



PROJECT NAME
590000020823

LOCATION
CKT 4332

CITY & STATE
BRANSON, MO

WO# 100000705632

WBS# DED.0000017.EB.0006

DATE: 09/04/2026

LINE ENGINEERING



LIBERTY - ENGINEERING MANAGER
PM NAME: AARON RUSSELL
PM PHONE #: 417-625-5178

ENGINEERING CONTACT
ENGR NAME: ALLEC UBER
ENGR PHONE #: 417-768-6344

CONSULTANT - DESIGNER/DRAFTER
DESIGNER NAME: DAVID RIGGS
DESIGNER PHONE #: 417-627-5561



 Liberty™	590000020823		LOCATION	BRANSON, MO						
	CKT 4332		ENG BY:	DRR	DRAWN BY:	DER	APV BY:	JON		
	BRANSON, MO		SCALE:	NO SCALE		T&D AREA	WORK ORDER #			
	DRAWING		WBS#:	DED.0000017.EB.0006		209	100000705632			
	A001		PAGE:	1 OF 11		DATE:	09/04/2026		REV:	0

GENERAL NOTES:

- 1. ANY CHANGES TO THIS PROJECT MUST BE DISCUSSED WITH THE ENGINEER OF RECORD AND BE APPROVED PRIOR TO MAKING THE CHANGE
- 2. DESIGN BASED ON 2023 NESC
- 3. PROPERTY LINES AND SECTION LINES ARE APPROXIMATE AND ARE SHOWN FOR GENERAL INFORMATION ONLY. THESE LINES HAVE NOT BEEN SURVEYED
- 4. SERVICE LOCATION AND ORIENTATION ARE SHOWN FOR CLARITY ONLY. THESE MAY DIFFER FROM WHAT IS SHOWN
- 5. REATTACH UFLID NUMBERS ON CHANGE OUT POLES. INSTALL NEW UFLID NUMBERS ON NEW POLES.

CONSTRUCTION NOTES:

- 1. POLES SHALL BE SET IN ACCORDANCE WITH WP, PSET

FRAMING SHALL BE IN ACCORDANCE WITH THE STRUCTURE DRAWINGS OR LIBERTY UTILITIES(LU) CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE ON THESE DRAWINGS
- 2. SCREW ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AS FOLLOWS:

	MINIMUM	MAXIUMUM
8" PISA	3,000 FT. LBS.	15,000 FT. LBS.
12" PISA	5,000 FT. LBS.	15,000 FT. LBS.

- 3. SCREW ANCHORS SHALL BE INSTALLED IN LINE WITH GUY SLOPE. ±5° MAX.
- 4. REF . LIBERTY BOOK OF STANDARDS FOR CONSTRUCTION STANDARDS (CS).
- 5. REF . CS# WP FOR POLE GROUNDING AND BUTT COIL ON ALL POLES.
FOR NEUTRAL CONDUCTORS 556 KCMIL OR LARGER, USE #4 COPPER FOR POLE GROUNDS
- 6. ALL TAPS TO HAVE 100 AMP CUTOUT

COMMUNICATION NOTES:

- 1. COMMUNICATION COMPANIES ARE RESPONSIBLE FOR VERIFYING ALL COMMUNICATION FACILITIES MEET THE LOADING CRITERIA SHOWN ABOVE
- 2. NO COMMUNICATION GUYS SHALL BE ATTACHED TO LU ANCHORS WITHOUT PRIOR APPROVAL.
- 3. COMMUNICATION ANCHORS SHALL BE A MINIMUM OF 7' FROM LU ANCHORS.
- 4. APPROVAL IS REQUIRED TO ATTACH TO NEW UNGUYED ANGLES OR DEADENDS INCLUDING SLACK SPANS



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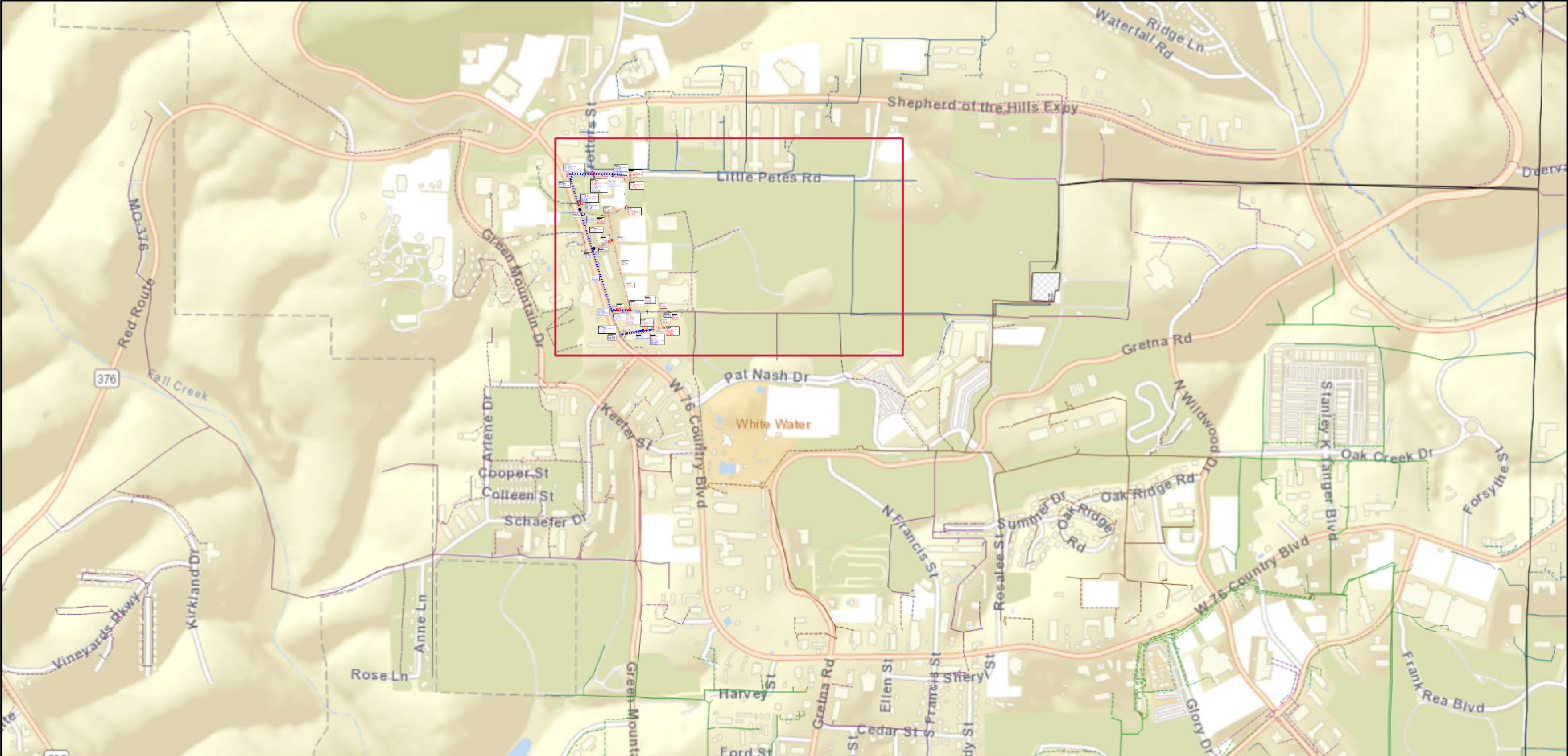
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City of Branson, MO GIS Division, Missouri Dept. of Conservation, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

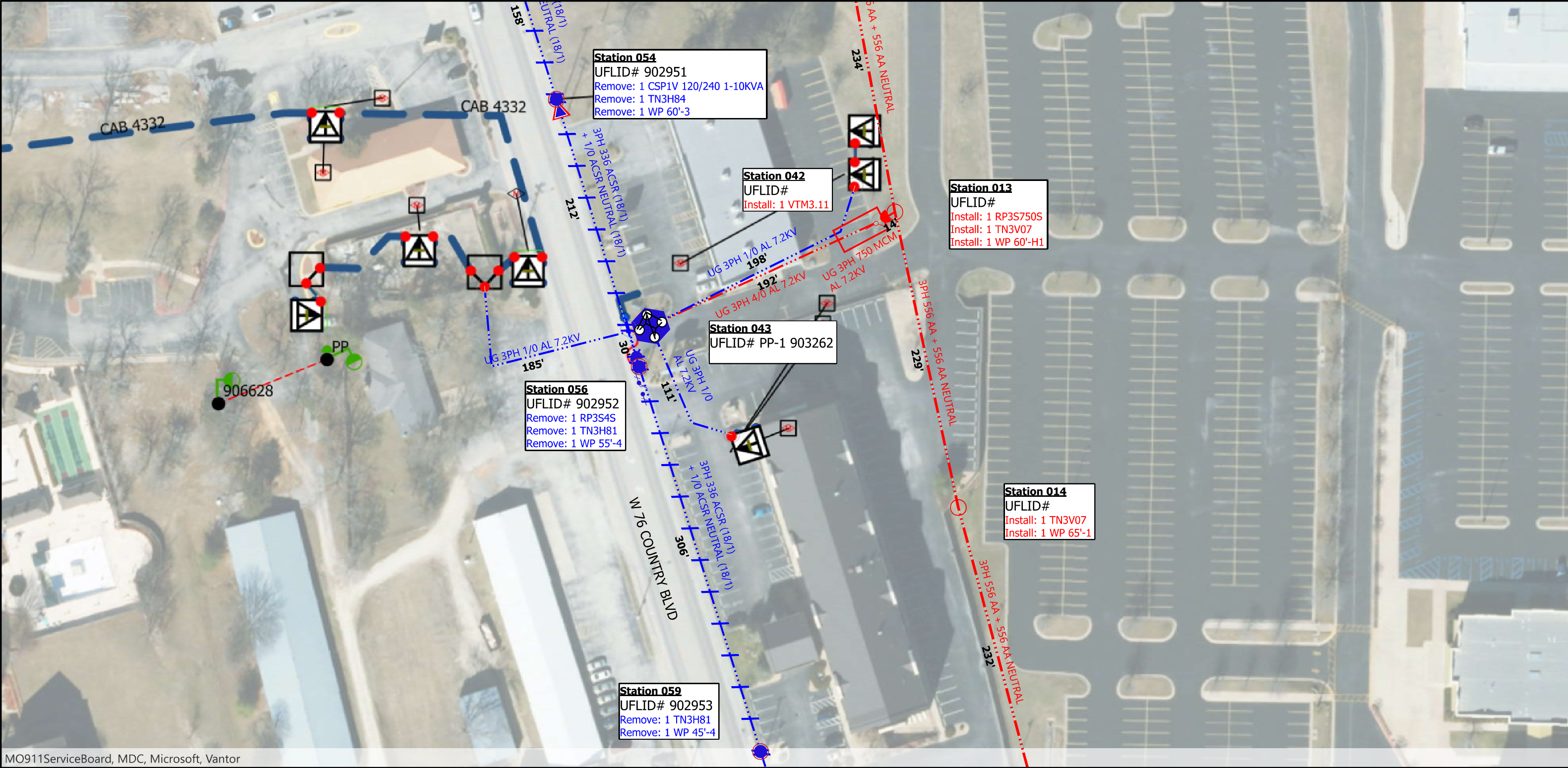
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Missouri Certificate of Authority #001592
1027 S. Main Street, Suite 503
Joplin, MO 64801 TEL 417.781.0643 www.olsson.com

**S35
T23N
R22W
BRANSON, MO
TANEY COUNTY**



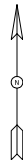
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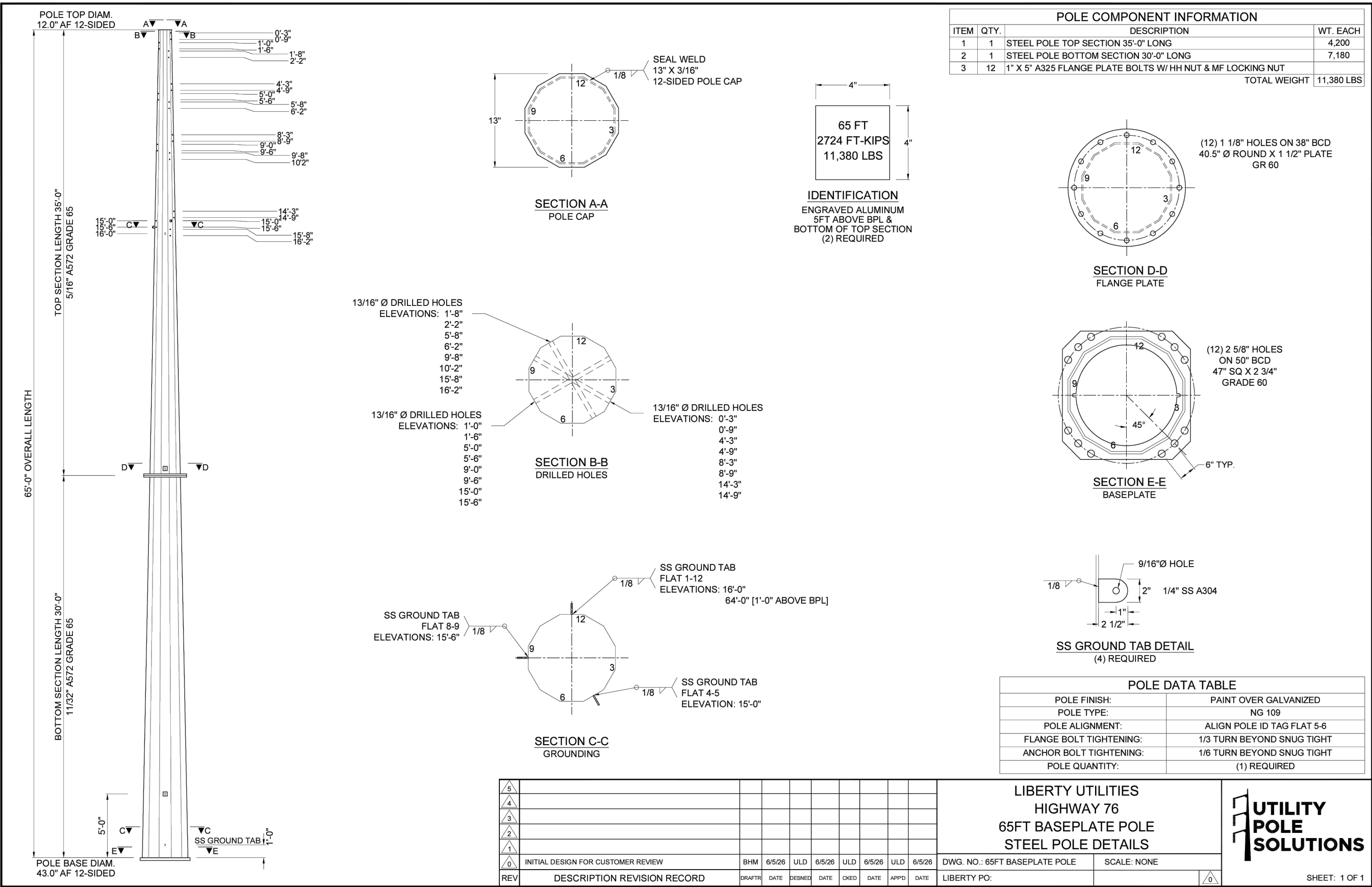
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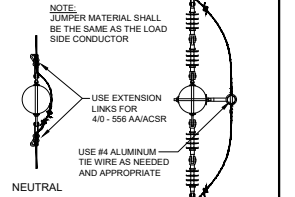
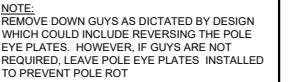
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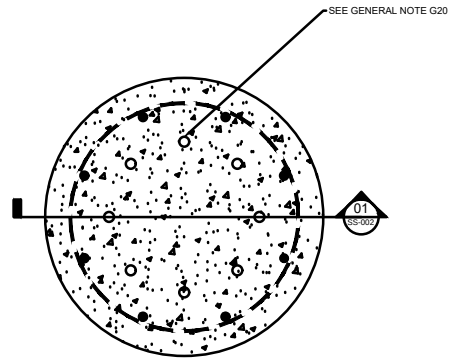
CONSTRUCTION STANDARD	
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SCALE: NTS	
DATE: 05/12/2020	



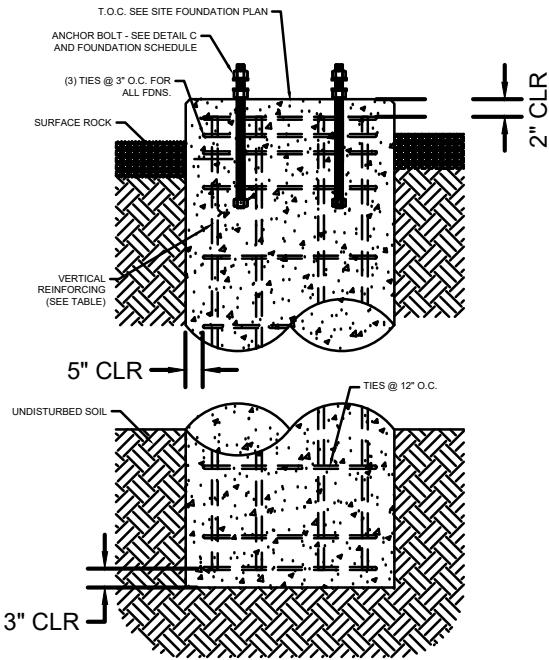
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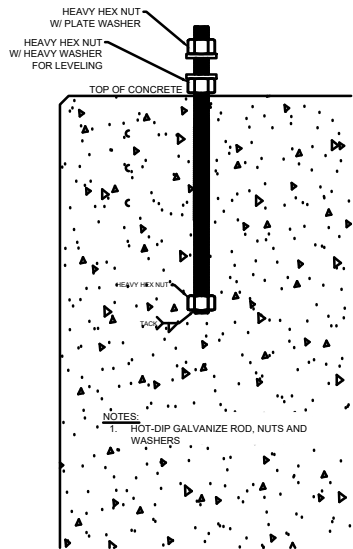
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B DEADEND DRILLED PIER DETAIL
SCALE: NTS



1 SIDE VIEW - PIER REBAR LAYOUT
SCALE: NTS



C ANCHOR BOLT DETAILS
SCALE: NTS

PIER FOUNDATION SCHEDULE											
FOUNDATION INFORMATION					REBAR INFO QTY (SIZE)		ANCHOR BOLT INFORMATION				
FDN. TAG	DESCRIPTION	QTY. REQ'D	PIER DIA. (INCHES)	PIER LENGTH (FEET)	VERT. REINF.	TIE REINF.	UNIT QTY.	DIAMETER (INCHES)	PROJECTION (INCHES)	OVERALL LENGTH (INCHES)	SPACING "B" (INCHES)
P1	DEADEND STRUCTURE	1	72	16	18 (#10)	19(#5)	BY STEEL VENDOR				

- GENERAL NOTES:**
- G1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES BEFORE CONSTRUCTING NEW FOUNDATIONS.
- G2. THE CONTRACTOR SHALL FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS.
- G3. CONCRETE IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH AFTER 28 DAYS OF 4,500 PSI AND TO BE IN ACCORDANCE WITH THE LATEST LIBERTY SPECIFICATIONS.
- G4. ALL REINFORCING SHALL BE STRUCTURAL GRADE 60 PER ASTM-A615 AND HAVE AT LEAST 3" OF CONCRETE COVER UNLESS NOTED OTHERWISE.
- G5. ALL ABOVE GRADE FOUNDATION SURFACES SHALL BE LIGHT STEEL TROWEL WITH BROOM FINISH UNLESS NOTED OTHERWISE.
- G6. ALL ABOVE GRADE FOUNDATION EDGES SHALL HAVE A $\frac{3}{4}$ " CHAMFER UNLESS NOTED OTHERWISE.
- G7. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND/OR SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS CAUSED BY CONSTRUCTION TECHNIQUES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- G8. THE FOLLOWING REQUIREMENTS SHALL GOVERN THE PLACEMENT OF CONCRETE WHEN THE ATMOSPHERE TEMPERATURE IS LESS THAN 40°F.
1. WHEN THE AIR TEMPERATURE IS BETWEEN 32°F AND 40°F, THE TEMPERATURE OF THE MIXED CONCRETE SHALL NOT BE LESS THAN 50°F.
2. WHEN THE AIR TEMPERATURE IS BELOW 32°F, THE TEMPERATURE OF THE MIXED CONCRETE SHALL NOT BE LESS THAN 60°F.
3. THE CONCRETE AND SURROUNDING AIR SHALL BE MAINTAINED AT A TEMPERATURE BETWEEN 50°F AND 90°F FOR THE FIRST 72 HOURS AFTER PLACEMENT AND AT A TEMPERATURE BETWEEN 40°F AND 90°F FOR THE NEXT 48 HOUR PERIOD.
- G9. CEMENT SHALL CONFORM TO ASTM C150, TYPE I/II.
- G10. MAXIMUM AGGREGATE SIZE: 1 $\frac{1}{2}$ "
- G11. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
- G12. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATE FORMWORK DESIGN FOR THE CONSTRUCTION OF CAST-IN-PLACE CONCRETE, AND SHALL EMPLOY COMPETENT PROFESSIONAL ENGINEERING SERVICES TO DESIGN AND SUPERVISE THE FORM WORK.
- G13. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 (LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THESE NOTES.
- G14. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT (CALCIUM CHLORIDE SHALL NOT BE USED).
- G15. THE PROPORTIONS OF AGGREGATES TO CEMENT FOR ANY CONCRETE SHALL BE SUCH AS TO PRODUCE A MIXTURE WHICH WILL WORK READILY INTO CORNERS AND ANGLES OF THE FORMS AND AROUND REINFORCEMENT WITH THE METHOD OF PLACING EMPLOYED ON THE WORK BUT WITHOUT PERMITTING THE MATERIAL TO SEGREGATE OR EXCESS FREE WATER TO COLLECT ON THE SURFACE.
- G16. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL 10 DAYS PRIOR TO FABRICATION AND INSTALLATION. ALL CONCRETE MIXES SHALL BE DESIGNED AND CERTIFIED BY A MATERIALS TESTING COMPANY.
- G17. APPROXIMATE SLUMP RANGE: 4 - 6, ±1
SLUMP DOES AFFECT THE EASE WITH WHICH CONCRETE CAN BE TRANSPORTED, PLACE, AND SCREED, AND IS ONLY AN INDICATOR OF BATCH-TO-BATCH VARIABILITY. ALTERNATIVE SLUMP RANGE FOR WET METHOD CONSTRUCTION CAN BE SUBMITTED FOR REVIEW.
- G18. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ASTM C309. CONCRETE SHALL BE PROTECTED FROM MOISTURE LOSS FOR A MINIMUM OF 14 DAYS, USING AN APPROVED SHEET MEMBRANE IN ACCORDANCE WITH ASTM C171.
- G19. SEE OLSSON GEOTECHNICAL REPORT D24-07123 FOR GEOTECHNICAL REQUIREMENTS.
- G20. FOR ANCHOR BOLT CAGE ORIENTATION SEE PROJECT STAKING SHEET.



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556 "DAHLIA" AAC																				
INITIAL SAG (FT)											3RD RETURN WAVE TIME (SEC)									
Span Length (ft)	30 F	40 F	50 F	60 F	70 F	80 F	90 F	100 F	110 F	120 F	30 F	40 F	50 F	60 F	70 F	80 F	90 F	100 F	110 F	120 F
110	0.43	0.51	0.61	0.71	0.83	0.94	1.06	1.16	1.26	1.36	1.96	2.14	2.33	2.53	2.72	2.91	3.07	3.23	3.36	3.49
120	0.51	0.61	0.72	0.85	0.99	1.12	1.26	1.38	1.51	1.62	2.14	2.33	2.54	2.76	2.97	3.17	3.35	3.52	3.67	3.81
130	0.6	0.71	0.85	1	1.16	1.32	1.48	1.62	1.77	1.9	2.32	2.52	2.75	2.99	3.22	3.43	3.63	3.81	3.98	4.13
140	0.7	0.83	0.98	1.16	1.34	1.53	1.71	1.88	2.05	2.21	2.5	2.72	2.96	3.22	3.47	3.7	3.91	4.11	4.28	4.44
150	0.8	0.95	1.13	1.33	1.54	1.75	1.96	2.16	2.35	2.53	2.67	2.91	3.17	3.45	3.72	3.96	4.19	4.4	4.59	4.76
160	0.91	1.08	1.28	1.51	1.76	2	2.24	2.46	2.68	2.88	2.85	3.11	3.39	3.68	3.96	4.23	4.47	4.69	4.89	5.08
170	1.03	1.22	1.45	1.7	1.98	2.25	2.52	2.78	3.02	3.25	3.03	3.3	3.6	3.9	4.21	4.49	4.75	4.99	5.2	5.4
180	1.15	1.37	1.62	1.91	2.22	2.53	2.83	3.12	3.39	3.65	3.21	3.5	3.81	4.13	4.46	4.75	5.03	5.28	5.5	5.71
190	1.28	1.52	1.81	2.13	2.48	2.82	3.15	3.47	3.77	4.07	3.39	3.69	4.02	4.36	4.71	5.02	5.31	5.57	5.81	6.03
200	1.42	1.69	2	2.36	2.74	3.12	3.49	3.85	4.18	4.51	3.57	3.88	4.23	4.59	4.95	5.28	5.59	5.87	6.12	6.35
210	1.57	1.86	2.21	2.6	3.02	3.44	3.85	4.24	4.61	4.97	3.74	4.08	4.44	4.82	5.2	5.55	5.87	6.16	6.42	6.67
220	1.72	2.04	2.42	2.86	3.32	3.78	4.23	4.66	5.06	5.45	3.92	4.27	4.65	5.05	5.45	5.81	6.15	6.45	6.73	6.98
230	1.88	2.23	2.65	3.12	3.63	4.13	4.62	5.09	5.53	5.96	4.1	4.47	4.87	5.28	5.7	6.08	6.43	6.75	7.03	7.3
240	2.05	2.43	2.88	3.4	3.95	4.49	5.03	5.54	6.02	6.49	4.28	4.66	5.08	5.51	5.94	6.34	6.71	7.04	7.34	7.62
250	2.22	2.64	3.13	3.69	4.29	4.88	5.46	6.01	6.54	7.04	4.46	4.85	5.29	5.74	6.19	6.6	6.99	7.33	7.65	7.94
260	2.4	2.85	3.38	3.99	4.64	5.27	5.91	6.5	7.07	7.62	4.64	5.05	5.5	5.97	6.44	6.87	7.27	7.63	7.95	8.25
270	2.59	3.07	3.65	4.3	5	5.69	6.37	7.01	7.63	8.22	4.81	5.24	5.71	6.2	6.69	7.13	7.55	7.92	8.26	8.57
Tension (lbs)	1836.84	1548.1	1304.1	1106.54	951.78	836.89	747.51	678.93	624.47	579.84										

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40	1.53	1.54	1.56	1.56	1.57	1.59	1.59	1.6	1.62	1.62	3.69	3.71	3.73	3.73	3.75	3.77	3.77	3.79	3.81	3.81
50	2.39	2.41	2.43	2.43	2.46	2.48	2.48	2.51	2.53	2.54	4.62	4.64	4.67	4.67	4.69	4.71	4.71	4.74	4.76	4.76
60	3.44	3.48	3.51	3.51	3.55	3.58	3.58	3.62	3.66	3.66	5.55	5.58	5.6	5.6	5.63	5.66	5.66	5.69	5.72	5.72
70	4.69	4.74	4.78	4.79	4.83	4.88	4.88	4.93	4.98	4.99	6.48	6.51	6.54	6.54	6.58	6.61	6.61	6.64	6.68	6.68
Horiz Tension (lbs)	68.56	67.91	67.26	67.23	66.58	65.92	65.9	65.25	64.59	64.57										



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