

LEGEND:

- J125 LINE: - - - - -
- J125 STR: 100

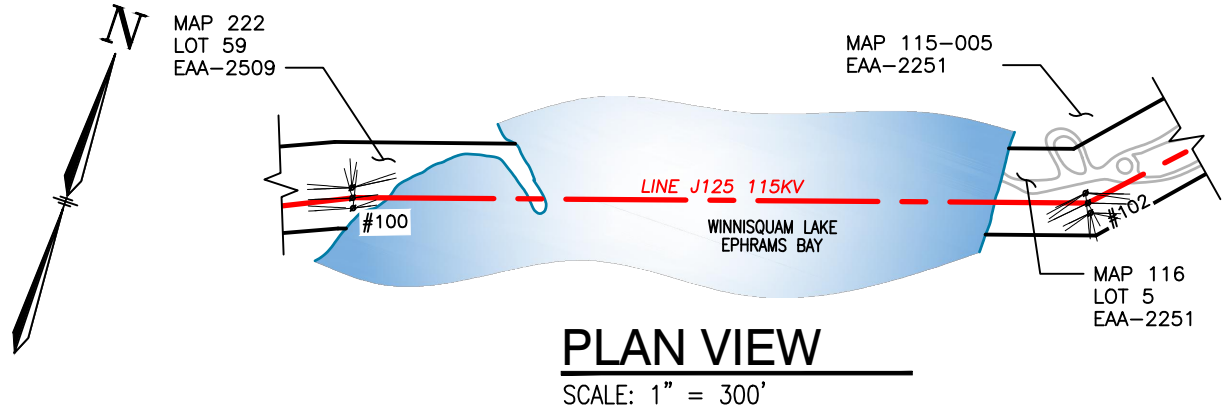
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR
1	ISSUES TO PUC		04/21	GBS	CJN	JRS

EVERSOURCE ENERGY

J125 115kV LINE
 WINNISQUAM LAKE, LOCATION PLAN
 BELMONT, NEW HAMPSHIRE
 EXHIBIT 1

T	1
DRAWN GBS	
ENGINEER CJN	
CHECKED CJN	
APPROVED JRS	
DATE 4/30/21	

SCALE 1" = 1500'	FILE: J12543901.DWG IMAGE:	DRAWING NO. J12543901
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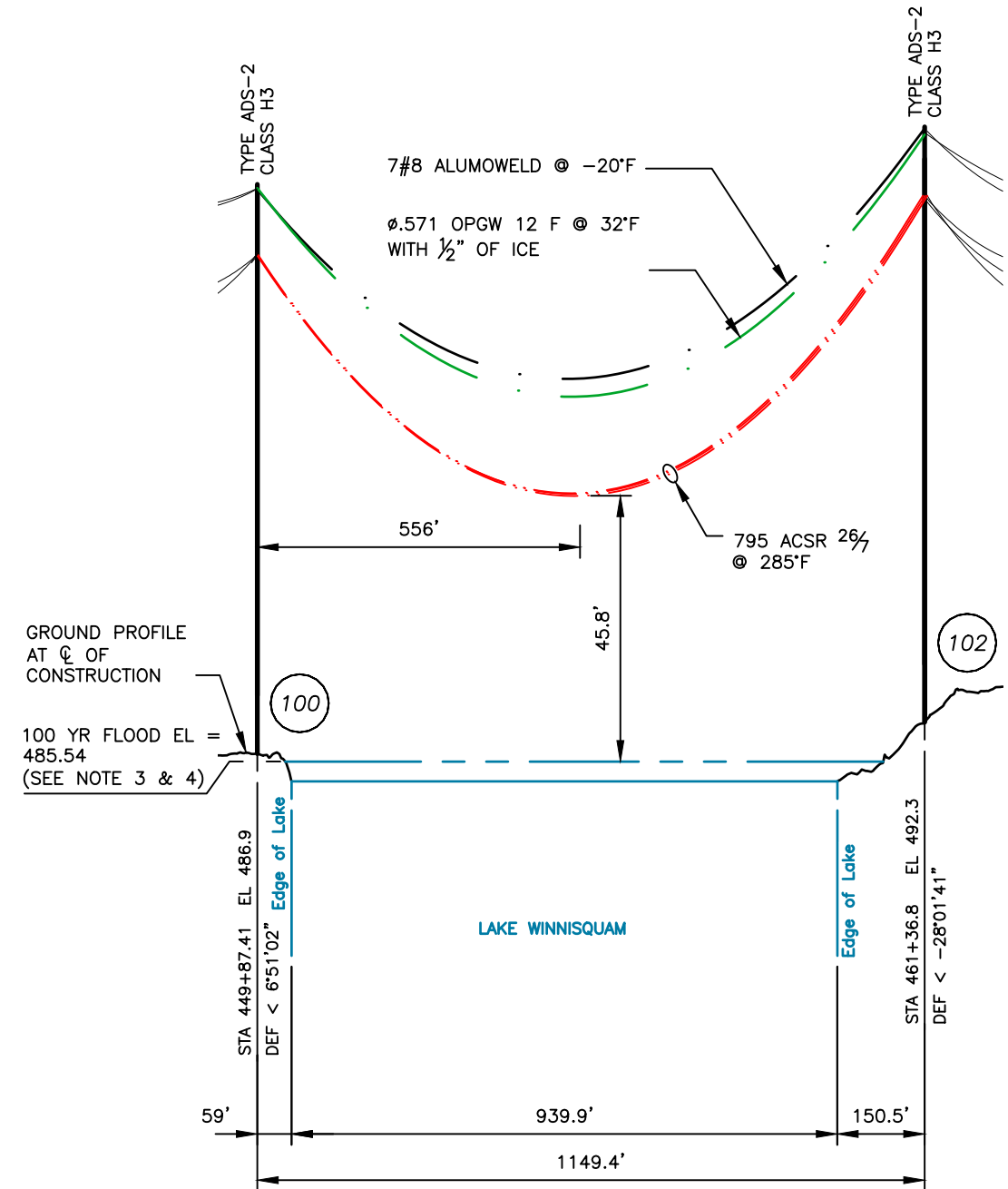
PLAN VIEW
SCALE: 1" = 300'

LEGEND:

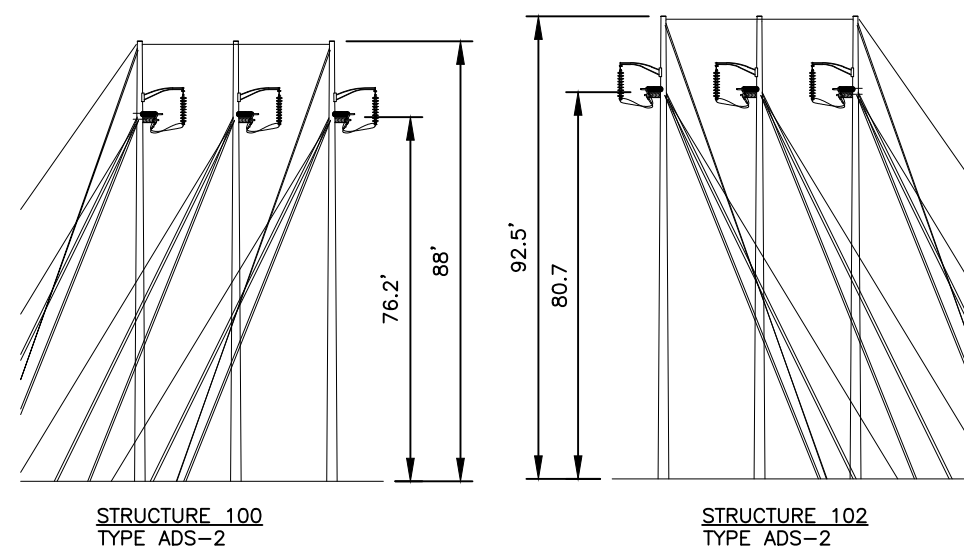
- STRUCTURE (WITH GUYS)
- #102
- J125 LINE 115KV LINE, ϕ OF CONSTRUCTION
- LIMITS OF EVERSOURCE RIGHT OF WAY

STRUCTURE LOCATION		
STRUCTURE	LONGITUDE	LATITUDE
100	-71.52238286	43.47773032
102	-71.51826806	43.47871273

NEC VERTICAL CLEARANCE (FT) FROM TABLE 232.1	
NATURE OF SURFACE UNDERNEATH WIRES, CONDUCTORS OR CABLES	115kV
WATER AREAS NOT SUITABLE FOR SAIL BOATING OR WHERE SAIL BOATING IS PROHIBITED	18.6



PROFILE VIEW
SCALE: HORZ 1" = 300'
VERT 1" = 30'



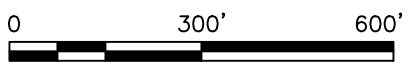
STRUCTURE DETAIL
SCALE: NTS

STR 100 AND 102: ARE EVERSOURCE TYPE ADS-2, SINGLE CIRCUIT STEEL POLE DEAD END ANGLE, HORIZONTAL CONFIG., GUYED.

CABLE SCHEDULE						
WIRE	QTY OF CABLES	DESCRIPTION	DESIGN CONDITIONS			
			MAX DESIGN TENSION (lb)	TEMP (°F)	ICE (in)	WIND (psf)
CONDUCTOR	3	ACSS, 795 kcmil 26/7, DRAKE	7000	0	0.5	4
STATIC	1	7 No. 8 AW	4200	0	0.5	4
OPGW	1	BRUGG 12F ϕ 0.571	6000	0	0.5	4

NOTES:

1. PARCEL INFORMATION PROVIDED BY NH GRANIT.
2. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. THE 100 YEAR FLOOD ELEVATION FROM THE FEMA FLOOD SERVICE MAP SERVICE CENTER, NATIONAL FLOOD HAZARD LAYER FIRMETT, TILTON, NH COMMUNITY NO 3300090005C, EFFECTIVE 8/19/1997.
4. THE TOWN OF BELMONT, NH COMMUNITY NO 330002B DOES NOT CONTAIN FLOOD ELEVATION DATA. THE NEAREST FLOOD ELEVATION FOR WINNISQUAM LAKE WAS UTILIZED AND CONVERTED FROM NGVD29 TO NAVD88.



EVERSOURCE ENERGY

J125, 115kV LINE
WINNISQUAM LAKE, PUBLIC WATER CROSSING
BELMONT, NEW HAMPSHIRE
EXHIBIT 2

DRAWN GBS	T 1
ENGINEER CJN	
CHECKED CJN	
APPROVED JRS	
DATE 4/30/21	

SCALE: AS SHOWN FILE: J12543901.DWG DRAWING NO. J12543901

1	ISSUED TO PUC	4/21	GBS	CJN	JRS	
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

GCA-212

DE 75-149

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Petition for authority to construct and maintain electric transmission lines over and across the Winnepesaukee River in the Towns of Belmont and Tilton, and over, under and across Lake Winnisquam (Ephrams Bay) in the Town of Belmont.

..00..

O R D E R N O. 11,949

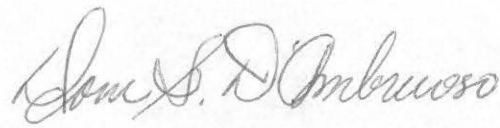
WHEREAS, by petition filed June 18, 1975 with a revised filing of exhibits which is made a part of this petition, Public Service Company of New Hampshire seeks a license pursuant to RSA 371:17-20 to construct and maintain electric transmission lines over and across the Winnepesaukee River in the Towns of Belmont and Tilton and over, under and across Lake Winnisquam in the Town of Belmont; and

WHEREAS, the petitioner represents that the proposed construction over Winnepesaukee River at the proposed crossing is about 158 feet and the width of Lake Winnisquam (Ephrams Bay) at the proposed overhead crossing is about 776 feet and the length of each of the two proposed underwater cable crossings is about 1,300 feet on already existing lines; and

WHEREAS, following due notice no other interested parties recorded any objections to the proposed constructions and upon investigation of all the facts before the Commission, it is found that the proposed construction is necessary to meet the reasonable requirements of the public and that the license sought may be issued and exercised by the petitioner without substantially affecting the public rights and waters crossed; it is

ORDERED, that a license be, and hereby is, granted to Public Service Company of New Hampshire to construct and maintain electric transmission lines over and across the Winnepesaukee River in the Towns of Belmont and Tilton and over, under and across Lake Winnisquam (Ephrams Bay) in the Town of Belmont, all in accordance with the above description which is contained on a plan on file at the office of the Commission.

By order of the Public Utilities Commission of New Hampshire this fourth day of August, 1975.

A handwritten signature in cursive script, reading "Lou S. D'Ambrucoso".

Secretary

PUBLIC SERVICE

Company of New Hampshire

1000 Elm Street, Manchester, N. H. 03105



June 18, 1975

The State of New Hampshire
Public Utilities Commission
26 Pleasant Street
Concord, New Hampshire 03301

Re: Water Crossings of the Pemigewasset River,
Winnepesaukee River, and Lake Winnisquam
(Ephrams Bay) in the City of Franklin and the
Towns of Tilton and Belmont, New Hampshire

To the Commission:

Enclosed are the originals and five (5) copies each of two petitions by Public Service Company of New Hampshire for licenses under RSA 371:17 to construct and maintain electric transmission lines (a) over and across the Pemigewasset River in the City of Franklin, New Hampshire, and (b) over and across the Winnepesaukee River in the Towns of Tilton and Belmont, New Hampshire, and over, under and across Lake Winnisquam (Ephrams Bay) in the Town of Belmont, New Hampshire. Also enclosed is a copy of the Dredge and Fill Permit for the proposed submarine cable crossing of Lake Winnisquam (Ephrams Bay).

The proposed water crossings are part of the Company's planned construction of a new 115 KV line from Franklin to Laconia principally as joint double circuit construction with an existing 34.5 KV line to provide additional transmission capacity to meet growing electrical loads in the area of Laconia, New Hampshire. This is the same construction that was the subject of the siting application filed in July, 1974, requesting a determination as to substantial environmental impact. The Commission and the Site Evaluation Committee each found that a Certificate of Site and Facility was not required.

If all interested parties are in agreement, we respectfully request that these licenses be granted without the necessity of a hearing pursuant to RSA 371:20, as amended.

Very truly yours,

/s/ Philip Ayers

Philip Ayers
Counsel

PA:sms

Enclosures

THE STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

Petition of Public Service Company of New Hampshire under RSA 371:17-20 for licenses to construct and maintain electric transmission lines over and across the Winnepesaukee River in the towns of Tilton and Belmont, New Hampshire and over, under, and across Lake Winnisquam (Ephrams Bay) in the town of Belmont, New Hampshire.

TO THE PUBLIC UTILITIES COMMISSION:

Public Service Company of New Hampshire, a corporation duly organized and existing under the laws of The State of New Hampshire and engaged in the generation, transmission, and sale of electric energy in The State (hereinafter called the Petitioner), respectfully represents as follows:

(1) That in order to meet the reasonable requirements of service to the public it is necessary for the Petitioner (a) to construct a double circuit 115 KV and 34.5 KV electric line over and across the Winnepesaukee River in Tilton and Belmont, New Hampshire, and (b) to construct a single circuit 115 KV line overhead and replace one existing overhead 34.5 KV line and one existing overhead 12.47 KV line underwater across Lake Winnisquam (Ephrams Bay) in Belmont, New Hampshire.

(2) That the proposed water crossings are part of a proposal to construct a new 115 KV line principally as joint double circuit construction with an existing 34.5 KV line to provide additional transmission capacity to meet growing electrical loads in the Laconia area.

(3) That the Petitioner proposes to construct the water crossings at the locations shown on prints of U.S.G.S. maps attached hereto as Exhibits D-3 and D-6. The proposed construction is shown on three plans, No. B-7649-110, 111, and 112, attached hereto as Exhibits D-4, D-5, and D-7.

(4) That the width of the Winnepesaukee River at the proposed crossing location is about 158 feet, and the width of Lake Winnisquam (Ephrams Bay) at the proposed overhead 115 KV crossing location is about 776 feet, and the length of each of the two proposed underwater cable crossings is about 1,300 feet.

(5) That the lines and supporting structures on both sides of the crossings will be erected and maintained by the Petitioner pursuant to easements already obtained and the structures for the overhead lines will be located back away from the banks of the river so that water quality is not affected by that line. A Dredge and Fill Permit for the work at either end of the submarine cable crossings has been obtained.

(6) The proposed 115 KV water crossings and the 34.5 KV crossing of the Winnepesaukee River are planned and designed for overhead construction rather than submarine cable and underground construction because of considerations of cost, topography, and environment. The cost of underground-underwater construction in this case is much greater than the cost of overhead construction because of the higher cost of materials and more complex installation procedures required. Environmentally, the overhead lines would be eliminated by an underwater crossing, but the banks of the river on both sides would be excavated, requiring cutting of any trees and shrubs and possibly causing erosion problems. More complex structures are required at each termination of an underwater crossing due to the additional equipment required to terminate and protect the cables, and the structures must be larger to take the strain of all overhead conductors which makes a more expensive and less attractive installation.

(7) The proposed 115 KV water crossing of Lake Winnisquam (Ephrams Bay) is planned and designed for overhead construction rather than submarine cable and underground construction because of considerations of cost. The cost of underground-underwater construction in this case would be greater because of the length of the crossing, the termination structures, and protection equipment required. One existing overhead 34.5 KV line and one existing 12.47 KV line will be placed underground-underwater to allow construction of the 115 KV line overhead in the same location without requiring additional right-of-way.

(8) That the Petitioner believes, and therefore avers, that the licenses hereby petitioned for may be exercised without substantially affecting the public rights in said waters.

WHEREFORE, the Petitioner prays:

(a) That the Commission find that the licenses petitioned for may be exercised without substantially affecting the public rights in the Winnipesaukee River and Lake Winnisquam (Ephrams Bay); and

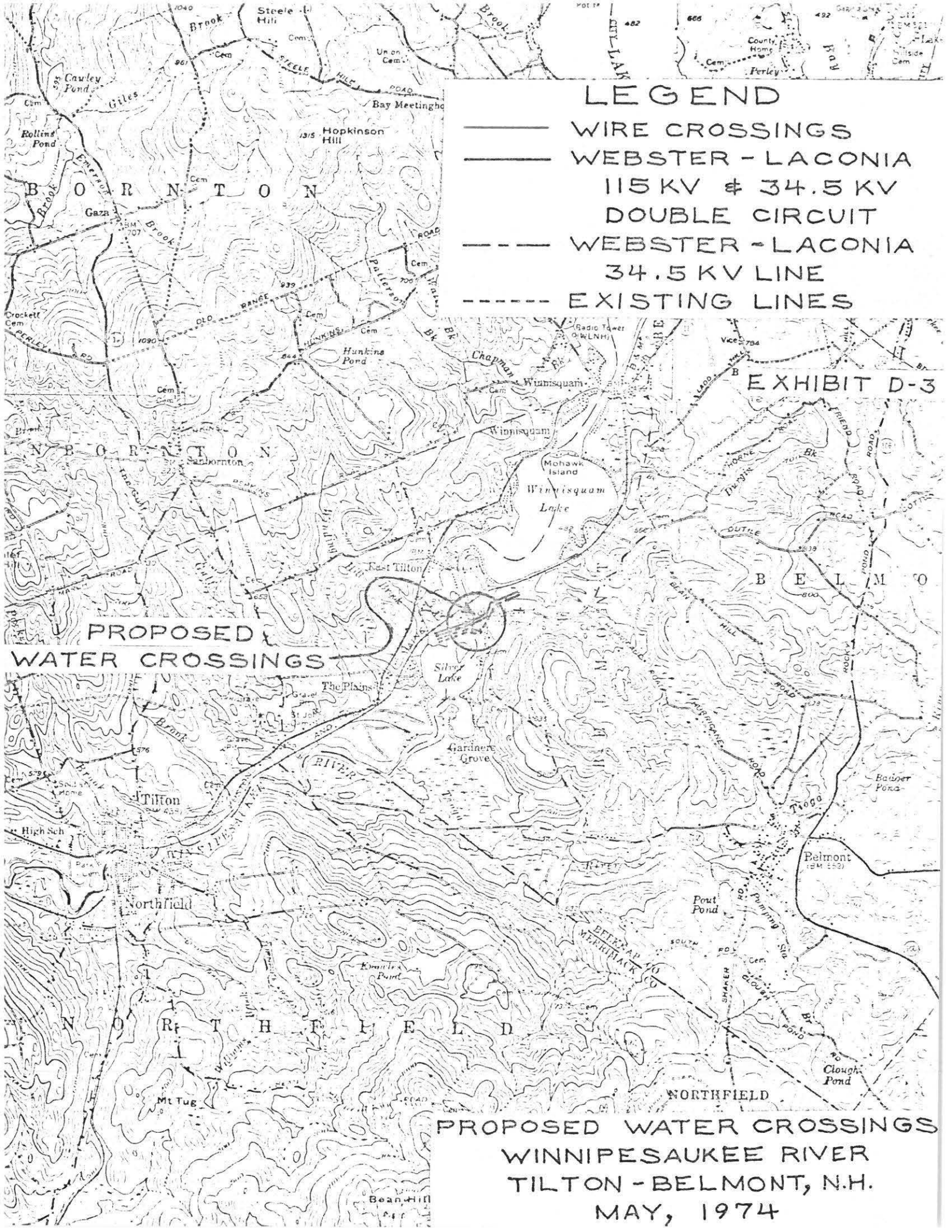
(b) That the Commission render judgment granting the Petitioner licenses to construct and maintain said crossings.

Dated at Manchester this 18th day of June, 1975.

Respectfully submitted,

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

By _____ /s/ Philip Ayers
Its Attorney



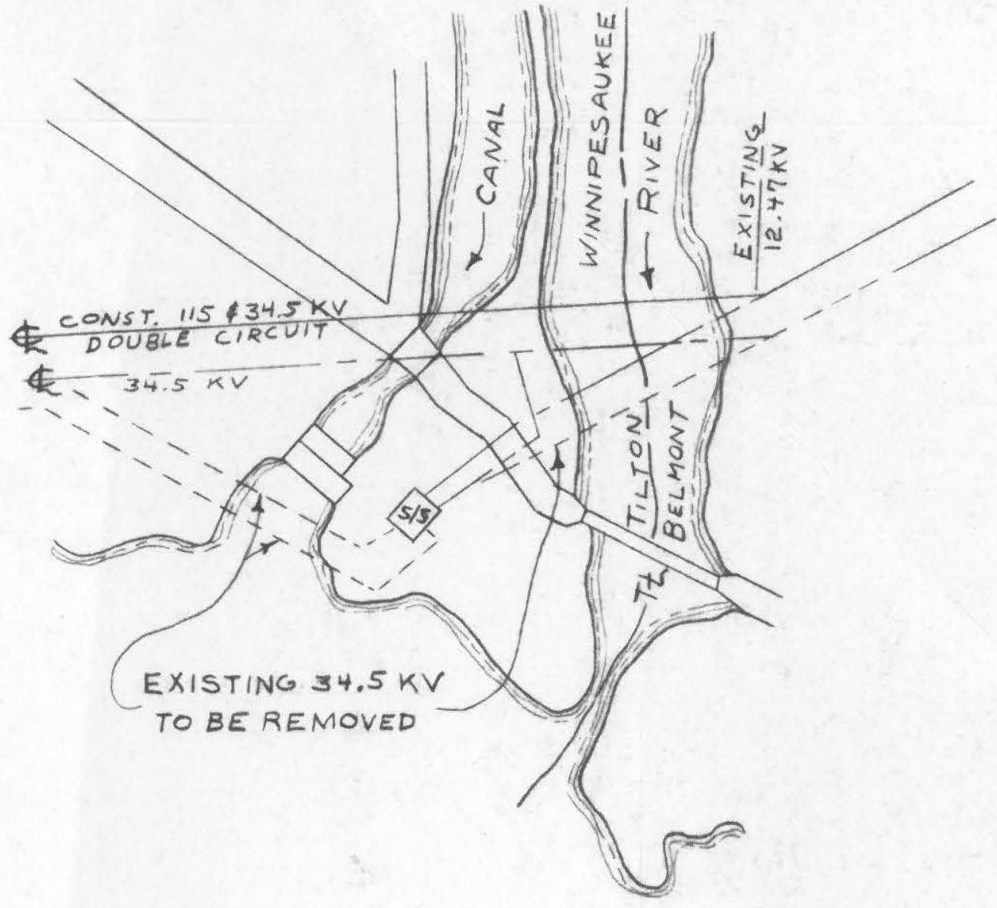
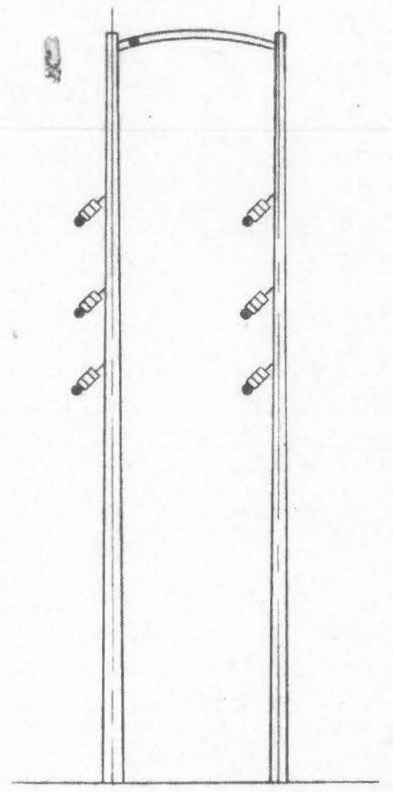
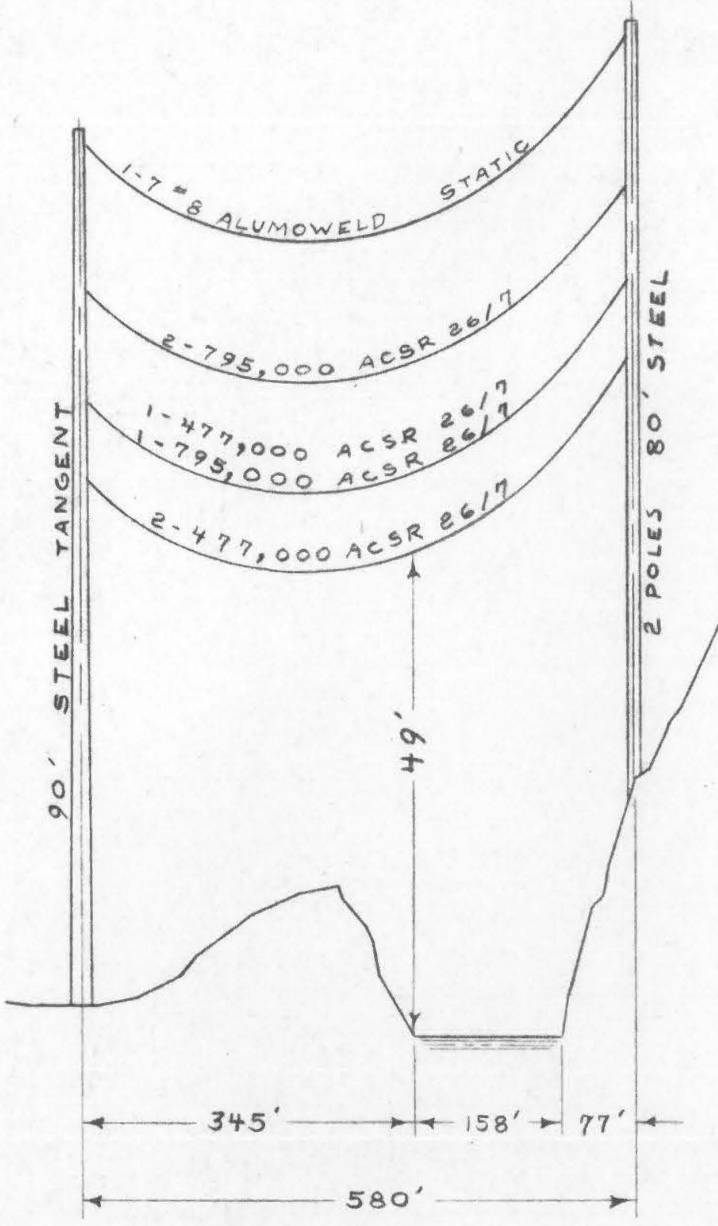
LEGEND

- WIRE CROSSINGS
- WEBSTER - LACONIA
115 KV & 34.5 KV
DOUBLE CIRCUIT
- WEBSTER - LACONIA
34.5 KV LINE
- EXISTING LINES

EXHIBIT D-3

PROPOSED
WATER CROSSINGS

PROPOSED WATER CROSSINGS
WINNIPESAUKEE RIVER
TILTON - BELMONT, N.H.
MAY, 1974



REV. #1 NOT TO SCALE

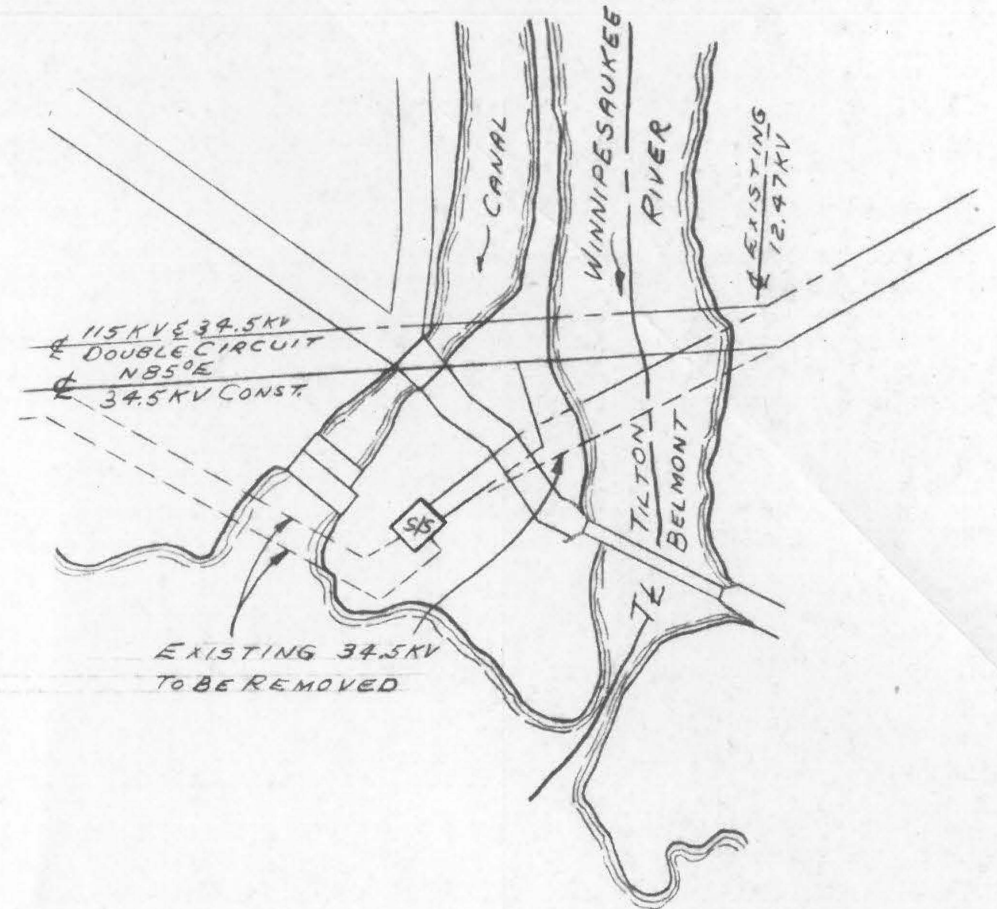
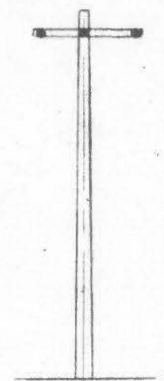
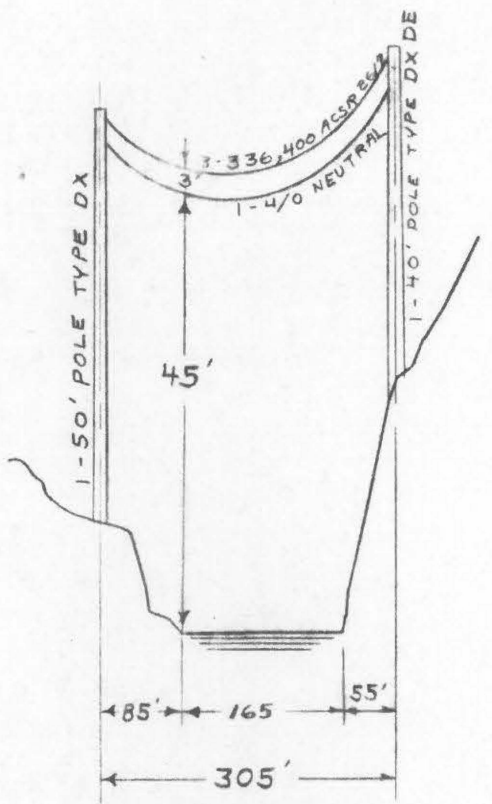
NOTE PRELIMINARY DESIGN SUBJECT TO CHANGE

DES.	NO.	REVISION	DATE	BY
DR. MAS	1	REV. POLES & RIVER DISTANCE		MAS
TR.	2			
CK.	3			
APPR.	4			
	5			
	6			

PROPOSED 115 #34.5KV DBL CKT LINE CROSSING WINNIPESAUKEE RIVER TILTON-BELMONT, N.H.

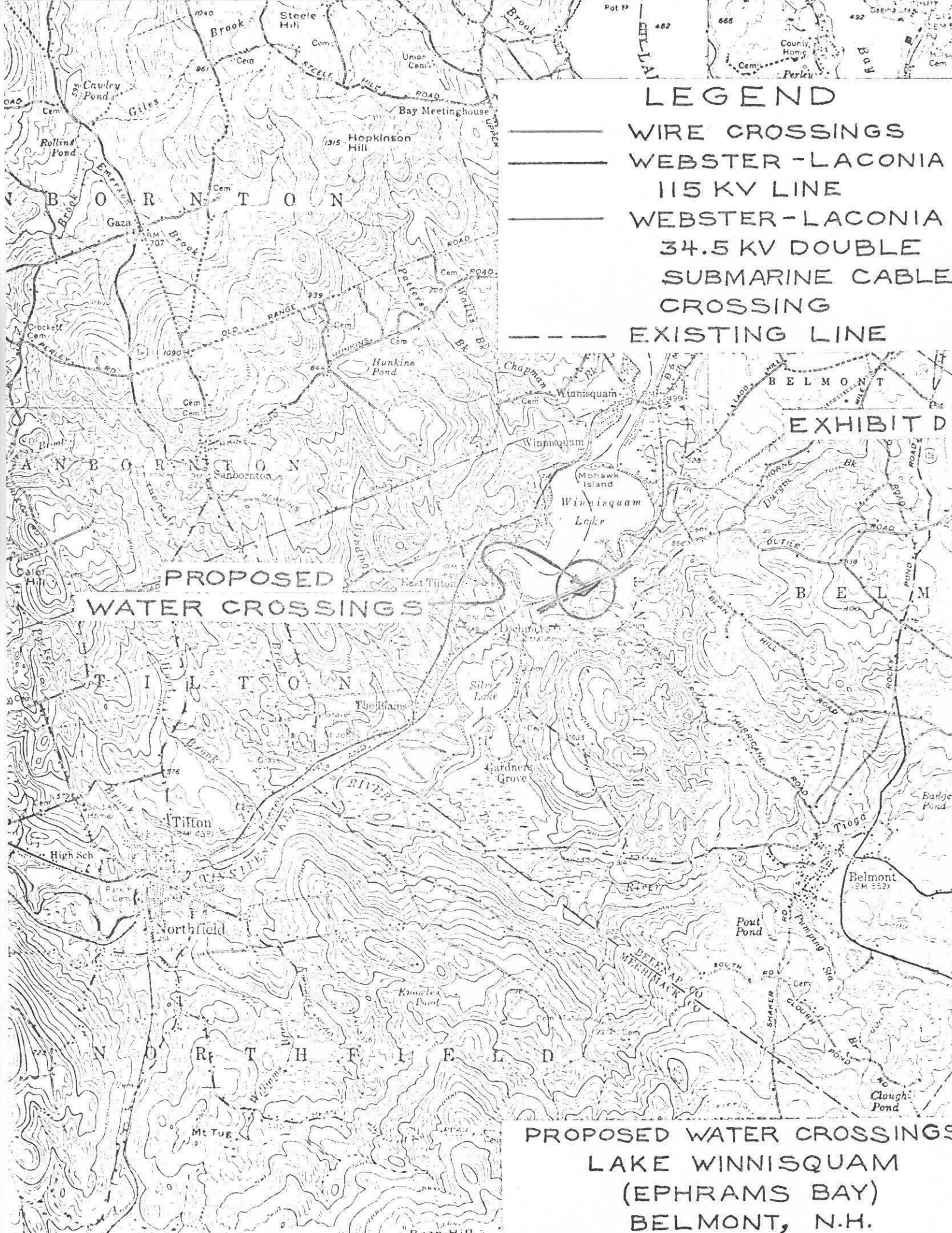
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
ENGINEERING DEPARTMENT
SCALE 1"=20' VERT. 1"=200' HOR. DATE 5/29/74

B-7649-110



NOTE	PRELIMINARY DESIGN SUBJECT TO CHANGE
PROPOSED 34.5KV CIRCUIT LINE CROSSING WINNIPESAUKEE RIVER TILTON - BELMONT, N.H.	
PUBLIC SERVICE CO. OF NEW HAMPSHIRE ENGINEERING DEPARTMENT	
SCALE 1"=20' VERT. 1"=200' HOR. DATE 5/29/74	
B-7649-111	

DES.	NO.	REVISION	DATE	BY
DR. ERP	1	REV. POLE + RIVER DISTANCE		MAS
TR.	2			
CK.	3			
APPR.	4			
	5			
	6			



LEGEND





-  WIRE CROSSINGS
-  WEBSTER-LACONIA 115 KV LINE
-  WEBSTER-LACONIA 34.5 KV DOUBLE SUBMARINE CABLE CROSSING
-  EXISTING LINE

EXHIBIT D-

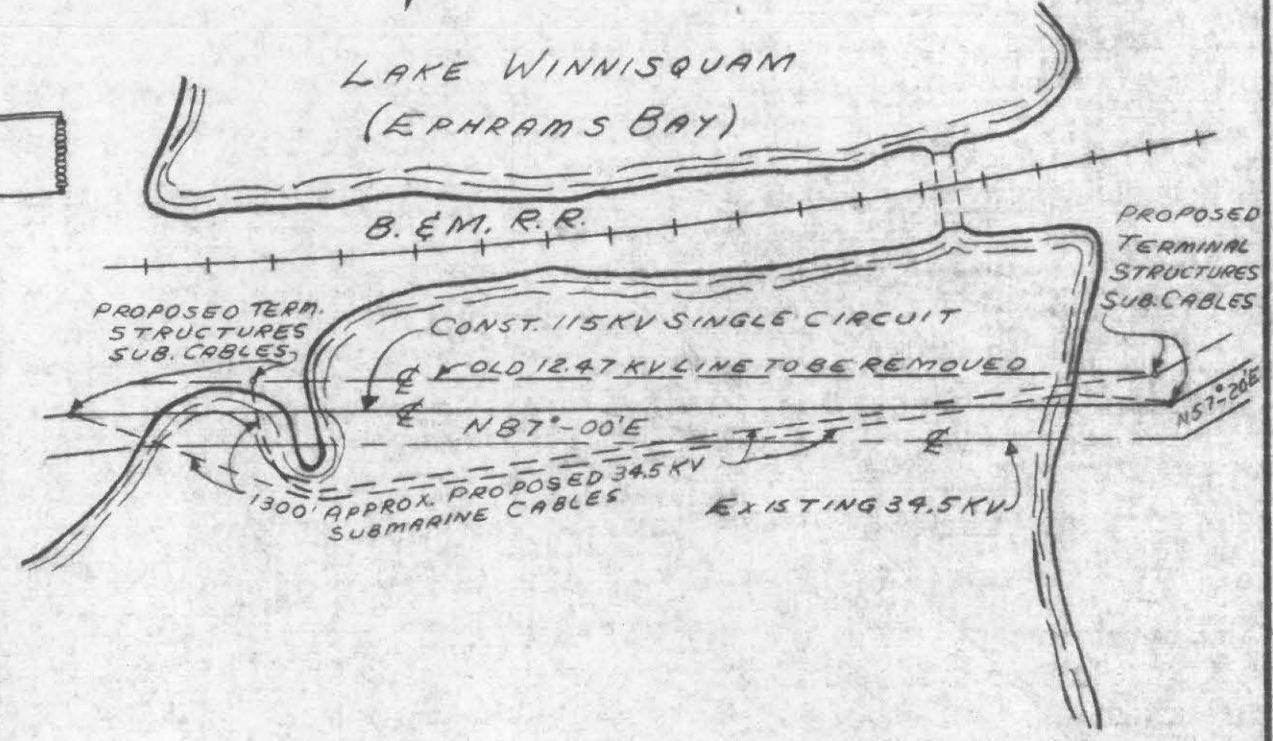
PROPOSED WATER CROSSINGS

PROPOSED WATER CROSSINGS
 LAKE WINNISQUAM
 (EPHRAMS BAY)
 BELMONT, N.H.

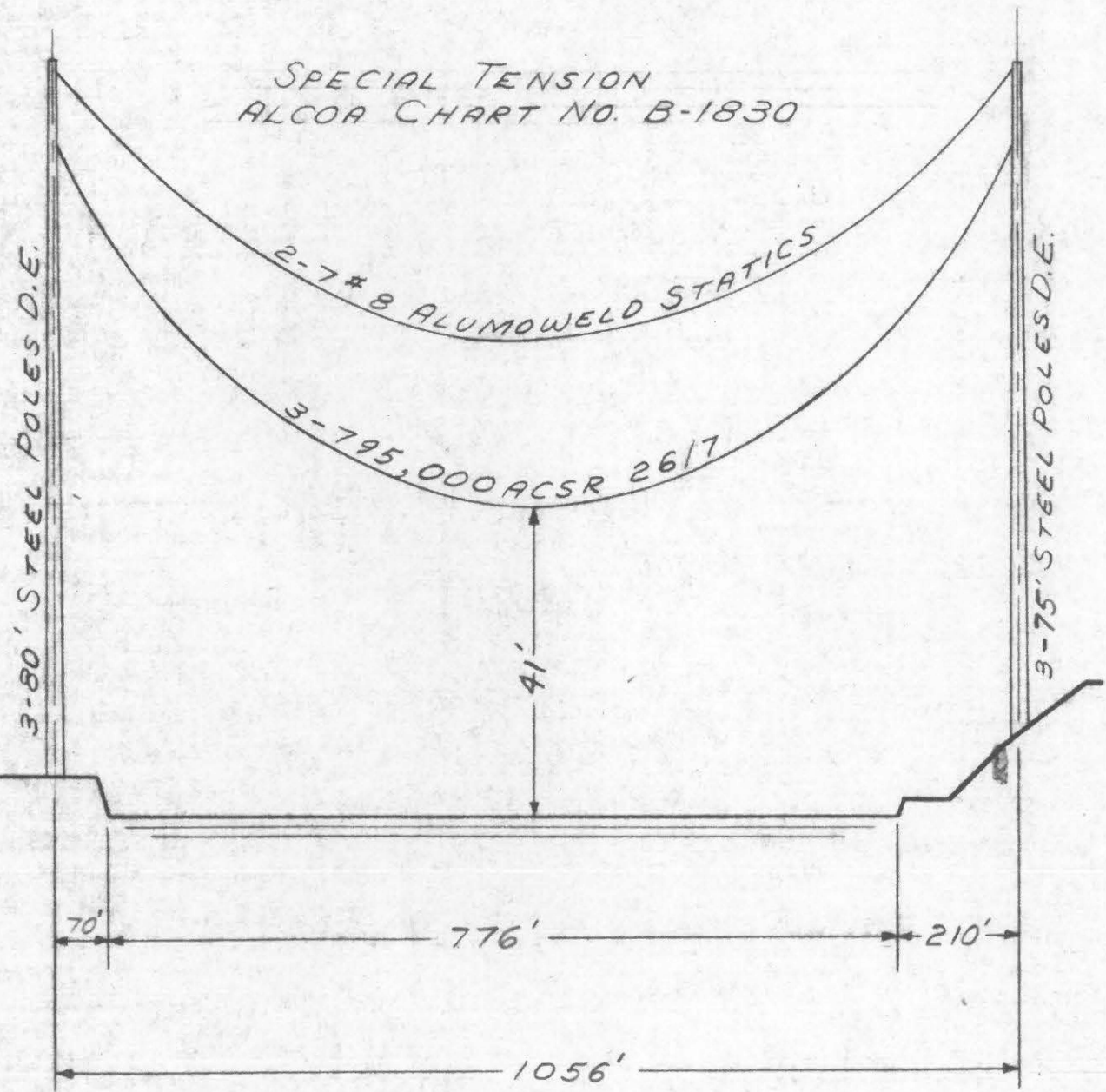
EXHIBIT D-7



LAKE WINNISQUAM
(EPHRAMS BAY)



SPECIAL TENSION
ALCOA CHART NO. B-1830



REV. #1 NOT TO SCALE

NOTE	PRELIMINARY DESIGN SUBJECT TO CHANGE
PROPOSED 115KV SINGLE CIRCUIT LINE CROSSING AND 34.5KV DOUBLE SUBMARINE CABLE CROSSING LAKE WINNISQUAM BELMONT, N.H.	
PUBLIC SERVICE CO. OF NEW HAMPSHIRE ENGINEERING DEPARTMENT	
SCALE 1/2"=20' VERT. 1/2"=200' HOR. DATE 3/1/74	
B-7649-112	

DES.	NO.	REVISION	DATE	BY
DR. ERP	1	REV. POLE HTL, SPAN & CLEARANCE	10/21/74	ERP
TR.	2			
CK.	3			
APPR.	4			
	5			
	6			

July 11, 1975

The State of New Hampshire
Public Utilities Commission
26 Pleasant Street
Concord, New Hampshire 03301

Re: Petition for Licenses for Water Crossings
of the Winnepesaukee River and Lake Winnisquam
(Ephrams Bay) Docket No. DE 75-149

To the Commission:

Public Service Company of New Hampshire recently submitted to you the above-captioned petition for licenses under RSA 371:17 to construct and maintain electric transmission line water crossings as part of the Company's planned construction of a new 115 KV line from Franklin to Laconia.

Recent field investigations associated with the design of the proposed transmission line have convinced the Company that there are several advantages to continuing to use a portion of an existing 34.5 KV line rather than remove it as represented in Exhibits D-4 and D-5 of the petition. We therefore request that the Commission permit the Company to amend the petition by substituting revised Exhibits D-4 and D-5 for the original exhibits.

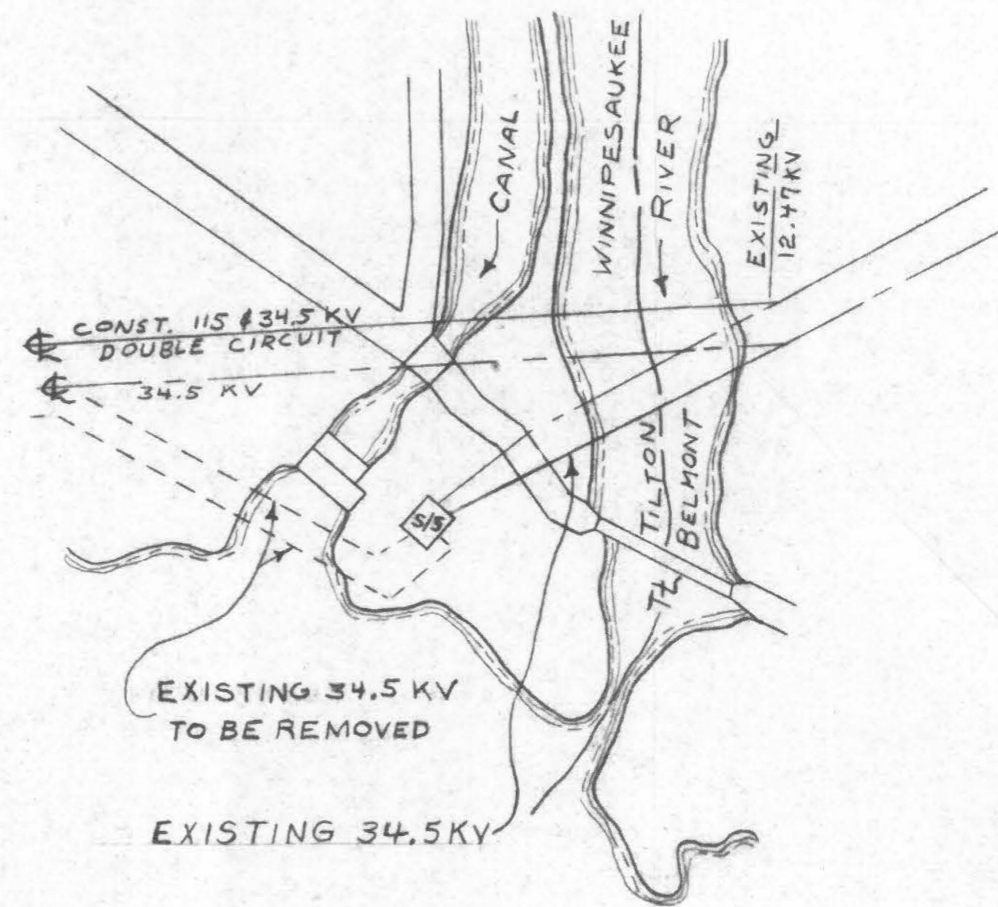
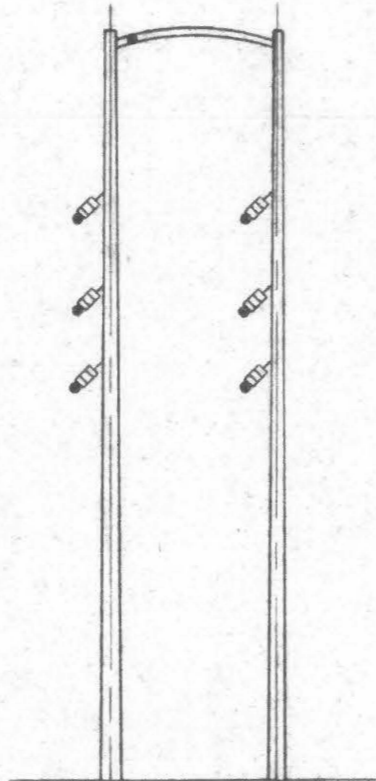
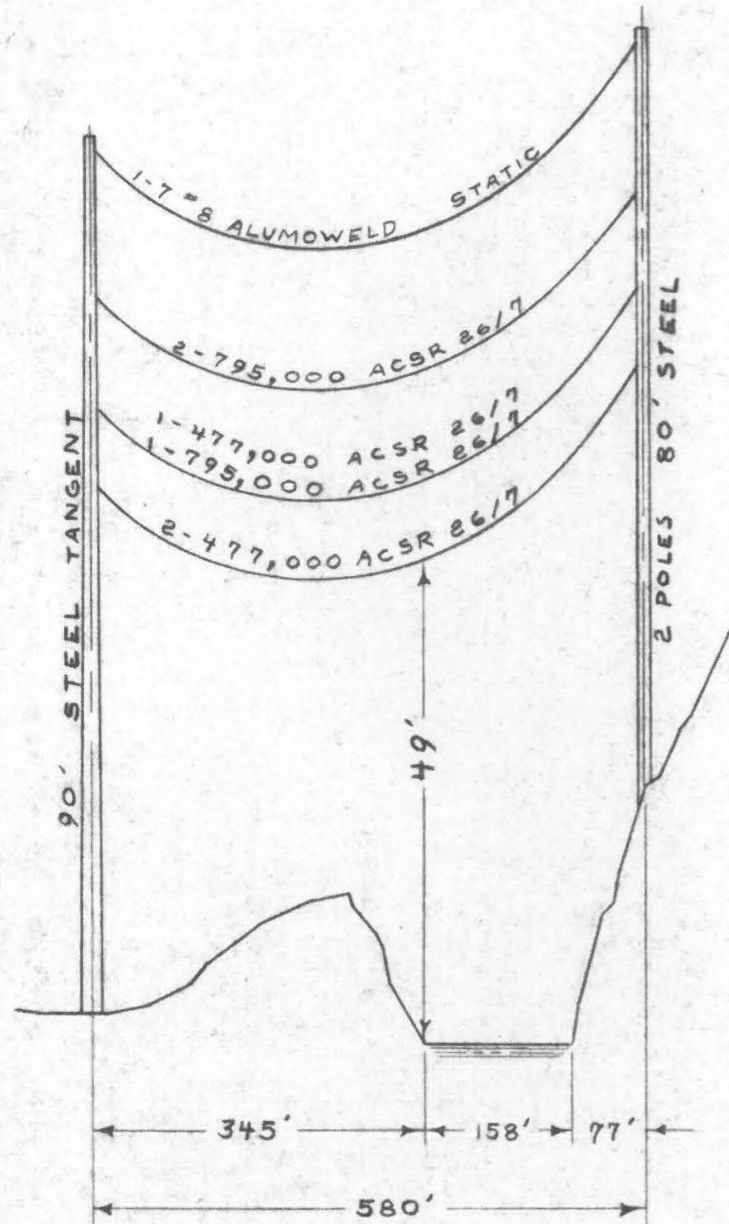
We enclose six copies each of the revised Exhibits D-4 and D-5 which show that the portion of existing 34.5 KV line crossing the Winnepesaukee River will not be removed as indicated in the original exhibits, but will instead be used as a tap from the rebuilt 34.5 KV line to the substation shown in the exhibits. The revised design will reduce the Company's construction costs and will help to reduce the profile of the transmission lines near the river by eliminating the need for several tall structures required by the original plan.

The Company is planning to petition for licenses for the existing 34.5 KV and 12.47 KV transmission line water crossings shown in Exhibits D-4 and D-5 as part of a mass water crossing license application which is presently being prepared.

Very truly yours,

Philip Ayers
Counsel

PA:LD
Encl.

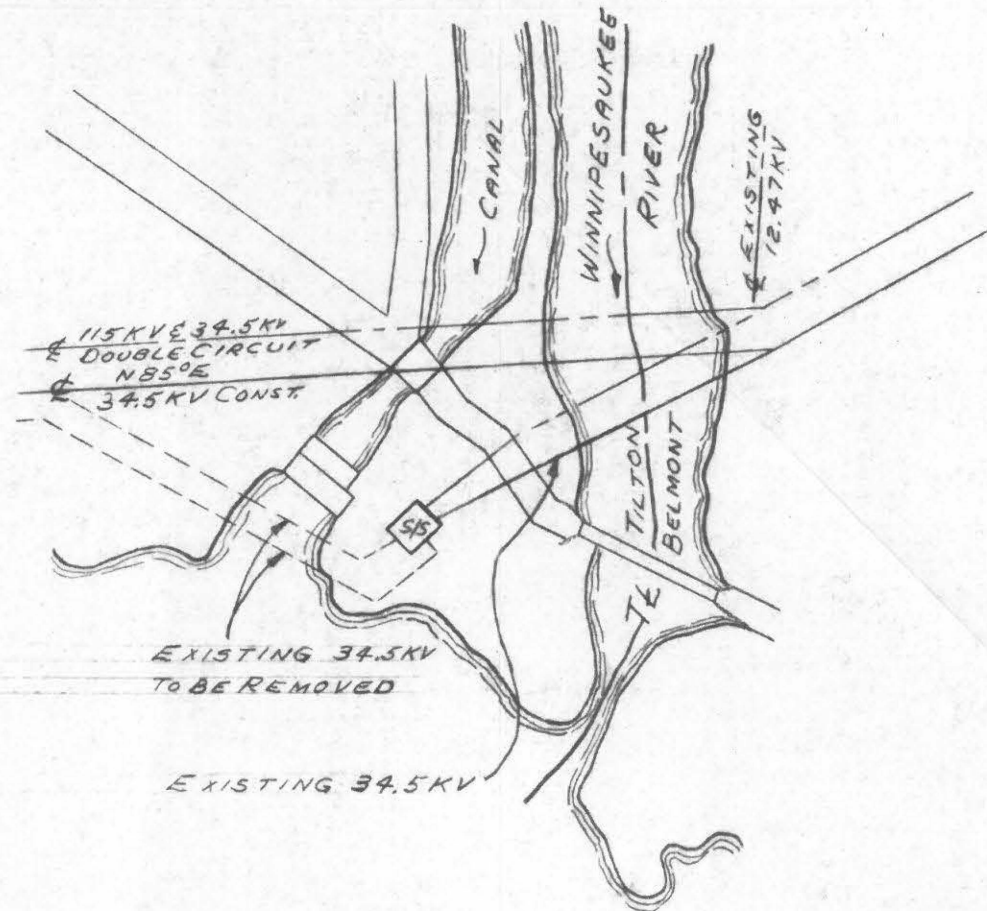
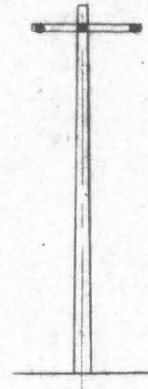
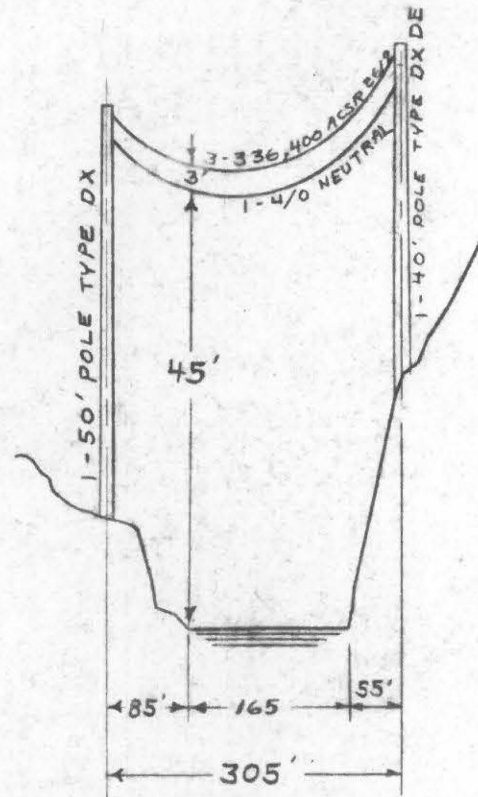


REV. #1 NOT TO SCALE

NOTE	PRELIMINARY DESIGN SUBJECT TO CHANGE
PROPOSED 115 #34.5KV DBL CKT LINE CROSSING WINNIPESAUKEE RIVER TILTON-BELMONT, NH.	
PUBLIC SERVICE CO. OF NEW HAMPSHIRE ENGINEERING DEPARTMENT	
SCALE 1"=20' VERT. 1"=200' HOR. DATE 5/29/74	
B-7649-110	

DES.	NO.	REVISION	DATE	BY
DR. MAS	1	REV. POLES RIVER DISTANCE		MAS
TR.	2	34.5KV TAP RELOCATED	7/10/75	ERP
CK.	3			
APPR.	4			
	5			
	6			

EXHIBIT D-5



NOTE PRELIMINARY DESIGN SUBJECT TO CHANGE

DES.	NO.	REVISION	DATE	BY
DR. ERP	1	REV. POLE-RIVER DISTANCE		MAS
TR.	2	34.5KV TAP RELOCATED	7/10/75	ERP
CK.	3			
APPR.	4			
	5			
	6			

PROPOSED 34.5KV CIRCUIT LINE CROSSING WINNIPESAUKEE RIVER TILTON-BELMONT, N. H.

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
ENGINEERING DEPARTMENT

SCALE 1"=20' VERT. 1"=200' HOR. DATE 5/29/74

B-7649-111