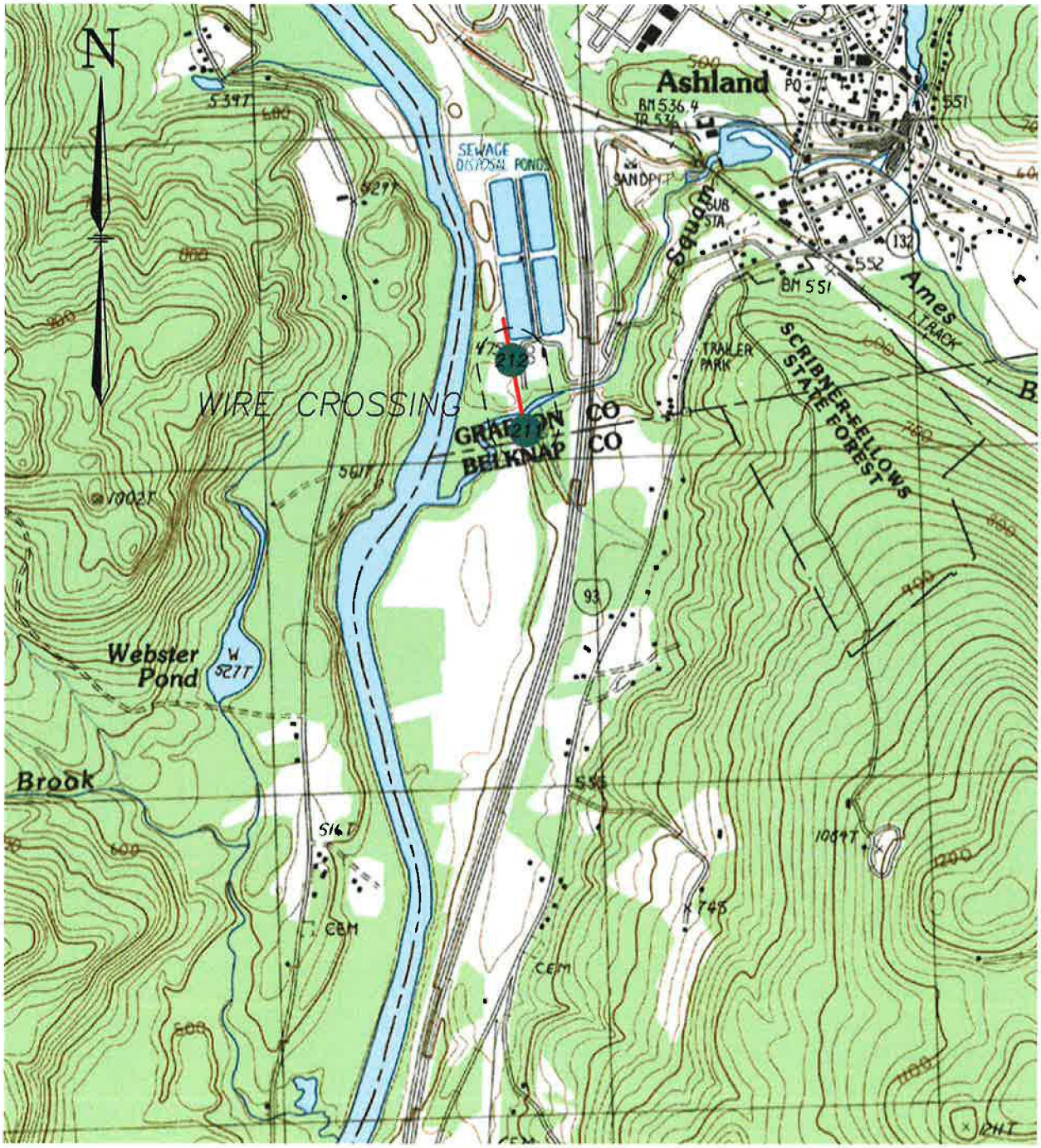


EXHIBIT 18

LEGEND:

E115 LINE

EXISTING Q195 STR. 211

EVERSOURCE ENERGY

LOCATION PLAN
E115 115 kV LINE STR 211 AND 212
SQUAM RIVER
ASHLAND / NEW HAMPTON, NEW HAMPSHIRE

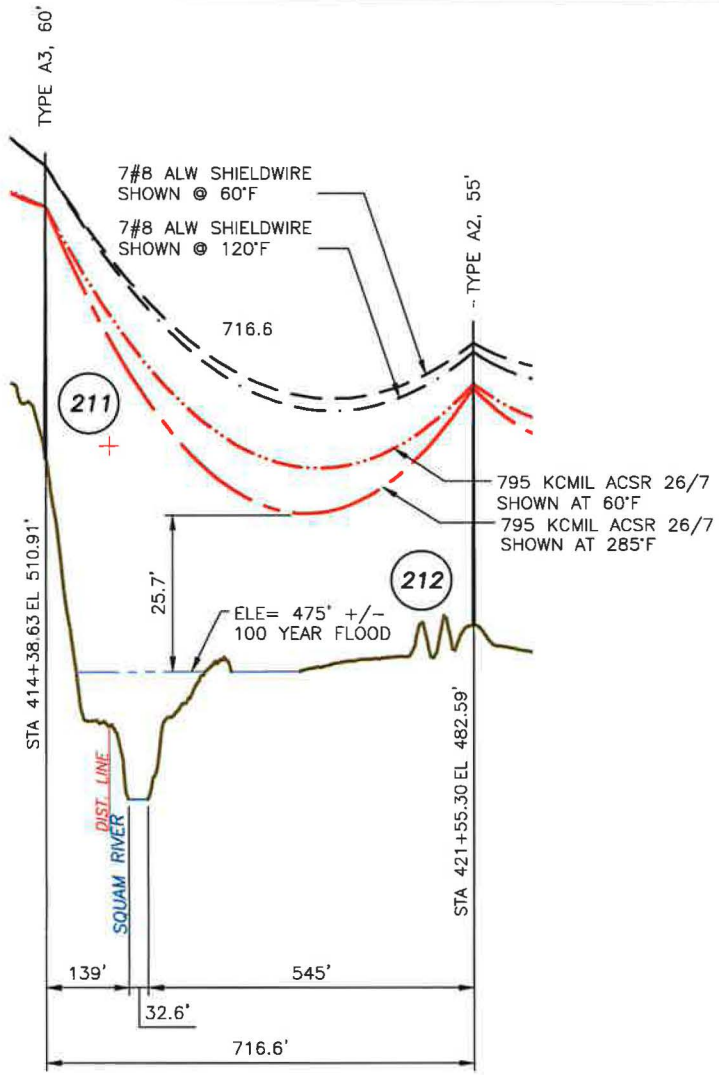
T	1
DRAWN	AJM
ENGINEER	
CHECKED	GBS
APPROVED	DSD
DATE	07/28/17

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AJM	GBS	DSD

SCALE 1" = 1000'
FILE: E11543902.DWG
IMAGE:
DRAWING NO. E11543902

ES VER: 12/2016

12/14/2017 9:40 AM - sulligx - S:\Lines\Water Crossings\E11543902.dwg - EXHIBIT 18



PROFILE VIEW

SCALE: HORZ 1"=200'
VERT 1"=20'

PLAN VIEW

SCALE: 1" = 200'

N

LEGEND:

7#8 ALW SHIELDWIRE
SHOWN AT 60°F
SHOWN AT 120°F

795 KCMIL ACSR 26/7
SHOWN AT 60°F
SHOWN AT 285°F
EVERSOURCE FEE PROPERTY

NOTE:
ONLY LOWEST CONDUCTOR PHASE SHOWN FOR CLARITY

EXHIBIT 19

EVERSOURCE ENERGY

E115 115 kV TRANSMISSION LINE
BETWEEN STR 211 AND STR 212
SQUAM RIVER ASHLAND/ NEW HAMPTON,
NEW HAMPSHIRE

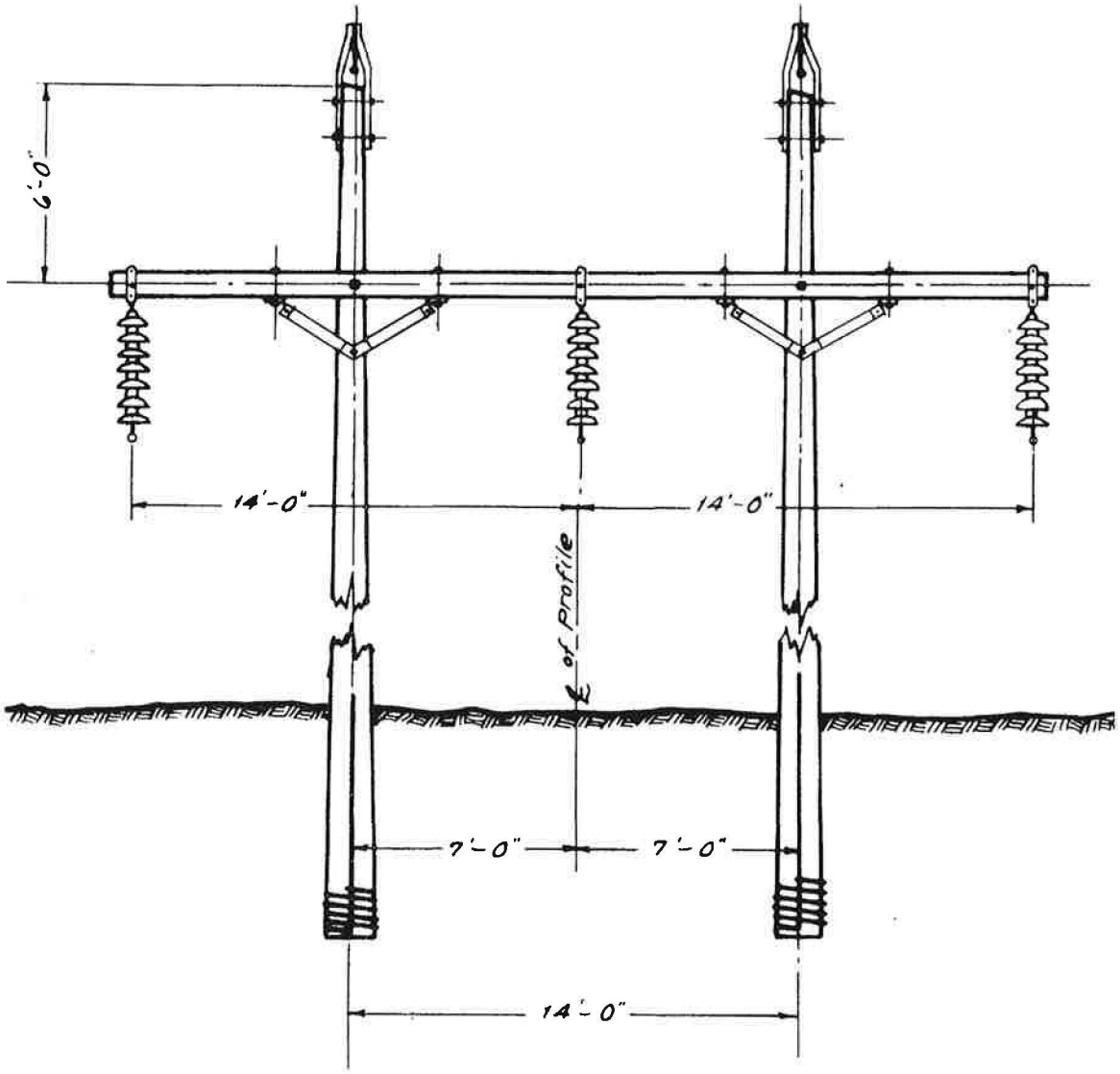
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	SUBMITTED TO NH PUC		12/17	AMJ	GBS	DSD

T	1
DRAWN	AMJ
ENGINEER	DSD
CHECKED	GBS
APPROVED	
DATE	07/06/17
SCALE	1" = 200'
FILE	E11543902.DWG
IMAGE	
DRAWING NO.	E11543902

ES VER: 12/2016

12/14/2017 9:40 AM - sullignx - S:\Lines\Water Crossings\E11543902.dwg - EXHIBIT 19

TYPE A-3 & D-3
SPECIAL FRAMING



NOTE: For Details Not Indicated on this Dwg. See Type A & Type D Page 4-21-21 & 4-21-13 Respectively. Material same as Type A or Type D

Use For Additional Lightning Protection At Substation.

EXHIBIT 20

PUBLIC SERVICE Company of New Hampshire	115 KV TRANSMISSION STANDARDS	ISSUE	DATE
		ORIGINAL	