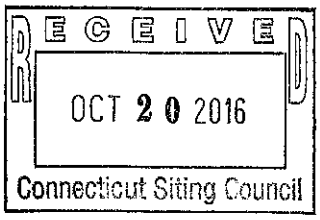
Wallingford Energy, LLC

c/o LS Power Development, LLC
400 Chesterfield Center, Suite 110
St. Louis, Missouri 63017
(636) 532-2200 · Fax (636) 532-2250

October 20, 2016

Ms. Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

ORIGINAL



Re: Petition No. 1240 – Wallingford Energy, LLC on behalf of the Town of Wallingford Electric Division: Minor Changes to Routing & Structures and Notice of Start of Construction

Dear Ms. Bachman:

Pursuant to Section 16-50j-62(b)(1) of the Regulations of Connecticut State Agencies and in accordance with the Petition for Declaratory Ruling approved on August 4, 2016, for the above referenced Project ("Approval"), Wallingford Energy, LLC ("WE") hereby provides written notification to the Connecticut Siting Council that the construction work will commence on or soon after November 2, 2016. Officials of the affected municipalities have also been notified.

Additionally, pursuant to Section 16-50j-62(b)(1) of the Regulations of Connecticut State Agencies and in accordance with the Approval, WE hereby provides written notification to the Connecticut Siting Council for the minor Project modifications detailed herein.

Routing

Provided within the enclosed is a map depicting the finalized transmission route. Some structure locations have shifted marginally from those depicted in the original submittal, but do not require that any additional property rights be obtained. Additionally, it has been determined that modifications to the 115-kV 1208 line will not be necessary and thus will not be pursued as part of this Project. Given the relatively minor route adjustments, impacts to the calculated EMF levels will be minimal.

Structures

Updated structural drawings are enclosed. As was submitted to the Council in the Petition, the

tallest structure height will be 115 feet. The enclosed structural drawings represent the final design for all structures with the exception of 1640-2. This structure will in fact be 115 feet tall while all other structures will range in height from 75 feet to 100 feet. An updated structural drawing will be submitted to the Council for 1640-2 once completed.

Soil Erosion and Sediment Control

After consulting with the Connecticut Department of Energy & Environmental Protection, it was determined that the Project will disturb less than one acre and accordingly, a general permit for the discharge of stormwater and dewatering wastewaters from construction activities is not required. Nevertheless, WE will direct the on-site contractor to utilize industry best practices, conforming to *the 2002 Connecticut Guidelines for Soil Erosion and Sediment control*.

Laydown Area

The laydown area depicted on the enclosed has been secured for a separate project being undertaken by Wallingford Energy II, LLC. WE has been permitted to utilize this same space as a laydown area.

If you have any additional questions or wish to discuss please feel free to contact me at (636) 532-2200 or bpollpeter@lspower.com.

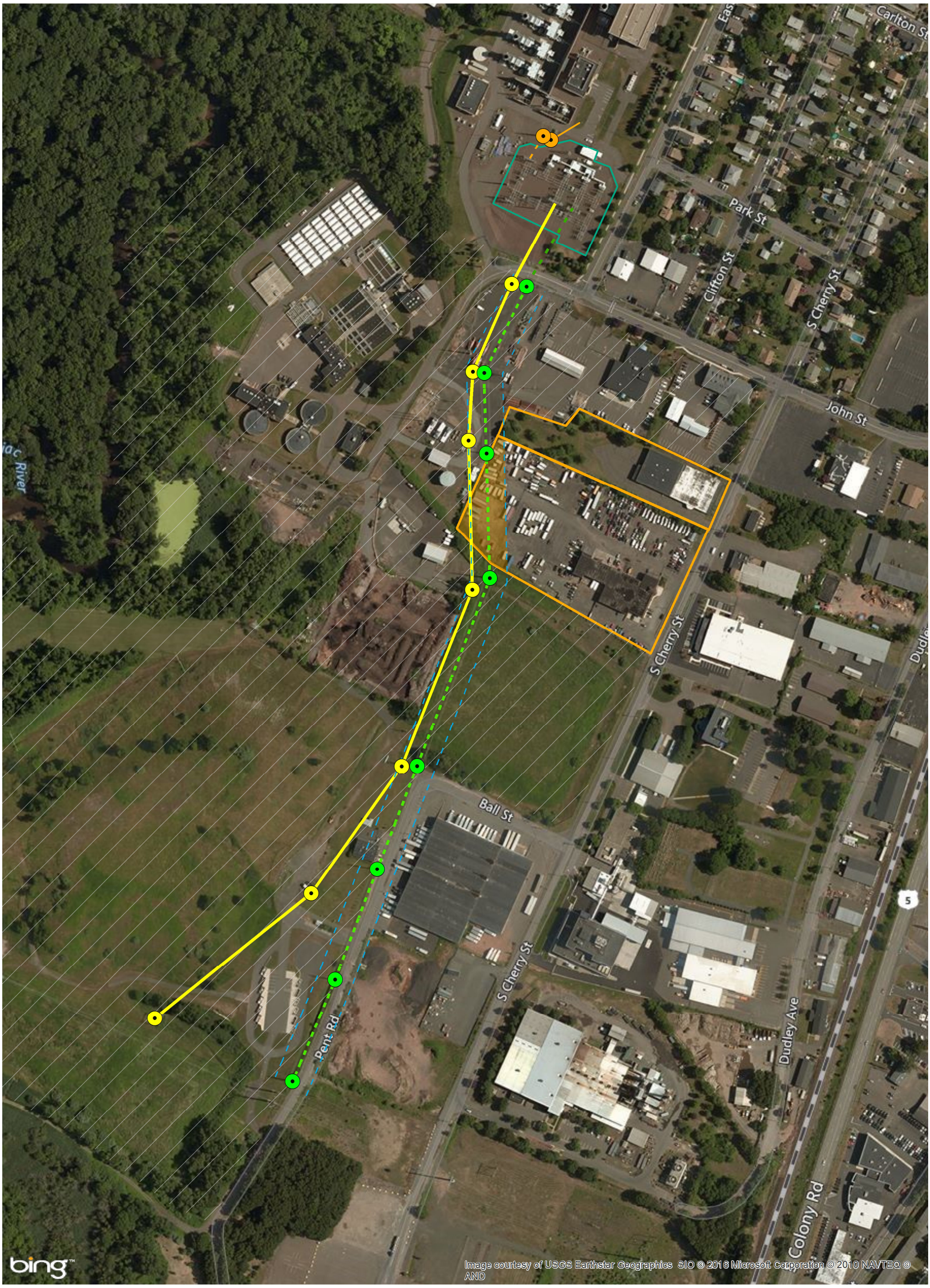
Sincerely,

Brandon Pollpeter

cc: The Honorable William W. Dickenson, Jr., Mayor, Town of Wallingford
(via U. S. Mail)

Enclosures (3) – Transmission Modifications Map
Transmission Structure Drawings
Laydown Area

Transmission Modifications Map



Legend

- Existing ROW
- Line 1630 (Existing)
- Line 1640 (New)
- Line 1305 (New)
- Line 1305 (Existing)
- Private Property
- Town Property
- New Easement
- Substation

N

0 200 400 600 800

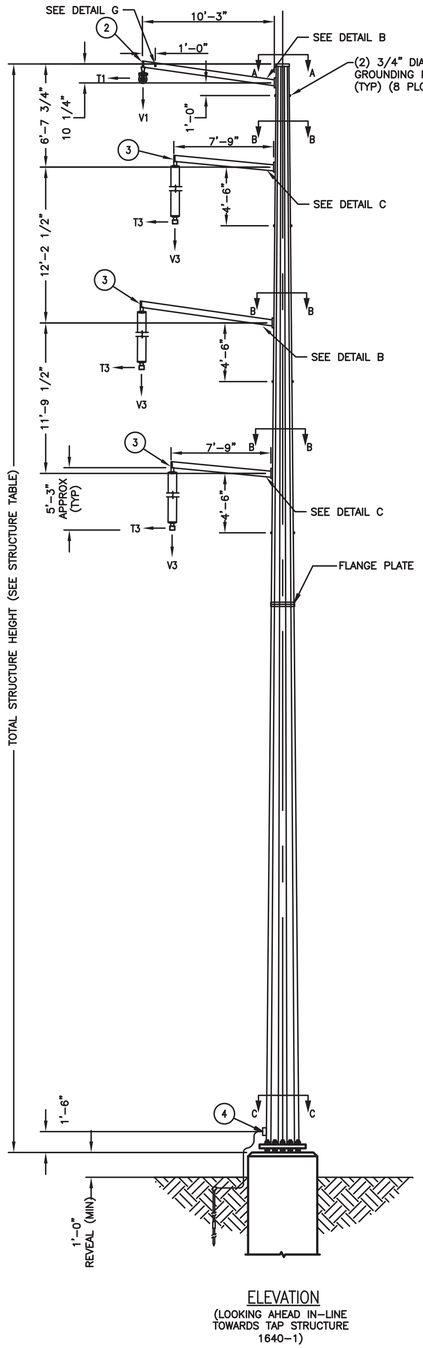
Feet

Wallingford Energy, LLC

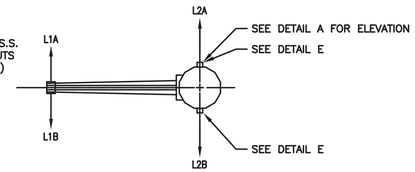
Transmission Modifications

1:4,000

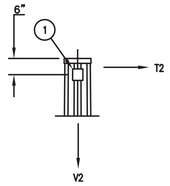
Transmission Structure Drawings



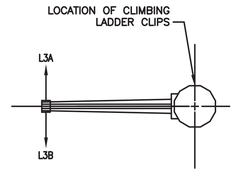
ELEVATION
(LOOKING AHEAD IN-LINE TOWARDS TAP STRUCTURE 1640-1)



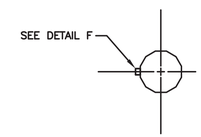
SECTION A-A



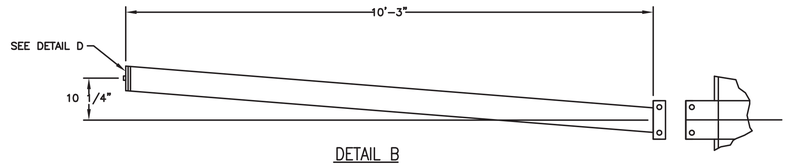
DETAIL A



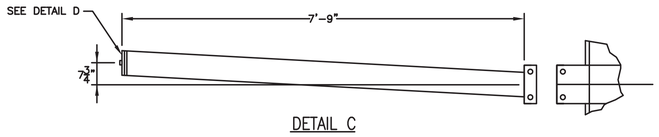
SECTION B-B



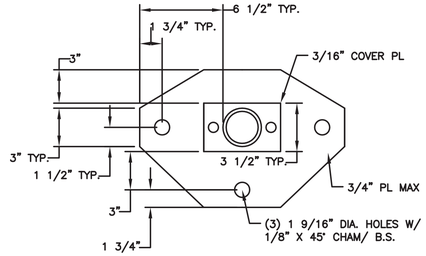
SECTION C-C



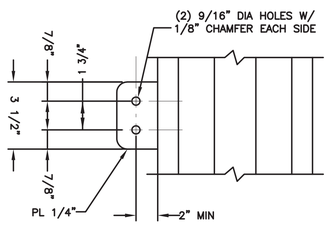
DETAIL B



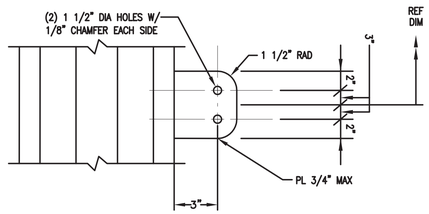
DETAIL C



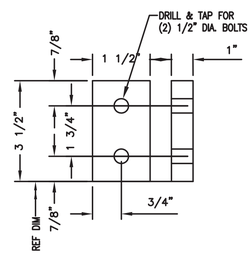
DETAIL D



DETAIL F
GROUNDING PAD



DETAIL E
SHIELDWIRE VANG



DETAIL G
SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELDWIRE 1	3/8" EHS	AHEAD	3300	550	450	200
	3/8" EHS	BACK	3300	550	350	350
SHIELDWIRE 2	3/8" EHS	AHEAD	3300	400	500	200
	–	BACK	–	–	–	–
CONDUCTOR	1272 KCMIL ASCR "BITTERN"	AHEAD	10000	550	400	200
	1272 KCMIL ASCR "BITTERN"	BACK	10000	550	400	350

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6
SW1	T1	800	600	700	300	200	100
	V1	1000	400	1100	2800	1900	300
	L1A	0	0	0	0	4400	0
	L1B	0	0	0	0	7000	0
SW2	T2	400	300	300	200	200	100
	V2	600	300	600	1400	1300	300
	L2A	5600	2600	3800	6600	6000	1600
	L2B	0	0	0	0	0	0
115KV CONDUCTORS	T3	2000	2200	1400	900	900	300
	V3	3600	1800	3100	5700	4500	1400
	L3A	0	0	0	0	14900	0
	L3B	0	0	0	0	15400	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0° F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	⌀
1640-2	80'-0"	1	0°

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE DEADEND ASSEMBLY	SW2	1	–
2	3/8" EHS SHIELD WIRE SUSPENSION ASSEMBLY	SW1	1	–
3	115KV SUSPENSION INSULATOR ASSEMBLY	C1	3	–
4	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 – 1.50, CASE 2, 3, 5, & 6 – 1.00, CASE 4 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 42 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE ARM.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.

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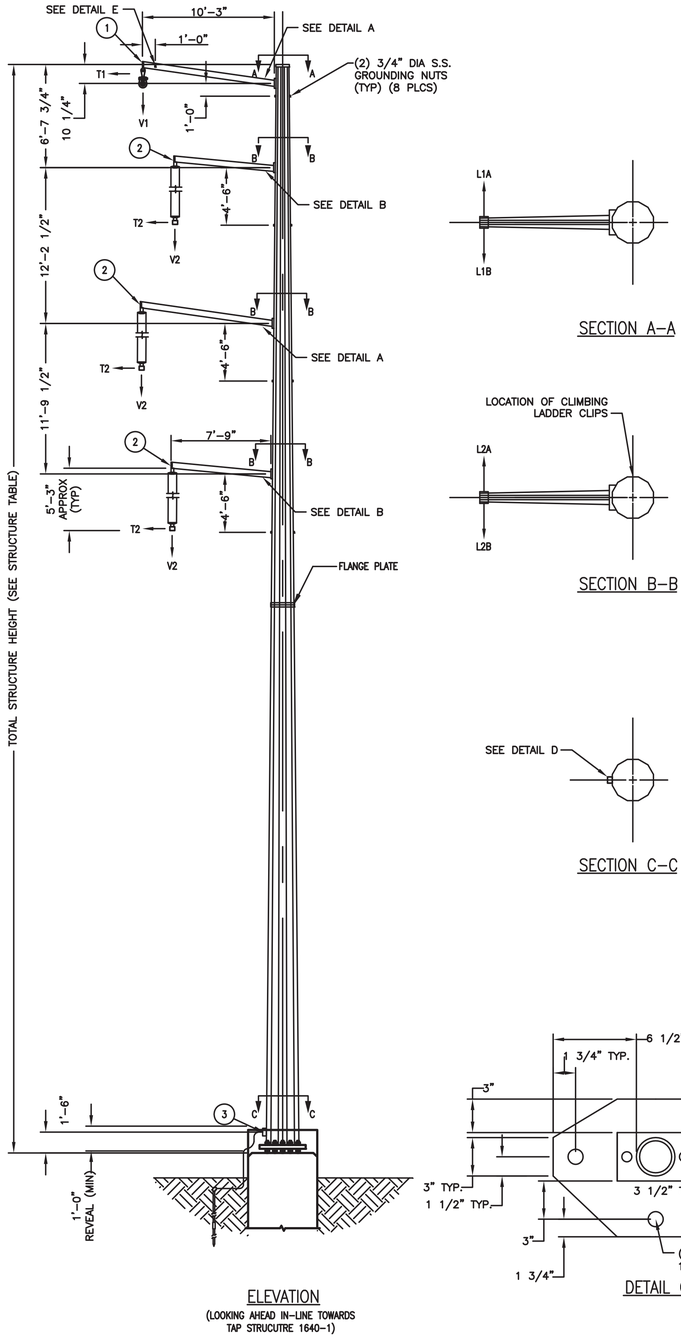
DESIGNER	DRAWN	CHECKED	DATE
DWJ	EJJ		09/07/2016

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE LOADS FOR MODIFIED LOCATION	EJJ	KMS			
1	09/14/2016	ADD INSULATOR LENGTH, CHANGE CASE 6 NAME	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

WALLINGFORD 115KV LINE 1640

TANGENT (0-1.5°)
STRUCTURE 1640-2

PROJECT	DRAWING NUMBER	REV
191301	STRD-001	1
CODE		
AREA		



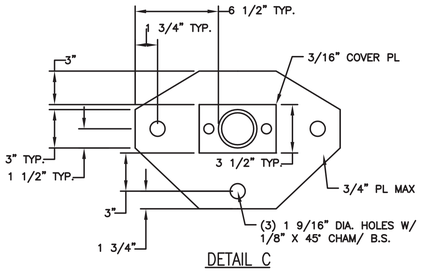
ELEVATION

(LOOKING AHEAD IN-LINE TOWARDS TAP STRUCUTRE 1640-1)

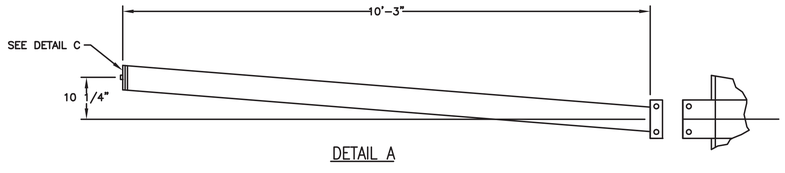
SECTION A-A

SECTION B-B

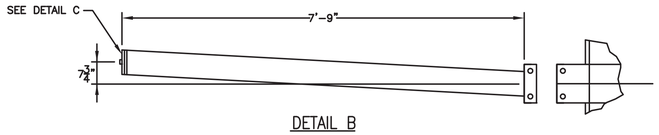
SECTION C-C



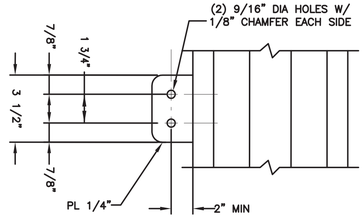
DETAIL C



DETAIL A

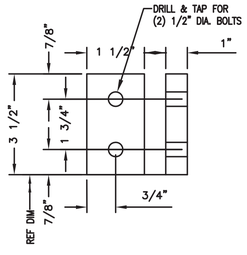


DETAIL B



DETAIL D

GROUNDING PAD



DETAIL E

SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELD WIRE	3/8" EHS	AHEAD	3300	550	50	200
	3/8" EHS	BACK	3300	550	250	150
CONDUCTOR	1272 KCMIL ASCR "BITTERN"	AHEAD	10000	550	50	200
	1272 KCMIL ASCR "BITTERN"	BACK	10000	550	300	150

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6
SW	T1	800	500	500	300	200	100
	V1	500	200	500	1400	1000	200
	L1A	0	0	0	0	5700	0
	L1B	0	0	0	0	5000	0
115KV CONDUCTORS	T2	2000	1700	900	500	500	200
	V2	1900	900	1600	3000	2300	800
	L2A	0	0	0	0	15200	0
	L2B	0	0	0	0	15100	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

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CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

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STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	⊄
1640-5	85'-0"	1	0°

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE SUSPENSION ASSEMBLY	SW1	1	–
2	115KV SUSPENSION INSULATOR ASSEMBLY	C1	3	–
3	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

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DESIGNER DWJ | DRAWN EJJ | CHECKED | DATE 09/07/2016

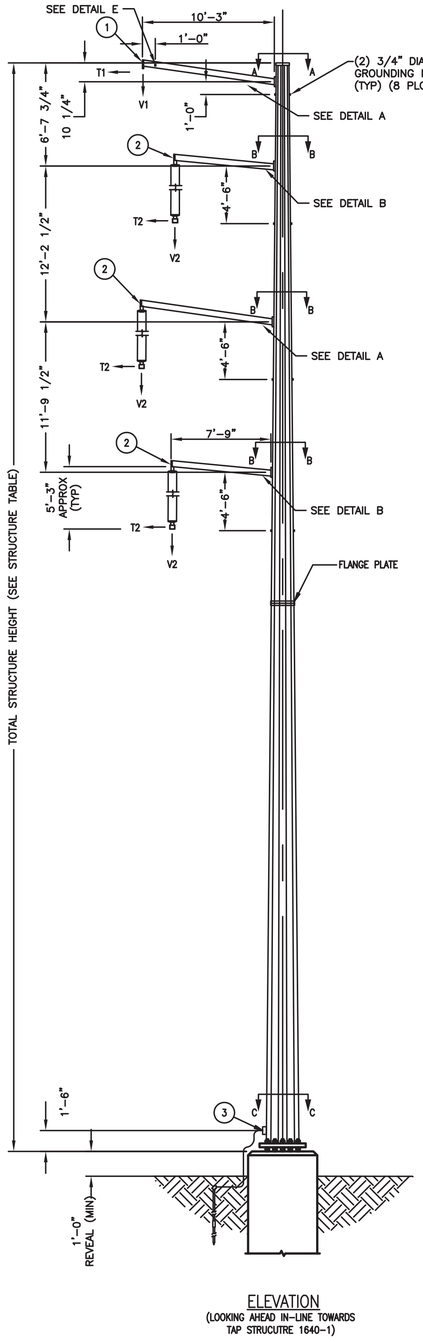
WALLINGFORD 115KV LINE 1640

TANGENT (0-1.5°)
STRUCTURE 1640-5

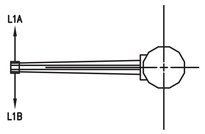
PROJECT	DRAWING NUMBER	REV
191301	STRD-002	1

CODE

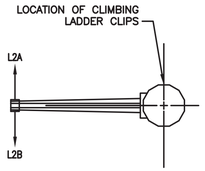
AREA



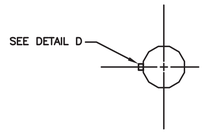
ELEVATION
(LOOKING AHEAD IN-LINE TOWARDS TAP STRUCUTRE 1640-1)



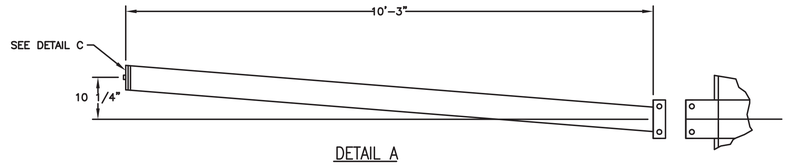
SECTION A-A



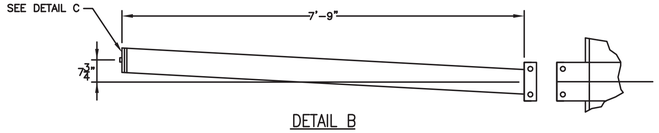
SECTION B-B



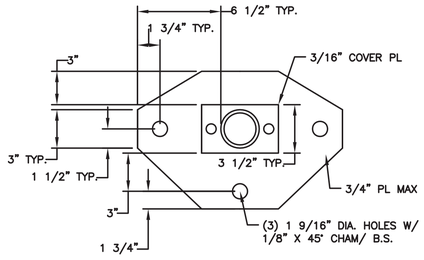
SECTION C-C



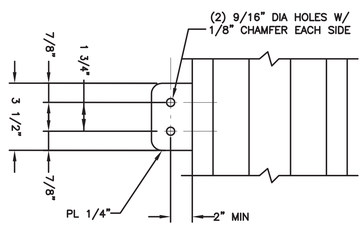
DETAIL A



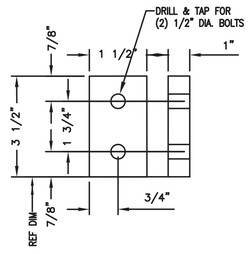
DETAIL B



DETAIL C



DETAIL D
GROUNDING PAD



DETAIL E
SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELD WIRE	3/8" EHS	AHEAD	2500	300	250	150
	–	BACK	–	–	–	–
CONDUCTOR	1272 KCMIL ASCR "BITTERN"	AHEAD	4300	300	200	150
	1272 KCMIL ASCR "BITTERN"	BACK	4300	300	250	150

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6
SW	T1	300	200	200	100	100	100
	V1	400	200	400	800	800	100
	L1A	4200	1900	2900	5100	4700	1000
	L1B	0	0	0	0	0	0
115KV CONDUCTORS	T2	900	1200	700	800	300	100
	V2	2200	1200	1900	3500	2600	900
	L2A	0	0	0	0	6600	0
	L2B	0	0	0	0	6400	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0° F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	Φ
1640-7	85'-0"	1	0°

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE DEADEND ASSEMBLY	SW2	1	–
2	115KV SUSPENSION INSULATOR ASSEMBLY	C1	3	–
3	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 – 1.50, CASE 2, 3, 5, & 6 – 1.00, CASE 4 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 42 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE ARM.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.

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NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE DETAIL CALLOUT	EJJ	KMS			
1	09/14/2016	ADD INSULATOR LENGTH, EXCHANGE CASE 6 NAME	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

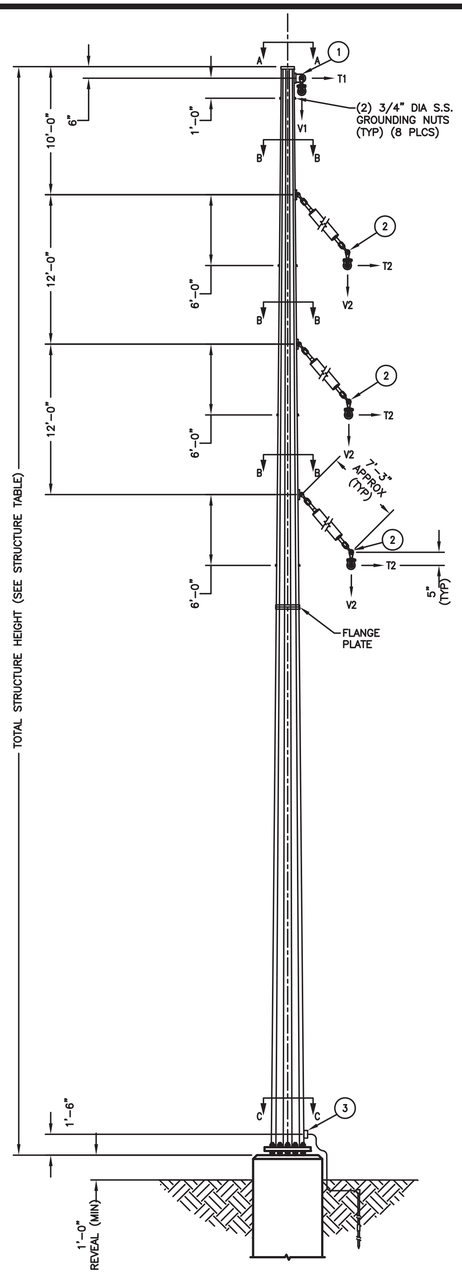
DESIGNER DWJ | DRAWN EJJ | CHECKED | DATE 09/07/2016

WALLINGFORD 115KV LINE 1640

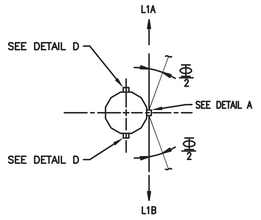
TANGENT (0-1.5°)
STRUCTURE 1640-7

PROJECT	DRAWING NUMBER	REV
191301	STRD-003	1

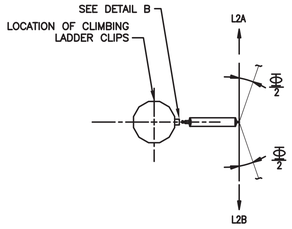
CODE
AREA



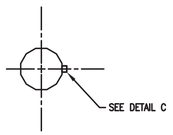
ELEVATION
(LOOKING AHEAD IN-LINE TOWARDS TAP STRUCTURE 1640-1)



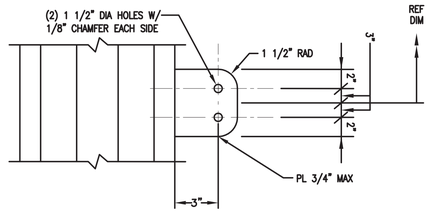
SECTION A-A



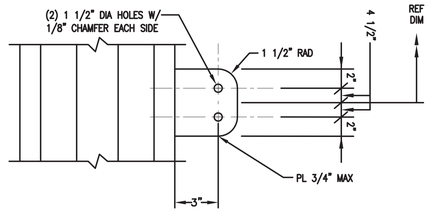
SECTION B-B



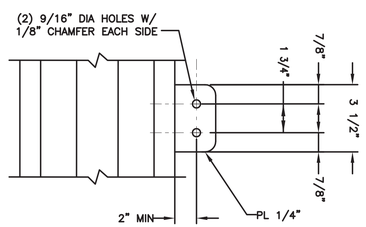
SECTION C-C



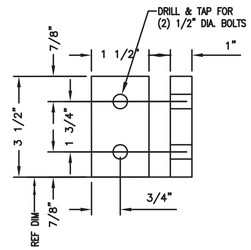
DETAIL A
SHIELDWIRE VANG



DETAIL B
CONDUCTOR VANG



DETAIL C
GROUNDING PAD



DETAIL D
SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELD WIRE	3/8" EHS	AHEAD	3300	550	300	350
	3/8" EHS	BACK	3300	550	350	300
CONDUCTOR	1272 KCMIL ASCR "BITTERN"	AHEAD	10000	550	300	350
	1272 KCMIL ASCR "BITTERN"	BACK	10000	550	300	300

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6
SW	T1	3300	1500	2100	2800	2100	500
	V1	800	300	900	2600	1700	300
	L1A	0	0	0	0	6900	0
	L1B	0	0	0	0	3300	0
115KV CONDUCTORS	T2	9000	5400	6600	6600	5600	1900
	V2	2600	1200	2200	4500	3500	2000
	L2A	0	0	0	0	15000	0
	L2B	0	0	0	0	14300	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	Φ
1640-3	100'-0"	1	24"
1640-4	100'-0"	1	24"

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE SUSPENSION ASSEMBLY	SW1	1	–
2	115KV RUNNING ANGLE SUSPENSION INSULATOR ASSEMBLY	C6	3	–
3	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 – 1.50, CASE 2, 3, 5, & 6 – 1.00, CASE 4 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 54 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE VANG.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.

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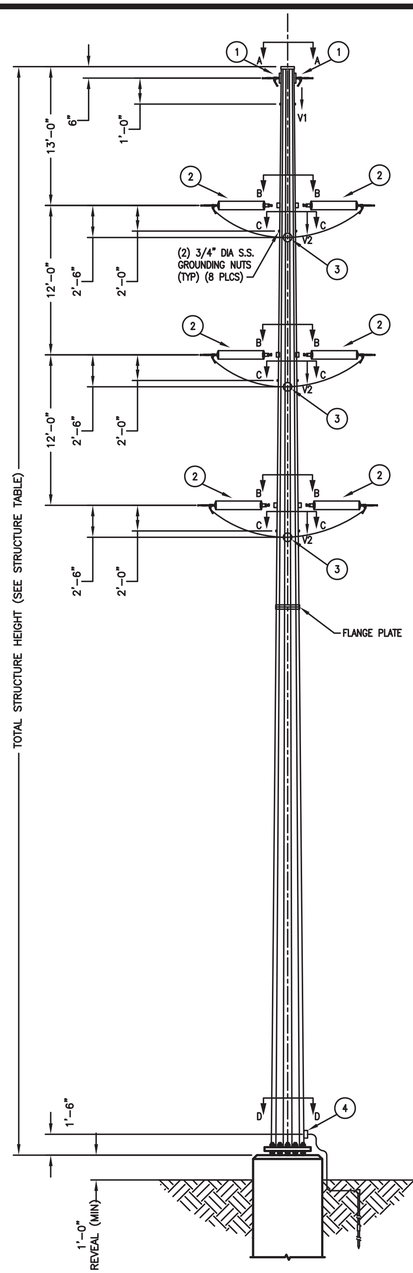
DESIGNER	DWJ	DRAWN	EJJ
CHECKED		DATE	09/14/2016

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE LOADS FOR MODIFIED LOCATION	EJJ	KMS			
1	09/14/2016	ADD INSULATOR LENGTH, CHANGE CASE NAME, CAHNGE TITLE	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

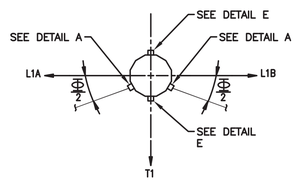
WALLINGFORD 115KV LINE 1640

RUNNING ANGLE (24")
STRUCTURE 1640-3 AND 1640-4

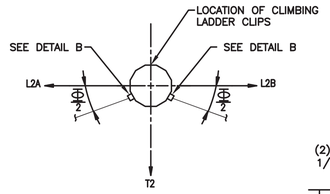
PROJECT	DRAWING NUMBER	REV
191301	STRD-004	1
CODE		
AREA		



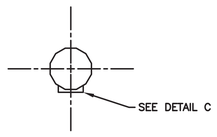
ELEVATION



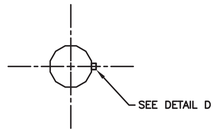
SECTION A–A



SECTION B–B



SECTION C–C



SECTION D–D

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELD WIRE	3/8" EHS	AHEAD	3300	550	100	150
	3/8" EHS	BACK	2500	300	100	150
CONDUCTOR	1272 KCMIL ASCR "BITTERN"	AHEAD	10000	550	100	150
	1272 KCMIL ASCR "BITTERN"	BACK	4300	300	100	150

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8	CASE 9	CASE 10
SW	T1	2800	1400	2100	3200	2000	600	1600	800	1200	1900
	V1	200	200	200	800	500	100	100	100	100	400
	L1A	5400	2500	3900	7100	5000	1200	5400	2500	3900	7100
	L1B	4000	1900	2800	4900	2400	900	0	0	0	0
115KV CONDUCTORS	T2	6500	4400	4400	6300	4800	1700	4600	2900	3100	4300
	V2	700	300	600	1300	900	400	600	200	500	900
	L2A	16100	8800	10600	16400	14800	4900	16100	8800	10600	16400
	L2B	6800	4000	4800	8300	4200	1800	0	0	0	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

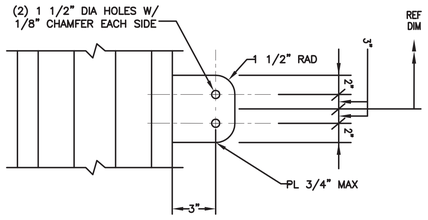
CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 7 – NESC 250B HEAVY DE, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

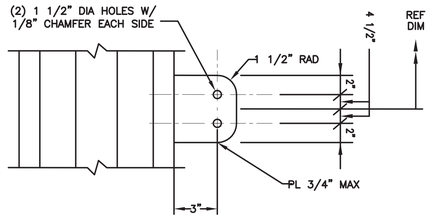
CASE 8 – NESC 250C EXTREME WIND DE, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 9 – NESC 250D WIND & ICE DE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

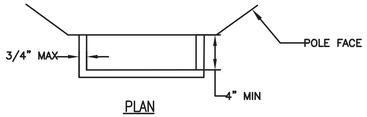
CASE 10 – EXTREME ICE DE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN



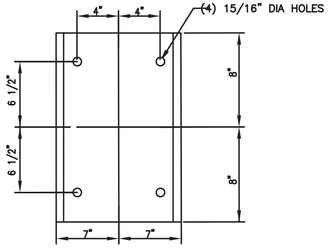
DETAIL A
SHIELDWIRE VANG



DETAIL B
CONDUCTOR VANG

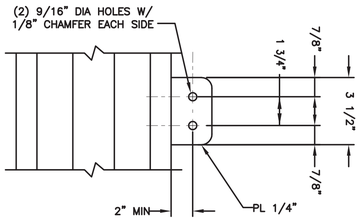


PLAN

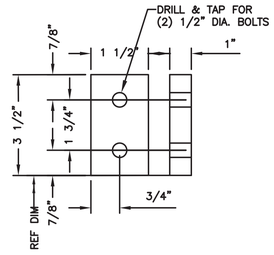


ELEVATION

DETAIL C
POST INSULATOR SUPPORT BRACKET



DETAIL D
GROUNDING PAD



DETAIL E
SHIELDWIRE GROUNDING PAD

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	Φ
1640–6	75'–0"	1	28"

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE DEADEND ASSEMBLY	SW2	2	–
2	115KV DEADEND INSULATOR ASSEMBLY	C2	6	–
3	115KV LINE POST JUMPER ASSEMBLY	C4	3	–
4	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 AND 7 – 1.50, CASE 2, 3, 5, 6, 8 & 9 – 1.00, CASE 4 AND 10 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 60 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE VANG.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.

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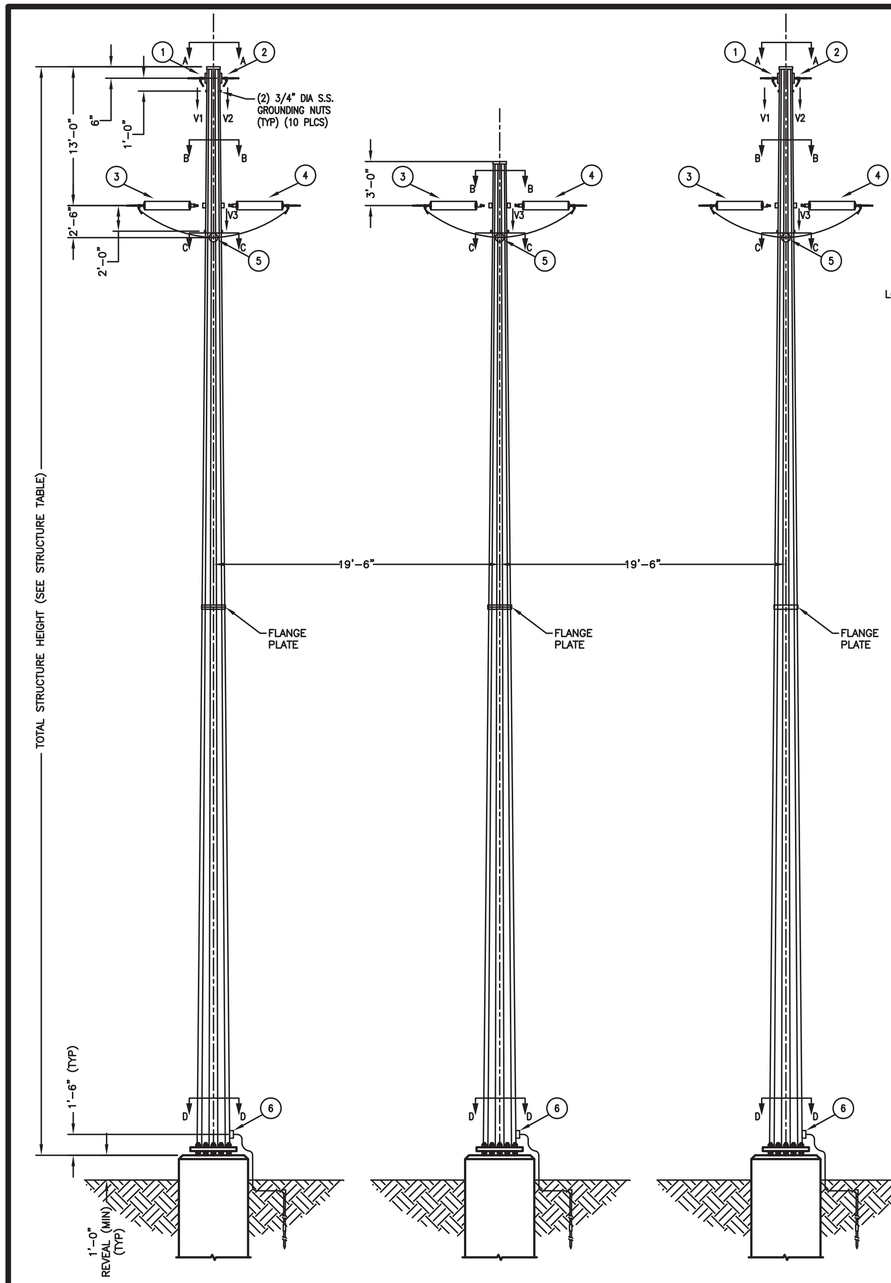
DESIGNER	DRAWN
DWJ	EJJ
CHECKED	DATE
	09/07/2016

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE LOADS FOR MODIFIED LOCATION	EJJ	KMS			
1	09/14/2016	CHANGE BRACKET DIM'S AND CASE 6 NAME	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

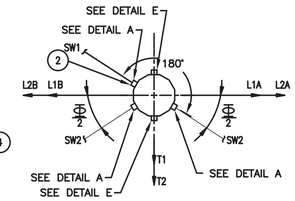
WALLINGFORD 115KV LINE 1640

SINGLE POLE DEADEND
STRUCTURE 1640–6

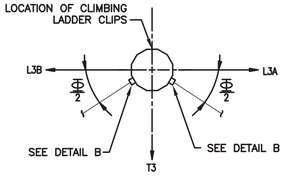
PROJECT	DRAWING NUMBER	REV
191301	STRD–005	1
CODE		
AREA		



ELEVATION



SECTION A–A



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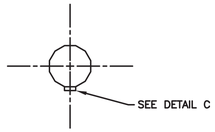

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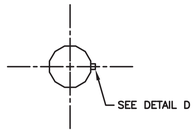

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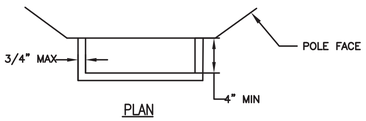
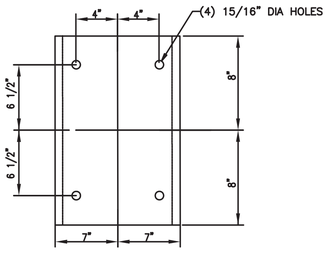
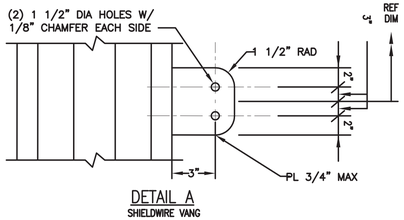


PLAN

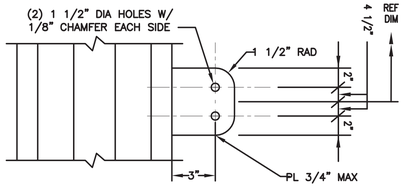


ELEVATION

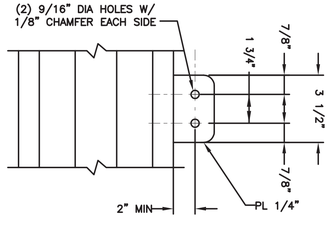
DETAIL C
POST INSULATOR SUPPORT BRACKET



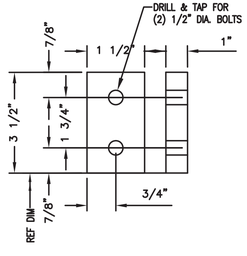
DETAIL A
SHIELDWIRE VANG



DETAIL B
CONDUCTOR VANG



DETAIL D
GROUNDING PAD



DETAIL E
SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELDWIRE 1	–	AHEAD	–	–	–	–
	7 NO. 8 ALUMOWELD	BACK	4200	550	400	300
SHIELDWIRE 2	7 NO. 8 ALUMOWELD	AHEAD	4200	500	150	250
	3/8" EHS	BACK	3300	550	100	200
CONDUCTOR	795 KCMIL ACSR "TERN"	AHEAD	7000	500	200	250
	1272 KCMIL ACSR "BITTERN"	BACK	10000	550	100	200

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8	CASE 9	CASE 10
SW1	T1	–3700	–1700	–2500	–4500	–2400	–1100	–3700	–1700	–2500	–4500
	V1	500	200	500	1400	1300	200	500	200	500	1400
	L1A	0	0	0	0	0	0	0	0	0	0
	L1B	6300	2900	4200	6900	6200	1700	6200	2900	4200	6800
SW2	T2	7900	3800	5600	9200	6300	2200	4500	2200	3100	4800
	V2	200	200	200	1200	800	100	200	200	300	900
	L2A	5900	2800	4100	6600	6000	1900	0	0	0	0
	L2B	4500	2000	3200	5400	2600	900	5800	3000	4000	6500
115KV CONDUCTORS	T3	17900	10600	11900	17700	13700	4800	10400	6100	6900	10200
	V3	1200	500	1100	2500	1700	600	700	500	600	1400
	L3A	9700	5600	6600	10200	5600	2400	0	0	0	0
	L3B	14200	7800	9300	14300	13000	4100	14100	7800	9300	14200

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 7 – NESC 250B HEAVY DE, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 8 – NESC 250C EXTREME WIND DE, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 9 – NESC 250D WIND & ICE DE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 10 – EXTREME ICE DE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	⌀
1640–1 (OUTSIDE POLES)	85'–0"	2	71"
1640–1 (MIDDLE POLE)	75'–0"	1	71"

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE DEADEND ASSEMBLY	SW2	2	–
2	7 NO. 8 ALUMOWELD SHIELD WIRE DEADEND ASSEMBLY	SW3	3	–
3	115KV DEADEND INSULATOR ASSEMBLY FOR 1272 KCMIL ACSR "BITTERN"	C2	3	–
4	115KV DEADEND INSULATOR ASSMEBLY FOR 795 KCMIL ACSR "TERN"	C7	3	–
5	115KV LINE POST JUMPER ASSEMBLY	C4	3	–
6	STEEL POLE GROUNDING ASSEMBLY	G1	3	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 AND 7 – 1.50, CASE 2, 3, 5, 6, 8 & 9 – 1.00, CASE 4 AND 10 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 60 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE VANG.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.
11. OUTSIDE POLES TO BE DESIGNED WITH AND WITHOUT SW1 LOADS.

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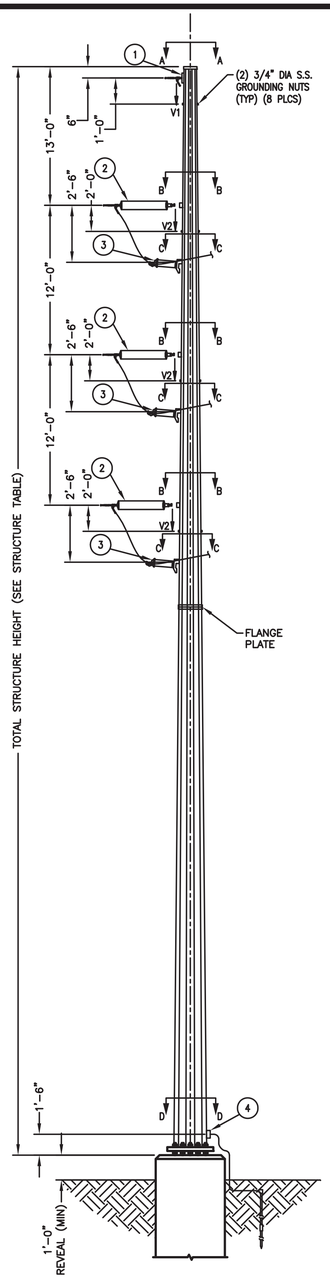
NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE LOADS FOR MODIFIED LOCATION	EJJ	KMS			
1	09/14/2016	CHANGE CASE 6 NAME	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

DESIGNER DWJ | DRAWN EJJ | CHECKED | DATE 09/07/2016

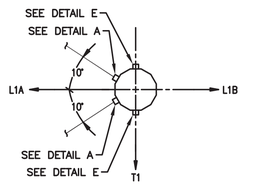
WALLINGFORD 115KV LINE 1640

THREE POLE DEADEND
STRUCTURE 1640–1

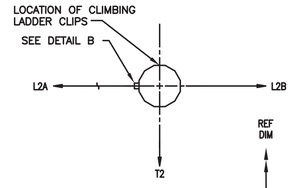
PROJECT 191301 | DRAWING NUMBER STRD–006 | REV 1
CODE
AREA



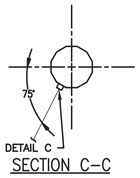
ELEVATION



SECTION A–A



SECTION B–B



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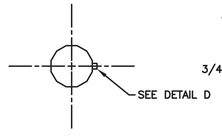

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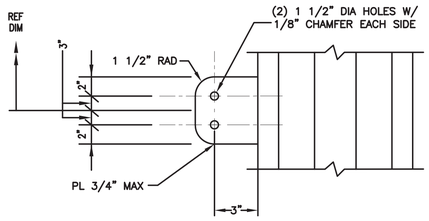
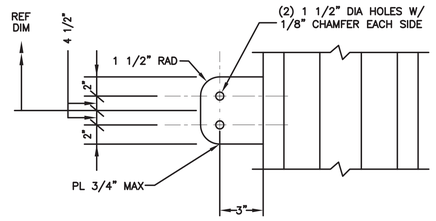
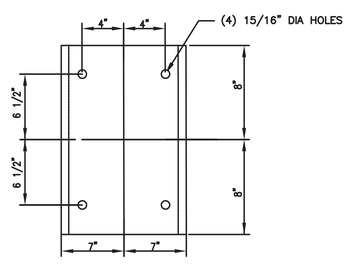


DETAIL A
SHIELDWIRE VANG

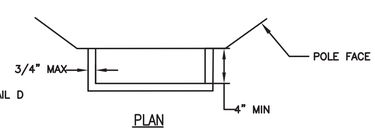


DETAIL B
CONDUCTOR VANG



ELEVATION

DETAIL C
POST INSULATOR SUPPORT BRACKET



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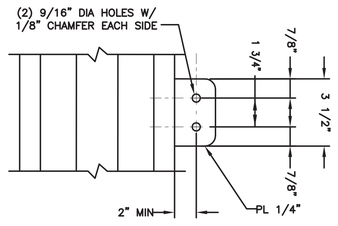
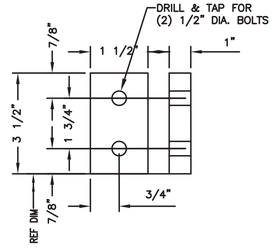


DETAIL D
GROUNDING PAD



DETAIL E
SHIELDWIRE GROUNDING PAD

WIRE AND SPAN DATA

WIRE			NESC HEAVY TENSION (LBS)	RULING SPAN (FT)	WEIGHT SPAN (FT)	WIND SPAN (FT)
SHIELD WIRE	3/8" EHS	AHEAD	1500	100	450	50
	–	BACK	–	–	–	–
CONDUCTOR	795 KCMIL ACSS "DRAKE"	AHEAD	2000	100	150	50
	–	BACK	–	–	–	–

LOADING TABLE

ITEMS	LOAD	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8	CASE 9	CASE 10
SW	T1	100	200	200	100	100	100	100	200	200	100
	V1	1100	600	1000	1700	1600	400	1100	600	1000	1700
	L1A	4700	1800	3000	4800	4300	1200	4700	1800	3000	4800
	L1B	0	0	0	0	0	0	0	0	0	0
115KV CONDUCTORS	T2	500	500	400	400	300	100	500	500	400	400
	V2	1000	600	800	1300	1000	400	1000	600	800	1300
	L2A	3300	1600	2200	3600	2700	700	3300	1600	2200	3600
	L2B	0	0	0	0	0	0	0	0	0	0

DESIGN APPLICATION

MECHANICAL LOADING CRITERIA

CASE 1 – NESC 250B HEAVY, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50

CASE 2 – NESC 250C EXTREME WIND, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 3 – NESC 250D WIND & ICE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 4 – EXTREME ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1

CASE 5 – UNBALANCED ICE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 6 – DEFLECTION, 0 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0

CASE 7 – NESC 250B HEAVY DE, 4 PSF WIND ON STRUCTURE AND WIRES, 0.5" RADIAL ICE, 0 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 2.50, LONGITUDINAL OLF = 1.65, VERTICAL OLF = 1.50, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 8 – NESC 250C EXTREME WIND DE, 31 PSF WIND ON STRUCTURE AND WIRES, 0" RADIAL ICE, 60 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 9 – NESC 250D WIND & ICE DE, 6.4 PSF WIND ON STRUCTURE AND WIRES, 0.75" RADIAL ICE, 15 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.0, LONGITUDINAL OLF = 1.0, VERTICAL OLF = 1.0, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

CASE 10 – EXTREME ICE DE, 0 PSF WIND ON STRUCTURE AND WIRES, 1.5" RADIAL ICE, 30 F, INITIAL TENSIONS, TRANSVERSE WIND OLF = 1.1, LONGITUDINAL OLF = 1.1, VERTICAL OLF = 1.1, ALL WIRES ON ONE SIDE OF THE STRUCTURE SHOULD BE BROKEN

STRUCTURE TABLE

STRUCTURE NO.	HEIGHT	QUANTITY	Φ
1305–1B	75'–0"	1	0°

MATERIAL LIST

ITEM	DESCRIPTION	ASSEMBLY	QUANTITY	DRAWING
1	3/8" EHS SHIELD WIRE DEADEND ASSEMBLY	SW2	2	–
2	115KV DEADEND INSULATOR ASSMEBLY FOR 795 KCMIL ACSS "DRAKE"	C3	3	–
3	115KV LINE POST JUMPER ASSEMBLY FOR 795 KCMIL ACSS "DRAKE"	C5	3	–
4	STEEL POLE GROUNDING ASSEMBLY	G1	1	–

NOTES

1. LADDER CLIPS SHALL BE INSTALLED FROM BASE PLATE TO ONE FOOT BELOW TOP OF POLE ON FLAT INDICATED ON DRAWING.
2. UNITS OF ENTRIES IN THE LOADING TABLE ARE AS FOLLOWS UNLESS NOTED OTHERWISE: LENGTHS – FEET, WIRE LOADS – LBS, WIND PRESSURE – LBS PER SQ FOOT, ANGLES – DEGREES.
3. THE LOADS IN THE LOADING TABLE ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS.
4. THE VERTICAL LOADS (V) INCLUDE ONLY DEAD WEIGHT OF THE CONDUCTOR, ICE ON THE CONDUCTOR, AND WEIGHT OF INSULATORS. THE DEAD WEIGHT OF THE STRUCTURE SHALL BE CALCULATED BY THE FABRICATOR AND USED IN THE DESIGN. THE OVERLOAD FACTOR APPLIED TO THE DEAD WEIGHT SHALL BE AS FOLLOWS: CASE 1 AND 7 – 1.50, CASE 2, 3, 5, 6, 8 & 9 – 1.00, CASE 4 AND 10 – 1.10.
5. THE STRUCTURE SHALL BE DESIGNED FOR A 31 PSF WIND ON THE STRUCTURE ONLY WITH NO WIRES ATTACHED. ALL OLF'S = 1.0.
6. FOR STRUCTURAL DESIGN, THE LONGITUDINAL (L), TRANSVERSE (T) AND VERTICAL (V) LOADS SHALL BE CONSIDERED TO ACT SIMULTANEOUSLY WITH WIND AND THE DEAD WEIGHT OF THE STRUCTURE.
7. ALL STEEL MATERIALS SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION 191301.16881.5
8. THE ANCHOR BOLT CAGES SHALL HAVE A MAXIMUM BOLT CIRCLE DIAMETER OF 54 INCHES OR LESS.
9. GROUNDING NUTS TO BE LOCATED ON SAME FLAT AS CONDUCTOR OR SHIELDWIRE VANG.
10. STRUCTURE DRAWING AND DETAILS ARE NOT TO SCALE.

BLACK & VEATCH
Building a world of difference®

DESIGNER	DWJ	DRAWN	EJJ
CHECKED		DATE	09/07/2016

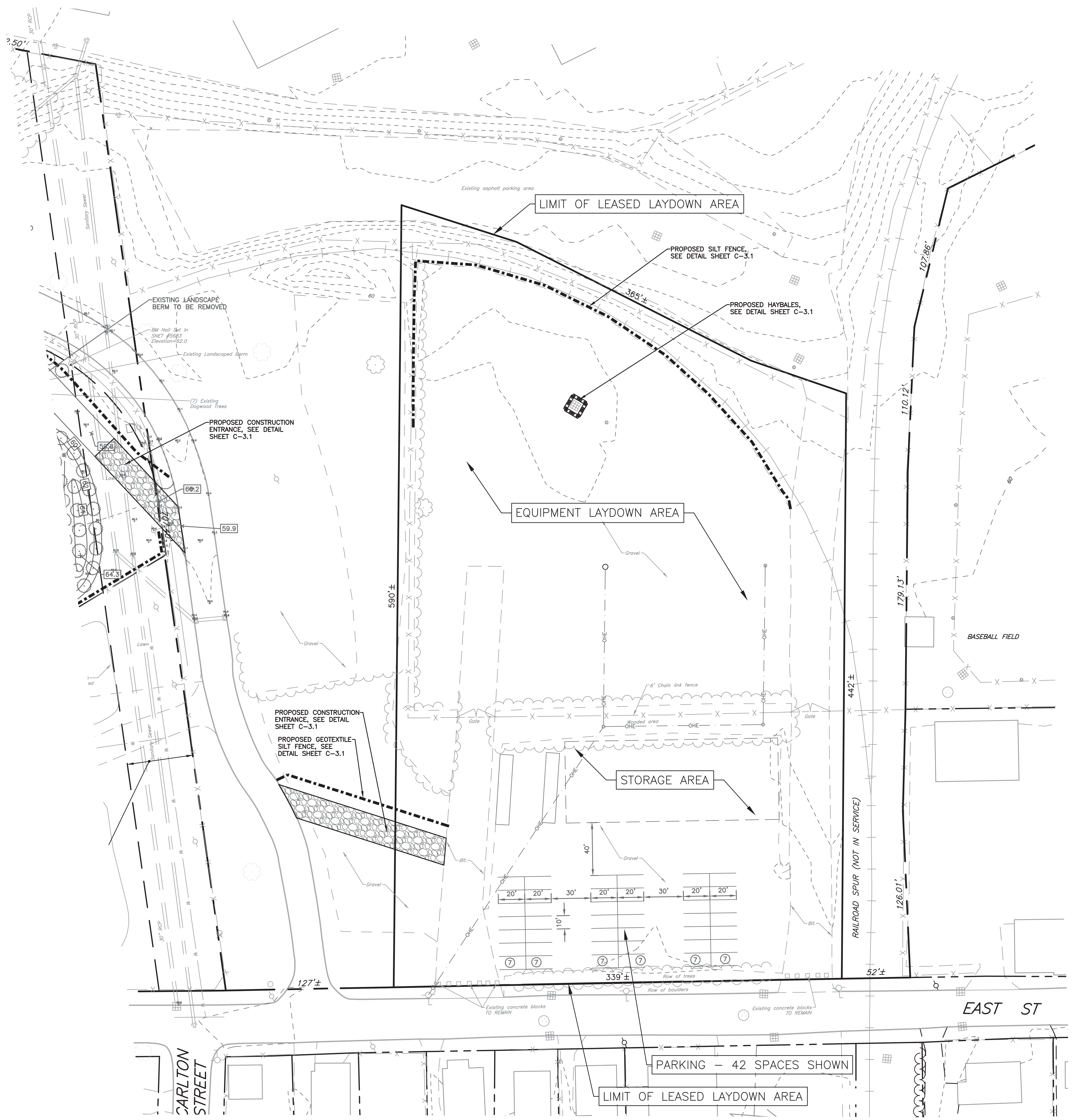
NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
2	09/26/2016	UPDATE STRUCTURE NAME	EJJ	KMS			
1	09/14/2016	CHANGE CASE 6 NAME	EJJ	KMS			
0	09/07/2016	ISSUED FOR FABRICATION – PROJECT 191301	EJJ	DWJ			
A	08/31/2016	ISSUED FOR BID – PROJECT 191301	EJJ	DWJ			

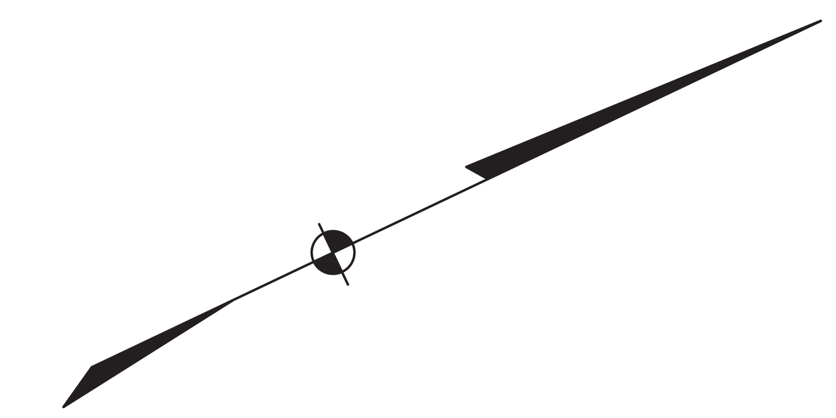
WALLINGFORD 115KV LINE 1305

SINGLE POLE DEADEND
STRUCTURE 1305–1B

PROJECT	DRAWING NUMBER	REV
191301	STRD–007	1
CODE		
AREA		

Laydown Area





0 40 80 120

IMPORTANT NOTE:

ALL ABOVE AND BELOW GROUND IMPROVEMENTS ARE NOT SHOWN OR DEPICTED HEREON. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTACT: "CALL BEFORE YOU DIG" 1-800-922-4455

GODFREY HOFFMAN ASSOCIATES, LLC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
26 BROADWAY NORTH HAVEN, CT 06473
TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT: FACILITY EXPANSION PROJECT LEASED LAYDOWN AREA

115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:

WALLINGFORD ENERGY II, LLC

400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

POTENTIAL LAYOUT LEASED LAYDOWN AREA

DRAWN BY:	MP
CHECKED BY:	JR
SCALE:	1"=40'
PROJECT:	15-011
DATE:	8/22/2016

C-4.0