1. "CLEARANCE" IS DEFINED AS A SURFACE–TO–SURFACE MEASUREMENT.
2. "SPACING" IS DEFINED AS A ℄ TO ℄ MEASUREMENT.
3. INTENDED FOR PHASES ORIENTED IN PARALLEL RUNS.
4. INTENDED FOR NON–PARALLEL POINTS OF CROSSING.
5. EXCEEDS MIMIMUM CLEARANCES TO MATCH NEMA STANDARD POST INSULATOR DIMENSIONS.
6. ROUNDED UP TO THE NEAREST EVEN FOOT, PER NESC (2002). MEASURED FROM TOP OF EQUIPMENT FOUNDATIONS, IF SUITABLE FOR PEDESTRIAN ACCESS.

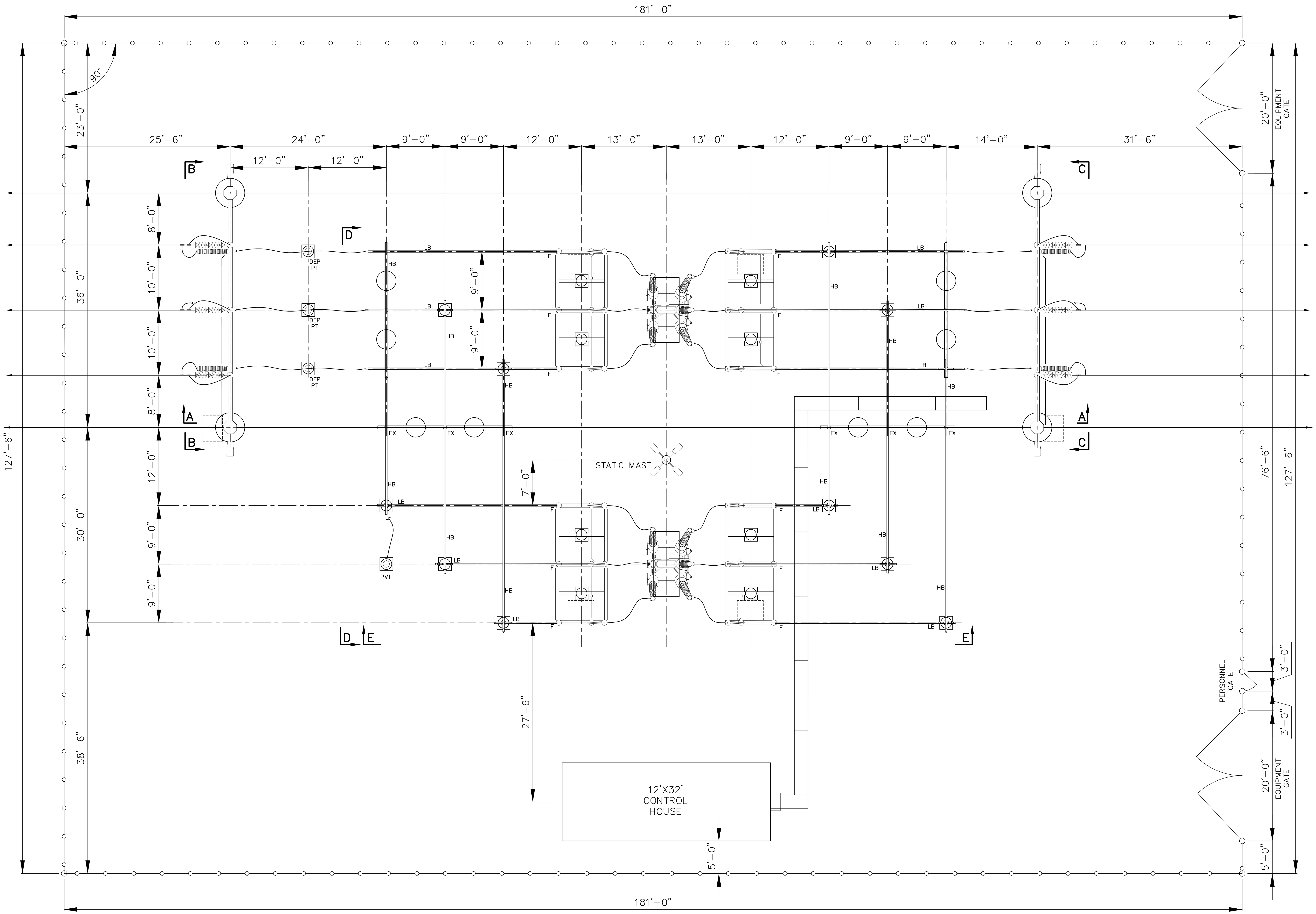
DEADEND STRUCTURE(S) SHALL WITHSTAND 0° TO 15° LINE TAKE–OFF IN ANY DIRECTION

A MINIMUM VERTICAL CLEARANCE OF 8'–6" SHALL BE MAINTAINED FOR ANY SURFACE OF INDETERMINATE POTENTIAL SUCH AS LIGHTNING ARRESTERS, UNGROUNDED SURFACES, BUSHINGS, AS PER NESC RULE 124.A.3.

STATION DESIGN DATA

STRUCTURE, APPARATUS AND LIGHTNING ARRESTERS ARE ALL GROUNDED TO THE SAME GROUNDING SYSTEM. STATION DESIGNED FOR THE FOLLOWING ELECTRICAL CLEARANCES/SPACINGS:

RATED KV	BIL KV	RIGID BUS CONDUCTORS (IEEE, NEMA, NESC) CLEARANCE (1)				VERTICAL CLEARANCE OF UNGUARDED PARTS	GROUP–OPERATED SWITCHES (NEMA) ℄ TO ℄ SPACING (2)		
		PHASE TO PHASE ℄ TO ℄ (3)	METAL TO METAL (4)	PHASE TO GROUND (5)	CLEARANCE ABOVE GRADE (6)		HORN GAP VERT./HOR. BREAK	DISCONNECT VERTICAL BREAK	DISCONNECT HORIZONTAL BREAK
115	550	7'–0"	4'–5"	3'–9"	12'–0"	11'–7"	10'–0"	7'–0"	9'–0"



PLAN VIEW
SCALE: 1/8"=1'–0"

CONDUCTOR/BUS AMPACITIES

CONDUCTOR	APPROX. CURRENT CARRING CAPACITY*
TUBING, 4" NPS SCH. 40 AL.	3110 AMPS.
TUBING, 2" NPS SCH. 40 AL.	1440
ACSR, 336.4 MCM, 18/1	530

*AC. 60 HZ, 40° C AMBIENT, 50° C RISE HORIZONTAL ORIENTATION, OUTDOORS, WIND = 2 FPS

MAX. CURRENT CARRYING CAPACITY

530 A

BOLT TORQUING TABLE

DIAMETER BOLT (INCHES)	RECOMMENDED TORQUE NON–LUBRICATED STEEL & SILICON BRONZE HARDWARE (INCH*LBS)	RECOMMENDED TORQUE LUBRICATED HARDWARE & ALUMINUM HARDWARE (INCH*LBS)
1/2"	480	300
5/8"	660	480
3/4"	840	720

INSTALLATION NOTES:

1. ALL ALUMINUM TUBE CONDUCTORS OVER 20 FEET IN LENGTH SHALL INCLUDE APPROPRIATE DAMPING TO PREVENT AEOLIAN VIBRATIONS. DAMPING TO BE ACCOMPLISHED BY INSERTING A LENGTH OF 336.4 ACSR CONDUCTOR INSIDE EACH SECTION OF TUBING.
2. TO PREVENT EXCESSIVE INTERNAL CONDENSATION, ALUMINUM TUBE CONDUCTORS SHALL INCLUDE WEEP HOLES AT THE BOTTOM OF HORIZONTAL AND VERTICAL RUNS.
3. MATERIALMAN/FABRICATOR VERIFY THAT CONDUCTOR TERMINAL PADS MATCH AND FIT ONTO SWITCH TERMINAL PADS (SIZE, NEMA RATING AND SHOULDER).
4. EQUIPMENT VIEW IS PRELIMINARY. WAITING ON VENDOR DRAWINGS.

LEGEND

EX	EXPANSION CONNECTION
F	FIXED CONNECTION
S	SLIP FIT
HB	HIGH BUS SUPPORT
HLB	HIGH/LOW BUS SUPPORT
LB	LOW BUS SUPPORT
—○—	FENCE
[– –]	SWITCH OPERATOR PLATFORMS
(symbol)	STATIC POLE
(symbol)	AREA LIGHTS

REFERENCES:

SITE PLAN__________14116S1
FOUNDATION PLAN__________14116FP1
SECTIONS AND DETAILS__________14116GA2–GA5

WILSON NORTH CAROLINA

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NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BIDS	MJW	5/16/24

CLIENT NAME: CITY OF WILSON
WILSON, NORTH CAROLINA

STATION NAME: POD 13 115kV SUBSTATION
PLAN VIEW

DRAWN BY:	EAR
CHECKED BY:	EAR
APPROVED BY:	MJW
DATE:	1/15/21
SCALE:	1/8"=1'–0"
FILE NUMBER:	14116
SHEET:	GA1