James M. Yeske, Jr., Manager,
Electric Capital Line Projects

VIA FEDEX AND ELECTRONIC MAIL

March 5, 2019

James J. Murphy, Jr.
Vice Chairman
The Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: **The United Illuminating Company's Notice of Exempt Modification Pursuant to R.C.S.A. § 16-50j-58 to Existing Energy Facility Site between Pequonnock Substation in Bridgeport and Sasco Creek Substation in Westport** ("**Notice of Exempt Modification")**

Dear Vice Chairman Murphy:

Pursuant to Regulations of Connecticut State Agencies ("R.C.S.A.") §16-50j-58, The United Illuminating Company ("UI") hereby notifies the Connecticut Siting Council (the "Council") of its intent to make exempt modifications (the "Project") to its transmission line along the Metro-North Railroad corridor ("Railroad Corridor") from Pequonnock Substation in Bridgeport to Ash Creek Substation in Fairfield interconnecting with The Connecticut Light and Power Company d//b/a Eversource Energy's ("Eversource") Sasco Creek Substation in Westport ("Facility" or "Energy Facility"). The $625 filing fees, along with 2 copies of this Notice of Exempt Modification, are enclosed herewith.

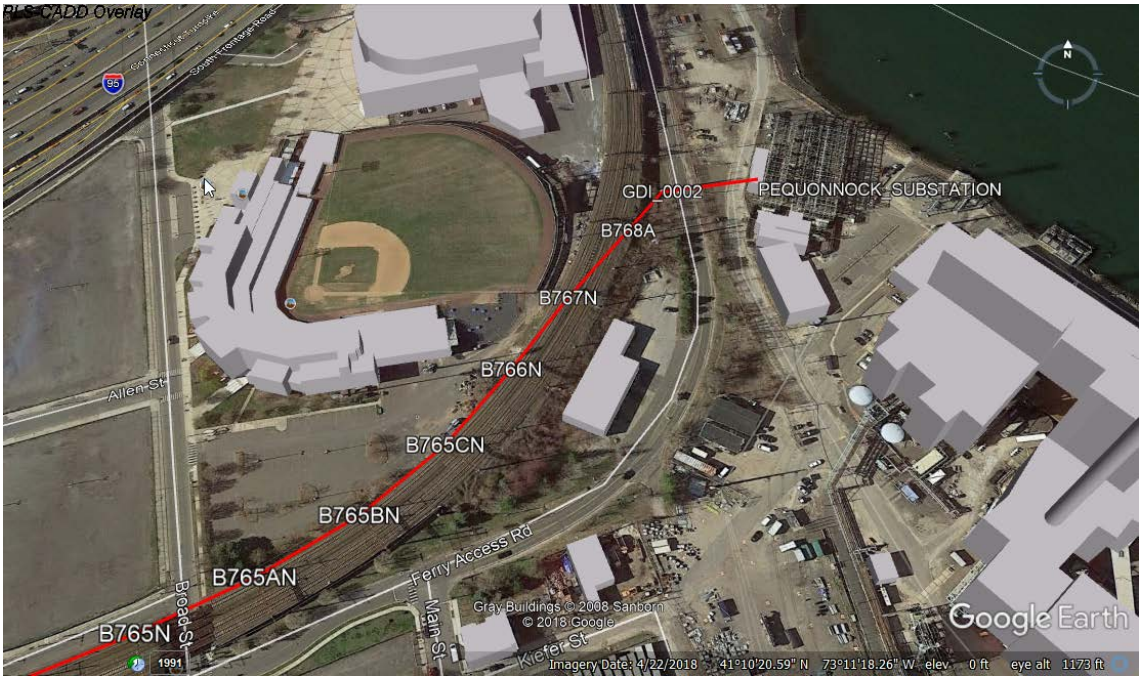
Existing Energy Facility

The Facility begins at Pequonnock Substation in the City of Bridgeport at 41°10′20"N and Λ 73°11′06"W and proceeds in a westerly direction approximately 3.75 miles along the Railroad Corridor to Ash Creek Substation at 41°09′23"N and Λ 73°14′03"W continuing westerly an additional 5.27 miles interconnecting with Eversource's Sasco Creek Substation at 41°07′27"N and Λ 73°18′29"W:

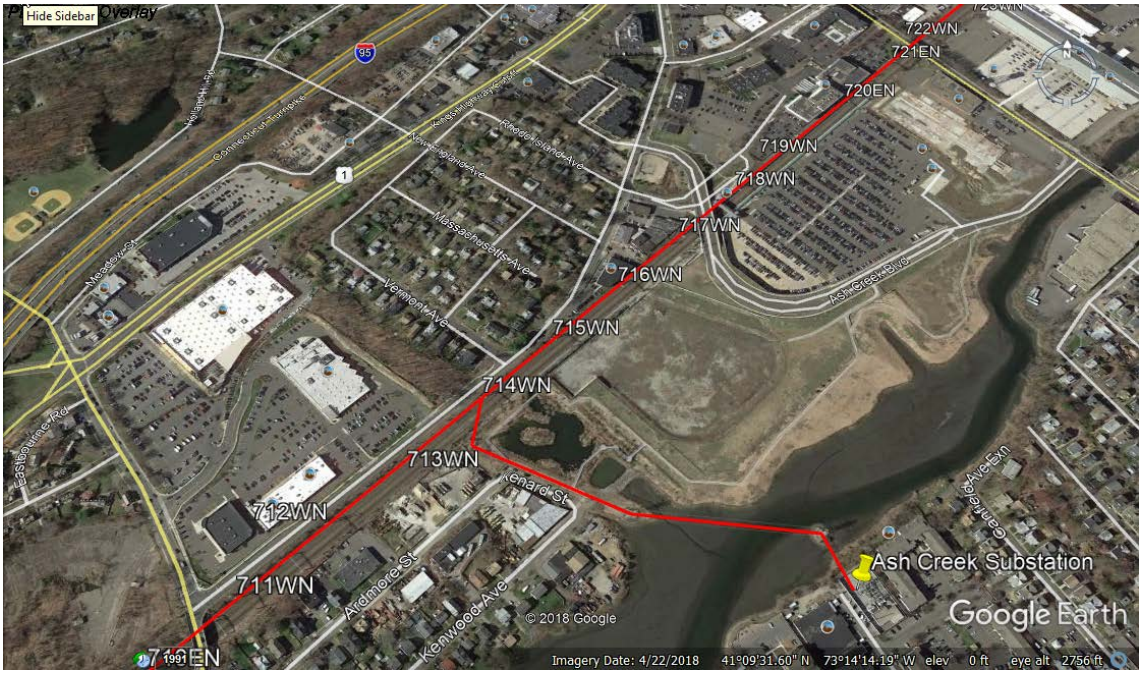
The existing Facility consists of a FOCAS Skylite 12 fiber Optical Ground Wire (OPGW) completed in 1994. This Facility provides communications and lightning protection for UI's and Eversource's 115 kV transmission lines and are installed on bonnet extensions on top of the Metro-North catenary system from Pequonnock Substation to Metro-North Catenary # 737 (41°10'20.58"N and Λ 73°11'6.62"W). At this point the Facility is erected on single circuit monopole structures installed within the Railroad Corridor continuing westerly to Eversource's Sasco Creek Substation.

180 Marsh Hill Road, Orange, CT 06477
Telephone 888.UITENYR, Fax 203.926.4664
www.uinet.com

Aerial Photos of the Facilities



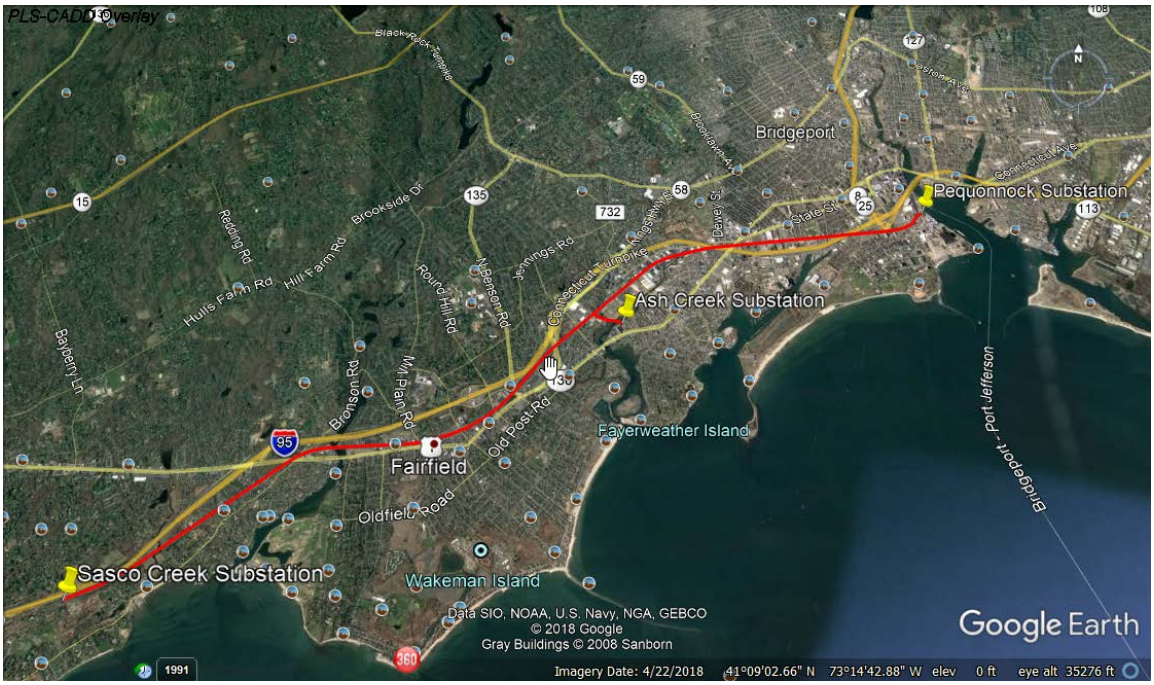
UI's Pequonnock Substation - Google Earth 2/23/19



UI's Ash Creek Substation - Google Earth 2/23/19

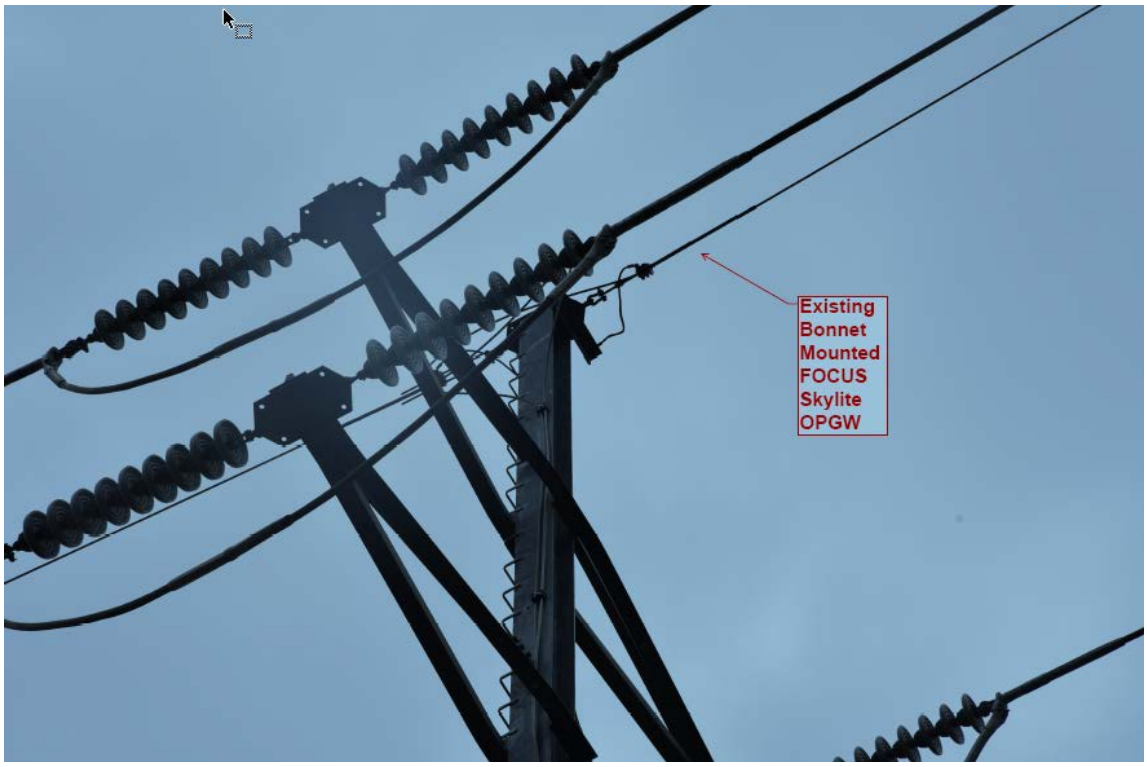
Eversource's Sasco Creek Substation - Google Earth 2/23/19

GIS Photo of the Facility



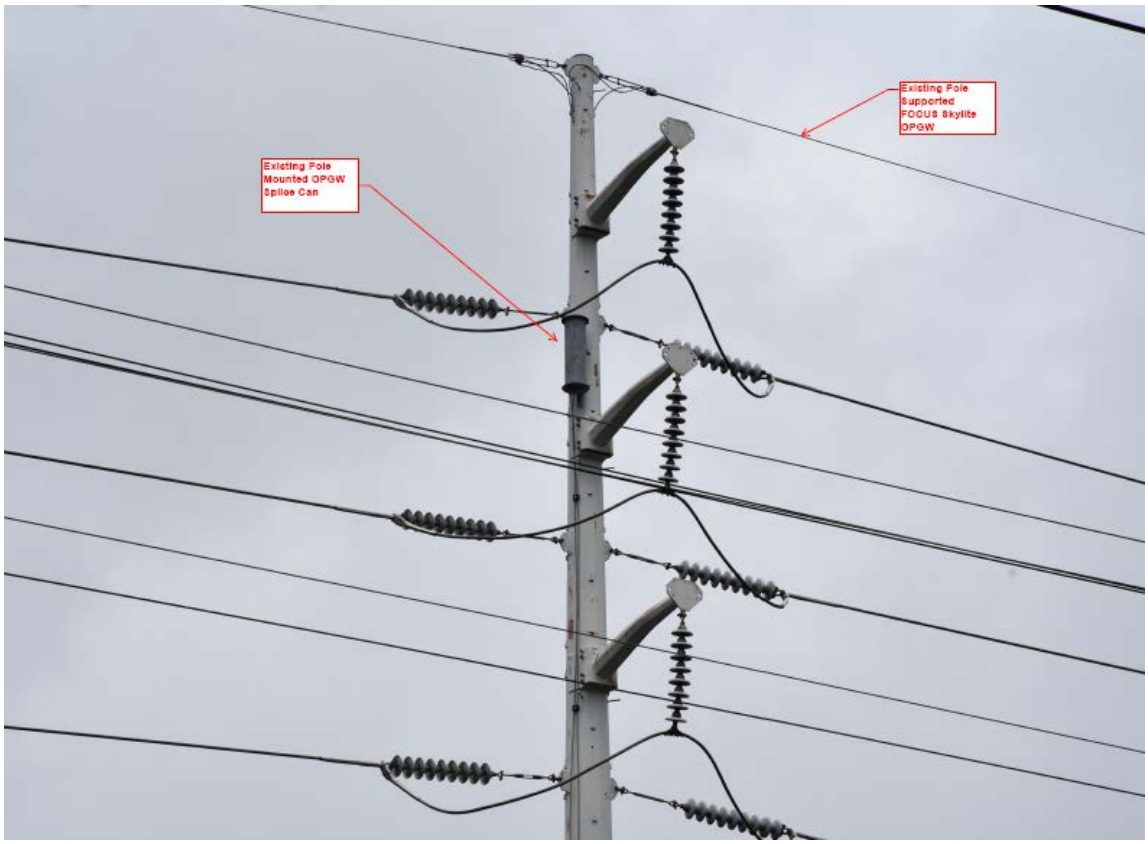
1130/1430 Fiber Route Pequonnock-Ash Creek-Sasco Creek - Google Earth 2/23/19

Existing Site and Equipment



Typical Bonnet Mounted OPGW & Splice Can L753 – August 5, 2019 Inspection

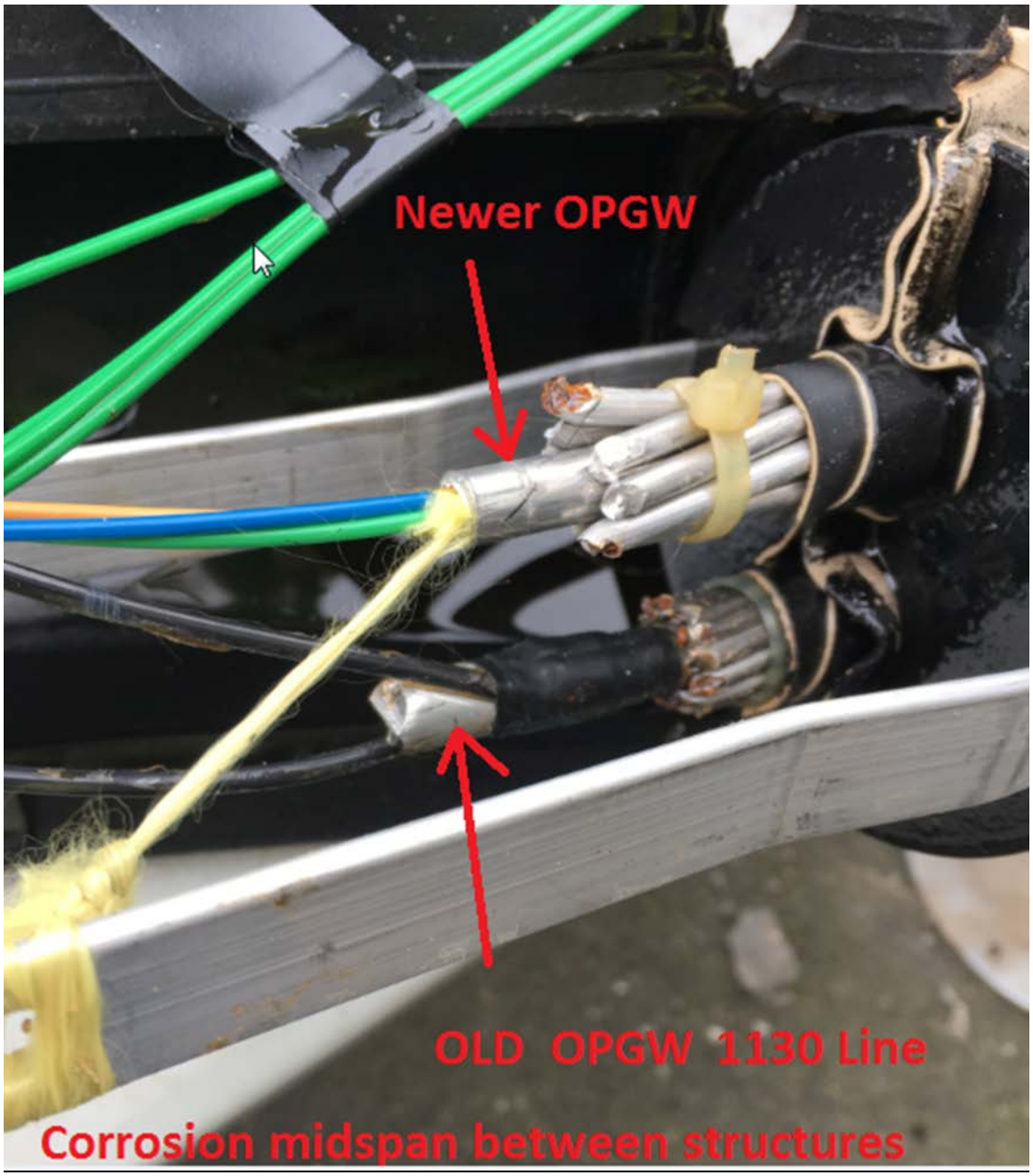
Typical Bonnet Mounted OPGW & Splice Can L753 – August 5, 2019 Inspection



Typical Pole Mounted OPGW & Splice Can L704N – August 5, 2018 Inspection

Proposed Modifications

UI is proposing to replace the existing FOCAS Skylite 12 OPGW (See Attachment B for existing OPGW Cut Sheet) with a new Prysmian 64K78s 48 fiber OPGW (See Attachment C for proposed OPGW Cut Sheet). This replacement is due to fiber communication issues associated with loss of signal, fiber breaks, lack of spare fibers and intermittent signal failure. This OPGW is critical for the reliable operation of UI's and Eversource's transmission system. These fibers are used to monitor and control the 1130, 1430, and 91001 Lines primary relaying, UI's and Eversource's Jungle MUX, UI's Corporate Network, UI's Supervisory Control and Data Acquisition Network, Advanced Metering Infrastructure communications, and Ash Creek Substation's telecommunications system. As the Project relates solely to improving system maintenance, the modifications will not impact the existing Facility's structural capability or impact electric and magnetic fields or noise levels.



OPGW Inspection – December 8, 2018

Compliance with R.C.S.A. § 16-50j-57(b)

Pursuant to R.C.S.A. §16-50j-57(b), the Project does not constitute a modification to an existing facility that may have a substantial adverse environmental effect and are exempt from the requirement to obtain a certificate pursuant to Section 16-50k of the Connecticut General Statutes. Specifically, consistent with R.C.S.A. § 16-50j-57(b), the proposed changes to the existing site do not:

(A) Extend the boundaries of the site beyond the existing right-of-way;
(B) Increase the height of existing associated equipment;
(C) Increase noise levels along the right-of-way by six decibels or more, or to levels that exceed state and local criteria;
(D) Impact electric and magnetic field levels along the right-of-way in a manner that is inconsistent with the Council's Best Management practices for Electric and Magnetic Fields;
(E) Cause a significant adverse change or alteration in the physical or environmental characteristics of the right-of-way; or
(F) Impair the structural integrity of the facility, as determined in a certification provided by a professional engineer licensed in Connecticut, where applicable.

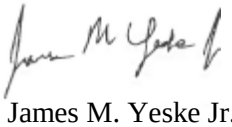
The Project would not have a substantial adverse environmental effect or cause a significant adverse change or alteration in the physical or environmental characteristics because:

(A) The Project would be located within the transmission line's existing right-of-way; the right-of-way area would not be expanded;
(B) The equipment would be no taller than existing equipment within the right-of-way;
(C) There would be no change to the existing television or radio interference resulting from the modifications of the transmission line;
(D) Sound-pressure levels at all points along properties lines would continue to meet state regulations set out in R.C.S.A. §§ 22a-69-1 et seq.;
(E) The project work would not affect water resource areas.
(F) UI's review of the Connecticut Department of Energy and Environmental Protection's Natural Diversity Data Base did not identify any state-listed endangered, threatened, or special concern species in the vicinity of the Project; and
(G) Electric and Magnetic field levels along the transmission line will not change as a result of the Project.

UI intends to initiate the Project on or after the Council's acknowledgement that the proposed activities are exempt.

Please do not hesitate to contact me at 203-988-9746 should you have any questions regarding this notice.

Very truly yours,



James M. Yeske Jr.
Manager – Electric Capital Line Projects
The United Illuminating Company

cc: The Honorable Joseph P. Ganim Mayor, City of Bridgeport
The Honorable Mike Tetreau, First Selectman, Town of Fairfield
The Honorable Jim Marpe, First Selectman, Town of Westport
Kathleen M. Shanley, Manager – Transmission Siting, Eversource Energy
Christopher Soderman, Engineering Manager, Eversource Energy
Amy Hicks, The United Illuminating Company, Public Outreach

Enclosures

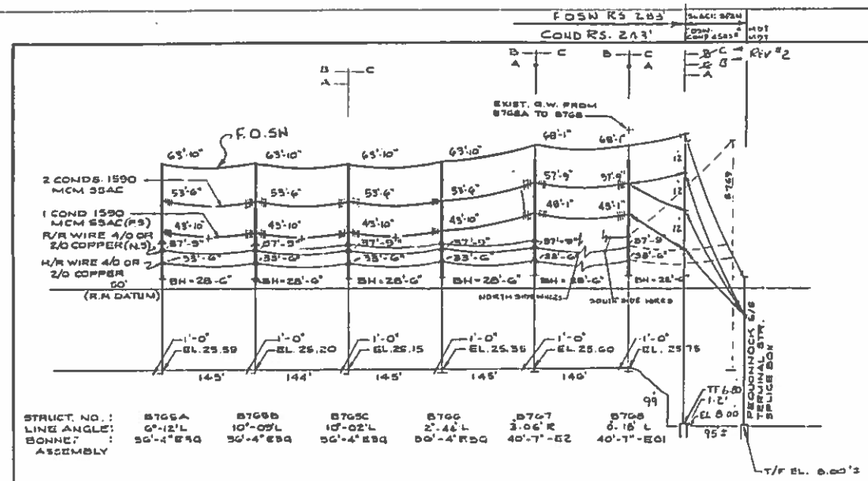
Attachment A – Design Drawings

Attachment B – Existing FOCUS Skylite OPGW Cut Sheet

Attachment C – Proposed Prysmian OPGW Cut Sheet

Attachment D - Structure Load Comparison

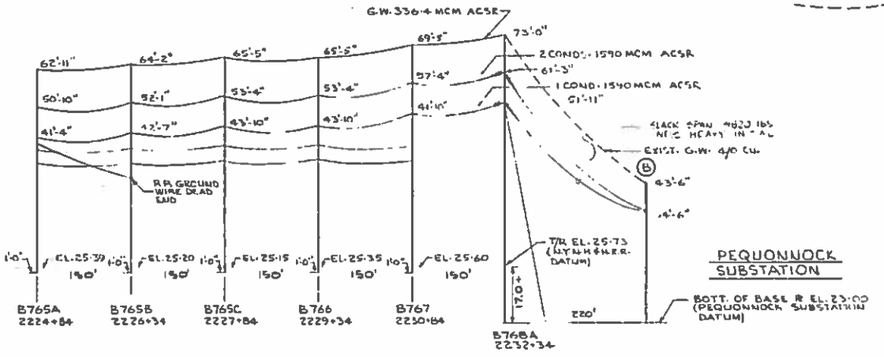
Attachment A



NORTH PROFILE

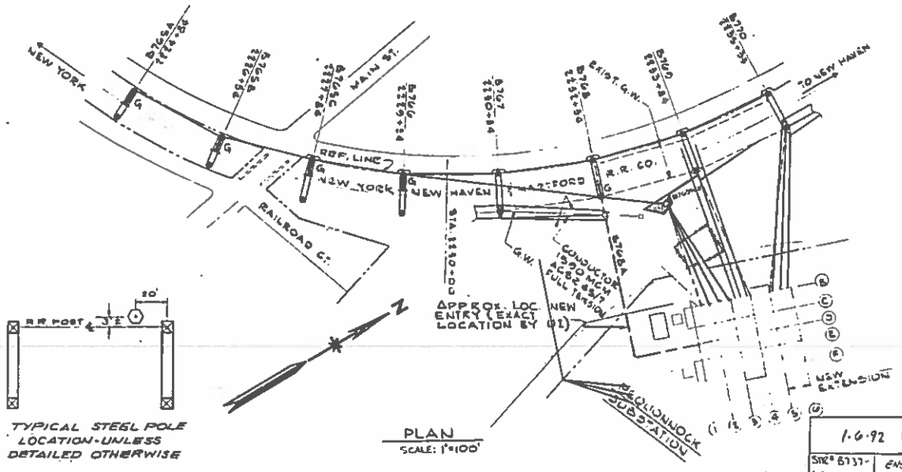
SCALE: HORIZ: 1"=100'
VERT: 1"=20'

769 WS
90-VD(L)T90 (769)



SOUTH PROFILE

SCALE: HORIZ. 1"=100'
VERT. 1"=20'



UI LEGEND (SHEETS 17-29):

- INTERCONNECTED CENTERLINE OF NORTH CIRCUIT TRANSMISSION LINE BONNETS AND SUPPORT STRUCTURE.
- RAILROAD PROPERTY LINE
- RAILROAD CATENARY SUPPORT BRIDGE STRUCTURE
- LATTICE TOWER
- STEEL-POLE STRUCTURE
- LACED CHANNEL STRUCTURE
- SHIELD WIRE STRAIN ASSEMBLY DWSA - (OTHERWISE SUSPENSION DWSA)
- CONDUCTOR STRAIN ASSEMBLY CDA - (OTHER SUSPENSION CSA)
- RAILROAD WIRE STRAIN ASSEMBLY - (OTHERWISE PIN INSULATOR)
- RAILROAD CATENARY SUPPORT BRIDGE STRUCTURE WITH NORTH CIRCUIT BRIDGE GUY
- RAILROAD WIRE NOT ATTACHED TO BONNET/STEEL POLE
- ELEVATION OF TOP OF RAILROAD BRIDGE FOUNDATION AT SAME ELEVATION AS TOP OF RAIL
- ELEVATION OF TOP OF RAILROAD BRIDGE FOUNDATION 6" BELOW ELEVATION OF TOP OF RAIL
- ELEVATION OF TOP OF RAILROAD BRIDGE FOUNDATION 6" ABOVE ELEVATION OF TOP OF RAIL
- INDICATES PHASING OF CONDUCTORS FACING INCREASING STRUCTURE NUMBERS

POSITIONS FOR RAILROAD ARMS AND WIRE(S) CONSIDERED IN DESIGN; NOT INSTALLED DURING 1993 CONSTRUCTION.

UI SECTION GENERAL DATA (SHEETS 17-29)

SOUTH CIRCUIT

SHIELD WIRE: 336.4 MCM ACSR
CONDUCTOR: 1590 MCM ACSR

WIRE TENSIONS FOR 300 FT. RULING SPAN AT NESC HEAVY INITIAL:

SHIELD WIRE:	3750 LBS
CONDUCTOR:	8903 LBS
RAILROAD WIRES:	2/0 COPPER - 2340 LBS
	4/0 COPPER - 3467 LBS

CONDUCTOR SHOWN FOR FINAL SAG AT 284°F
SHIELD WIRE SHOWN FOR FINAL SAG AT 60°F
RAILROAD WIRE SHOWN FOR FINAL SAG AT 60°F

NORTH CIRCUIT

SHIELD WIRE: 12 NO. 8 ALUMOWELD 12 OPTICAL FIBER CORE (NON-DISPERSION SHIFTED)
CONDUCTOR: 1590 MCM 45/7 SSAC

WIRE TENSIONS FOR 300 FT. RULING SPAN AT NESC HEAVY INITIAL:

SHIELD WIRE:	3800 LBS
CONDUCTOR:	8460 LBS
RAILROAD WIRES:	2/0 COPPER - 2560 LBS
	4/0 COPPER - 3467 LBS

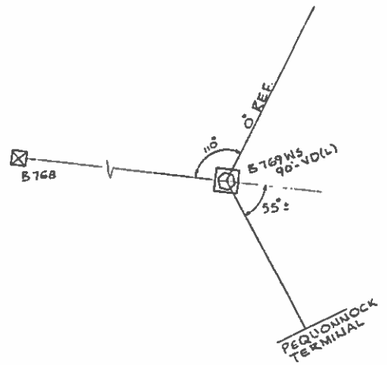
CONDUCTOR SHOWN FOR FINAL SAG AT 60°F; 284°F SHOWN BY (+)
SHIELD WIRE SHOWN FOR FINAL SAG AT 60°F
RAILROAD WIRE SHOWN FOR FINAL SAG AT 60°F

UI SECTION NORTH PROFILE GENERAL NOTES
(APPLY TO UI SECTION SHEETS 17-29; SEE SHEET 1 FOR NOTES APPLYING TO CLSP SECTION SHEETS 1-16)

1. ALL ELEVATIONS REFER TO NEW YORK, NEW HAVEN AND HARTFORD RAILROAD ELECTRIFICATION DATUM.
2. WSCAGS DATUM EQUAL RAILROAD DATUM PLUS 1.76 FEET.
3. ALL STATIONING REFERS TO RAILROAD NOMENCLATURE; SPAN LENGTHS ON PROFILES ARE SURVEY ESTABLISHED POST-TO-POST DIMENSIONS OR CALCULATED POST-TO-BONNET AND STEEL POLE TO STEEL POLE DIMENSIONS AND MAY NOT CORRESPOND TO RAILROAD STATIONING.
4. LINE ANGLES ARE RIGHT OR LEFT FACING EAST TO NEW HAVEN AND REFER TO THE ALIGNMENT OF THE NORTH CIRCUIT BONNETS AND STRUCTURES AS ESTABLISHED BY SURVEY OR CALCULATION.
5. STRUCTURE NOMENCLATURE:
   - BRXX RAILROAD CATENARY SUPPORT BRIDGE STRUCTURE
   - LPXXX (E OR W) (N OR S) LATTICE TOWER, OR LACED CHANNEL; EAST OR WEST OF BRIDGE STRUCTURE BRXX ON NORTH OR SOUTH OF RAILROAD.
   - SXX (E OR W) N.
6. DIMENSIONS SHOWN AT OVERHEAD SHIELD WIRE, TRANSMISSION LINE CONDUCTORS AND RAILROAD FEEDER WIRES ARE HEIGHTS ABOVE TOP OF RAIL.
7. BH/LCH/LTH DESIGNATES DISTANCE FROM TOP OF RAIL TO TOP OF RAILROAD CATENARY SUPPORT BRIDGE/LACED CHANNEL/LATTICE TOWER.
8. ELEVATION OF TOP OF RAIL AND FOUNDATION FOR EXISTING RAILROAD STRUCTURES IS TAKEN FROM NEW YORK, NEW HAVEN AND HARTFORD RAILROAD DRAWINGS 721 TO 729.
9. HEIGHTS OF RAILROAD WIRES ATTACHED TO NEW BONNETS ARE 5'-0" AND 9'-3" ABOVE TOP OF BRIDGE FOR RAILROAD CATENARY SUPPORT STRUCTURES.
10. HEIGHTS OF RAILROAD WIRES NOT ATTACHED TO NEW BONNETS ARE BASED ON FIELD SURVEY DATA AND TOP OF FOUNDATION AS DETERMINED IN NOTE 11.
11. LINE CONSTRUCTION PER NUSCO SPECIFICATION NO. 791-10.
12. PROJECT DRAWINGS - UI PORTION:

UI NUMBER	NU NUMBER	
01191-10000	1-2	KEY MAP
01191-10001	17-29	PLAN & PROFILE
01191-15000		DEVELOPMENT & MANAGEMENT PLAN
01191-60002		FOUNDATION DRAWINGS-UI
01191-50002		STEEL POLE DWGS-UI
01191-78000	3	BONNET...SCHED TP514EN
01191-44000	3	BONNET ASSEMB A3-E4
01191-44001	3	BONNET BASE
01191-44002	3	BONNET COLUMNS
01191-44003	3	CROSSARMS
01191-44004		GUY STRAND GE3
01191-44011		LACED CHANNEL TP665E-TP707W
01191-44020		MODIF FNDS RETAINING WALL
01191-17035-21-3		TOWER EXT 756B-756W

13. SURVEY ANGLES NOTED AT THE TRANSMISSION STRUCTURES WERE MEASURED FROM THE CENTER OF THE STRUCTURES STAKED FOR CONSTRUCTION. CONDUCTOR ANGLES MAY BE GREATER OR LESS DEPENDING UPON HOW THEIR POSITIONS CHANGE FROM STRUCTURE TO STRUCTURE.



No	Date	Revision	By	Chkd	Engr.	Supv
5	7/25/97	MINOR REVISIONS PER BILL FAORO	L.S.T.	B.F.	B.F.	
4	2/1/96	RENUMBER DRAWING	L.S.T.			
3	5/17/94	AS BUILT	TVG	WTS	DEH	
2	2/17/93	REVISED PHASING AT STR# 769 WS	TVG		DEH	
1	6/6/92	ISSUED FOR CONSTRUCTION	TVG		DEH	**
0	10/30/91	ISSUED FOR BID	MRK	TVG	DEH	

1.6.92 MAIN 1803

STR# B737-#B768 | ENGR. WHI | SUPV. DEC

UI United Illuminating
an investor-owned electric light and power company

Drawn By MRK | Design Engr. App. DEH
Checked By TVG | Design Supv. App.

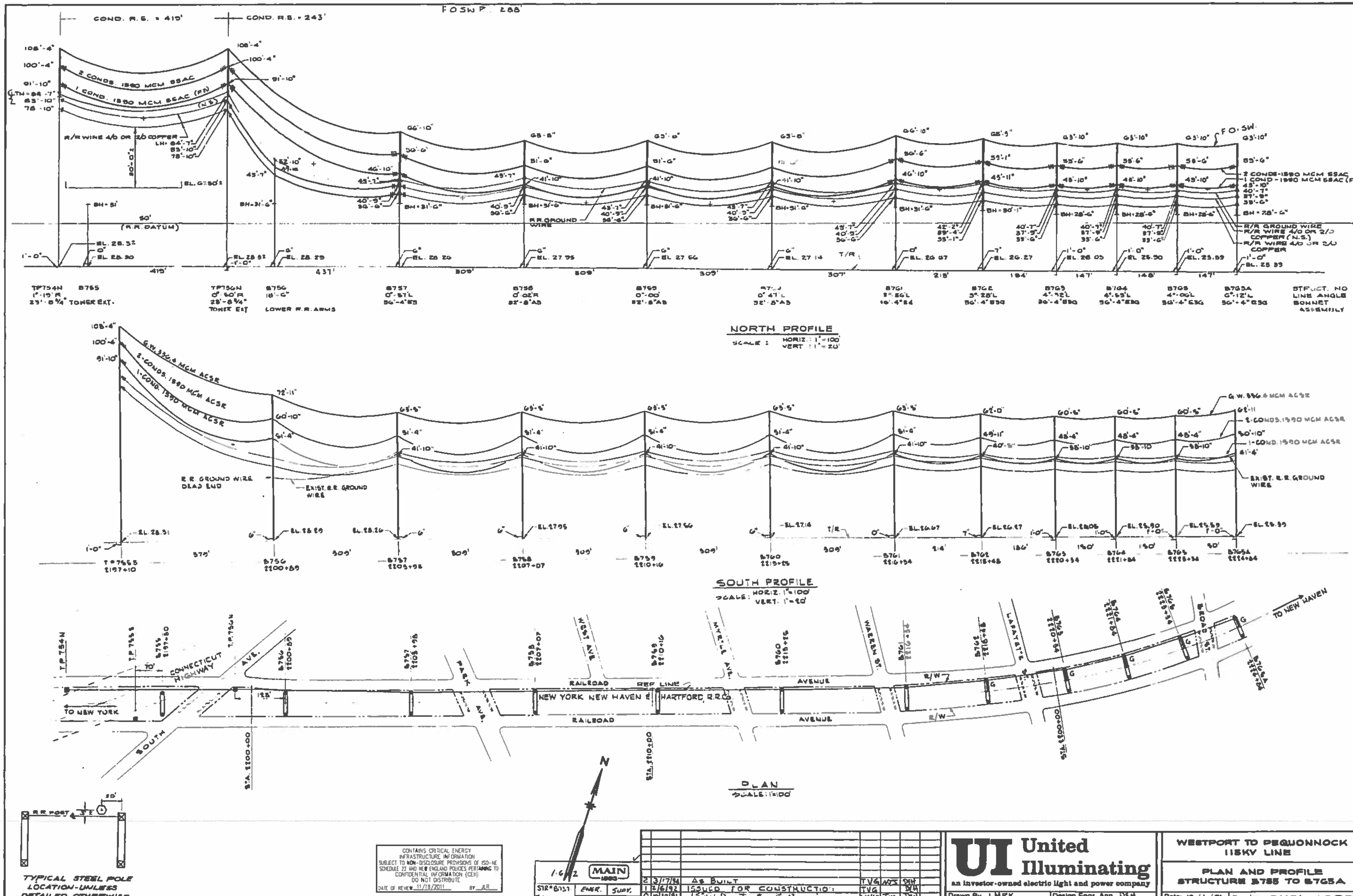
WESTPORT TO PEQUONNOCK 115 KV LINE

PLAN AND PROFILE STRUCTURE B765A TO B768

Date: 10/1/91 | Drawing Number 24213-101
Scale: AS NOTED

FORMERLY 01191-10001 - SH. 30 OF 30

SEQ# 56722



CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY AB

MAIN 1993

No	Date	Revision	By	Chkd	Engr	Supv.
2	3/7/94	As Built	TVG		DEH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DEH	
0	10/30/91	ISSUED F...				

STR# B757, B758 — ENGR. WMJ — SUPV. PCE

UI United Illuminating
an investor-owned electric light and power company

Drawn By LMEK — Design Engr. App. DEH
Checked By TVG — Design Supv. App.

WESTPORT TO PEQUONNOCK 115KV LINE

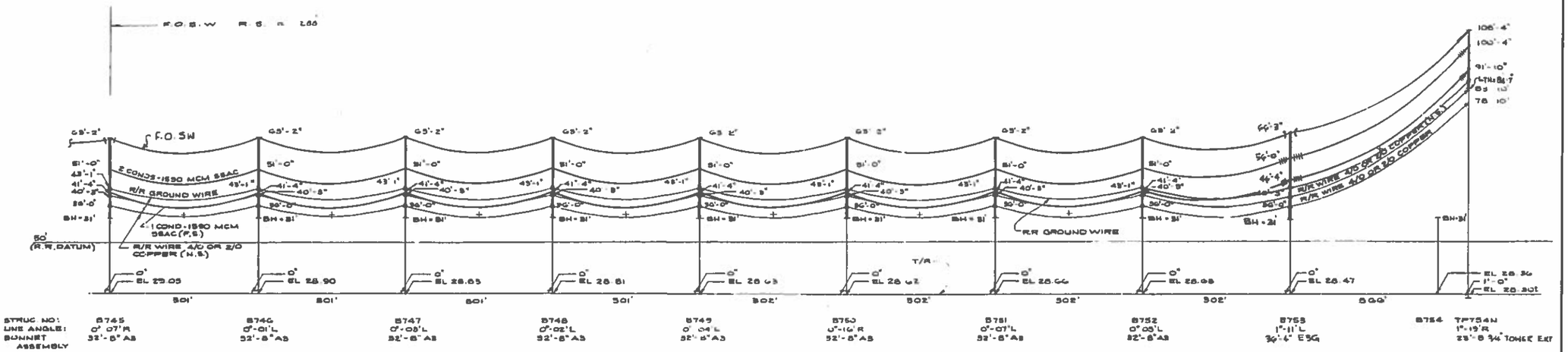
PLAN AND PROFILE STRUCTURE B755 TO B765A

Date: 10/1/91 — Scale: AS NOTED — Drawing Number 01191-10001

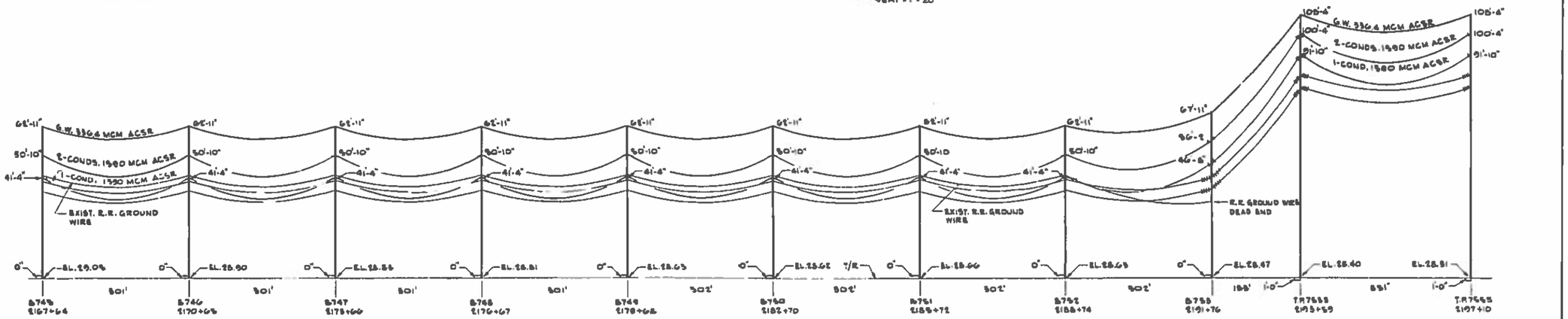
SHEET 29 OF 30

SEQ# 56721

COND Ks 317

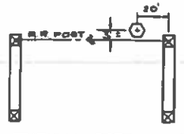


NORTH PROFILE
SCALE: HORIZ. 1"=100' VERT. 1"=20'



SOUTH PROFILE
SCALE: HORIZ. 1"=100' VERT. 1"=20'

PLAN
SCALE: 1"=100'



TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/16/2011 BY JLR

1.4.92 MAIN 1993
STR# S745 S746
ENGR. NMJ SUPV. PER.

No	Date	Revision	By	Chkd	Engr.	Supv.
3	2/1/95	RENUMBER DRAWING	S.T.			
2	3/17/94	AS BUILT	TVG	ACT	DEM	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DEM	
0	10/30/91	ISSUED FOR BID	MRK	TVG	DEM	

UI United Illuminating
an investor-owned electric light and power company

Drawn By LURK Design Engr. App. KEH
Checked By TVG Design Supv. App.

WESTPORT TO PEQUONNOCK 115KV LINE

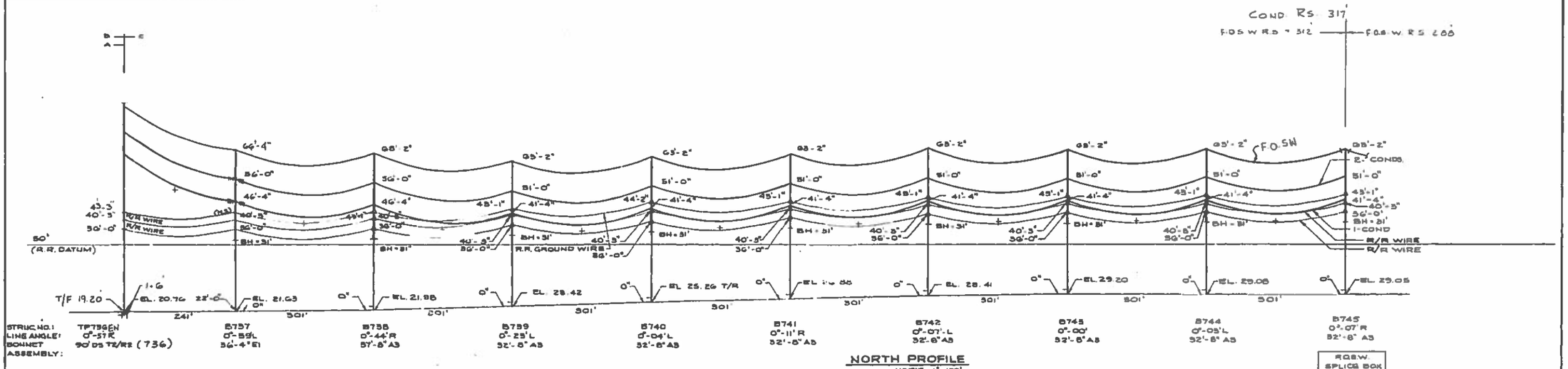
PLAN AND PROFILE STRUCTURE S745 TO S754

Date: 10/1/91 Drawing Number 24213-103
Scale: AS NOTED

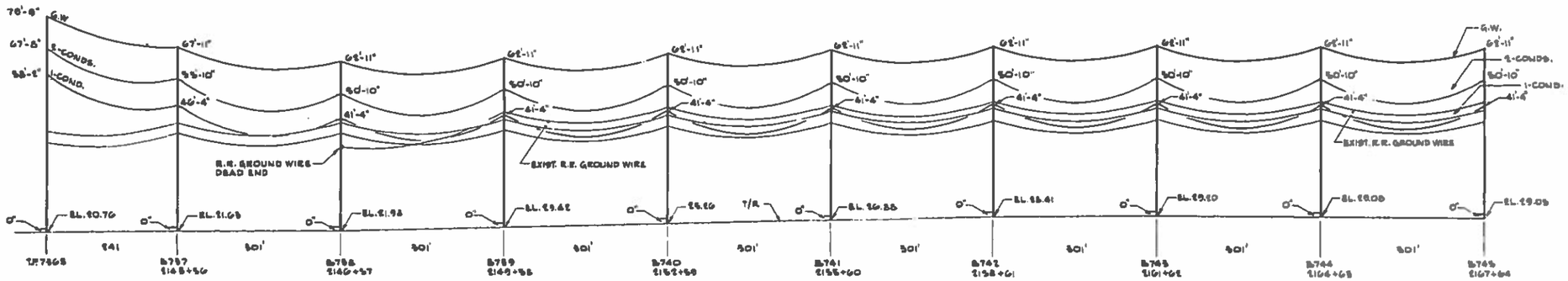
FORMERLY 01191-10001 - SH. 28 OF 30

SEQ# 56720

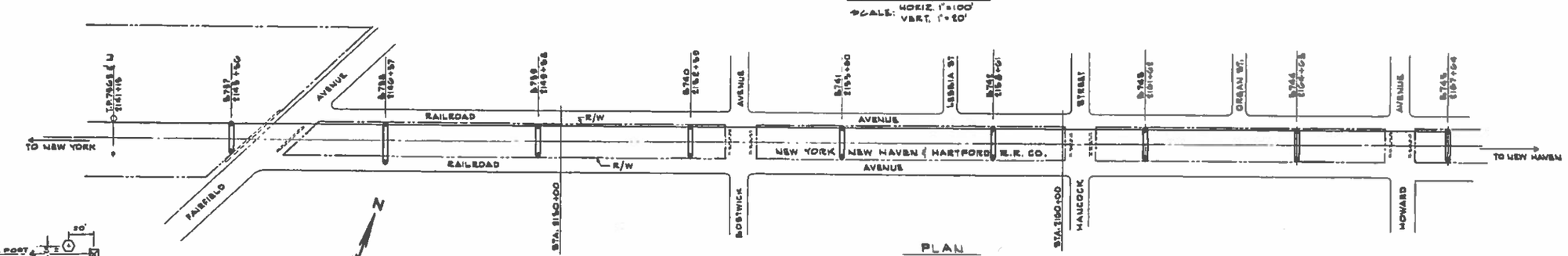
FORM 939



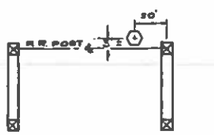
NORTH PROFILE
SCALE: HORIZ. 1"=100' VERT. 1"=20'



SOUTH PROFILE
SCALE: HORIZ. 1"=100' VERT. 1"=20'



PLAN
SCALE: 1"=100'



TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII) DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY JLR

1.6.92 MAIN 1883 ENGR. SUPV. WHJ PEL

No	Date	Revision	By	Chkd	Engr.	Supv.
3	2/1/96	REMASTER DRAWING	LST			
2	3/17/94	AS BUILT	TVG	AAS	VEH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DEN	
0	10/10/91	ISSUED FOR BID	LMEK	TVG	VEH	

UI United Illuminating
an investor-owned electric light and power company

Drawn By LMEK Design Engr App. VEH
Checked By TVG Design Engr App.

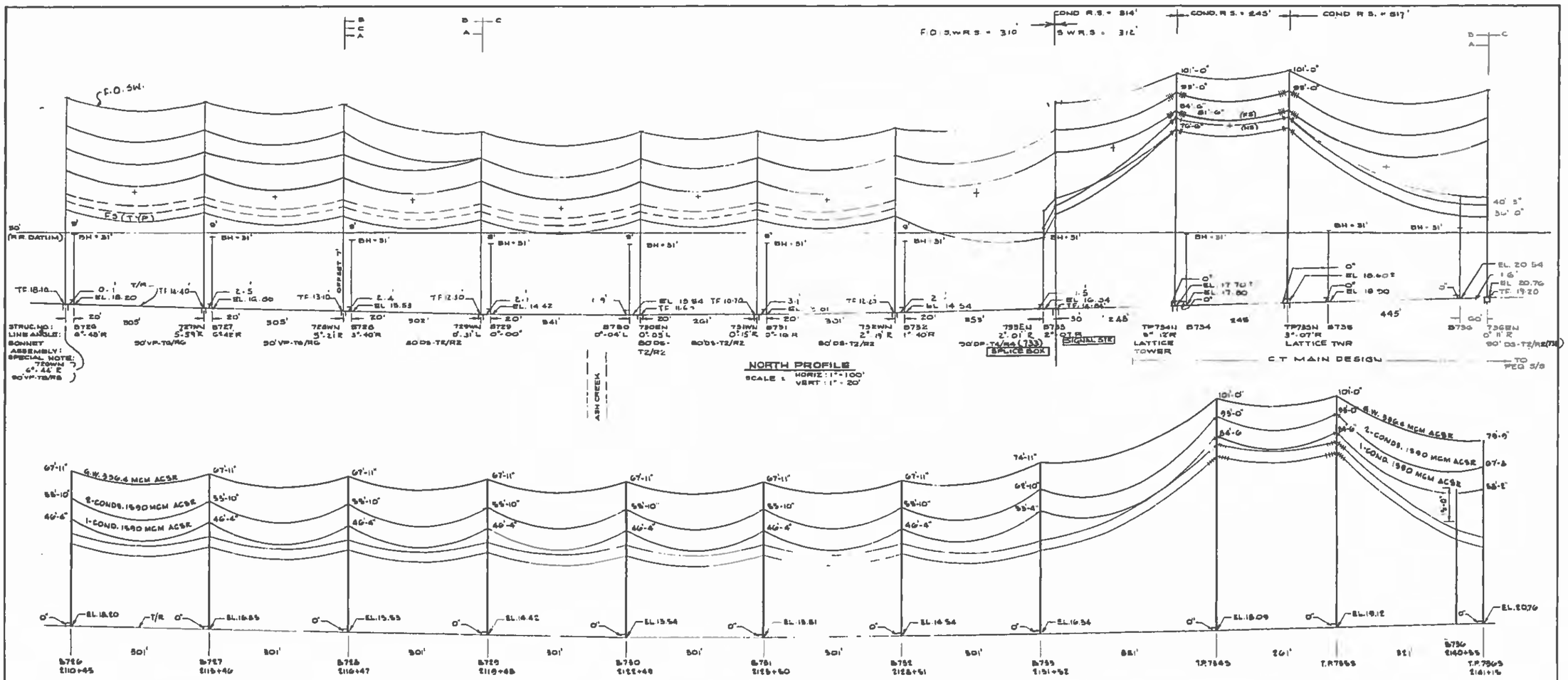
WESTPORT TO PEQUONNOCK 115KV LINE
PLAN AND PROFILE STRUCTURE B737 TO B747

Date: 10/1/91 Drawing Number 24213-104
Scale: AS NOTED

SBQ# 56719

FORMERLY 01191-10001 - SH. 27 OF 30

FORM 839



CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY AR

FORMERLY 01191-10001 - SH 26 OF 30

1-6-92 MAIN

SUB @ TP734N @ TP735N | ENGR. WMH | SURV. PEG

No	Date	Revision	By	Chkd	Engr. Supv.
3	7/1/04	REMARKER DRAWING	LST		
2	3/17/94	AS BUILT	TVG	MDC	DEH
1	12/6/93	ISSUED FOR CONSTRUCTION	TVG		DEH
0	10/6/93	ISSUED FOR BID	MEK	TVG	DEH

UI United Illuminating
an investor-owned electric light and power company

Drawn By LMIRK | Design Engr App. DEH
Checked By TVG | Design Supv. App.

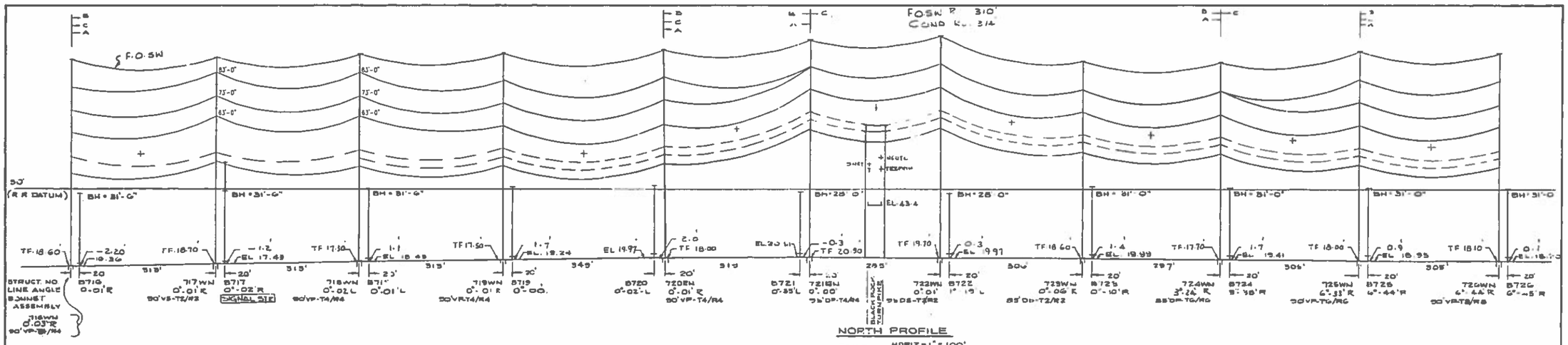
WESTPORT TO PEQUONNOCK 115KV LINE

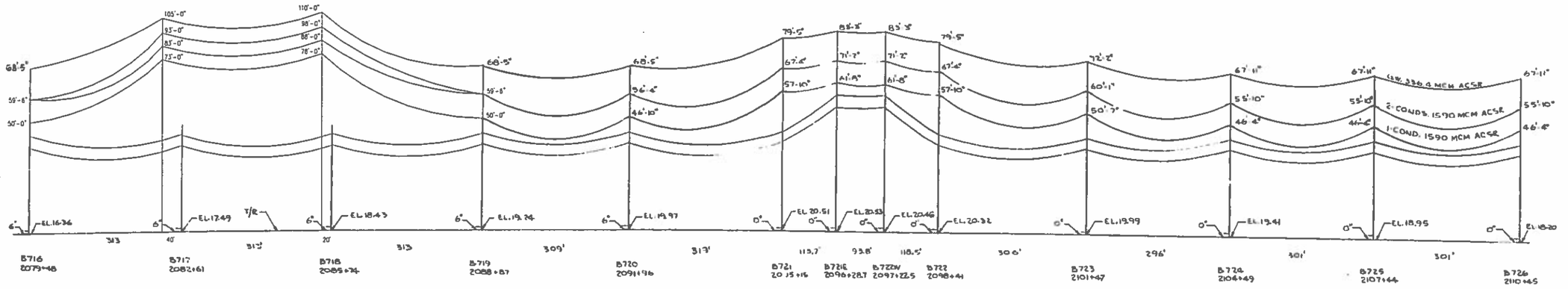
PLAN AND PROFILE STRUCTURE B726 TO B736

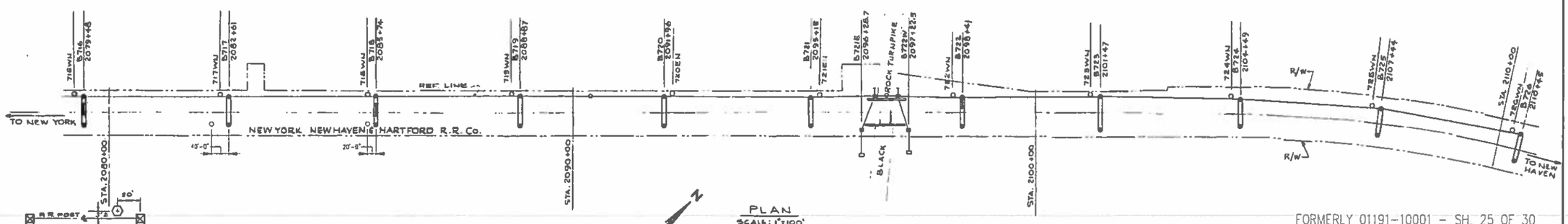
Date: 10/1/91 | Drawing Number 24213-105
Scale: AS NOTED

SEQ# 56718

\\W1\VOLW1\DOCS\57\056717.DWG







TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE

PLAN
SCALE: 1"=100'

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY AR

No	Date	Revision	By	Chkd	Engr.	Supv
7	9/24/07	AS BUILT REVISION	GS	SMR	SMR	
6	11/21/06	CONFORMED TO CONSTRUCTION RECORDS	JSF	TCC	TCC	DJK
5	10/09/06	CONSTRUCTION ISSUE	JSF	TCC		DJK
4	2/29/06	FAIRFIELD RAILROAD STATION ADDITION	JSF	GS		DJK
3	7/1/96	RENUMBER DRAWING	LST			
2	3/17/96	AS BUILT	TVG	ARP	DEH	
1	12/16/92	ISSUED FOR CONSTRUCTION	TVG		DEH	
0	10/30/92	ISSUED FOR BID	LMRK	TVG	DEH	

United Illuminating
an investor-owned electric light and power company

Drawn By LMRK | Design Engr. App. DEH
Checked By TVG | Design Supv. App.

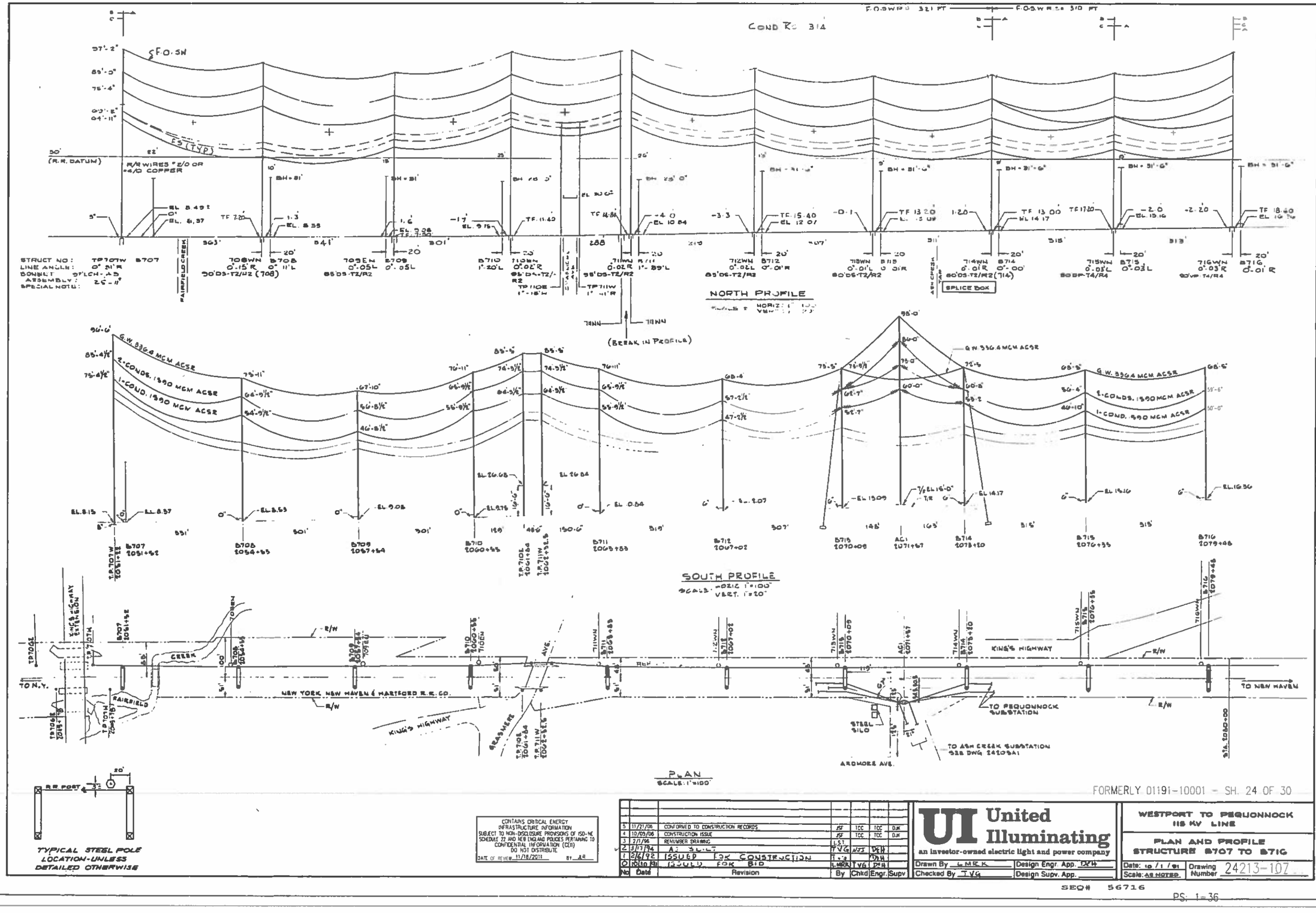
WESTPORT TO PEQUONNOCK 115KV LINE
PLAN AND PROFILE STRUCTURE B716 TO B726

Date: 10/1/91 | Drawing Number 24213-106
Scale: AS NOTED

FORMERLY 01191-10001 - SH. 25 OF 30

SEQ# 56717

FORM 839



CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII) DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY SB

No	Date	Revision	By	Chkd	Engr.	Supv
5	11/21/08	CONFORMED TO CONSTRUCTION RECORDS	JSF	TCC	TCC	DJK
4	10/05/06	CONSTRUCTION ISSUE	JSF	TCC	TCC	DJK
3	7/1/96	RENUMBER DRAWING	LST			
2	3/17/94	A: 345 KV	TVG	WS	DKH	
1	2/6/92	ISSUED FOR CONSTRUCTION	T.V.G.		DKH	
0	10/10/91	ISSUED FOR BID	LMER	TVG	DKH	

United Illuminating
an investor-owned electric light and power company

Drawn By LMER | Design Engr. App. DKH
Checked By TVG | Design Supv. App.

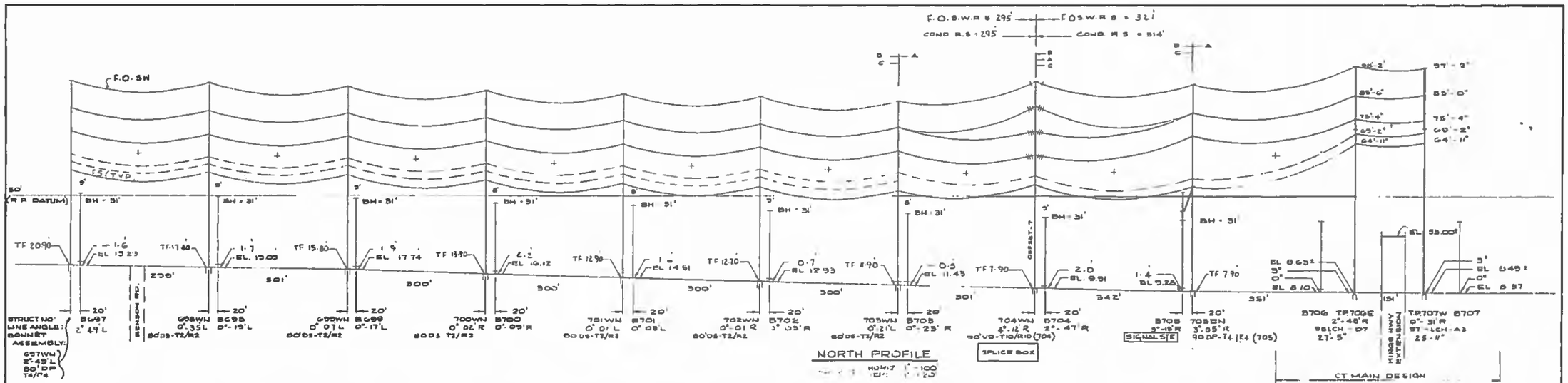
WESTPORT TO PEQUONNOCK 115 KV LINE
PLAN AND PROFILE STRUCTURE 8707 TO 8716

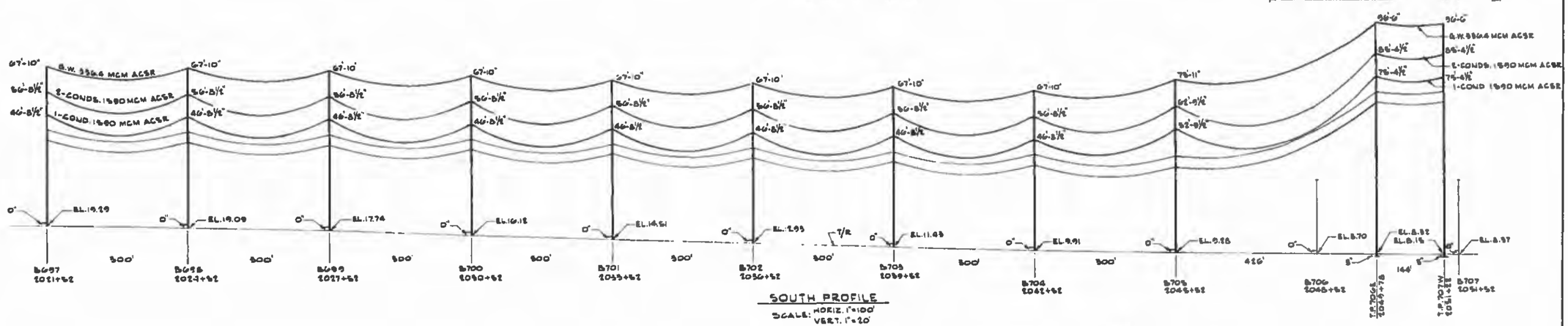
Date: 10/1/91 | Drawing Number 24213-107
Scale: AS NOTED

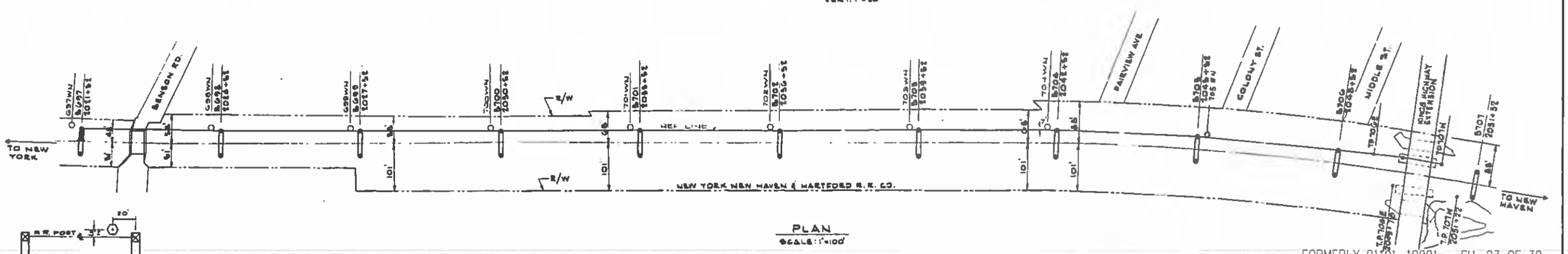
FORMERLY 01191-10001 - SH. 24 OF 30

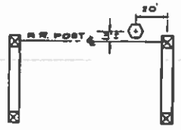
SEQ# 56716

PS: 1-36









TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII) DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY JLR

No	Date	Revision	By	Chkd	Engr.	Supv.
3	2/1/96	REMARKER DRAWING	LST			
2	6/3/94	AS BUILT	TVG	NJS	DKH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DKH	
0	10/30/91	ISSUED FOR BID	LMRK	TVG	DKH	

UI United Illuminating
an investor-owned electric light and power company

Drawn By LMRK | Design Engr App. DKH
Checked By TVG | Design Supv App.

WESTPORT TO PEQUONNOCK 115KV LINE

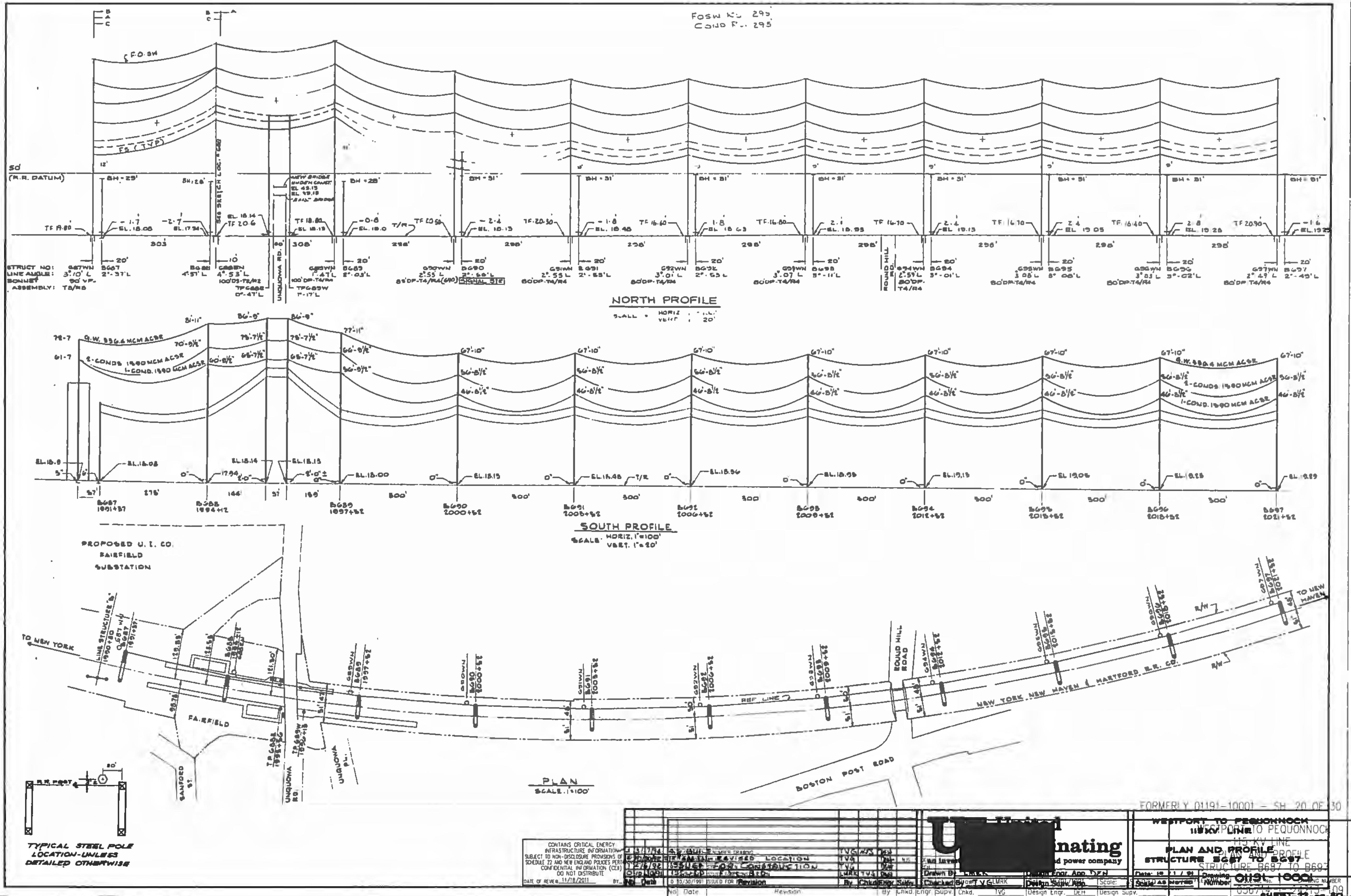
PLAN AND PROFILE STRUCTURE B697 TO B707

Date: 10/1/91 | Drawing Number 24213-108
Scale: AS NOTED

FORMERLY 01191-10001 – SH. 23 OF 30

SEQ# 56715

FORM 339


NORTH PROFILE
SOUTH PROFILE
SCALE: HORIZ. 1"=100' VERT. 1"=20'
PROPOSED U.I. CO. FAIRFIELD SUBSTATION
TO NEW YORK
TO NEW HAVEN
FAIRFIELD
UNQUOWA RD.
SANFORD ST.
ROUND HILL ROAD
BOSTON POST ROAD
NEW YORK NEW HAVEN & HARTFORD R.R. CO.
REF. LINE
PLAN
SCALE 1"=100'
TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE
CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011
ISSUED FOR CONSTRUCTION
FORMERLY 01191-10001 - SH. 20 OF 30
WESTPORT TO PEQUONNOCK 115 KV LINE
PLAN AND PROFILE
STRUCTURE B687 TO B697
SEQ# 56714

\\W1\VOLW1\DOCS\57\056713.DWG

F.O.S.W.RS 300'
COND. RS 300

F.O.S.W.RS 295'
COND. RS. 295'

NORTH PROFILE
SCALE: HORIZ 1"=100'
VERT 1"= 20'

SPLICE BOX
7 UNITS TOP + MIDDLE IDLER STRING
8 UNITS (STD) BOTTOM IDLER STRING

SOUTH PROFILE
SCALE: HORIZ. 1"=100'
VERT. 1"=20'

PLAN
SCALE: 1"=100'

TYPICAL STEEL POLE LOCATION UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY JR

FORMERLY 01191-10001 - SH. 21 OF 30

No	Date	Revision	By	Chkd	Engr	Supv
3	2/1/96	RENUMBER DRAWING	LST			
2	3/7/92	AS BUILT	TVG	WFS	DH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DH	
0	10/30/91	ISSUED FOR BID	LMRK	TVG	DH	

United Illuminating
an investor-owned electric light and power company

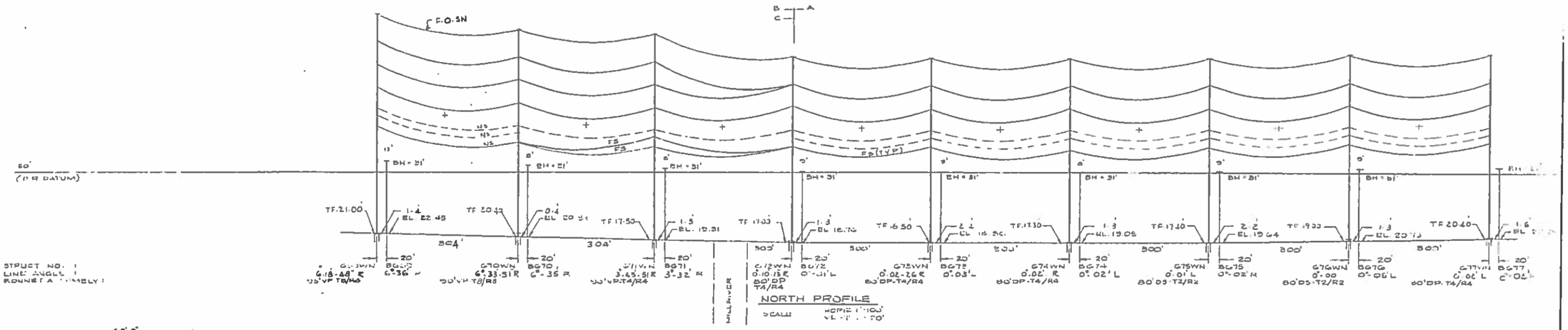
Drawn By LMRK | Design Engr. App. WFS
Checked By TVG | Design Supv. App.

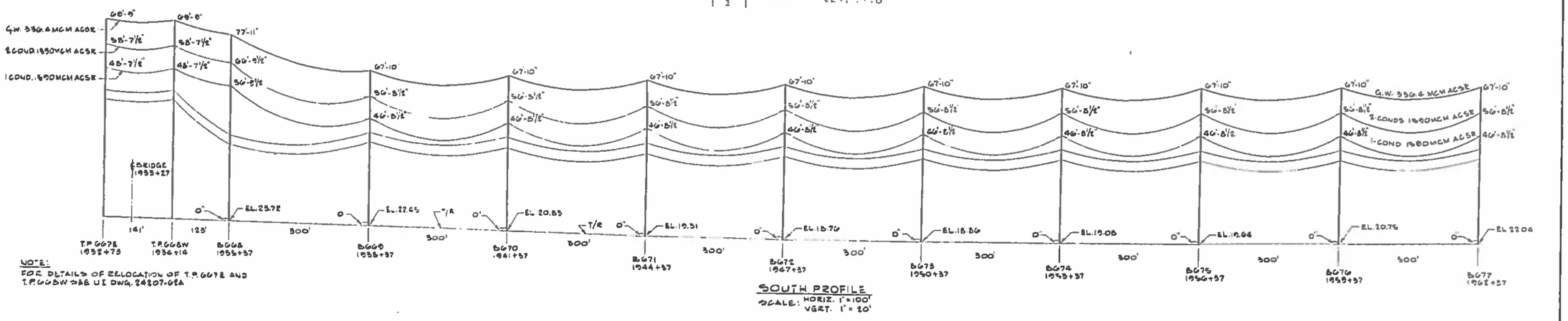
WESTPORT TO PEQUONNOCK 115KV LINE

PLAN AND PROFILE STRUCTURE BG77 TO BG87

Date 10/1/91 | Drawing Number 24213-110
Scale AS NOTED

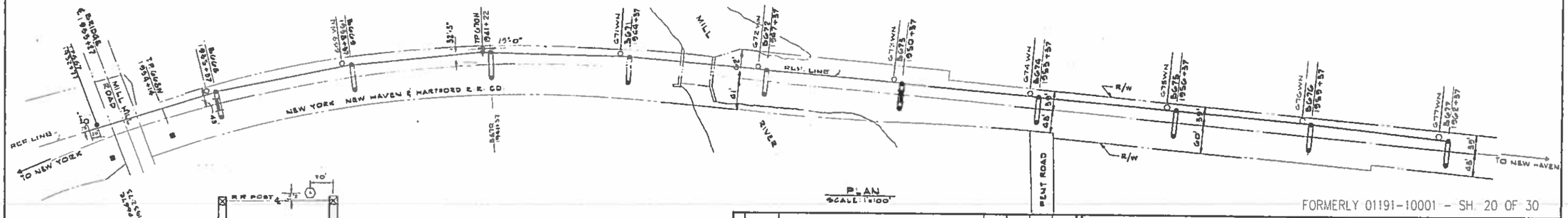
F.O.SW RS. 300'
CONN. RS. 300'





NOTE:
FOR DETAILS OF RELOCATION OF T.P. BG78 AND T.P. BG68W SEE U.I. DWG. 24207-05A

SOUTH PROFILE
SCALE: HORIZ. 1"=100'
VERT. 1"=20'



PLAN
SCALE: 1"=100'

TYPICAL STEEL POLE LOCATION - UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY AR

No	Date	Revision	By	Chkd	Engr.	Supv.
3	2/1/99	RENUMBER DRAWING	LST			
2	3/17/94	AS BUILT	TVG	WS	DH	
1	12/16/92	ISSUED FOR CONSTRUCTION	TVG		DH	
0	10/10/91	ISSUED FOR BID	LMRK	TVG	DH	

UI United Illuminating
an investor-owned electric light and power company

Drawn By L.M.R.K. | Design Engr. App. D.E.H.
Checked By T.V.G. | Design Supv. App.

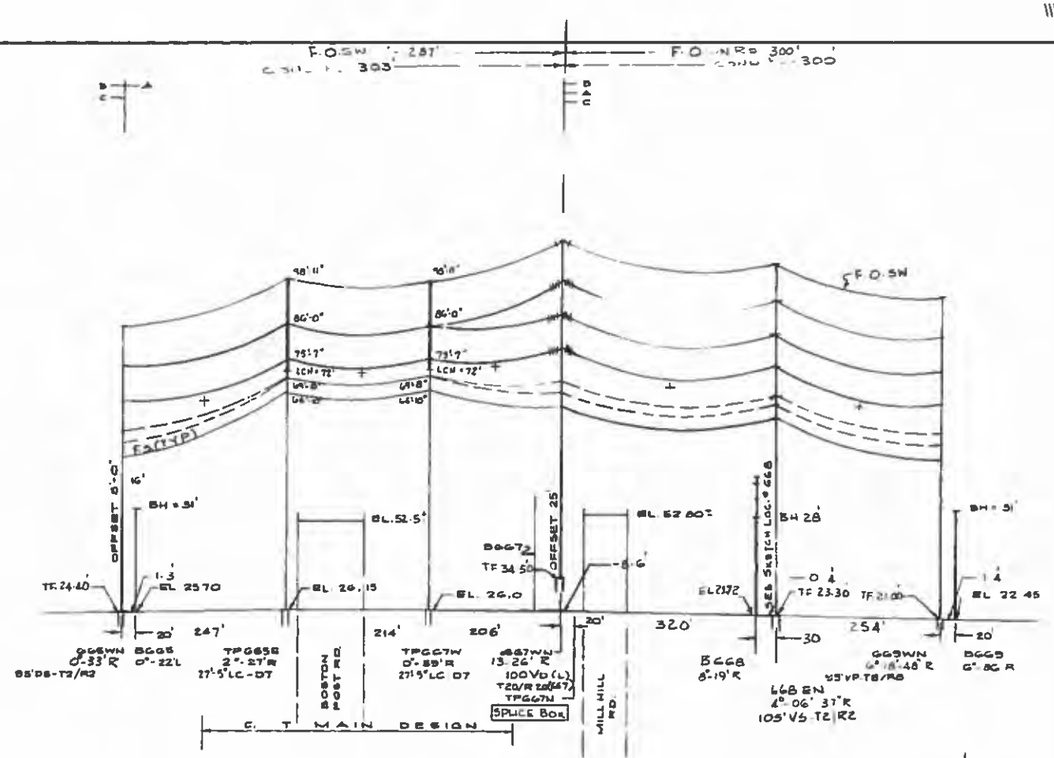
WESTPORT TO PEQUONNOCK
115 KV LINE

PLAN AND PROFILE
STRUCTURE BG68 TO BG77

Date: 10/1/91 | Drawing Number 24213-111
Scale: AS NOTED

FORMERLY 01191-10001 - SH. 20 OF 30

SEQ# 56712



FORMERLY 01191-10001 - SH. 19 OF 30

DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION
DATE OF REVIEW 11/18/2011 BY JLR

1-6-92 MAIN 1993

ENGR	SUPV.
WAJ	PEB

No.	Date	Revision	By	Chkd	Engr.	Supv.
3	7/1/98	RENUMBER DRAWING				
2	10/1992	STR. 668EN - REVISED LOCATION	TVG			
1	5/6/92	ISSUED FOR CONSTRUCTION	TVG			
0	10/30/91	ISSUED FOR BID	LMRK	TVG		

UI United Illuminating
an investor-owned electric light and power company

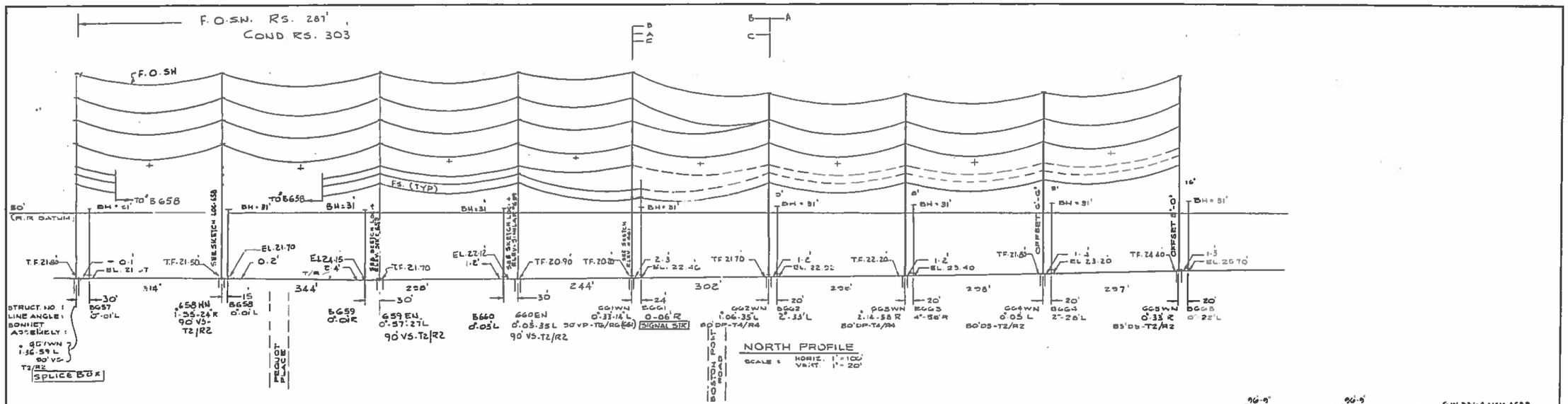
Drawn By LMRK | Design Engr. App. TVG
Checked By TVG | Design Supv. App.

WESTPORT TO PEQUONNOCK 115KV LINE

PLAN AND PROFILE STRUCTURE BGG5 TO BGG9

Date: 10/1/91 | Drawing Number 24213-112
Scale: AS NOTED

SEQ# 56711



CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/18/2011 BY AR

No	Date	Revision	By	Chkd	Engr.	Supv.
4	2/1/96	RENUMBER DRAWING			LST	
3	3/17/94	AS BUILT	TVG	MKS	DEH	
C	10/10/92	5121 GSTNN - BGINN - REVISED LOCATIONS	TVG		DEH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DEH	
0	10/30/91	ISSUED FOR BID	LMRK	TVG	DEH	

UI United Illuminating
an investor-owned electric light and power company

Drawn By LMRK | Design Engr. App. DEH
Checked By TVG | Design Supv. App.

WESTPORT TO PEQUONNOCK 115KV LINE

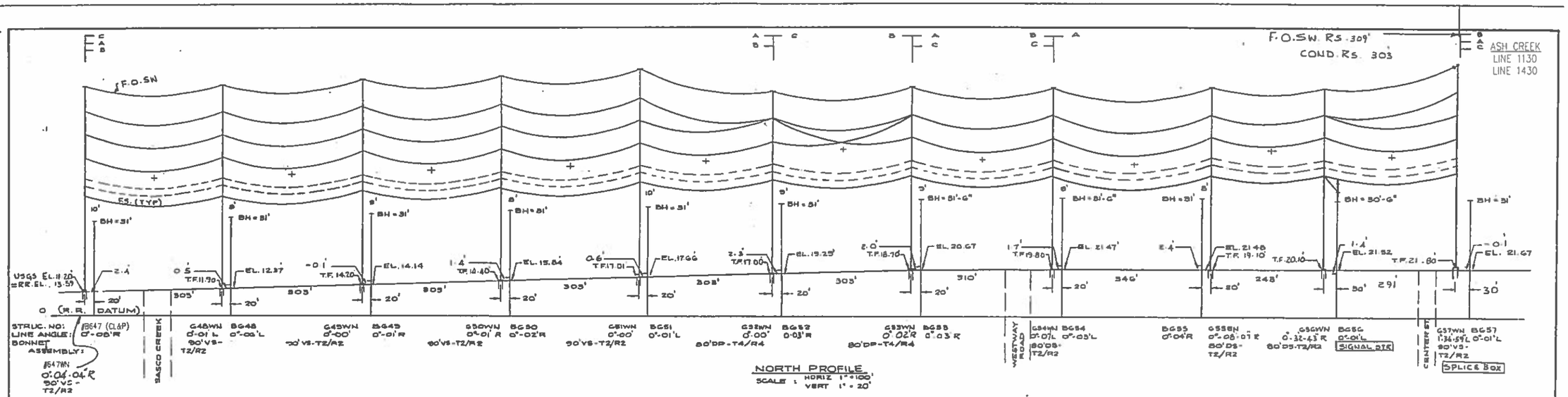
PLAN AND PROFILE STRUCTURE BG57 TO BG65

Date: 10/1/91 | Drawing Number 24213-113
Scale: AS NOTED

SEQ# 56710

FORMERLY 01191-10001 - SH. 18 OF 30

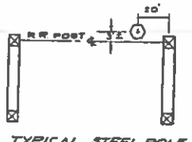
FORM 825



DEMARCATION

The POCO occurs on the 1430 and 1130 lines at the railroad overbuild structure #B647 and the Structure #647WN respectively which are located near the Westport/Fairfield town line. CL&P owns structures and insulators on the structures.

UI owns the conductor line attached to both structures and the rest of the conductor and structures toward UI Ash Creek Substation.



TYPICAL STEEL POLE LOCATION-UNLESS DETAILED OTHERWISE

CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION
SUBJECT TO NON-DISCLOSURE PROVISIONS OF ISO-NE SCHEDULE 22 AND NEW ENGLAND POLICIES PERTAINING TO CONFIDENTIAL INFORMATION (CEII)
DO NOT DISTRIBUTE
DATE OF REVIEW 11/3/2014 BY SR

No	Date	Revision	By	Chkd	Engr	Supv
5	10/31/14	ADD NU/R DEMARACATION NOTE	KP	SR	SR	
4	7/1/98	REMUMBER DRAWING	LST			
3	3/17/94	AS BUILT	TVG	AWJ	DEH	
2	10/30/92	STR.# 657 WN - REVISED LOCATION	TVG		DEH	
1	2/6/92	ISSUED FOR CONSTRUCTION	TVG		DEH	
0	10/30/91	ISSUED FOR BID	LMEM	TVG	DEH	

UI United Illuminating
an investor-owned electric light and power company

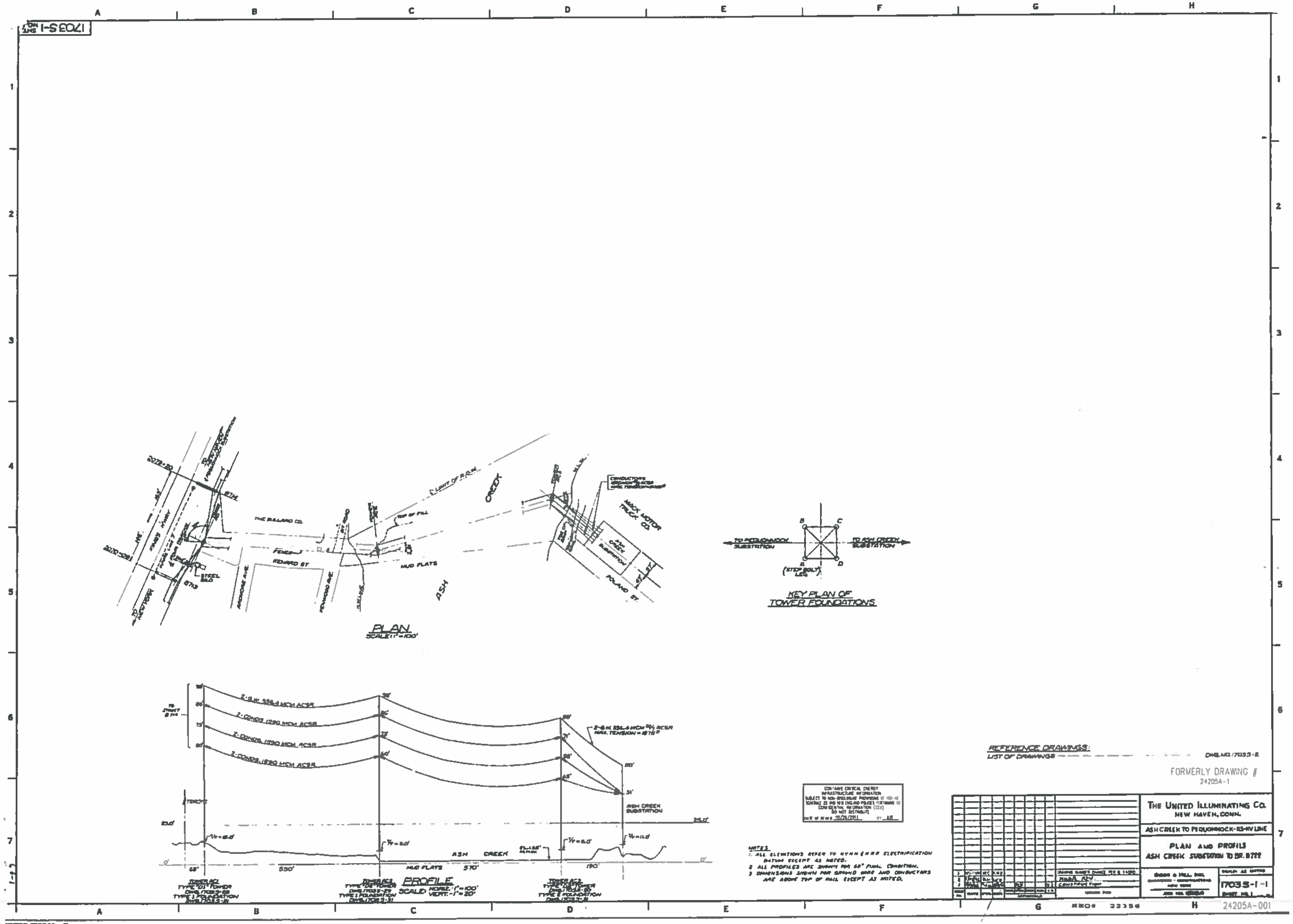
Drawn By L.M.R.K. Design Engr. App DEH
Checked By T.V.G. Design Supv. App.

WESTPORT TO PEQUONNOCK
115 KV LINE

PLAN AND PROFILE
STRUCTURE B647 TO B657

Date: 10/1/91 Drawing Number 24213-114
Scale: AS NOTED

SEQ# 56709 FORMERLY 01191-10001 - SH. 17 OF 30


PLAN
KEY PLAN OF TOWER FOUNDATIONS
TO PEQUONNOCK SUBSTATION
TO ASH CREEK SUBSTATION
PROFILE
ASH CREEK
MUD FLATS
ASH CREEK SUBSTATION
REFERENCE DRAWINGS:
LIST OF DRAWINGS
FORMERLY DRAWING #
24205A-1
THE UNITED ILLUMINATING CO.
NEW HAVEN, CONN.
ASH CREEK TO PEQUONNOCK-115-KV LINE
PLAN AND PROFILS
1703S-1-1
24205A-001

Ash Creek

1704S-26

CONDUCTOR
SAG AND TENSION DATA

1 590 000 CM ACSR 45/7 STRANDING
RATED BREAKING STRENGTH 42,700#, WEIGHT PER FT 1.799#

HEAVY LOADING DISTRICT (NESC)

TENSIONS WORKED TO THE FOLLOWING LIMITS
AT MAX VLM LOAD 0°F 1/2" ICE 8#/SQ FT WIND 9440# (22.5% OF ULTIMATE)
FINAL (AFTER MAXIMUM LOAD) 60°F, NO ICE, NO WIND-4150# (9.5% OF ULTIMATE)

SAGS BASED ON 5-0' SAG IN 300 FEET

FINAL SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'4	1'7	1'11	2'3	2'7	3'0	3'5	3'10	5'4	7'8	6760
20	1'7	1'11	2'4	2'8	3'2	3'8	4'1	4'7	6'5	9'3	5610
40	1'11	2'4	2'9	3'3	3'9	4'4	4'11	5'6	7'6	11'1	4670
60	2'3	2'8	3'5	3'9	4'5	5'0	5'8	6'5	8'11	12'10	4050
80	2'6	3'0	3'[illegible]	4'2	4'10	5'7	6'4	7'2	9'11	14'4	3620
100	2'9	3'4	3'11	4'7	5'4	6'2	7'0	7'10	10'11	15'8	3280
120	3'0	3'7	4'4	5'0	5'10	6'8	7'8	8'7	11'11	7'2	3020

INITIAL (STRINGING) SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'1	1'4	1'8	1'10	2'2	2'6	2'9	3'2	4'4	6'3	8340
20	1'4	1'7	1'10	2'2	2'7	2'11	3'4	3'9	5'2	7'6	7000
40	1'6	1'10	2'2	2'7	3'0	3'5	3'11	4'5	6'1	8'9	[illegible]830
60	1'9	2'2	2'7	3'0	3'6	4'0	4'7	5'2	7'2	10'3	5075
80	2'0	2'5	2'10	3'4	3'11	4'6	5'1	5'9	8'0	11'6	4575
100	2'2	2'8	3'2	3'9	4'4	5'0	5'7	6'4	8'10	12'8	4085
120	2'6	3'0	3'7	4'2	4'11	5'7	6'4	7'2	10'0	14'4	3420

GROUND WIRE
SAG AND TENSION DATA

336 400 CM ACSR 26/7 STRANDING
RATED BREAKING STRENGTH 14,050# WEIGHT PER FT 0.463#

HEAVY LOADING DISTRICT (NESC)

TENSIONS WORKED TO FOLLOWING LIMITS
AT MAXIMUM LOAD 0°F, 1/2" ICE, 8#/SQ FT WIND-3,750 (26.7% OF ULTIMATE)
FINAL (AFTER MAXIMUM LOAD) 60°F., NO ICE, NO WIND-1970 (14.0% OF ULTIMATE)

SAGS BASED ON 4-6' SAG IN 300 FEET

FINAL SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'2	1'5	1'8	2'0	2'4	2'8	3'0	3'5	4'8	6'9	1970
20	1'5	1'9	2'1	2'5	2'10	3'3	3'8	4'2	5'9	8'5	1510
40	1'9	2'1	2'6	2'11	3'5	3'11	4'5	5'0	6'11	9'11	1345
60	2'0	2'5	2'11	3'5	3'11	4'6	5'1	5'9	8'0	11'6	1160
80	2'3	2'9	3'3	3'10	4'5	5'1	5'10	6'8	9'1	13'1	1025
100	2'6	3'1	3'7	4'3	4'11	5'8	6'5	7'3	10'1	14'6	920
120	2'9	3'4	4'0	4'8	5'5	6'3	7'1	8'0	11'0	15'11	840

INITIAL (STRINGING) SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'0	1'2	1'5	1'7	1'10	2'2	2'5	2'9	3'10	5'6	2425
20	1'2	1'5	1'8	1'11	2'3	2'7	3'0	3'4	4'8	6'8	2010
40	1'5	1'8	2'0	2'4	2'9	3'2	3'7	4'0	5'6	8'0	1670
60	1'6	2'0	2'4	2'10	3'3	3'7	4'3	4'9	6'7	9'6	1410
80	1'11	2'3	2'9	3'3	3'9	4'5	4'10	5'6	7'7	11'0	1215
100	2'2	2'7	3'1	3'8	4'3	4'10	5'6	6'3	8'8	12'8	1070
120	2'5	2'11	3'6	4'1	4'9	5'5	6'2	7'0	9'8	13'11	960

FORMERLY 24207-86

DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION
DATE OF REVIEW 10/28/2011 BY JLR

ISSUE NO.	DATE	DWN	CHKD	APPROVALS	ISSUED FOR
2	7/1/76	LSE			
1	[illegible]	GA	[illegible]	EJ	CONSTRUCTION

THE UNITED ILLUMINATING CO
NEW HAVEN CONN.

WESTPORT TO ASH CREEK - 115KV LINE

SAG AND TENSION DATA
336 400 CM ACSR 26/7 GROUND WIRE
1,590 000 CM ACSR, 45/7 CONDUCTOR

GIBBS & HILL, INC.
CONSULTING ENGINEERS
NEW YORK
JOB NO 1704A

SCALE NONE

1704S-26

24213-115

1703S-25

CONDUCTOR SAG AND TENSION DATA

1,590,000 CM ACSR 45/7 STRANDING
RATED BREAKING STRENGTH 42,700#, WEIGHT PER FT 1.799#

HEAVY LOADING DISTRICT (NESC)

TENSIONS WORKED TO THE FOLLOWING LIMITS
AT MAXIMUM LOAD, 0°F, 1/2" ICE, 8#/SQ FT. WIND-9640# (22.6% OF ULTIMATE)
FINAL (AFTER MAXIMUM LOAD) 60°F, NO ICE, NO WIND -4050# (9.5% OF ULTIMATE)

SAGS BASED ON 5'-0" SAG IN 300 FEET

FINAL SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'-4"	1'-7"	1'-11"	2'-3"	2'-7"	3'-0"	3'-5"	3'-10"	5'-4"	7'-8"	6760
20	1'-7"	1'-11"	2'-4"	2'-8"	3'-2"	3'-8"	4'-1"	4'-7"	6'-5"	9'-3"	5610
40	1'-11"	2'-4"	2'-9"	3'-3"	3'-9"	4'-4"	4'-11"	5'-6"	7'-8"	11'-1"	4670
60	2'-3"	2'-8"	3'-5"	3'-9"	4'-5"	5'-0"	5'-8"	6'-5"	8'-11"	12'-10"	4050
80	2'-6"	3'-0"	3'-7"	4'-2"	4'-10"	5'-7"	6'-4"	7'-2"	9'-11"	14'-4"	3620
100	2'-9"	3'-4"	3'-11"	4'-7"	5'-4"	6'-2"	7'-0"	7'-10"	10'-11"	15'-8"	3280
120	3'-0"	3'-7"	4'-4"	5'-0"	5'-10"	6'-8"	7'-8"	8'-7"	11'-11"	17'-2"	3020

INITIAL (STRINGING) SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'-1"	1'-4"	1'-8"	1'-10"	2'-2"	2'-5"	2'-9"	3'-2"	4'-4"	6'-3"	8300
20	1'-4"	1'-7"	1'-10"	2'-2"	2'-7"	2'-11"	3'-4"	3'-9"	5'-2"	7'-6"	7000
40	1'-6"	1'-10	2'-2"	2'-7"	3'-0"	3'-5"	3'-11"	4'-5"	6'-1"	8'-9"	5830
60	1'-9"	2'-2"	2'-7"	3'-0"	3'-6"	4'-0"	4'-7"	5'-2"	7'-2"	10'-3"	5075
80	2'-0"	2'-5"	2'-10"	3'-4"	3'-11"	4'-6"	5'-1"	5'-9"	8'-0"	11'-6"	4575
100	2'-2"	2'-8"	3'-2"	3'-9"	4'-4"	5'-0"	5'-7"	6'-4"	8'-10	12'-8"	4085
120	2'-6"	3'-0	3'-7"	4'-2"	4'-11"	5'-7"	6'-4	7'-2"	10'-0"	14'-4"	3620

GROUND WIRE SAG AND TENSION DATA

336,400 CM A.C.S.R. 26/7 STRANDING
RATED BREAKING STRENGTH 14,050# WEIGHT PER FT 0.463#

HEAVY LOADING DISTRICT (NESC)

TENSIONS WORKED TO FOLLOWING LIMITS
AT MAXIMUM LOAD 0°F, 1/2" ICE, 8#/SQ FT WIND-3750 (26.7% OF ULTIMATE)
FINAL (AFTER MAX LOAD) 60°F, NO ICE, NO WIND - 1970 (14.0% OF ULTIMATE)

SAGS BASED ON 4'-6" SAG IN 300 FEET

FINAL SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'-2"	1'-5"	1'-8"	2'-0"	2'-4"	2'-8"	3'-0"	3'-5"	4'-8"	6'-9"	1970
20	1'-5"	1'-8"	2'-1"	2'-5"	2'-10"	3'-3"	3'-8"	4'-2"	5'-9"	8'-5"	1612
40	1'-9"	2'-1"	2'-6"	2'-11"	3'-5"	3'-11"	4'-5"	5'-0"	6'-11"	9'-11"	1345
60	2'-0"	2'-5"	2'-11"	3'-5"	3'-11"	4'-6"	5'-1"	5'-9"	8'-0"	11'-6"	[illegible]
80	2'-3"	2'-9"	3'-3"	3'-10"	4'-5"	5'-1"	5'-10"	6'-8"	9'-1"	13'-1"	1020
100	2'-6"	3'-1"	3'-7"	4'-3"	4'-11"	5'-8"	6'-5"	7'-3"	10'-1"	14'-6"	[illegible]
120	2'-9"	3'-4"	4'-0"	4'-8"	5'-5"	6'-3"	7'-1"	8'-0"	11'-0"	15'-11"	840

INITIAL (STRINGING) SAGS

TEMP °F	SPAN LENGTH 200	220	240	260	280	300	320	340	400	480	TENSION LBS
0	1'-0"	1'-2"	1'-5"	1'-7"	1'-10"	2'-2"	2'-5"	2'-9"	3'-10"	5'-6"	2425
20	1'-2"	1'-5"	1'-8"	1'-11"	2'-3"	2'-7"	3'-0"	3'-4"	4'-8"	6'-8"	2010
40	1'-5"	1'-8"	2'-0"	2'-4"	2'-9"	3'-2"	3'-7"	4'-0"	5'-6"	8'-0"	1670
60	1'-8"	2'-0"	2'-4"	2'-10"	3'-3"	3'-7"	4'-3"	4'-9"	6'-7"	9'-6"	1410
80	1'-11"	2'-3"	2'-9"	3'-3"	3'-9"	4'-3"	4'-10"	5'-6"	7'-7"	11'-0"	1215
100	2'-2"	2'-7"	3'-1"	3'-8"	4'-3"	4'-10"	5'-6"	6'-3"	8'-8"	12'-8"	1070
120	2'-5"	2'-11"	3'-6"	4'-1"	4'-9"	5'-5"	6'-2"	7'-0"	9'-8"	13'-11"	960

CONDUCTOR SAG AND TENSION DATA

1,590,000 CM ACSR 45/7 STRANDING
RATED BREAKING STRENGTH 42,700#; WEIGHT PER FT 1.799#

HEAVY LOADING DISTRICT (NESC)

TENSIONS WORKED TO THE FOLLOWING LIMITS
AT MAXIMUM LOAD, 0°F, 1/2" ICE, 8#/SQ. FT WIND - 4820# (11.3% OF ULTIMATE)
FINAL (AFTER MAXIMUM LOAD) 60°F, NO ICE, NO WIND - 2025# (4.8% OF ULTIMATE)

SAGS BASED ON 10'-0" SAG IN 300 FEET

FINAL SAGS

TEMP °F	SPAN LENGTH SPAN "A"* 200	SPAN "C"* 220	SPAN "B"* 240	TENSION LBS.
0	2'-8"	3'-3"	3'-10"	3380
20	3'-3"	3'-11"	4'-8"	2805
40	3'-10"	4'-8"	5'-7"	2335
60	4'-5"	5'-5"	6'-5"	2025
80	5'-0"	6'-0"	7'-2"	1810
100	5'-5"	6'-7"	7'-10"	1640
120	6'-0"	7'-3"	8'-7"	1510

△2

INITIAL (STRINGING) SAGS

TEMP °F	SPAN LENGTH SPAN "A"* 200	SPAN "C"* 220	SPAN "B"* 240	TENSION LBS.
0	2'-2"	2'-8"	3'-2"	4150
20	2'-7"	3'-1"	3'-9"	3500
40	3'-1"	3'-9"	4'-6"	2915
60	3'-7"	4'-4"	5'-2"	2540
80	4'-0"	4'-9"	5'-8"	2290
100	4'-5"	5'-4"	6'-5"	2045
120	5'-0"	6'-0"	7'-2"	1810

* 1/2 TENSIONS & SAGS
SPAN "A" - PEQUONNOCK SUB. TO STRUCT. 8769 (NORTH CIRCUIT) - LINE 88009A CKT. "E"
SPAN "B" - PEQUONNOCK SUB. TO STRUCT. 8770 (SOUTH CIRCUIT) - LINE 88007B CKT. "F"
SPAN "C" - PEQUONNOCK SUB. TO STRUCT. 8768A (PEQUONNOCK TO ASHCREEK) - CKT "H"

NOTE: FOR PLAN OF SPANS AT PEQUONNOCK SUBSTA. REFER TO DWG. 1703S-1 SHT 3

FORMERLY 24201A-27 SH. 2 OF 2

DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION
DATE OF REVIEW 10/26/2011 BY JLR

ISSUE NO.	DATE	DWN.	CHKD.	APPROVALS	ISSUED FOR
3	2/1/96	LST	[illegible]		RENUMBER DRAWING
2	[illegible]	RN	[illegible]	[illegible]	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]	CONSTRUCTION

THE UNITED ILLUMINATING CO.
NEW HAVEN, CONN.

ASH CREEK TO PEQUONNOCK-115-KV LINE

SAG AND TENSION DATA
336,400 CM ACSR, 26/7 GROUND WIRE
1,590,000 CM ACSR, 45/7 CONDUCTOR

GIBBS & HILL, INC.
CONSULTING ENGINEERS
NEW YORK
JOB NO. 1703A

SCALE: NONE

1703S-25-2

SEQ# 22382

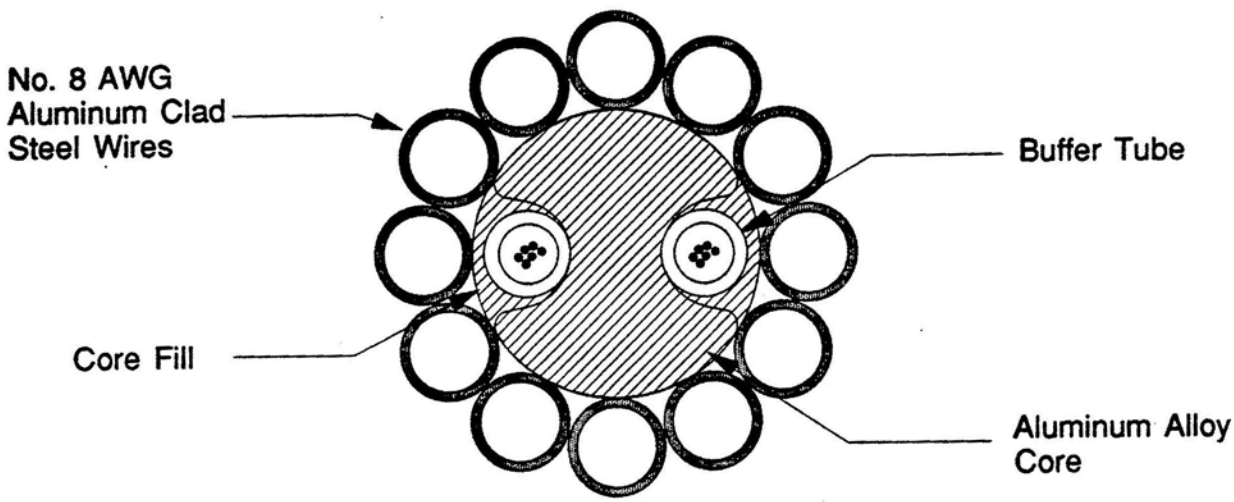
24213-115

Attachment B

FOCAS

Skylite

PEA



SPECIFICATIONS:

Overall Diameter:	0.635"
Stranding:	12 No. 8 AWG (0.1285") A.C.S. Wires
Rated Breaking Strength:	27,300 lbs
Rated Fault Current:	160 (Ka) sq - sec
Weight:	0.563 lb/ft
Modulus of Elasticity:	18.99 E 6 psi
Coefficient of Linear Expansion:	8.18 E -6 /deg F
Cross Sectional Area:	0.234 sq in
Nominal D.C. Resistance:	0.12 ohm/Kft @ 20 deg C
Fiber Count:	2 - 24

PROPOSAL FORM

(Each Bidder to supply following information)

Nominal Size of OPGW		0.635"
Construction of OPGW Aluminum clad steel strands number/guage no dia. 12 No. 8 (each ___in) Aluminum pipe/central - OD/ID		
Lay direction of outermost layer		left-hand
Rated Breaking Strength	(lbs.)	27,300
Sectional Area Aluminum clad steel wire Aluminum pipe/central core Total	(in.^{2})	0.156 in.^{2} 0.078 in.^{2}
Approximate O.D. OPGW	(in.)	0.635"
Approximate Weight	(lbs./mile)	2,973
Modulus of elasticity	(ksi)	18.99 x 10^6 psi
Coefficient of linear expansion	(1/°C)	14.72 x 10^{-6}
Reel size and type		60" wooden N.R.
Maximum reel length		4.4 km
Minimum reel length		
Rated Fault Current	(kA^{2}sec)	160
DC Resistance	(ohm/mi)	0.6336

SPECIFICATION T91-19
SCHEDULE E
FIBER OPTIC SHIELD WIRE INSTALLATION SAG/ TENSION

ALUMINUM COMPANY OF AMERICA SAG AND TENSION DATA

NORTHEAST UTILITIES SERVICE COMPANY
0.635" OPGW

REA= .2300 SQ. IN.
DATA FROM CHART NO. 1-1830 (NEW CHART # 1-6350)
ENGLISH UNITS

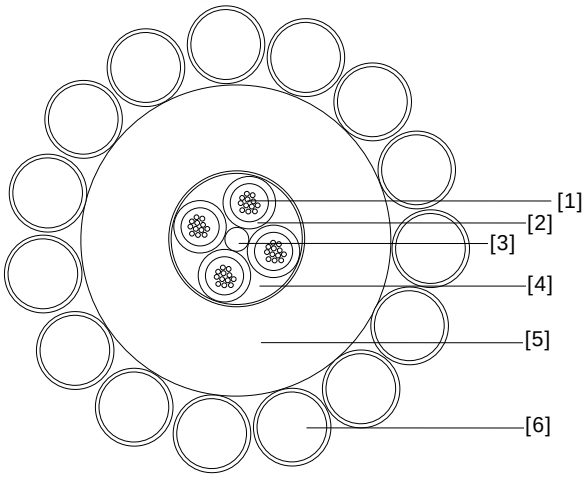
SPAN= 315.0 FEET HEAVY LOADING
REEP IS NOT A FACTOR
DESIGN CONDITION

DESIGN POINTS TEMP F	ICE IN	WIND PSF	K LB/F	WEIGHT LB/F	FINAL SAG FT	FINAL TENSION LB	INITIAL SAG FT	INITIAL TENSION LB
0.	.50	4.00	.30	1.681	5.50	3800.*	5.26	3968.
30.	1.50	.00	.00	4.547	8.13	6961.	8.13	6961. 25%
30.	1.00	.00	.00	2.597	6.83	4725.	6.69	4829.
32.	.50	.00	.00	1.269	5.56	2836.	5.23	3015.
0.	.00	20.00	.00	1.199	5.99	2489.	5.62	2648.
).	.00	16.00	.00	1.017	5.77	2191.	5.36	2357.
0.	.00	.00	.00	.563	3.22	2166.	2.77	2518.
0.	.00	.00	.00	.563	3.70	1890.	3.18	2195.
30.	.00	.00	.00	.563	4.42	1583.	3.85	1815.
60.	.00	.00	.00	.563	5.11	1368.	4.53	1542.
90.	.00	.00	.00	.563	5.77	1213.	5.20	1345.
120.	.00	.00	.00	.563	6.38	1096.	5.84	1199.
167.	.00	.00	.00	.563	7.27	963.	6.76	1036.
212.	.00	.00	.00	.563	8.05	870.	7.57	925.

PAN= 650.0 FEET HEAVY LOADING
CREEP IS NOT A FACTOR
* DESIGN CONDITION

DESIGN POINTS TEMP F	ICE IN	WIND PSF	K LB/F	WEIGHT LB/F	FINAL SAG FT	FINAL TENSION LB	INITIAL SAG FT	INITIAL TENSION LB
0.	.50	4.00	.30	1.681	23.53	3800.*	22.95	3894.
30.	1.50	.00	.00	4.547	27.79	8725.	27.79	8725. 32%
30.	1.00	.00	.00	2.597	25.49	5424.	25.12	5503.
32.	.50	.00	.00	1.269	23.61	2859.	22.92	2944.
60.	.00	20.00	.00	1.199	24.15	2641.	23.44	2719.
60.	.00	16.00	.00	1.017	23.86	2267.	23.10	2340.
-20.	.00	.00	.00	.563	21.01	1423.	20.01	1493.
0.	.00	.00	.00	.563	21.55	1388.	20.57	1454.
0.	.00	.00	.00	.563	22.33	1340.	21.37	1399.
).	.00	.00	.00	.563	23.10	1296.	22.16	1350.
0.	.00	.00	.00	.563	23.84	1256.	22.92	1306.
120.	.00	.00	.00	.563	24.56	1220.	23.66	1265.
167.	.00	.00	.00	.563	25.66	1169.	24.79	1209.
212.	.00	.00	.00	.563	26.67	1125.	25.82	1161.

Attachment C



Cable structure

Optical core

[1] Optical fibres
[2] PBT loose buffer tubes. Ø = 0.098 in
[3] Pultrusioned threaded glass rod
[4] Hydrogen absorbent jelly

Aluminium Tube

[5] Ø = 0.433 in

Armour

Layer 1 (S):

[6] 15 ACS 20.3% IACS Ø 0.1071 in

In areas where there is a high contamination or in the proximity of the sea, Prysmian recommend greasing the cable.

Features and benefits

This cable has been custom designed to best match with customer requirements from optical, electrical, mechanical, quality and cost point of view, optimising diameter, weight, breaking load and short circuit capacity.

Cable characteristics

Mechanical and physical

Approximate cable diameter:	0.647 in
Approximate cable weight:	0.524 lb/ft
Rated tensile strength:	25000 lbf
Maximum cable design tension:	20000 lbf
Elasticity Modulus*:	16549 kpsi
Section*:	0.223 in^2
Linear expansion thermal coefficient:	$8.11x10^{-6}$ $ºF^{-1}$
Minimum bending radius:	
On pulley blocks (first and last of each reel, span ≥ 600 m or angles > 15º):	15.75 in
On pulley blocks (others):	11.81 in
On tensioner devices:	25.59 in
After clamping (slack cable):	11.81 in
Operating temperature range: from -40ºF to +176ºF	

*for stress-strain calculus
**see "Installation procedures for OPGW fibre optic cable" document reference SIG-07-PE-PA-013

Electrical

Short circuit rating from 40ºC:	153.8 kA^2s
Short circuit current for 1 s:	12.4 kA
Geometric Mean Radius:	0.233 in
DC Resistance at 20ºC:	0.56 Ω/mil
DC Resistance at 25ºC:	0.57 Ω/mil
DC Resistance at 50ºC:	0.63 Ω/mil
DC Resistance at 75ºC:	0.68 Ω/mil
AC Resistance at 20ºC:	0.57 Ω/mil
AC Resistance at 25ºC:	0.58 Ω/mil
AC Resistance at 50ºC:	0.64 Ω/mil
AC Resistance at 75ºC:	0.70 Ω/mil
60 Hz Inductive Reactance (1 ft):	0.48 Ω/mil

PLSCADD coefficients (American units)

A0	A1	A2	A3	A4
9.46	158319	40992	-172929	85240
-144.65	124843	65318	-142293	57290

Fiber identification

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Slate	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Tube identification

No.	1	2	3	4
Color	Blue	Orange	Green	Brown

48 G.652D:

Fiber G.652D: Tubes #1, #2, #3 and #4

24G.655 + 24 G.652D:

Fiber G.655: Tubes #1 and #2
Fiber G.652D: Tubes #3 and #4

Fibre characteristics

Fiber manufacturer: FOS (Prysmian Group)

According to ITU-T G.652D or ITU-T G.655

ITU-T G.652D

Attenuation coefficients (uncabled)	
at 1310 nm	≤ 0.35 dB/km
at 1385 nm	≤ 0.35 dB/km
at 1550 nm	≤ 0.20 dB/km
at 1625 nm	≤ 0.23 dB/km
Mode Field Diameter	
at1310 nm	9.2 ± 0.4 µm
at1550 nm	10.4 ± 0.5 µm
Geometrical properties	
Cladding diameter	125 ± 7 µm
Cladding non-circularity	≤1 %
Core – cladding concentricity error	≤0.6 µm
Coating diameter	245 ± 5 µm
Coating – cladding concentricity error	≤12 µm
Dispersion coefficients	
from 1285 to 1330 nm	≤ 3.5 ps/(nm·km)
at 1550 nm	≤ 18 ps/(nm·km)
Cable Cut-off	
Cable Cut-off	<1260 λ_{cc} nm
Zero dispersion wavelenght	1302 – 1322 nm

ITU-T G.655

Attenuation coefficients (uncabled)	
at 1550 nm	≤ 0.23 dB/km
at 1625 nm	≤ 0.25 dB/km
Mode Field Diameter	
at1550 nm	9.6 ± 0.4 µm
Geometrical properties	
Cladding diameter	125 ± 0.7 µm
Cladding non-circularity	≤1 %
Core – cladding concentricity error	≤0.5 µm
Coating diameter	245 ± 5 µm
Coating – cladding concentricity error	≤10 µm
Dispersion coefficients	
from 1530 to 1565 nm	2.0÷6.0 ps/(nm·km)
In the range 1565-1625 nm	4.5÷11.2 ps/(nm·km)
Cable Cut-off	
Cable Cut-off	<1450 λ_{cc} nm

Routine tests

100% of optical fibres will be measured by OTDR technique before leaving factory.

Installation procedure

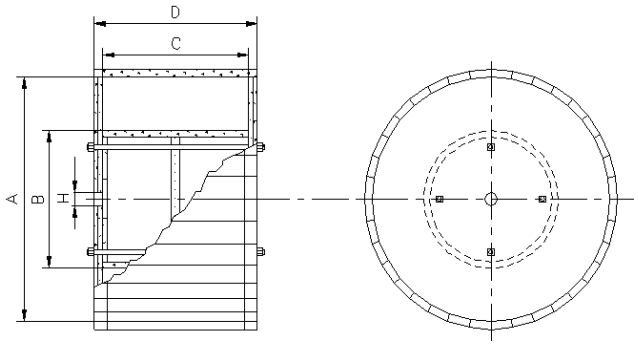
Prysmian recommends to install the cable described in this specification following the latest version of our "Installation procedures for OPGW fibre optic cable" reference SIG-07-PE-PA-013, "Instruction for the installation of the EWMJ joint box" reference SIG-07-PE-PA-015 and "Instruction for the installation of the EWJ joint box" reference SIG-07-PE-PA-008.

Reels

	Type N	Type P
Wheel (A):	66.9 in	82.7 in
Cylinder (B):	35.4 in	35.4 in
Inside (C):	35.4 in	35.4 in
Outside (D):	41.3 in	41.3 in
Axe (H):	4.13 in	4.13 in
Weight:		
- empty:	604 lb	877 lb
- full:	7826 lb	13087 lb
Maximum length:	13780 ft	23290 ft
Tolerance length of the produced reel: ±3%		

NOTE:
Ordered lengths should include a distribution of lengths, i.e., all reels cannot be ordered at the maximum.
The reel lengths' distribution should be as follows:

Reel lengths	
0 - 8200	More than 5%
8200 - 14800	More than 30%
14800 - 19700	Less than 55%
> 19700	Less than 10%



Attachment D

PRYSMIAN (New OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
GDI_0002	NESC Heavy NA+	1.37	1.85	5613
B768A	NESC Heavy NA+	2.74	3.7	290
B767N	NESC Heavy NA+	2.74	3.7	56
B766N	NESC Heavy NA+	2.74	3.7	7
B765CN	NESC Heavy NA+	2.74	3.7	8
B765BN	NESC Heavy NA+	2.74	3.7	4
B765AN	NESC Heavy NA+	2.74	3.7	14
B765N	NESC Heavy NA+	2.74	3.7	0
B764N	NESC Heavy NA+	2.74	3.7	0
B763N	NESC Heavy NA+	2.74	3.7	172
B762N	NESC Heavy NA+	2.74	3.7	128
B761N	NESC Heavy NA+	2.74	3.7	385
B760N	NESC Heavy NA+	2.74	3.7	0
B759N	NESC Heavy NA+	2.74	3.7	2
B758N	NESC Heavy NA+	2.74	3.7	1
B757N	NESC Heavy NA+	2.74	3.7	458
TP756N	NESC Heavy NA+	2.74	3.7	136
TP754N	NESC Heavy NA+	2.74	3.7	245
B753N	NESC Heavy NA+	2.74	3.7	241
B752N	NESC Heavy NA+	2.74	3.7	2
B751N	NESC Heavy NA+	2.74	3.7	0
B750N	NESC Heavy NA+	2.74	3.7	0
B749N	NESC Heavy NA+	2.74	3.7	3
B748N	NESC Heavy NA+	2.74	3.7	1
B747N	NESC Heavy NA+	2.74	3.7	2
B746N	NESC Heavy NA+	2.74	3.7	1
B745N	NESC Heavy NA+	2.74	3.7	3
B744N	NESC Heavy NA+	2.74	3.7	4
B743N	NESC Heavy NA+	2.74	3.7	1
B742N	NESC Heavy NA+	2.74	3.7	1
B741N	NESC Heavy NA+	2.74	3.7	1
B740N	NESC Heavy NA+	2.74	3.7	1
B739N	NESC Heavy NA+	2.74	3.7	495
GDI_0035	NESC Heavy NA+	2.74	3.7	115
B738N	NESC Heavy NA+	2.74	3.7	292
B737N	NESC Heavy NA+	2.74	3.7	235
736EN	NESC Heavy NA+	2.74	3.7	444
TP735N	NESC Heavy NA+	2.74	3.7	88
TP734N	NESC Heavy NA+	2.74	3.7	166
733WN	NESC Heavy NA+	2.74	3.7	263
732WN	NESC Heavy NA+	2.74	3.7	140

FOCUS (Existing OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
GDI_0002	NESC Heavy NA+	1.36	1.9	8634
B768A	NESC Heavy NA+	2.72	3.8	1893
B767N	NESC Heavy NA+	2.72	3.8	376
B766N	NESC Heavy NA+	2.72	3.8	186
B765CN	NESC Heavy NA+	2.72	3.8	1501
B765BN	NESC Heavy NA+	2.72	3.8	140
B765AN	NESC Heavy NA+	2.72	3.8	295
B765N	NESC Heavy NA+	2.72	3.8	423
B764N	NESC Heavy NA+	2.72	3.8	732
B763N	NESC Heavy NA+	2.72	3.8	401
B762N	NESC Heavy NA+	2.72	3.8	1099
B761N	NESC Heavy NA+	2.72	3.8	1948
B760N	NESC Heavy NA+	2.72	3.8	59
B759N	NESC Heavy NA+	2.72	3.8	39
B758N	NESC Heavy NA+	2.72	3.8	169
B757N	NESC Heavy NA+	2.72	3.8	3686
TP756N	NESC Heavy NA+	2.72	3.8	6466
TP754N	NESC Heavy NA+	2.72	3.8	3557
B753N	NESC Heavy NA+	2.72	3.8	1266
B752N	NESC Heavy NA+	2.72	3.8	222
B751N	NESC Heavy NA+	2.72	3.8	727
B750N	NESC Heavy NA+	2.72	3.8	40
B749N	NESC Heavy NA+	2.72	3.8	162
B748N	NESC Heavy NA+	2.72	3.8	269
B747N	NESC Heavy NA+	2.72	3.8	56
B746N	NESC Heavy NA+	2.72	3.8	354
B745N	NESC Heavy NA+	2.72	3.8	1364
B744N	NESC Heavy NA+	2.72	3.8	413
B743N	NESC Heavy NA+	2.72	3.8	326
B742N	NESC Heavy NA+	2.72	3.8	161
B741N	NESC Heavy NA+	2.72	3.8	9
B740N	NESC Heavy NA+	2.72	3.8	29
B739N	NESC Heavy NA+	2.72	3.8	356
GDI_0035	NESC Heavy NA+	2.72	3.8	669
B738N	NESC Heavy NA+	2.72	3.8	45
B737N	NESC Heavy NA+	2.72	3.8	658
736EN	NESC Heavy NA+	2.72	3.8	441
TP735N	NESC Heavy NA+	2.72	3.8	1245
TP734N	NESC Heavy NA+	2.72	3.8	1466
733WN	NESC Heavy NA+	2.72	3.8	1085
732WN	NESC Heavy NA+	2.72	3.8	949

Pertcent Change Horizontal Load	Pertcent Change Vertical Load	Change is Tension (lb)
1%	-3%	-3021
1%	-3%	-1603
1%	-3%	-320
1%	-3%	-179
1%	-3%	-1493
1%	-3%	-136
1%	-3%	-281
1%	-3%	-423
1%	-3%	-732
1%	-3%	-229
1%	-3%	-971
1%	-3%	-1563
1%	-3%	-59
1%	-3%	-37
1%	-3%	-168
1%	-3%	-3228
1%	-3%	-6330
1%	-3%	-3312
1%	-3%	-1025
1%	-3%	-220
1%	-3%	-727
1%	-3%	-40
1%	-3%	-159
1%	-3%	-268
1%	-3%	-54
1%	-3%	-353
1%	-3%	-1361
1%	-3%	-409
1%	-3%	-325
1%	-3%	-160
1%	-3%	-8
1%	-3%	-28
1%	-3%	139
1%	-3%	-554
1%	-3%	247
1%	-3%	-423
1%	-3%	3
1%	-3%	-1157
1%	-3%	-1300
1%	-3%	-822
1%	-3%	-809

PRYSMIAN (New OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
731WN	NESC Heavy NA+	2.74	3.7	125
730EN	NESC Heavy NA+	2.74	3.7	236
729WN	NESC Heavy NA+	2.74	3.7	108
728WN	NESC Heavy NA+	2.74	3.7	7
727WN	NESC Heavy NA+	2.74	3.7	2
726WN	NESC Heavy NA+	2.74	3.7	0
725WN	NESC Heavy NA+	2.74	3.7	1
724WN	NESC Heavy NA+	2.74	3.7	22
723WN	NESC Heavy NA+	2.74	3.7	25
722WN	NESC Heavy NA+	2.74	3.7	58
721EN	NESC Heavy NA+	2.74	3.7	93
720EN	NESC Heavy NA+	2.74	3.7	83
719WN	NESC Heavy NA+	2.74	3.7	95
718WN	NESC Heavy NA+	2.74	3.7	4
717WN	NESC Heavy NA+	2.74	3.7	2
716WN	NESC Heavy NA+	2.74	3.7	1
715WN	NESC Heavy NA+	2.74	3.7	3
714WN	NESC Heavy NA+	2.74	3.7	31
713WN	NESC Heavy NA+	2.74	3.7	12
712WN	NESC Heavy NA+	2.74	3.7	30
711WN	NESC Heavy NA+	2.74	3.7	86
710EN	NESC Heavy NA+	2.74	3.7	38
709EN	NESC Heavy NA+	2.74	3.7	107
708WN	NESC Heavy NA+	2.74	3.7	51
TP707WN	NESC Heavy NA+	2.74	3.7	717
TP706EN	NESC Heavy NA+	2.74	3.7	690
705EN	NESC Heavy NA+	2.74	3.7	19
704WN	NESC Heavy NA+	2.74	3.7	37
703WN	NESC Heavy NA+	2.74	3.7	5
702WN	NESC Heavy NA+	2.74	3.7	3
701WN	NESC Heavy NA+	2.74	3.7	0
700WN	NESC Heavy NA+	2.74	3.7	0
699WN	NESC Heavy NA+	2.74	3.7	0
698WN	NESC Heavy NA+	2.74	3.7	3
697WN	NESC Heavy NA+	2.74	3.7	6
696WN	NESC Heavy NA+	2.74	3.7	1
695WN	NESC Heavy NA+	2.74	3.7	4
694WN	NESC Heavy NA+	2.74	3.7	0
693WN	NESC Heavy NA+	2.74	3.7	0
692WN	NESC Heavy NA+	2.74	3.7	2
691WN	NESC Heavy NA+	2.74	3.7	1

FOCUS (Existing OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
731WN	NESC Heavy NA+	2.72	3.8	56
730EN	NESC Heavy NA+	2.72	3.8	165
729WN	NESC Heavy NA+	2.72	3.8	108
728WN	NESC Heavy NA+	2.72	3.8	298
727WN	NESC Heavy NA+	2.72	3.8	577
726WN	NESC Heavy NA+	2.72	3.8	53
725WN	NESC Heavy NA+	2.72	3.8	267
724WN	NESC Heavy NA+	2.72	3.8	187
723WN	NESC Heavy NA+	2.72	3.8	254
722WN	NESC Heavy NA+	2.72	3.8	250
721EN	NESC Heavy NA+	2.72	3.8	30
720EN	NESC Heavy NA+	2.72	3.8	233
719WN	NESC Heavy NA+	2.72	3.8	394
718WN	NESC Heavy NA+	2.72	3.8	598
717WN	NESC Heavy NA+	2.72	3.8	117
716WN	NESC Heavy NA+	2.72	3.8	170
715WN	NESC Heavy NA+	2.72	3.8	946
714WN	NESC Heavy NA+	2.72	3.8	1851
713WN	NESC Heavy NA+	2.72	3.8	91
712WN	NESC Heavy NA+	2.72	3.8	16
711WN	NESC Heavy NA+	2.72	3.8	43
710EN	NESC Heavy NA+	2.72	3.8	88
709EN	NESC Heavy NA+	2.72	3.8	58
708WN	NESC Heavy NA+	2.72	3.8	144
TP707WN	NESC Heavy NA+	2.72	3.8	119
TP706EN	NESC Heavy NA+	2.72	3.8	156
705EN	NESC Heavy NA+	2.72	3.8	198
704WN	NESC Heavy NA+	2.72	3.8	624
703WN	NESC Heavy NA+	2.72	3.8	18
702WN	NESC Heavy NA+	2.72	3.8	36
701WN	NESC Heavy NA+	2.72	3.8	144
700WN	NESC Heavy NA+	2.72	3.8	1
699WN	NESC Heavy NA+	2.72	3.8	207
698WN	NESC Heavy NA+	2.72	3.8	12
697WN	NESC Heavy NA+	2.72	3.8	213
696WN	NESC Heavy NA+	2.72	3.8	264
695WN	NESC Heavy NA+	2.72	3.8	3
694WN	NESC Heavy NA+	2.72	3.8	14
693WN	NESC Heavy NA+	2.72	3.8	144
692WN	NESC Heavy NA+	2.72	3.8	82
691WN	NESC Heavy NA+	2.72	3.8	76

Pertcent Change Horizontal Load	Pertcent Change Vertical Load	Change is Tension (lb)
1%	-3%	69
1%	-3%	71
1%	-3%	0
1%	-3%	-291
1%	-3%	-575
1%	-3%	-53
1%	-3%	-266
1%	-3%	-165
1%	-3%	-229
1%	-3%	-192
1%	-3%	63
1%	-3%	-150
1%	-3%	-299
1%	-3%	-594
1%	-3%	-115
1%	-3%	-169
1%	-3%	-943
1%	-3%	-1820
1%	-3%	-79
1%	-3%	14
1%	-3%	43
1%	-3%	-50
1%	-3%	49
1%	-3%	-93
1%	-3%	598
1%	-3%	534
1%	-3%	-179
1%	-3%	-587
1%	-3%	-13
1%	-3%	-33
1%	-3%	-144
1%	-3%	-1
1%	-3%	-207
1%	-3%	-9
1%	-3%	-207
1%	-3%	-263
1%	-3%	1
1%	-3%	-14
1%	-3%	-144
1%	-3%	-80
1%	-3%	-75

PRYSMIAN (New OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
690WN	NESC Heavy NA+	2.74	3.7	1
689WN	NESC Heavy NA+	2.74	3.7	27
688EN	NESC Heavy NA+	2.74	3.7	12
687WN	NESC Heavy NA+	2.74	3.7	94
686WN	NESC Heavy NA+	2.74	3.7	6
685WN	NESC Heavy NA+	2.74	3.7	6
684WN	NESC Heavy NA+	2.74	3.7	2
683WN	NESC Heavy NA+	2.74	3.7	65
682WN	NESC Heavy NA+	2.74	3.7	2
681WN	NESC Heavy NA+	2.74	3.7	3
GDI_0094	NESC Heavy NA+	2.74	3.7	4
679WN	NESC Heavy NA+	2.74	3.7	129
678EN	NESC Heavy NA+	2.74	3.7	240
677WN	NESC Heavy NA+	2.74	3.7	112
676WN	NESC Heavy NA+	2.74	3.7	1
675WN	NESC Heavy NA+	2.74	3.7	1
674WN	NESC Heavy NA+	2.74	3.7	1
673WN	NESC Heavy NA+	2.74	3.7	1
672WN	NESC Heavy NA+	2.74	3.7	2
671WN	NESC Heavy NA+	2.74	3.7	14
670WN	NESC Heavy NA+	2.74	3.7	1
669WN	NESC Heavy NA+	2.74	3.7	164
668EN	NESC Heavy NA+	2.74	3.7	210
667WN	NESC Heavy NA+	2.74	3.7	211
TP667WN	NESC Heavy NA+	2.74	3.7	22
TP665EN	NESC Heavy NA+	2.74	3.7	55
665WN	NESC Heavy NA+	2.74	3.7	91
664WN	NESC Heavy NA+	2.74	3.7	1
663WN	NESC Heavy NA+	2.74	3.7	1
662WN	NESC Heavy NA+	2.74	3.7	6
661WN	NESC Heavy NA+	2.74	3.7	95
660EN	NESC Heavy NA+	2.74	3.7	91
659EN	NESC Heavy NA+	2.74	3.7	63
658WN	NESC Heavy NA+	2.74	3.7	42
657WN	NESC Heavy NA+	2.74	3.7	4
656WN	NESC Heavy NA+	2.74	3.7	85
655EN	NESC Heavy NA+	2.74	3.7	275
GDI_0121	NESC Heavy NA+	2.74	3.7	3
GDI_0122	NESC Heavy NA+	2.74	3.7	4
654WN	NESC Heavy NA+	2.74	3.7	390
653WN	NESC Heavy NA+	2.74	3.7	13

FOCUS (Existing OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
690WN	NESC Heavy NA+	2.72	3.8	118
689WN	NESC Heavy NA+	2.72	3.8	67
688EN	NESC Heavy NA+	2.72	3.8	196
687WN	NESC Heavy NA+	2.72	3.8	169
686WN	NESC Heavy NA+	2.72	3.8	9
685WN	NESC Heavy NA+	2.72	3.8	384
684WN	NESC Heavy NA+	2.72	3.8	453
683WN	NESC Heavy NA+	2.72	3.8	884
682WN	NESC Heavy NA+	2.72	3.8	57
681WN	NESC Heavy NA+	2.72	3.8	26
GDI_0094	NESC Heavy NA+	2.72	3.8	112
679WN	NESC Heavy NA+	2.72	3.8	60
678EN	NESC Heavy NA+	2.72	3.8	156
677WN	NESC Heavy NA+	2.72	3.8	121
676WN	NESC Heavy NA+	2.72	3.8	45
675WN	NESC Heavy NA+	2.72	3.8	124
674WN	NESC Heavy NA+	2.72	3.8	52
673WN	NESC Heavy NA+	2.72	3.8	5
672WN	NESC Heavy NA+	2.72	3.8	56
671WN	NESC Heavy NA+	2.72	3.8	328
670WN	NESC Heavy NA+	2.72	3.8	219
669WN	NESC Heavy NA+	2.72	3.8	146
668EN	NESC Heavy NA+	2.72	3.8	400
667WN	NESC Heavy NA+	2.72	3.8	152
TP667WN	NESC Heavy NA+	2.72	3.8	121
TP665EN	NESC Heavy NA+	2.72	3.8	266
665WN	NESC Heavy NA+	2.72	3.8	506
664WN	NESC Heavy NA+	2.72	3.8	58
663WN	NESC Heavy NA+	2.72	3.8	129
662WN	NESC Heavy NA+	2.72	3.8	168
661WN	NESC Heavy NA+	2.72	3.8	199
660EN	NESC Heavy NA+	2.72	3.8	275
659EN	NESC Heavy NA+	2.72	3.8	105
658WN	NESC Heavy NA+	2.72	3.8	275
657WN	NESC Heavy NA+	2.72	3.8	199
656WN	NESC Heavy NA+	2.72	3.8	311
655EN	NESC Heavy NA+	2.72	3.8	594
GDI_0121	NESC Heavy NA+	2.72	3.8	15
GDI_0122	NESC Heavy NA+	2.72	3.8	217
654WN	NESC Heavy NA+	2.72	3.8	551
653WN	NESC Heavy NA+	2.72	3.8	174

Pertcent Change Horizontal Load	Pertcent Change Vertical Load	Change is Tension (lb)
1%	-3%	-117
1%	-3%	-40
1%	-3%	-184
1%	-3%	-75
1%	-3%	-3
1%	-3%	-378
1%	-3%	-451
1%	-3%	-819
1%	-3%	-55
1%	-3%	-23
1%	-3%	-108
1%	-3%	69
1%	-3%	84
1%	-3%	-9
1%	-3%	-44
1%	-3%	-123
1%	-3%	-51
1%	-3%	-4
1%	-3%	-54
1%	-3%	-314
1%	-3%	-218
1%	-3%	18
1%	-3%	-190
1%	-3%	59
1%	-3%	-99
1%	-3%	-211
1%	-3%	-415
1%	-3%	-57
1%	-3%	-128
1%	-3%	-162
1%	-3%	-104
1%	-3%	-184
1%	-3%	-42
1%	-3%	-233
1%	-3%	-195
1%	-3%	-226
1%	-3%	-319
1%	-3%	-12
1%	-3%	-213
1%	-3%	-161
1%	-3%	-161

PRYSMIAN (New OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
652WN	NESC Heavy NA+	2.74	3.7	0
651WN	NESC Heavy NA+	2.74	3.7	1
650WN	NESC Heavy NA+	2.74	3.7	0
649WN	NESC Heavy NA+	2.74	3.7	274
GDI_0129	NESC Heavy NA+	2.74	3.7	45
648WN	NESC Heavy NA+	2.74	3.7	319
647WN	NESC Heavy NA+	2.74	3.7	0
GDI_0710	NESC Heavy NA+	2.74	3.7	1
GDI_0106	NESC Heavy NA+	1.37	1.85	6288

FOCUS (Existing OPGW)				
Str No	Load Case Description	**Horizontal Load (lb/ft)**	**Vertical Load (lb/ft)**	**Horizontal Tension (lb)**
652WN	NESC Heavy NA+	2.72	3.8	23
651WN	NESC Heavy NA+	2.72	3.8	96
650WN	NESC Heavy NA+	2.72	3.8	83
649WN	NESC Heavy NA+	2.72	3.8	437
GDI_0129	NESC Heavy NA+	2.72	3.8	187
648WN	NESC Heavy NA+	2.72	3.8	861
647WN	NESC Heavy NA+	2.72	3.8	32
GDI_0710	NESC Heavy NA+	2.72	3.8	21
GDI_0106	NESC Heavy NA+	1.36	1.9	6505

Pertcent Change Horizontal Load	Pertcent Change Vertical Load	Change is Tension (lb)
1%	-3%	-23
1%	-3%	-95
1%	-3%	-83
1%	-3%	-163
1%	-3%	-142
1%	-3%	-542
1%	-3%	-32
1%	-3%	-20
1%	-3%	-217