BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, OWN, AND OPERATE, LOCATION APPROVAL, AND RIGHT-OF-WAY DETERMINATION FOR THE MID-STATE 345 KV TRANSMISSION PROJECT	**Docket No. 26-0000XXX**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	
Applicant.	

DIRECT TESTIMONY

OF

GREGORY PARENT

October 30, 2026

NMPRC DOCKET NO. 26-0000XXX
INDEX TO THE DIRECT TESTIMONY OF GREGORY PARENT

WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

I. INTRODUCTION AND PURPOSE 1

II. ANALYSIS 3

III. CONCLUSION 14

SPONSORED EXHIBITS

PNM Exhibit GP-1	Educational Background and Relevant Employment Experience
PNM Exhibit GP-2	Mid-State Transmission Line, Blowout, Audible Noise, and Electromagnetic Field Exhibits

Affidavit

DIRECT TESTIMONY
OF GREGORY PARENT
NMPRC DOCKET NO. 26-0000XXX

I. INTRODUCTION AND PURPOSE

Q. Please state your name, position, and business address.

A. Greg Parent, P.E., S.E., P.Eng. The P.E. stands for licensed Professional Engineer, the S.E. stands for licensed Structural Engineer, and P.Eng. is the abbreviation for professional engineer in Canada. I am currently employed by Exo Inc. as the Principal of Transmission Line Engineering. My business address is 1735 Hughes Landing Blvd, Floor 3, The Woodlands, TX 77381. I began working for Exo Inc. on May 6, 2026. My previous employer was Ulteig Engineers, Inc., where I served for over ten years as a Principal Engineer of Transmission and Distribution.

Q. Please summarize your educational background and professional qualifications.

A. I have a Master of Science in Structural Engineering from Lehigh University. I am a licensed P.E. in 15 states, including in New Mexico, and am also a licensed Structural Engineer in Illinois, Hawaii, Nevada and Utah. I have more than 17 years of transmission line design experience and have designed approximately 1,000 miles of overhead electrical power lines. Please refer to PNM Exhibit GP-1 for my relevant employment experience and professional background.

Q. What is the purpose of your testimony?

A. I am providing testimony on behalf of the Applicant, Public Service Company of New Mexico ("PNM" or "Company") in this proceeding. I support the Applicant's request that the necessary Right-of-Way ("ROW") width for the Mid-State Transmission Project ("Project") for which the Applicant is seeking location and ROW width approval in this proceeding, should be at least 200 feet as I explain in detail. In this proceeding, the Applicant is seeking approval of a 200-foot ROW width for the proposed Project which consists of approximately 102.8 miles of both 345 kV single circuit and 115 kV/345 kV dual circuit transmission lines. My analysis and testimony conclude that the necessary ROW width for the Project should be 200 feet.

Q. Have you previously submitted testimony in any other proceeding?

A. Yes. As noted previously, I have appeared before the Commission in eight other proceedings. Please refer to PNM Exhibit GP-1 which lists these specific proceedings.

Q. How is your testimony organized?

A. I will list the design conditions for this Project, then I will describe the blowout calculations and design models that were analyzed, then I will describe the electromagnetic field calculations that were performed. Then I will summarize the results and provide my determination that a 200-foot ROW width is appropriate for

this transmission line. These calculations and analyses are provided in PNM Exhibit GP-2 in a similar order.

II. ANALYSIS

Q. Are you familiar with the proposed transmission line facilities which are the subject of this Application?

A. Yes. I have worked closely with Pattern Energy personnel in the design of this Project. More specifically, I performed the ROW width requirement calculation for the Project.

Q. Can you elaborate on the basic design conditions you evaluated in determining that a 200-foot ROW width was required for the Mid-State transmission line?

A. Yes. Preliminary design considerations include topographical surveys and wind and weather conditions to determine a range of preliminary specifications for equipment and infrastructure for the proposed location for the proposed transmission and interconnection facilities. Different structure types were also analyzed including H-Frames and monopoles. The loading conditions for the transmission lines meet or exceed the requirements stated in the National Electrical Safety Code (NESC-2012). We analyzed the required ROW width for the following load cases:

1. NESC 234.C.1.a (At Rest)
    a. 0 pound per square foot ("psf") wind pressure acting perpendicular to the conductor
    ~~b.~~a. 60 degrees Fahrenheit ambient temperature.
2. NESC 234.C.1.b (6 psf Wind)
    a. 6 psf wind pressure acting perpendicular to the conductor
    b. 60 degree Fahrenheit ambient temperature
3. NESC 250C – Extreme wind loading.
    a. 95 miles per hour ("mph") wind speed (23.1 psf) acting perpendicular to the conductor. (A 95 mph wind speed is a PNM utility requirement for this location, NESC Rule 250C – Extreme wind only specifies a 90 mph wind in this location. The decision to use 95 mph extreme wind speed is discussed below)
    b. 60 degrees Fahrenheit ambient temperature

The Construction Industries Division of the New Mexico Regulation and Licensing Department specifies the 2012 version of the National Electrical Safety Code ("NESC").[1] The 2012 NESC, Rule 250C provides an Extreme wind speed map. This map matches the basic wind speed map in the American Society of Civil Engineers – Minimum Design Loads for Building and Other Structures - ASCE 7-

[1] 14.10.5 NMAC.

05. The Mid-State Transmission Line is located within the 90 mph extreme wind speed region of this ASCE 7-05 wind map. A more recent version of this code, ASCE 7-22, specifies an online ASCE Hazard Tool (https://ascehazardtool.org/). The most recent version of the NESC was published in 2023. The 2023 NESC Rule 250C – Extreme Wind map specifies a 100-year Mean Recurrence Interval ("MRI") wind speed for the design of transmission lines. Using the online ASCE Hazard tool, 100-year MRI wind speeds were determined along the transmission line route. The ASCE Hazard tool specified a 100-year Extreme Wind speed of 91 mph. Furthermore, part of the Mid-State 345 kV transmission line is co-located with a PNM 115 kV transmission line. For this co-located section of line it is planned to support both the Mid-State 345 kV circuit and the PNM 115 kV circuit on the same structure. PNM has been providing electrical power to the citizens of New Mexico since 1917. PNM designs their transmission lines to an extreme wind speed of 95 mph applied to the conductors. This 95 mph wind speed is higher than the code minimum from 2012 NESC Rule 250C of 90 mph. This higher wind speed is justified since PNM uses one design criteria across all of New Mexico and this slightly higher wind speed can provide an adequate design across the majority of New Mexico. Also, in mountainous regions, the site-specific topography can cause wind speeds to increase. Therefore, this PNM 95 mph wind speed provides an adequate design wind speed to account for these variations over the minimum wind speed specified in the 2012 NESC Rule 250C. Therefore, it was decided to use this

PNM design wind speed of 95 mph to analyze the extreme wind for the conductor blowout.

Q. Do you have exhibits supporting your calculations that support the 200-foot ROW width for the dual circuit transmission line that the Applicant requests in this proceeding?

A. Yes. Please see PNM Exhibit GP-2.

Q. Please explain the information contained in PNM Exhibit GP-2.

A. The PNM Exhibit GP-2 consists of 31 drawings. Drawing MST-ROW-0001 is a drawing index providing the specific drawing numbers and drawing descriptions. MST-ROW-0300 provides the calculations for the NESC required horizontal clearances from the transmission line conductor to building structures for NESC Rules 234.B.1.a, 234.B.1.b. These calculations are provided for 345 kV voltages and for 115 kV voltages. Also provided is the recommended horizontal clearance when the transmission line is subject to an extreme wind case of 95 mph. The above clearances have been adjusted for an altitude of 7,240 feet. Drawings MST-ROW-0301 through MST-ROW-0312 of PNM Exhibit GP-2 illustrate the results of the blowout analysis for the following structure types:

- Single Circuit 345 kV Steel H-Frame Tangent with suspension I-String insulators on the outside phases and a middle phase supported on a V-String

insulator. Co-Located 115/345 kV monopole dual circuit tangent with davit arms. 345 kV circuit is supported with V-String insulators, and 115 kV circuit is supported with I-String insulators.

The final conductor sizes are still being determined. However, it is known that the conductors would not be smaller than a bundled (2) 795 kcmil ACSR "DRAKE" conductor per phase. The largest conductor size to be used would be a bundled (2) 1272 kcmil ACSR "PHEASANT" conductor per phase. Both these two sizes were used to analyze blowouts, audible noise and electromagnetic field calculations. Analyzing this range of conductor sizes will ensure that the requested ROW width will be adequate.

For the single circuit 345 kV H-Frames a 1,500-foot design span between structures was assumed as a maximum design span. Typical design spans will vary depending on the topography. A design span of 1,500 feet would likely be a maximum for a single circuit 345 kV H-Frame. For the co-located 115/345 kV dual circuit structure a design span of 1,200 feet was analyzed. Pole heights were determined to provide adequate vertical clearance under the conductor during maximum operating temperature at the mid-span assuming flat terrain. The transmission line design is in progress and the final pole heights, and span lengths are still being finalized but the final design will locate the structures so that the conductor blowout will be adequately positioned to meet code requirements and stay within the ROW width.

Each structure type was analyzed under the following three different load cases:

1. NESC Rule 234.B.1.a – [At Rest Condition, 0 psf wind, 60 degF]
2. NESC Rule 234.B.1.b – [6 psf Condition, 6 psf wind, 60 degF]
3. NESC Rule 250.C – Extreme Wind [95 mph (23.1 psf), 60 degF]

To determine the conductor blowouts and pole deflections, each structure type, conductor type, and each load case was modeled in the transmission line design software PLS-CADD. For each load case and structure type the bundled (2) 795 kcmil ACSR "Drake" conductor displayed a slightly higher blowout than the bundled (2) 1272 kcmil ACSR "Pheasant" conductor. The results of the required ROW width are illustrated in PNM Exhibit GP-2. The largest blowout occurred on the single circuit 345 kV Steel H-Frame tangent structure with a bundled (2) 795 kcmil ACSR "Drake" conductor. The design load case was the NESC Rule 250C – Extreme Wind [95 mph (23.1 psf), 60 degF]. This structure type and load case would require a minimum ROW width of approximately 192.4 feet or ~192'-5" wide, just below the requested 200'-0" ROW width. The largest blowout for the 115/345 kV dual circuit monopole structure subject to the NESC Rule 250C – Extreme Wind case is provided on drawing MST-ROW-0309 of PNM Exhibit GP-2. Subject to the Extreme Wind case this co-located structure would require approximately 121.6 feet or ~121'-7" of ROW width.

Other calculations that were performed are for audible noise volume that would be heard at the edge of the ROW. In 1974, the U.S. Environmental Protection Agency ("EPA") published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* in which the EPA set 55dBA as the outdoor noise threshold that would prevent activity interference or annoyance. The EPA audible noise limit of 55dBA was set for the maximum audible noise that would occur at the edge of the transmission line ROW. These calculations were performed for the two structure types described above each structure type was analyzed with the two conductor sizes. These audible noise calculations are provided on drawings MST-ROW-0501, MST-ROW-0504, MST-ROW-0507 and MST-ROW-0510 of PNM Exhibit GP-2.

The highest audible noise occurred on the single circuit H-Frame tangent structure with a bundled (2) 795 kcmil ACSR "DRAKE" conductor.

This structure type, and conductor size creates an audible noise of 51.7 dBA at the edge of the 200-foot ROW. This audible noise is less than the EPA's recommended 55dBA limit. At the edge of a 200-foot ROW, all the other structure types and conductor types would produce lower levels of audible noise. Electromagnetic field ("EMF") calculations were also performed and a summary of the audible noise and

EMF calculations are provided on drawing MST-ROW-0513 of PNM Exhibit GP-2.

Another structure type is a single circuit guyed dead-end. A (3) pole guyed single circuit structure will require a footprint of approximately 200 feet. Drawing MST-ROW-0400 of PNM Exhibit GP-2 provides an illustration of a (3) pole single circuit guyed structure. As can be seen, a 200-foot ROW provides adequate width to fit the numerous guywires within the ROW.

Q. Does PNM Exhibit GP-2 contain a description of the project interconnection facilities?

A. Yes. These are depicted on drawings MST-ROW-0201 for the Western Spirit Switchyard and MST-ROW-0202 for the Hidden Mountain Switchyard.

Q. Are you familiar with the proposed construction process for the Project?

A. This Project consists of two types of line construction; green field single circuit 345 kV and co-located dual circuit 115/345 kV.

The green field single circuit 345 kV will consist of a steel H-Frame tangent as the typical structure type and will be built on a new 200-foot ROW. An elevation view

of this structure type is provided on drawing MST-ROW-0301 of PNM Exhibit GP-2.

The co-located dual circuit 115/345 kV is a more involved installation which requires the construction of new infrastructure that will be built parallel to existing energized infrastructure. The co-located dual circuit 115/345 kV will consist of a steel monopole tangent as the typical structure type and will be built on a new 150-foot ROW. This existing 115 kV transmission line consists of a typical steel monopole tangent centered on an existing 50-foot ROW. This new 150-foot ROW will be located edge to edge and parallel with the existing 50-foot ROW of the existing 115 kV transmission line.

An elevation of this ROW and co-located structure is provided on drawing MST-ROW-0307 of PNM Exhibit GP-2. After the new co-located dual circuit line is completed there will be a short outage where the existing 115 kV interconnecting spans are removed and the new interconnecting spans to the co-located structure are strung. The new co-located 115 kV circuit can then be re-energized minimizing the outage time and ensuring reliable power to the rural communities. After the new co-located 115 kV circuit has been energized the old/existing 115 kV circuit will be removed. As stated in the Analysis section of this testimony the co-located dual circuit monopole structure requires a minimum of 121'-7" of ROW width. A new

150-foot ROW width is requested because this new co-located transmission line is being constructed next to an energized line. Together, the existing 50-foot ROW and the additional 150-foot ROW, comprise the requested 200-foot ROW. The requested ROW width is reasonable to provide a safe working environment for the contractor given that the existing line is energized.

Below is a breakdown of the approximate project segments of green field single circuit 345 kV and co-located dual circuit 115/345 kV.

- 35.9 miles of green field single circuit 345 kV - Western Spirit Switchyard to Willard Switchyard.
- 25.2 miles of co-located dual circuit 115/345 kV – Willard Switchyard to Mid-State Fixed Series Compensator.
- 20.6 miles of green field single circuit 345 kV - Mid-State Fixed Series Compensator to West of Highway 47.
- 2.5 miles of co-located dual circuit 115/345 kV – West of Highway 47 to East of Rio Grande River.
- 3.8 miles of green field single circuit 345 kV - East of Rio Grande River to Belen Substation.
- 5.9 miles of co-located dual circuit 115/345 kV – Belen Substation to South of Hidden Mountain Substation.

- 8.9 miles of green field single circuit 345 kV - South of Hidden Mountain Substation to Hidden Mountain Substation.

Q. How would varying construction processes affect the width of the ROW necessary for the construction and operations of the Project?

A. The segments of the line that consist of a single circuit 345 kV supported on steel H-Frames would require a 200-foot ROW width to keep the energized conductor within the ROW during an extreme wind condition. This blowout case is illustrated on drawings MST-ROW-0303 and MST-ROW-0306. The intent of building a new co-located 115/345 kV dual circuit line in parallel with an existing 115 kV line is to minimize the outage time of the existing 115 kV circuit. While the new co-located line is being constructed the existing 115 kV line will be fully energized and will continue to provide power to the rural communities of New Mexico. The new co-located line will be constructed adjacent to the existing, energized 115 kV transmission line. There is approximately 100 feet between the centerlines of the existing 115 kV transmission line and the proposed co-located 115/345 kV dual circuit line.

Q. Do you believe that the criteria you relied upon in determining the necessity for a 200-foot ROW width for the transmission line is appropriate and reasonable?

A. Yes. These criteria are appropriate and consistent with the accepted practice within the industry. I have designed over 15 345 kV transmission lines and the ROW widths for those projects ranged between 150 and 200 feet. The variations in ROW width for these projects depended on construction methodology, design spans, conductor types, structure types, and audible noise requirements that were used on each line.

III. CONCLUSION

Q. Please summarize your testimony.

A. In conclusion, the request for a 200-foot ROW width is necessary to ensure that the energized conductors provide adequate horizontal clearance to the edge of the ROW at midspan between two single circuit 345 kV H-Frame tangent structures. A 200-foot ROW width also provides adequate width to keep all audible noise and EMF levels below recommended limits. A 200-foot ROW width is also wide enough to provide adequate room to accommodate the guying footprint of a single circuit (3) guyed dead-end structures.

From the analysis performed to determine required ROW widths, it is my opinion that a 200-foot ROW width is appropriate for the Mid-State transmission line.

Q. Does this conclude your direct testimony?

A. Yes.

GCG#535992

Gregory Parents's Educational Background and Relevant Employment Experience

PNM Exhibit GP-1

Is contained in the following 2 pages.

GREG C. PARENT

EDUCATIONAL AND PROFESSIONAL SUMMARY

Name: Greg C. Parent

Address: Exo Inc.
1735 Hughes Landing Blvd Ste 3B,
The Woodlands, TX 77381

Position: Principal of Transmission Line Design

Education: Bachelor of Science, Civil Engineering, Lehigh University, 2003
Master of Science, Structural Engineering, Lehigh University, 2005

Employment: Employed by Exo Inc. since May of 2026

Positions held within this Company include:
Principal of Transmission Line Design

Employed by Ulteig between September 2015 – April 2026
Positions held within this Company include:
Principal Engineer in Transmission (2020-2026)
Senior Engineer in Transmission (2015-2020)

Testimony:

Before the New Mexico Public Regulation Commission	
18-00065-UT	In the Matter of Corona Wind Companies' Joint Application for the Location of the Corona Wind Projects and the Corona Gen-Tie System in Lincoln, Torrance, and Guadalupe Counties Pursuant to the Public Utility Act, NMSA 1978, § 62-9-3
19-00139-UT	In The Matter of the Application for the Location of the Clines Corners Wind Farm and Gen-Tie System in Torrance and Guadalupe Counties Pursuant to the Public Utility Act, NMSA 1978, Sections 62-9-3 And 62-9-3.2
20-00008-UT	In the Matter of the Corona Wind Companies' Amended Joint Application for Location Site Approval of the Expansion of the Corona Wind Projects, Reconfiguration of the Proposed Corona Gen-Tie System Extension of the Corona Gen-Tie System and Request for Right of Way Determination in Lincoln, Torrance and Guadalupe Counties Pursuant to the Public Utility Act, NMSA 1978, 62-9-3
21-00281-UT	In the Matter of the Joint Application for the Location Approval of the Expanded Corona Wind Project and the Revised Corona Gen-Tie System and for Right-of-Way Width Approval Pursuant to the Public Utility Act, NMSA 1978, § 62-9-3
22-00101-UT	In the Matter of the Joint Application for the Location Approval of the Corona Wind North Project and for the Right-of-Way Width Approval Pursuant to the Public Utility Act, NMSA 1978, § 62-9-3

24-00255-UT	In The Matter of the Application for the Location of the Bernalillo Solar and Battery Energy Storage System and Gen-Tie System in Bernalillo County Pursuant to the Public Utility Act, NMSA 1978, §§ 62-9-3 And 62-9-3.2
25-00056-UT	In the Matter of the Application for the Right-of-Way Width Approval of the Bolo Transmission Project Pursuant to the Public Utility Act, NMSA 1978, § 62-9- 3.2
26-0000111	In the Matter of the Joint Application for the Location Approval of the Corona Wind North II Project and for the Right-of-Way Width Approval Pursuant to the Public Utility Act, NMSA 1978, § 62-9- 3

GCG#535993

Mid-State Transmission Line Blowout, Audible Noise, and Electromagnetic Field Exhibits

PNM Exhibit GP-2

Is contained in the following 31 pages.

MID-STATE TRANSMISSION LINE
BLOWOUT, AUDIBLE NOISE AND ELECTROMAGNETIC FIELD EXHIBITS
DRAWING INDEX

DRAWING NUMBER	DRAWING DESCRIPTION	REV	SUBMITTAL DATE
MST-ROW-0001	DRAWING LIST	C	10/23/2026
MST-R0W-0100	ROUTE MAP	C	10/23/2026
MST-R0W-0201	SWITCHING DIAGRAM	C	10/23/2026
MST-R0W-0202	SWITCHING DIAGRAM	C	10/23/2026
MST-ROW-0300	HORIZONTAL BLOWOUT CLEARANCE OFFSET CALCULATIONS	C	10/23/2026
MST-R0W-0301	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 795 KCMIL "DRAKE" H FRAME TANGENT (AT REST)	C	10/23/2026
MST-R0W-0302	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 795 KCMIL "DRAKE" H FRAME TANGENT (6 PSF)	C	10/23/2026
MST-R0W-0303	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 795 KCMIL "DRAKE" H FRAME TANGENT (EXTREME WIND)	C	10/23/2026
MST-R0W-0304	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT" H FRAME TANGENT (AT REST)	C	10/23/2026
MST-R0W-0305	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT" H FRAME TANGENT (6 PSF)	C	10/23/2026
MST-R0W-0306	TRANSMISSION LINE BLOWOUT SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT" H FRAME TANGENT (EXTREME WIND)	C	10/23/2026
MST-R0W-0307	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 795KCMIL "DRAKE" MONOPOLE TANGENT (AT REST)	C	10/23/2026
MST-R0W-0308	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 795KCMIL "DRAKE" MONOPOLE TANGENT (6PSF)	C	10/23/2026
MST-R0W-0309	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 795KCMIL "DRAKE" MONOPOLE TANGENT (EXTREME WIND)	C	10/23/2026
MST-R0W-0310	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 1272KCMIL "PHEASANT" MONOPOLE TANGENT (AT REST)	C	10/23/2026
MST-R0W-0311	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 1272KCMIL "PHEASANT" MONOPOLE TANGENT (6PSF)	C	10/23/2026
MST-R0W-0312	TRANSMISSION LINE BLOWOUT CO-LOCATED 115/345kV 795 KCMIL "DRAKE" & (2) 1272KCMIL "PHEASANT" MONOPOLE TANGENT (EXTREME WIND	C	10/23/2026
MST-ROW-0400	TRANSMISSION LINE GUYING FOOTPRINT (3) POLE GUYED DEADEND	C	10/23/2026
MST-ROW-0501	AUDIBLE NOISE FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0502	ELECTRIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0503	MAGNETIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0504	AUDIBLE NOISE FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0505	ELECTRIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0506	MAGNETIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0507	AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0508	ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0509	MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"	C	10/23/2026
MST-ROW-0510	AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0511	ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0512	MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"	C	10/23/2026
MST-ROW-0513	TRANSMISSION LINE AUDIBLE NOISE AND EMF SUMMARY	C	10/23/2026

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

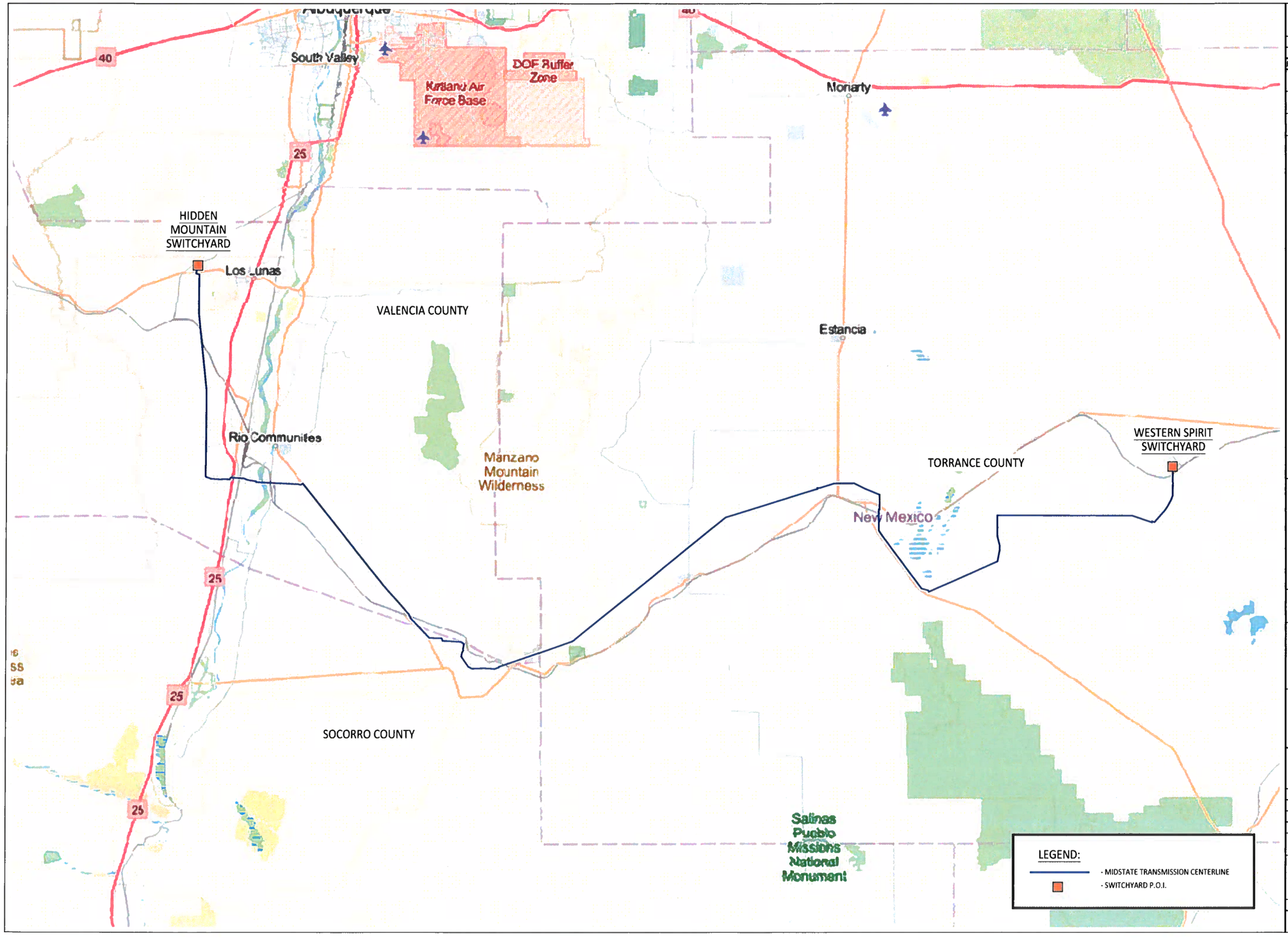
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
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DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

DRAWING INDEX

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0001
REVISION: C



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

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A	08/28/26	FOR PRC SUBMITTAL	EXO
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GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 3 MI. 6 MI. 9 MI.
1"=3 MILE

EXO
ENSURING STRUCTURAL INTEGRITY

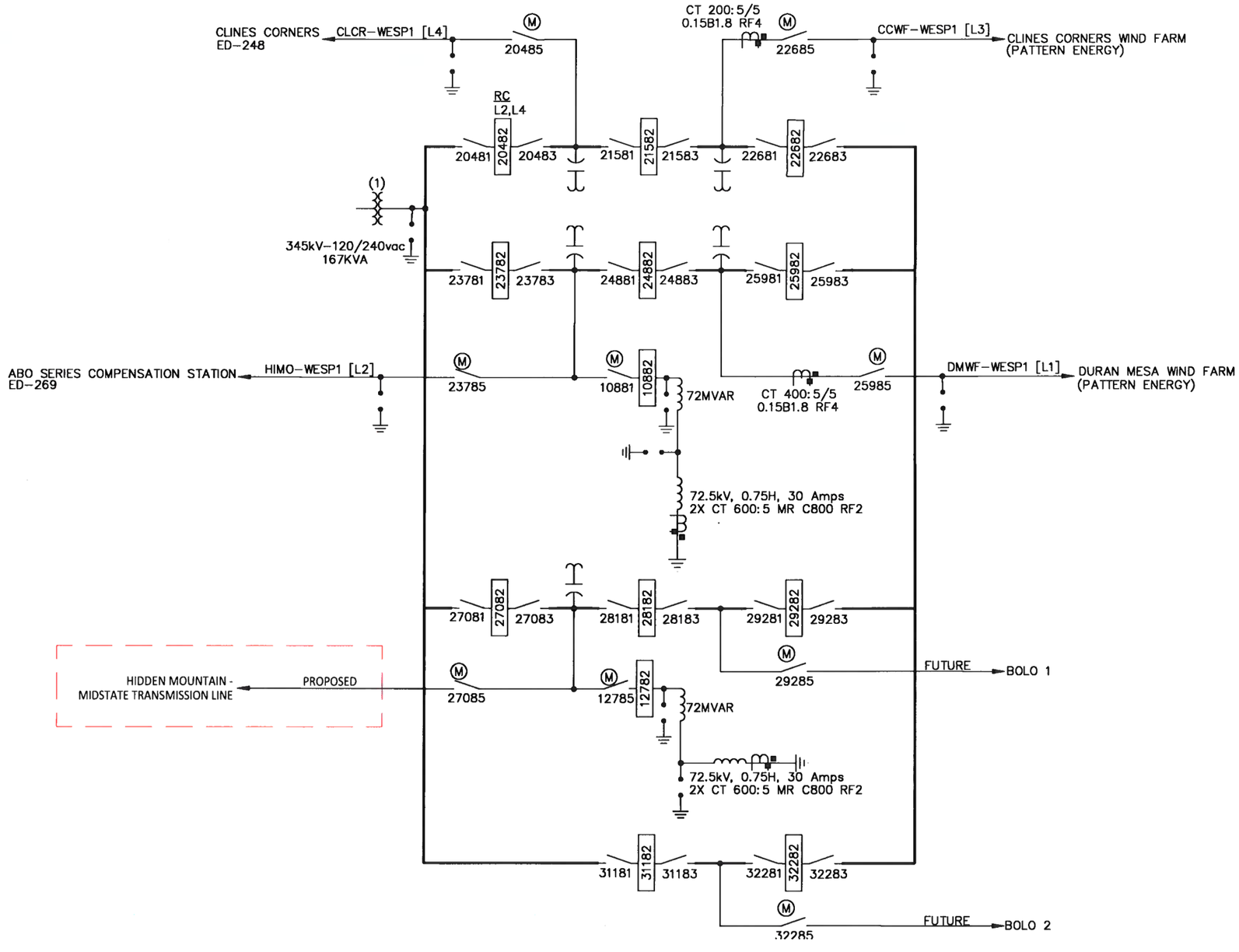
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
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DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

ROUTE MAP

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0100
REVISION: C



WESTERN SPIRIT SWITCHYARD
SWITCHING DIAGRAM

N.T.S.

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

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A	08/28/26	FOR PRC SUBMITTAL	EXO
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C	10/23/26	REVISED PRC SUBMITTAL	EXO

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10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

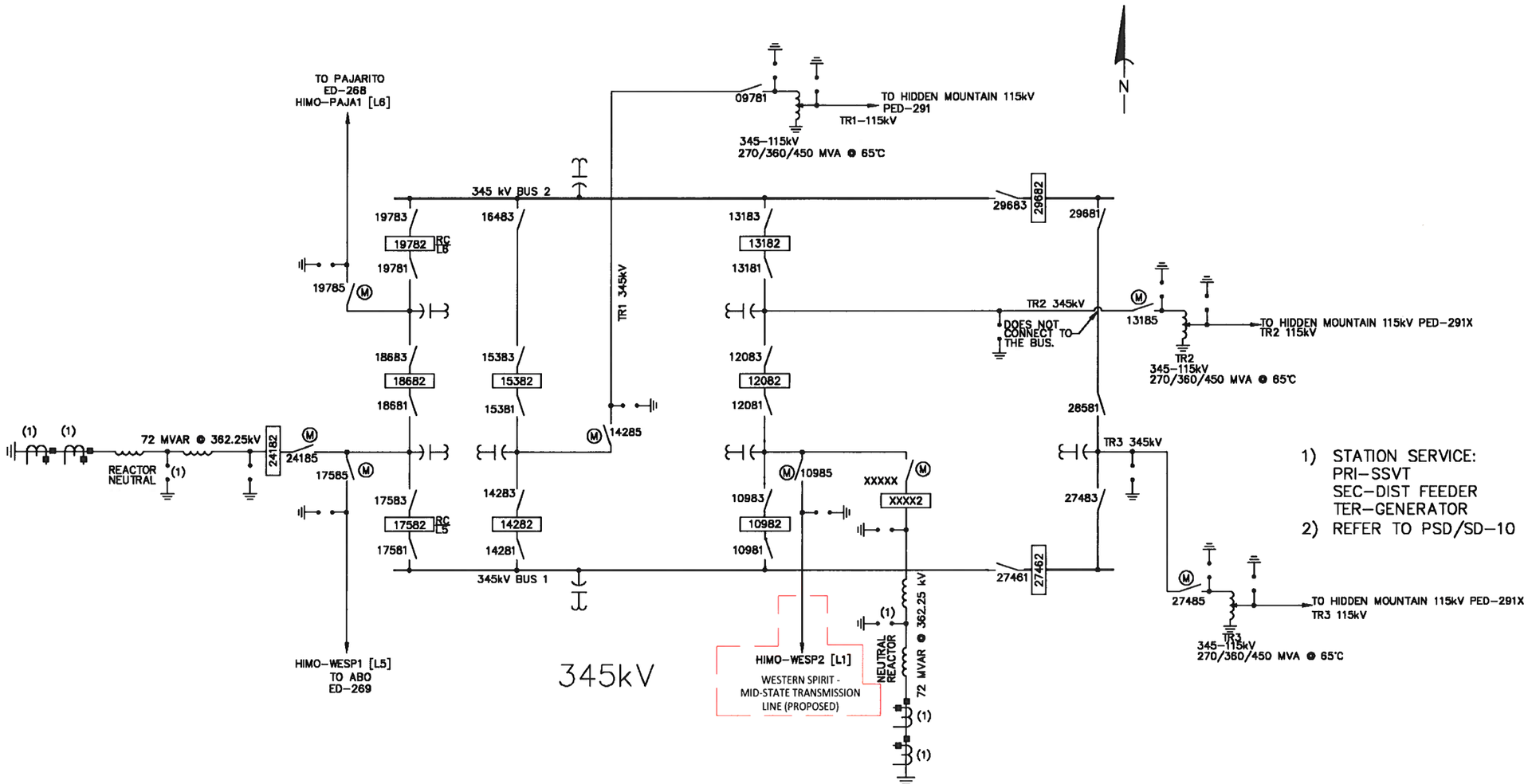
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION:
0008122236

WESTERN SPIRIT SWITCHYARD
SWITCHING DIAGRAM

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0201
REVISION: C



1) STATION SERVICE:
PRI–SSVT
SEC–DIST FEEDER
TER–GENERATOR
2) REFER TO PSD/SD–10

HIDDEN MOUNTAIN SWITCHYARD
SWITCHING DIAGRAM

N.T.S.

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

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APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

HIDDEN MOUNTAIN SWITCHYARD
SWITCHING DIAGRAM

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0202
REVISION: C

Exo Inc.
Project Name: Mid-State Transmission
Required NESC Horizontal Clearances - Rule 234B1a & 234B1b
Engineer: Greg C. Parent
Date 08-28-2026

ENSURING STRUCTURAL INTEGRITY

(V_{N_C1}) = Nominal Operating Voltage of Circuit 1 (kV) $V_{N_C1} := 345\ kV$

(V_{N_C2}) = Nominal Operating Voltage of Circuit 2 (kV) $V_{N_C2} := 115\ kV$

(Elev) = Design Elevation (ft) $Elev := 7240\ ft$

(C_{BUFF}) = Clearance Buffer (ft) $C_{BUFF} := 3\ ft$

(CH_{AR_C1}) = Required Horizontal Clearance of Circuit 1 At Rest (ft) NESC RULE 234B1a

($CH_{@6psf_C1}$) = Required Horizontal Clearance of Circuit 1 under 6psf (ft) NESC RULE 234B1b

($CH_{@EX_WIND_C1}$) = Recommended Horizontal Clearance of Circuit 1 under Extreme (ft)

$V_{M_C1} := 1.05 \cdot V_{N_C1} = 362.25\ kV$

$$CH_{AR_C1} := 7.5\ ft + ((50\ kV - 22\ kV)) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) + \left(\left(\frac{V_{M_C1}}{\sqrt{3}} - 50\ kV\right) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) \cdot 1.03^{\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}}\right) + C_{BUFF}$$

$CH_{AR_C1} = 17.393\ ft$

$$CH_{@6PSF_C1} := 4.5\ ft + ((50\ kV - 22\ kV)) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) + \left(\left(\frac{V_{M_C1}}{\sqrt{3}} - 50\ kV\right) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) \cdot 1.03^{\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}}\right) + C_{BUFF}$$

$CH_{@6PSF_C1} = 14.393\ ft$

$$CH_{@EX_WIND_C1} := \max\left(CH_{FAC_C1}, V_{M_C1} \cdot \frac{0.1\ \frac{in}{kV}}{12\ \frac{in}{ft}} \cdot 1.03^{\left(\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}\right)}\right) + C_{BUFF}$$

$CH_{@EX_WIND_C1} = 8\ ft$

(CH_{FAC_C1}) = FAC-003 345kV Vegetation Clearance @7240ft $CH_{FAC_C1} := 5\ ft$

(CH_{FAC_C2}) = FAC-003 115kV Vegetation Clearance @7240ft $CH_{FAC_C2} := 2.2\ ft$

$Elev_{DESIGN} := \mathbf{if}(Elev < 3300\ ft, 3300, Elev)$ $Elev_{DESIGN} = 7240\ ft$

(CH_{AR_C2}) = Required Horizontal Clearance of Circuit 2 At Rest (ft) NESC RULE 234B1a

($CH_{@6psf_C2}$) = Required Horizontal Clearance of Circuit 2 under 6psf (ft) NESC RULE 234B1b

($CH_{@EX_WIND_C2}$) = Recommended Horizontal Clearance of Circuit 2 under Extreme (ft)

$V_{M_C2} := 1.05 \cdot V_{N_C2} = 120.75\ kV$

$$CH_{AR_C2} := 7.5\ ft + ((50\ kV - 22\ kV)) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) + \left(\left(\frac{V_{M_C2}}{\sqrt{3}} - 50\ kV\right) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) \cdot 1.03^{\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}}\right) + C_{BUFF}$$

$CH_{AR_C2} = 12.172\ ft$

$$CH_{@6PSF_C2} := 4.5\ ft + ((50\ kV - 22\ kV)) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) + \left(\left(\frac{V_{M_C2}}{\sqrt{3}} - 50\ kV\right) \cdot \left(\frac{0.4\ \frac{in}{kV}}{12\ \frac{in}{ft}}\right) \cdot 1.03^{\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}}\right) + C_{BUFF}$$

$CH_{@6PSF_C2} = 9.172\ ft$

$$CH_{@EX_WIND_C2} := \max\left(CH_{FAC_C2}, V_{M_C2} \cdot \frac{0.1\ \frac{in}{kV}}{12\ \frac{in}{ft}} \cdot 1.03^{\left(\frac{Elev_{DESIGN} - 3300\ ft}{1000\ ft}\right)}\right) + C_{BUFF}$$

$CH_{@EX_WIND_C2} = 5.2\ ft$

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

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GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

ENSURING STRUCTURAL INTEGRITY

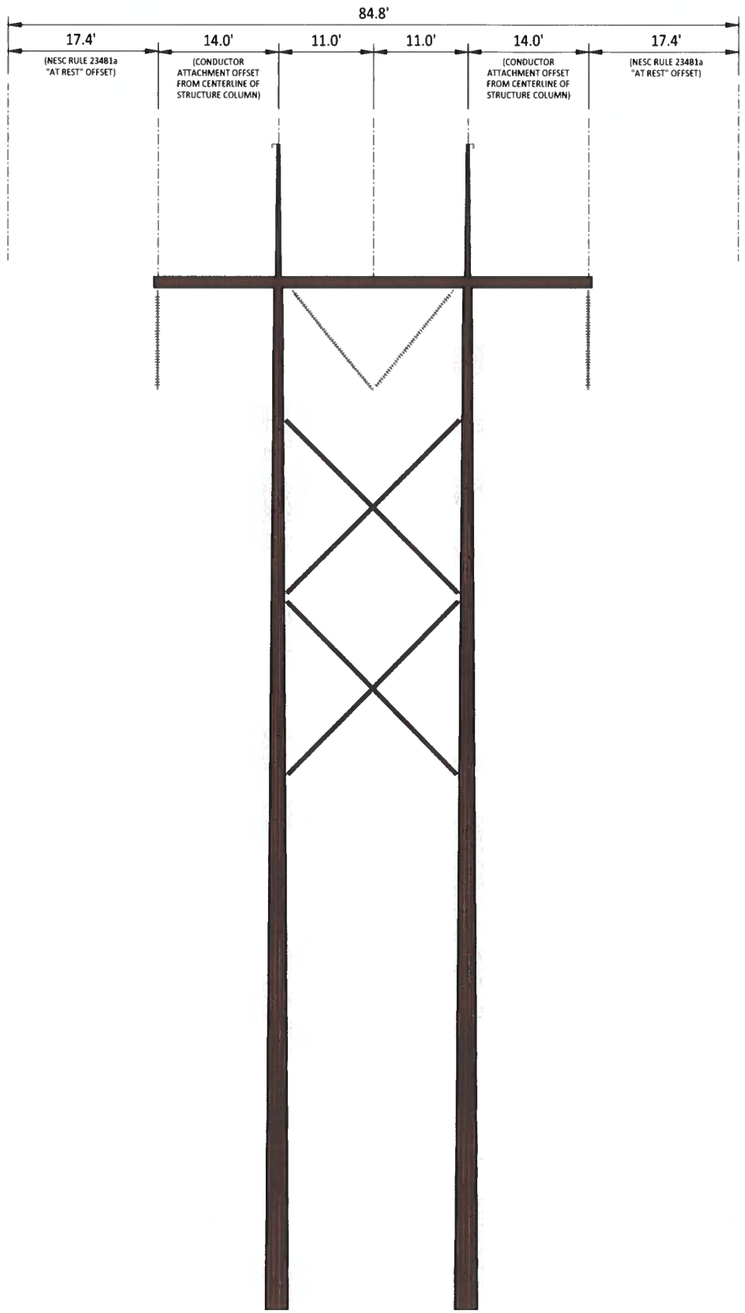
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/14/26
STATE REGISTRATION: 0008122236

HORIZONTAL BLOWOUT CLEARANCE OFFSET CALCULATIONS

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0300
REVISION: C



STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 234B1a
WEATHER CONDITION DISPLAYED = 0 PSF @ 60 DEG F

TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

EXO
ENSURING STRUCTURAL INTEGRITY

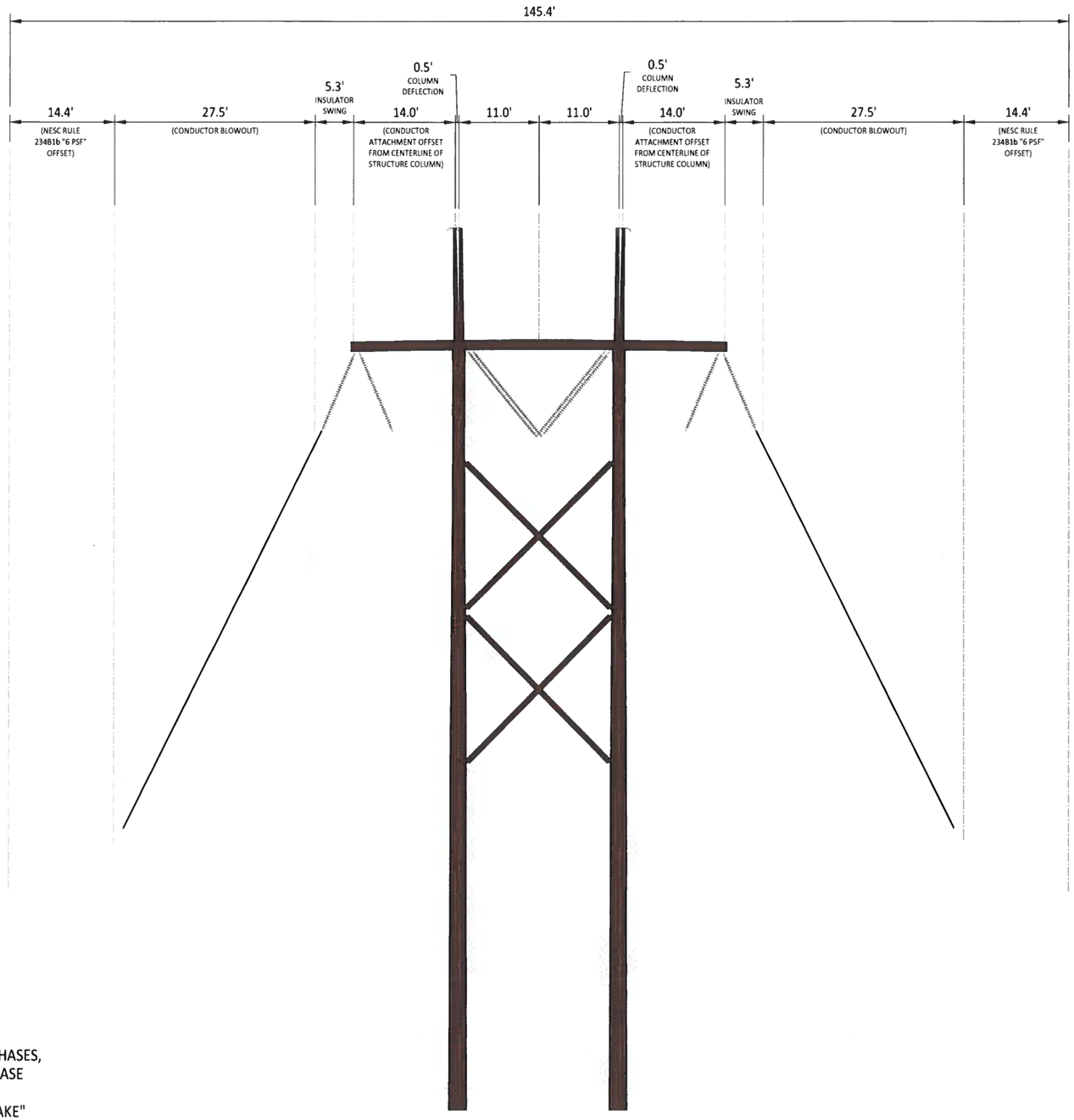
Exo Headquarters
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The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/14/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 795 KCMIL "DRAKE"
H FRAME TANGENT
(AT REST)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0301
REVISION: C



TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 234B1b
WEATHER CONDITION DISPLAYED = 6 PSF @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
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ENSURING STRUCTURAL INTEGRITY

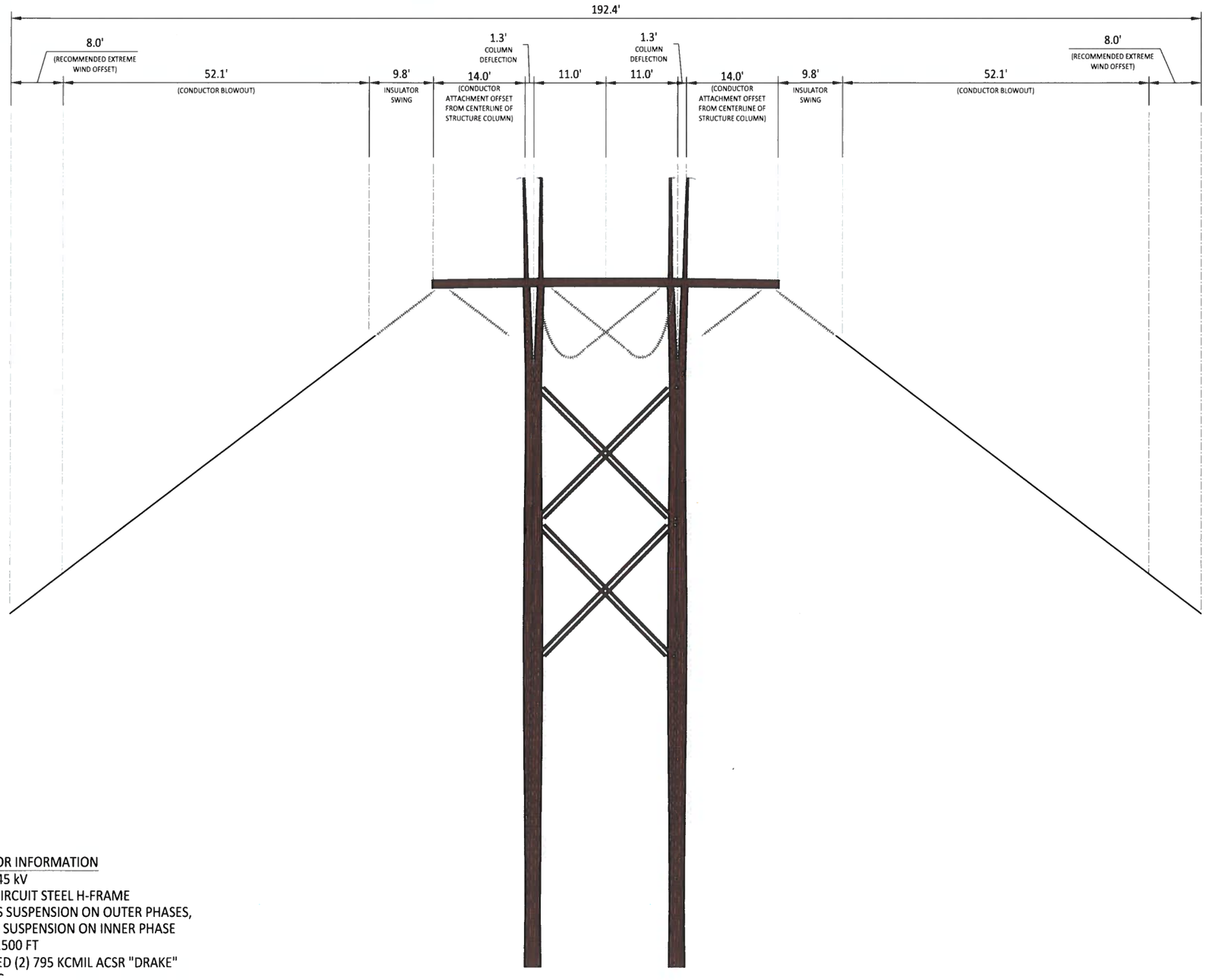
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DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 795 KCMIL "DRAKE"
H FRAME TANGENT
(6 PSF)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0302
REVISION: C



STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 250C
WEATHER CONDITION DISPLAYED = EXTREME WIND

TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

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REV	DATE	DESCRIPTION	BY
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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREGG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

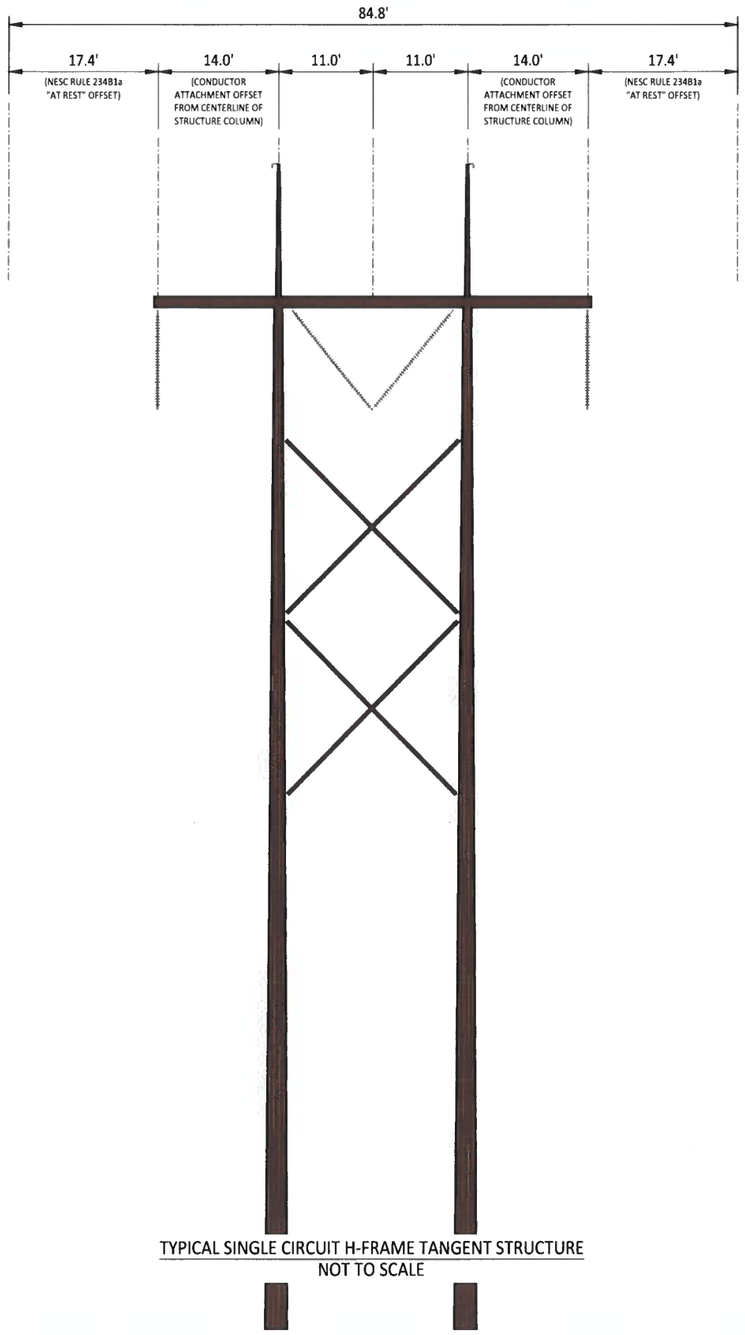
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION:
0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 795 KCMIL "DRAKE"
H FRAME TANGENT
(EXTREME WIND)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0303
REVISION: C



TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 234B1a
WEATHER CONDITION DISPLAYED = 0 PSF @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

ENSURING STRUCTURAL INTEGRITY

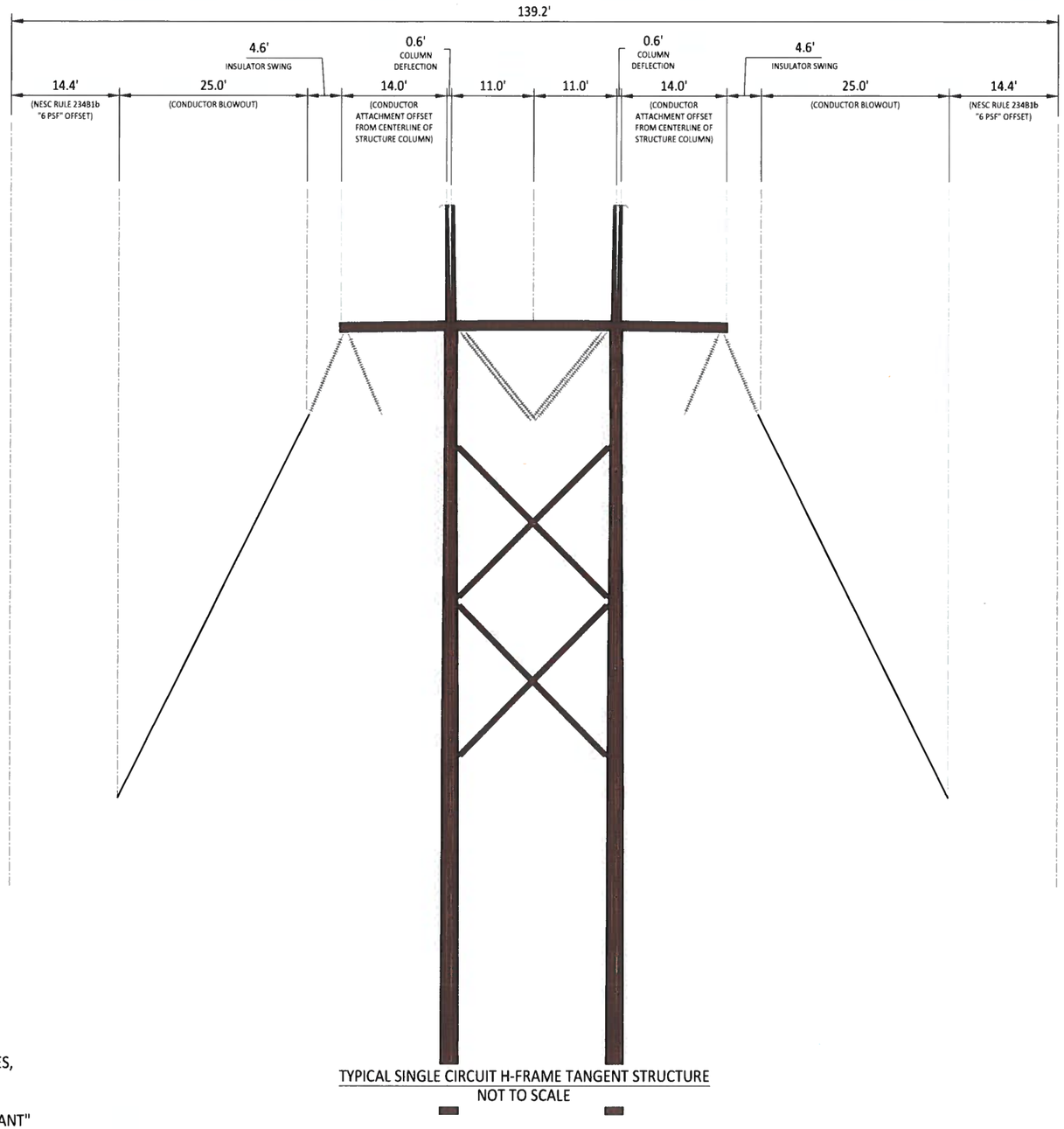
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION:
0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT"
H FRAME TANGENT
(AT REST)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0304
REVISION: C



TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 234B1b
WEATHER CONDITION DISPLAYED = 6 PSF @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREGG C. PARENT
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10-23-26
PROFESSIONAL ENGINEER

ENSURING STRUCTURAL INTEGRITY

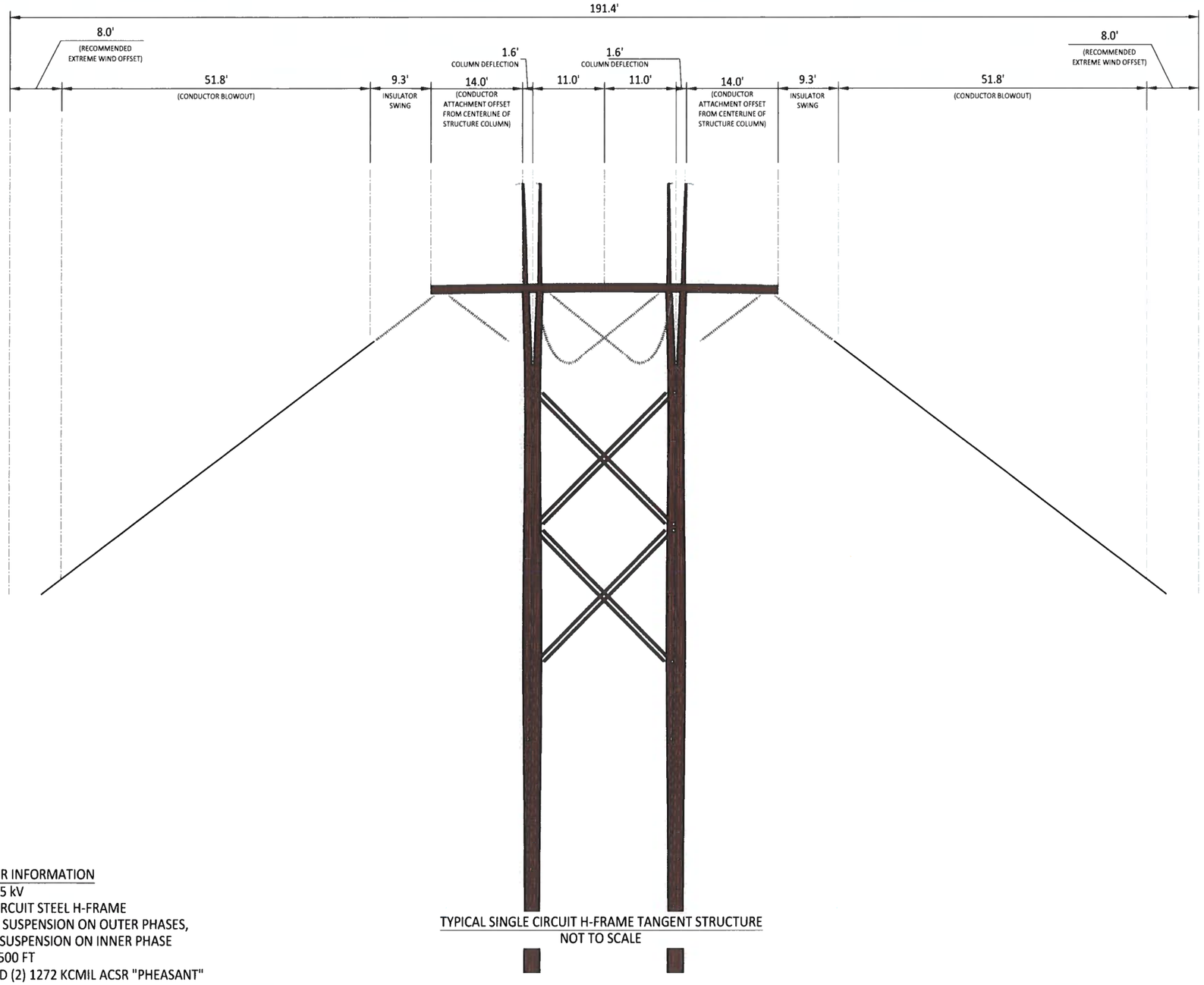
Exo Headquarters
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The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT"
H FRAME TANGENT
(6 PSF)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0305
REVISION: C



TYPICAL SINGLE CIRCUIT H-FRAME TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT STEEL H-FRAME
INSULATOR TYPE = I-STRINGS SUSPENSION ON OUTER PHASES,
V-STRING SUSPENSION ON INNER PHASE
MAXIMUM DESIGN SPAN = 1500 FT
CONDUCTOR TYPE = BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 250C
WEATHER CONDITION DISPLAYED = EXTREME WIND

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREGG B. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

ENSURING STRUCTURAL INTEGRITY

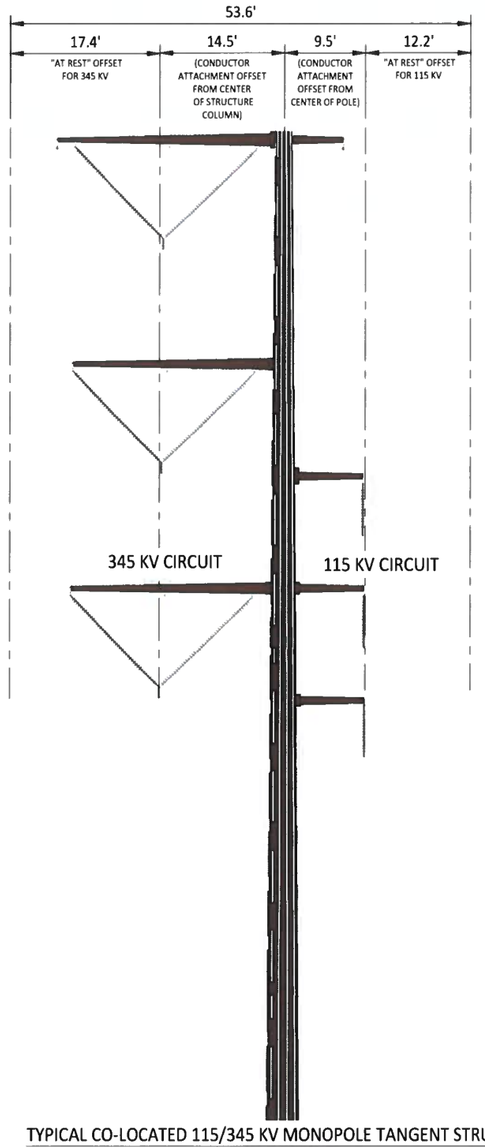
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
SINGLE CIRCUIT (2) 1272 KCMIL "PHEASANT"
H FRAME TANGENT
(EXTREME WIND)

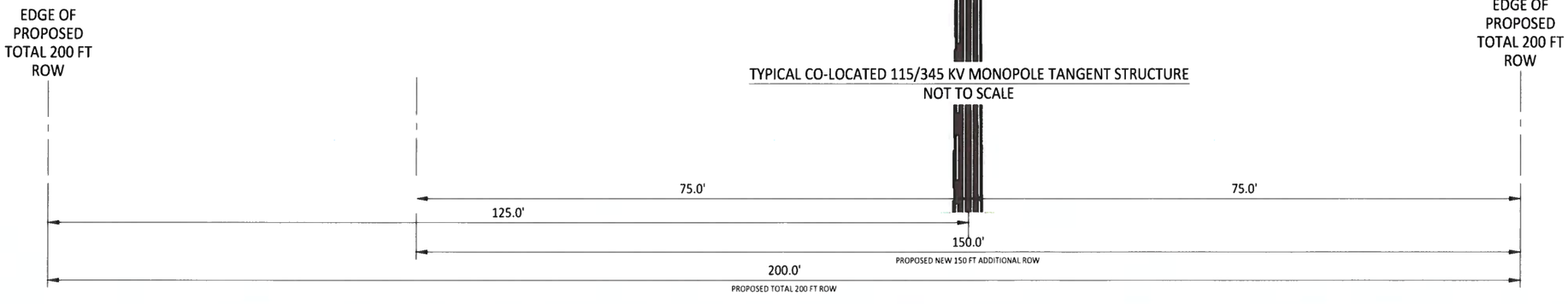
FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0306
REVISION: C



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 234B1a
WEATHER CONDITION DISPLAYED = AT REST @ 60 DEG F



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

EXO
ENSURING STRUCTURAL INTEGRITY

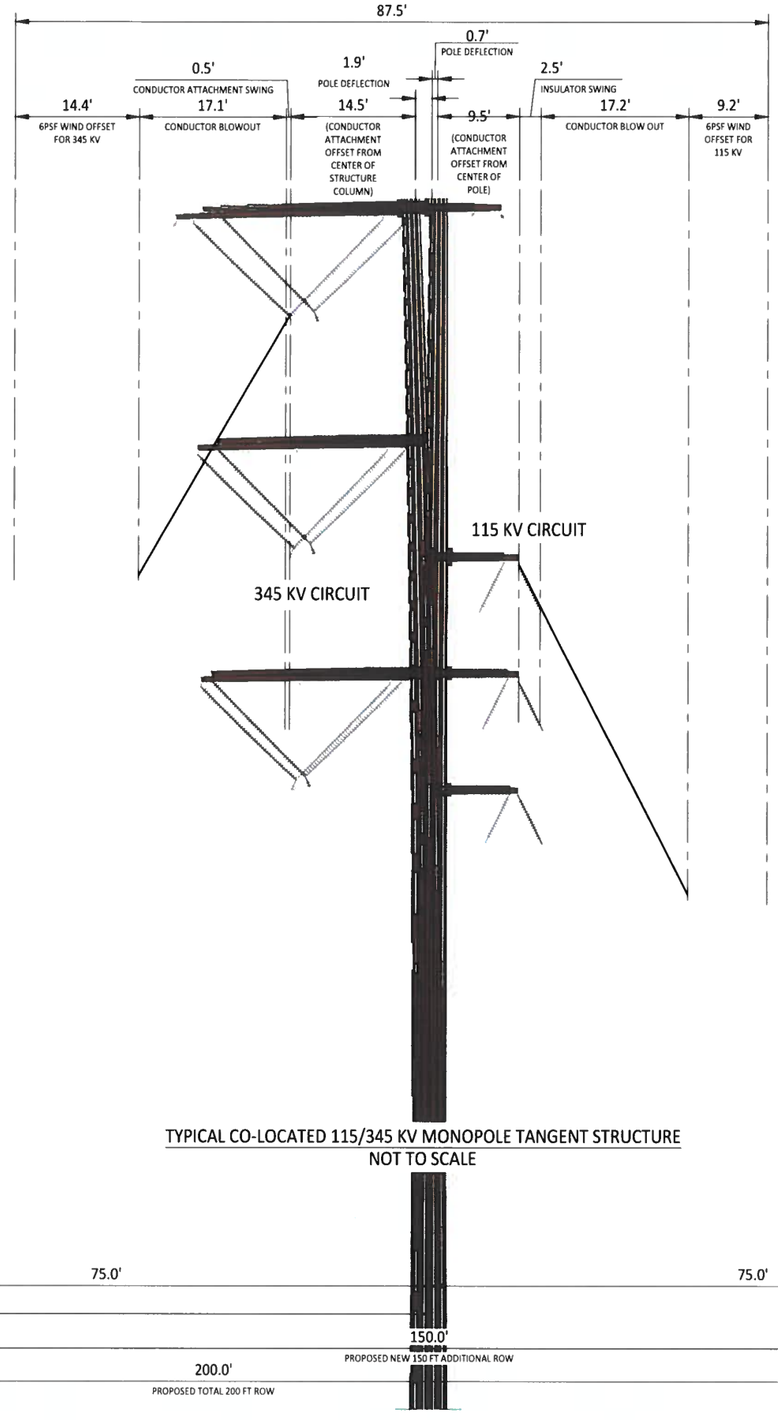
Exo Headquarters
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TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345 KV 795 KCMIL "DRAKE"
& (2) 795 KCMIL "DRAKE" MONOPOLE
TANGENT (AT REST)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0307
REVISION: C



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 234B1b
WEATHER CONDITION DISPLAYED = 6 PSF @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG P. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

ENSURING STRUCTURAL INTEGRITY

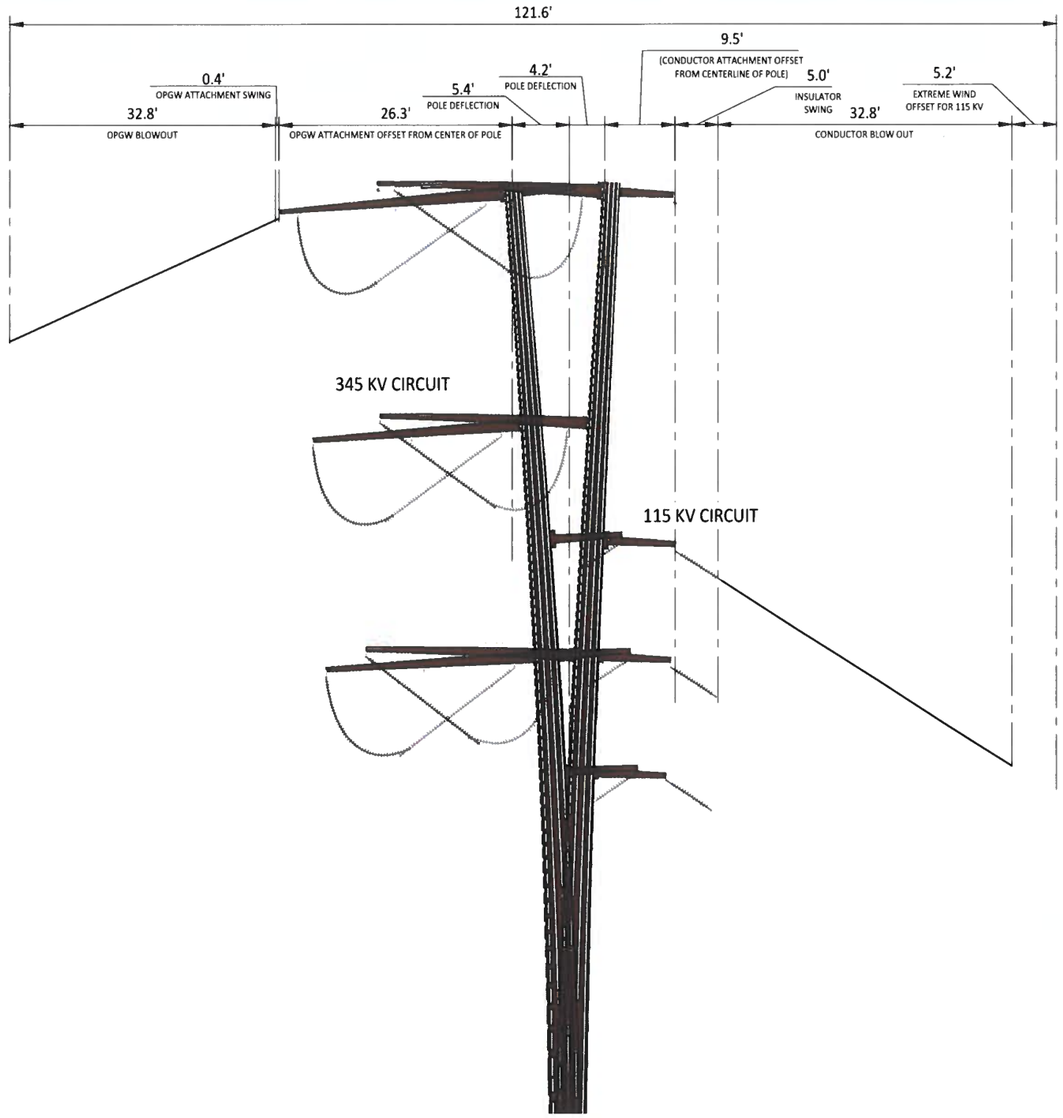
Exo Headquarters
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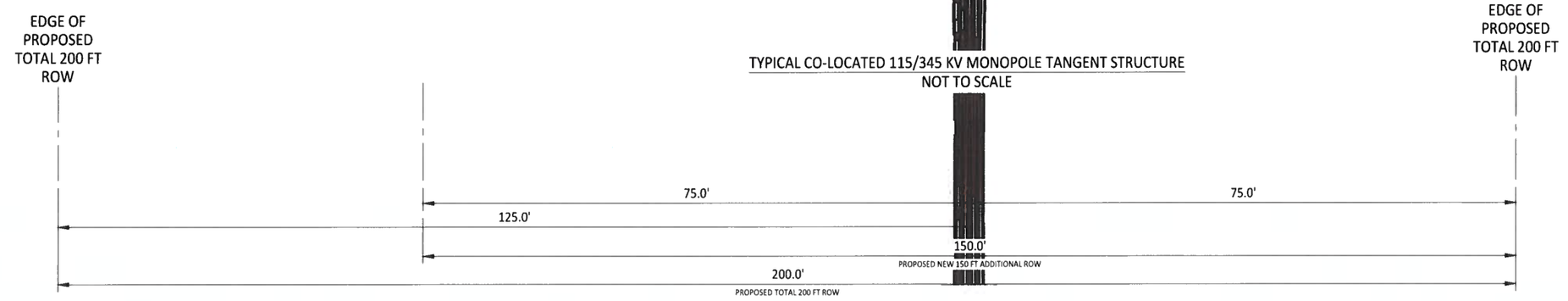
TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345 KV 795 KCMIL "DRAKE" & (2) 795 KCMIL "DRAKE" MONOPOLE TANGENT (6 PSF WIND)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0308
REVISION: C



STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 795 KCMIL ACSR "DRAKE"
NESC RULE ANALYZED = 250C
WEATHER CONDITION DISPLAYED = EXTREME WIND @ 60 DEG F



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE

MID-STATE TRANSMISSION TORRANCE, SOCORRO, AND VALENCIA COUNTIES			
PROJECT NUMBER: 26-5018			
REVISIONS			
REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG E. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

EXO
ENSURING STRUCTURAL INTEGRITY

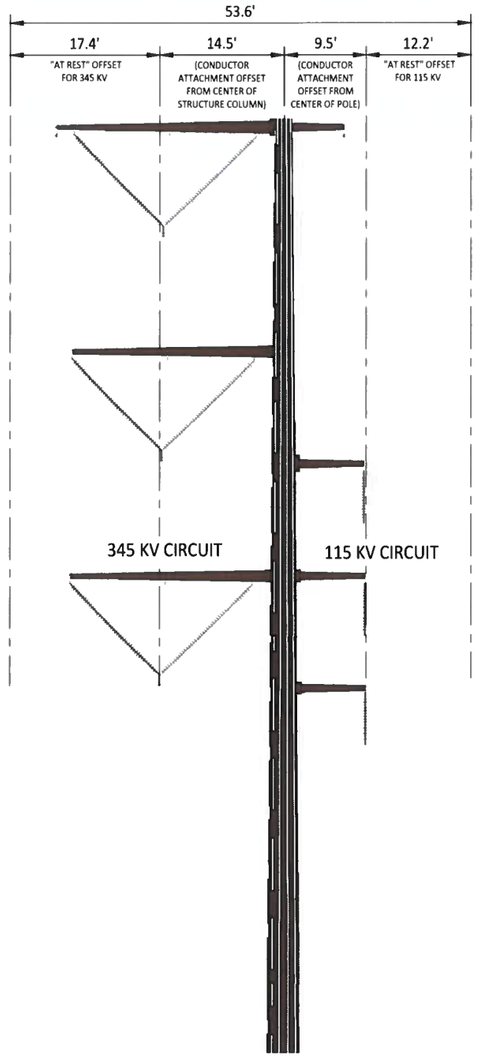
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY:	E. DACONES
DRAWN BY:	B. WATSON
APPROVED BY:	G. PARENT
DATE:	08/27/26
STATE REGISTRATION:	0008122236

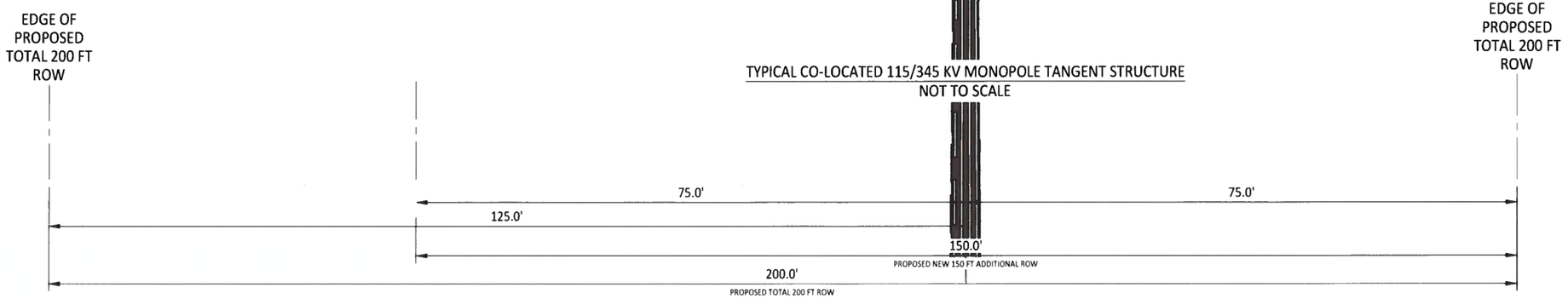
TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345kV 795 KCMIL
"DRAKE" & (2) 795KCMIL "DRAKE"
MONOPOLE TANGENT (EXTREME WIND)

FOR PRC SUBMITTAL

DRAWING NUMBER:	*REVISION:*
MST-ROW-0309	C



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE



STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 234B1a
WEATHER CONDITION DISPLAYED = AT REST @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

ENSURING STRUCTURAL INTEGRITY

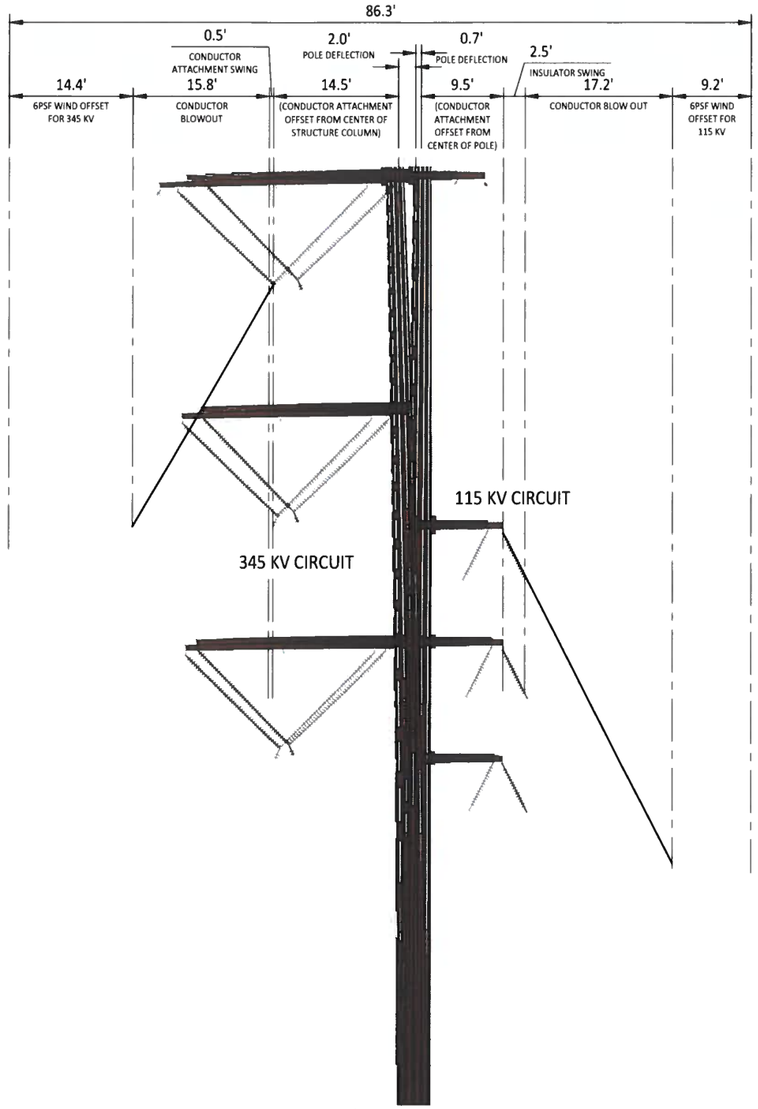
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

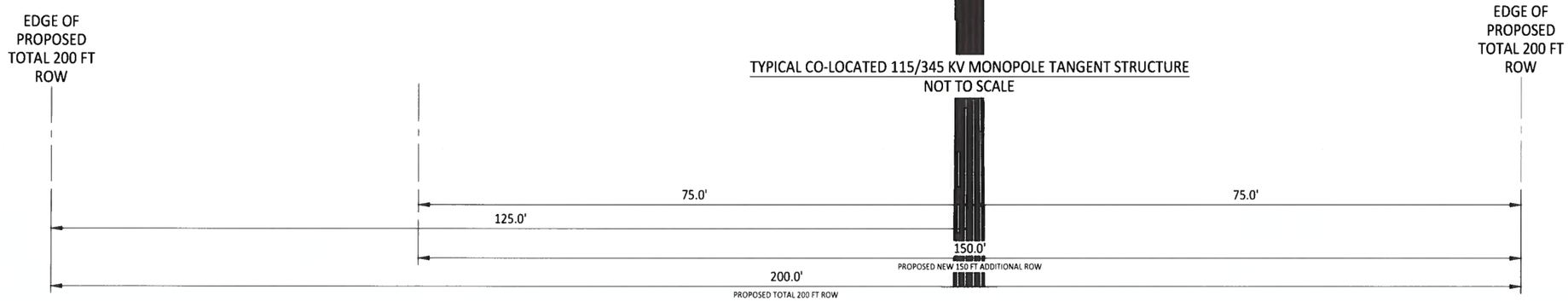
TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345 KV 795 KCMIL "DRAKE" & (2) 1272 KCMIL "PHEASANT" MONOPOLE TANGENT (AT REST)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0310
REVISION: C



STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 234B1b
WEATHER CONDITION DISPLAYED = 6 PSF @ 60 DEG F



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE

MID-STATE TRANSMISSION TORRANCE, SOCORRO, AND VALENCIA COUNTIES			
PROJECT NUMBER: 26-5018			
REVISIONS			
REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT NEW MEXICO 24890 10-23-26 PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

ENSURING STRUCTURAL INTEGRITY

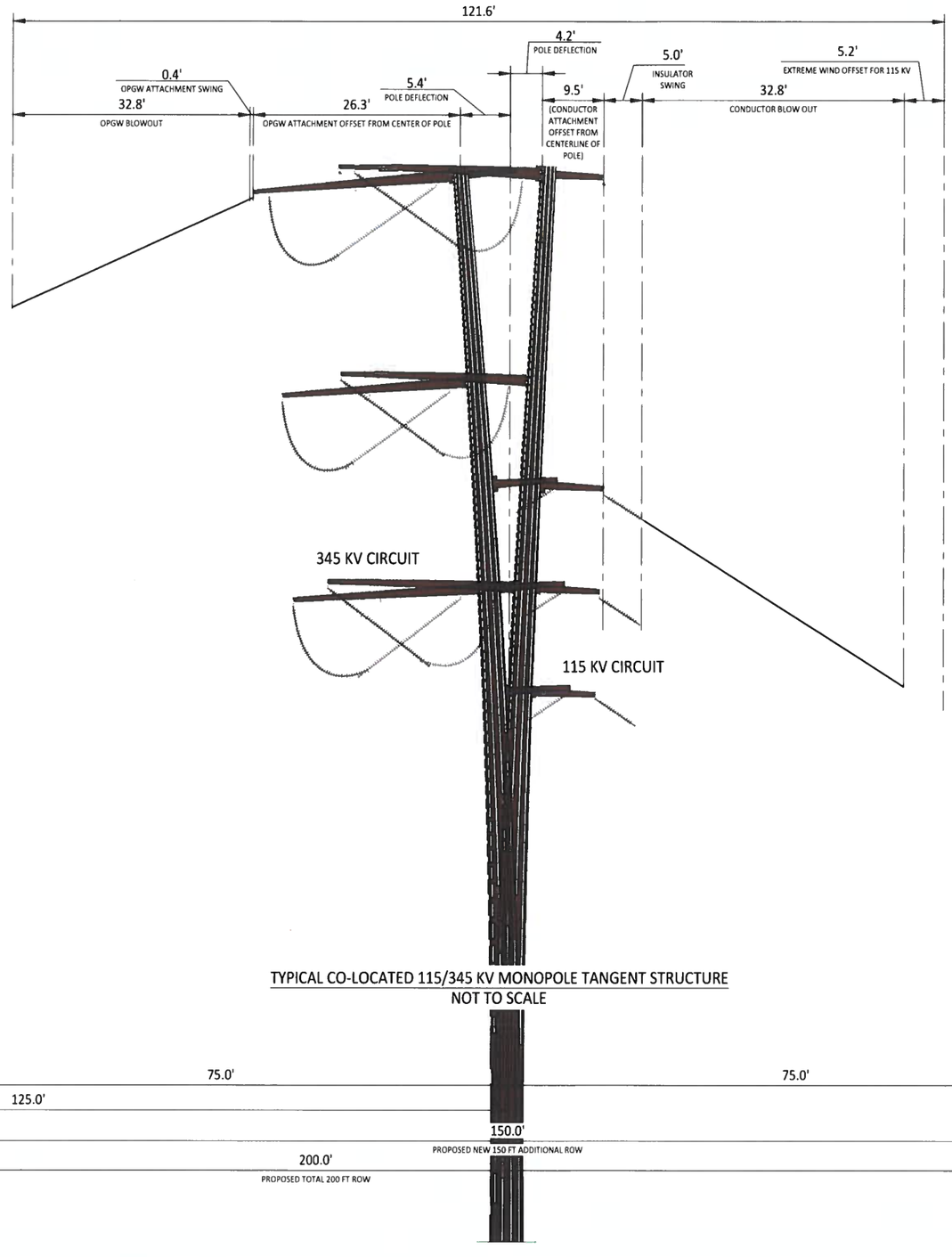
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345 KV 795 KCMIL "DRAKE" & (2) 1272 KCMIL "PHEASANT" MONOPOLE TANGENT (6 PSF WIND)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0311
REVISION: C



TYPICAL CO-LOCATED 115/345 KV MONOPOLE TANGENT STRUCTURE
NOT TO SCALE

STRUCTURE AND CONDUCTOR INFORMATION
OPERATIONAL VOLTAGE = 115/345 kV
STRUCTURE TYPE = CO-LOCATED DOUBLE CIRCUIT STEEL MONOPOLE
INSULATOR TYPE = I-STRINGS SUSPENSION ON 115 KV CIRCUIT,
V-STRING SUSPENSION ON 345 KV CIRCUIT
MAXIMUM DESIGN SPAN = 1200 FT
CONDUCTOR TYPE = 115 KV SINGLE (1) 795 KCMIL ACSR "DRAKE"
345 KV BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
NESC RULE ANALYZED = 250C
WEATHER CONDITION DISPLAYED = EXTREME WIND @ 60 DEG F

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

0 8' 16' 24'
1/8"=1'-0"

EXO
ENSURING STRUCTURAL INTEGRITY

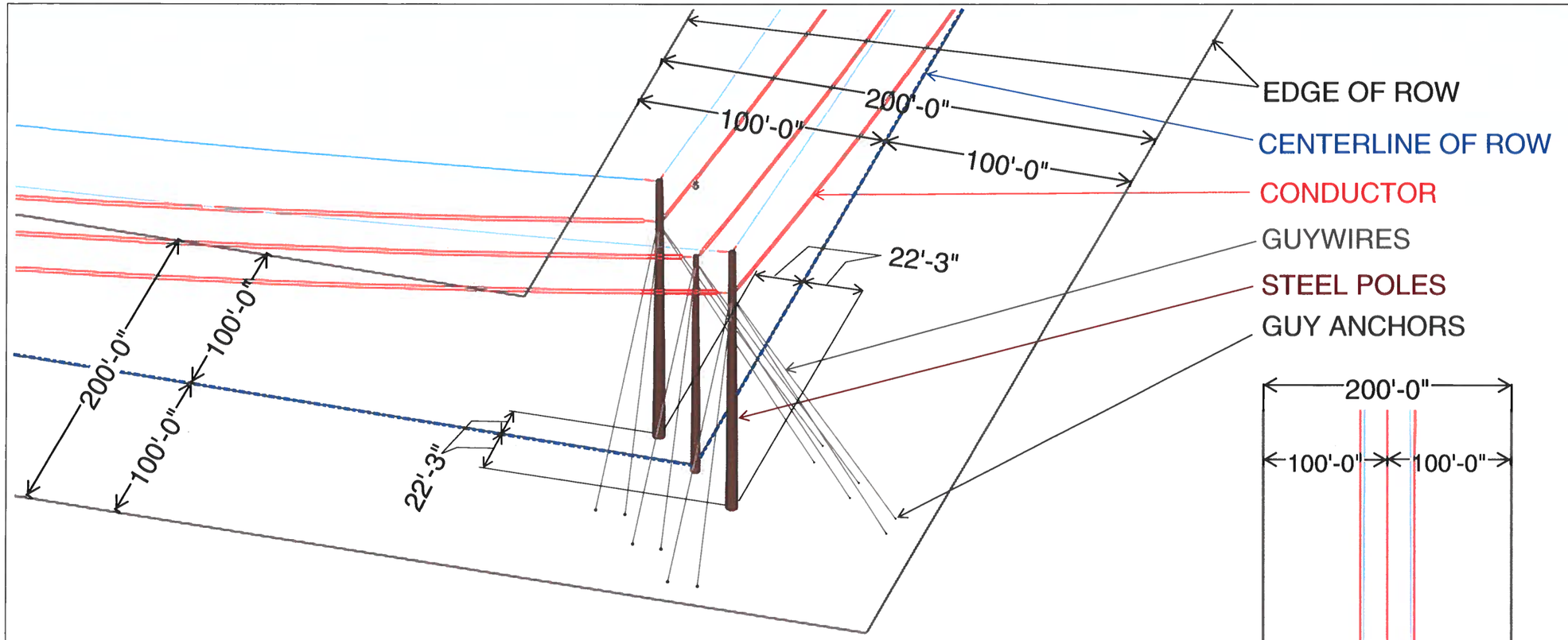
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE BLOWOUT
CO-LOCATED 115/345kV 795 KCMIL
"DRAKE" & (2) 1272KCMIL "PHEASANT"
MONOPOLE TANGENT (EXTREME WIND)

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0312
REVISION: C

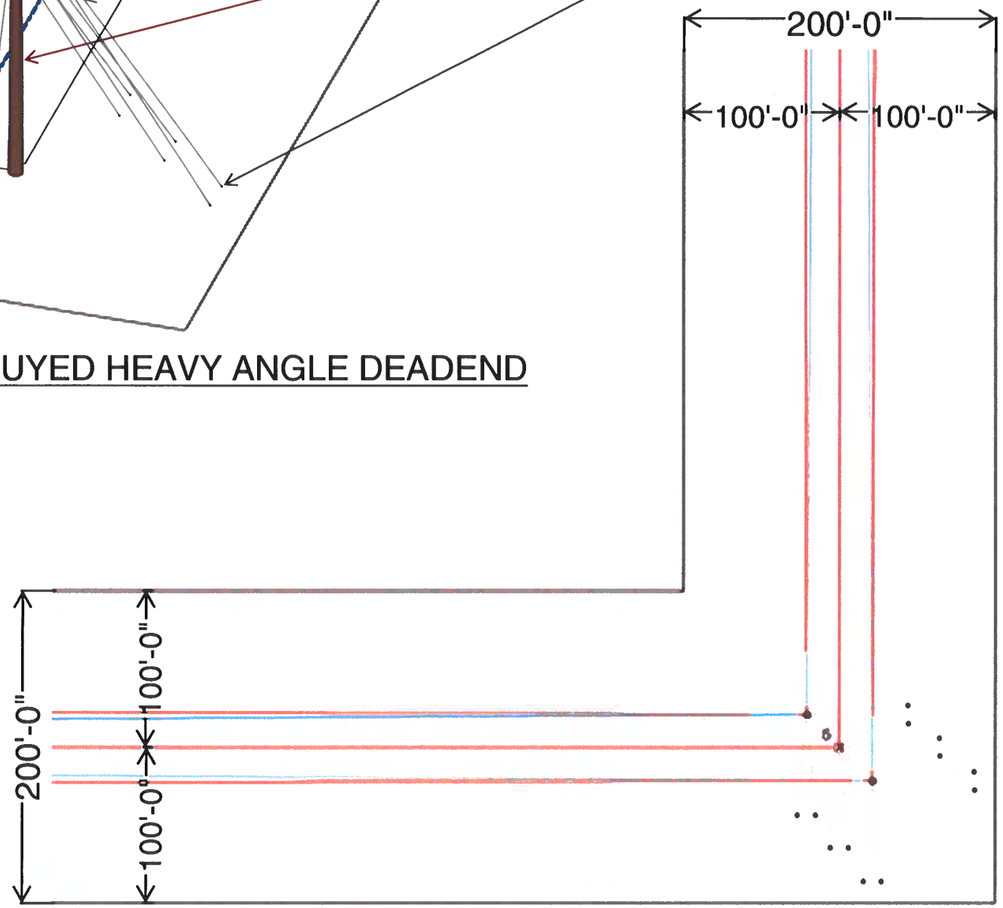


ISOMETRIC VIEW OF THREE POLE GUYED HEAVY ANGLE DEADEND

STRUCTURE INFORMATION
OPERATIONAL VOLTAGE = 345 kV
STRUCTURE TYPE = SINGLE CIRCUIT 3-POLE GUYED DEADEND
INSULATOR TYPE = STRAIN DEADEND INSULATORS
CONDUCTOR TYPE = BUNDLED (2) 795 KCMIL ACSR "DRAKE" OR
BUNDLED (2) 1272 KCMIL ACSR "PHEASANT"
GUYWIRE TYPE = (2) 7/8" EHS SUPPORTING EACH PHASE

A SINGLE CIRCUIT THREE (3) POLE GUYED HEAVY ANGLE DEAD-END STRUCTURE USES GUYWIRES TO RESIST THE LATERAL LOADS THAT ARE APPLIED TO THE STRUCTURE FROM THE TENSIONED CONDUCTORS. THESE GUY WIRES EXTEND DOWN AT AN ANGLE FROM THE POLE STRUCTURE TO THE GROUNDLINE. EACH GUYWIRE CONNECTS TO AN ANCHOR WHICH IS EMBEDDED INTO THE GROUND.

THIS DRAWING ILLUSTRATES HOW THIS TYPE OF STRUCTURE FITS WITHIN A 200FT ROW WIDTH.



PLAN VIEW OF THREE POLE GUYED HEAVY ANGLE DEADEND

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

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A	08/28/26	FOR PRC SUBMITTAL	EXO
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C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

TRANSMISSION LINE GUYING FOOTPRINT
(3) POLE GUYED DEADEND

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0400
REVISION: C

MID-STATE TRANSMISSION: AUDIBLE NOISE CALCULATION FOR 345KV SINGLE CIRCUIT H-FRAME WITH A (2) 795KCMIL CONDUCTOR

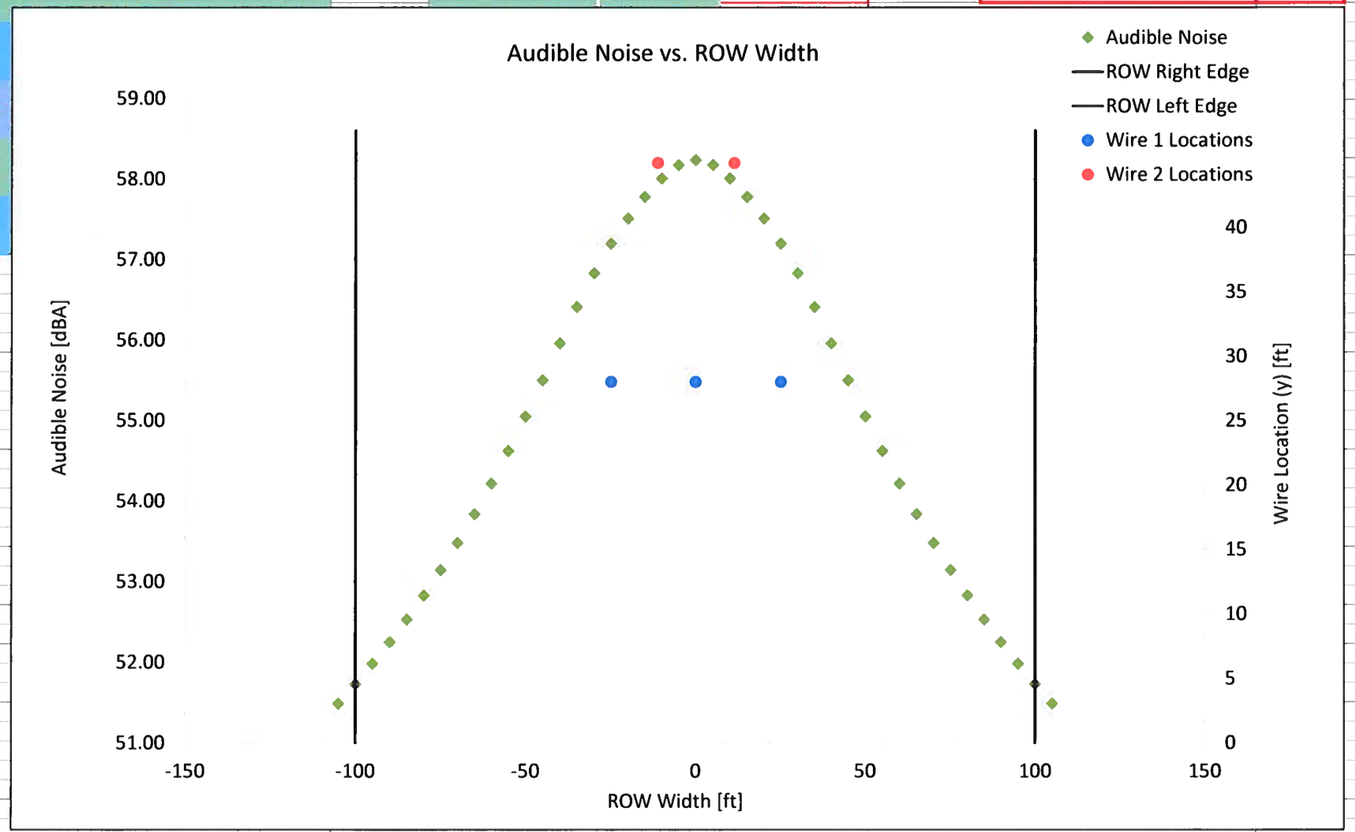
Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (avg max)	phase	Kv/cm	line name	l-l voltage (rated)	l-l voltage (avg max)
1	-25	28	2	1.108	18	204.9622	120	16.4916	Line Name No. 2	345	355.005
2	0	28	2	1.108	18	204.9622	240	17.7775		345	355.005
3	25	28	2	1.108	18	204.9622	0	16.4916		345	355.005
4	11.25	45	1	0.528	0	0	0	4.4652	Line Name No. 1	0	0
5	-11.25	45	1	0.528	0	0	0	4.4652		0	0
6								0.0000			
7								0.0000			
8								0.0000			
9								0.0000			
10								0.0000			
11								0.0000			
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RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li
Audible Noise [dBA]	
at Left RoW Edge	**51.729**
at Right RoW Edge	**51.729**
Max ANoise Value	**58.2**

NPH= 5.00

Altitude ft= 7240

Dist	Vert	Calculated L50 rain	Coord on RoW Center : Dist
-500	5	43.75	-500.00
-480	5	43.96	-480.00
-460	5	44.17	-460.00
-440	5	44.39	-440.00
-420	5	44.62	-420.00
-400	5	44.86	-400.00
-380	5	45.11	-380.00
-360	5	45.38	-360.00
-340	5	45.66	-340.00
-320	5	45.96	-320.00
-300	5	46.28	-300.00
-280	5	46.63	-280.00
-260	5	46.99	-260.00
-240	5	47.39	-240.00
-220	5	47.82	-220.00
-200	5	48.29	-200.00
-180	5	48.82	-180.00
-160	5	49.40	-160.00
-140	5	50.06	-140.00
-105	5	51.49	-105.00
-100	5	51.73	-100.00
-95	5	51.98	-95.00
-90	5	52.25	-90.00
-85	5	52.53	-85.00
-80	5	52.83	-80.00
-75	5	53.15	-75.00
-70	5	53.48	-70.00



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREGG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

AUDIBLE NOISE FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0501
REVISION: C

MID-STATE TRANSMISSION: ELECTRIC FIELD CALCULATION FOR 345KV SINGLE CIRCUIT H-FRAME WITH A (2) 795KCMIL CONDUCTOR

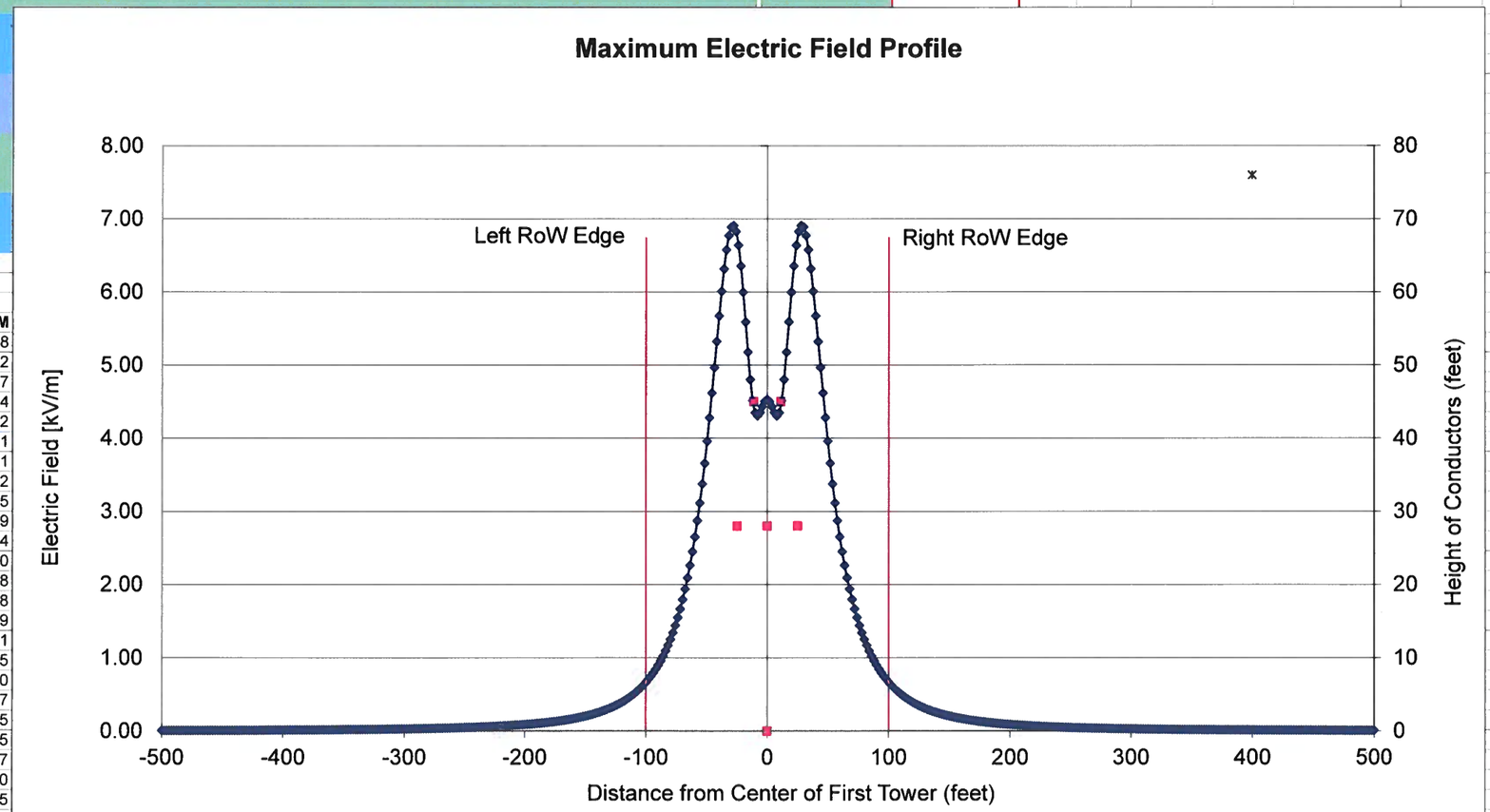
Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (max)	phase	line name	l-l voltage (rated)	l-l voltage (max)
1	-25	28	2	1.108	18	209.1451	120	Line Name No. 2	345	362.25
2	0	28	2	1.108	18	209.1451	240		345	362.25
3	25	28	2	1.108	18	209.1451	0		345	362.25
4	11.25	45	1	0.528	0	0.0000	0	Line Name No. 1	0	0
5	-11.25	45	1	0.528	0	0.0000	0		0	0
6										
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23										
24										

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and I

Electric Field [kV / m]	
at Left RoW Edge	0.667
at Right RoW Edge	0.667
Max E Field Value	6.9

NPH= 5.00

Dist	Vert	kV/M
-500	3.28	0.007228
-498	3.28	0.007302
-496	3.28	0.007377
-494	3.28	0.007454
-492	3.28	0.007532
-490	3.28	0.007611
-488	3.28	0.007691
-486	3.28	0.007772
-484	3.28	0.007855
-482	3.28	0.007939
-480	3.28	0.008024
-478	3.28	0.008110
-476	3.28	0.008198
-474	3.28	0.008288
-472	3.28	0.008379
-470	3.28	0.008471
-468	3.28	0.008565
-466	3.28	0.008660
-464	3.28	0.008757
-462	3.28	0.008855
-460	3.28	0.008955
-458	3.28	0.009057
-456	3.28	0.009160
-454	3.28	0.009265
-452	3.28	0.009372
-450	3.28	0.009481
-448	3.28	0.009591



		0.63	0.80	0.99	1.07	-450.00	
		0.58	0.76	0.98	1.12	-448.00	

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
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GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

ELECTRIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0502
REVISION: C

MID-STATE TRANSMISSION: MAGNETIC FIELD CALCULATION FOR 345KV SINGLE CIRCUIT H-FRAME WITH A (2) 795KCMIL CONDUCTOR

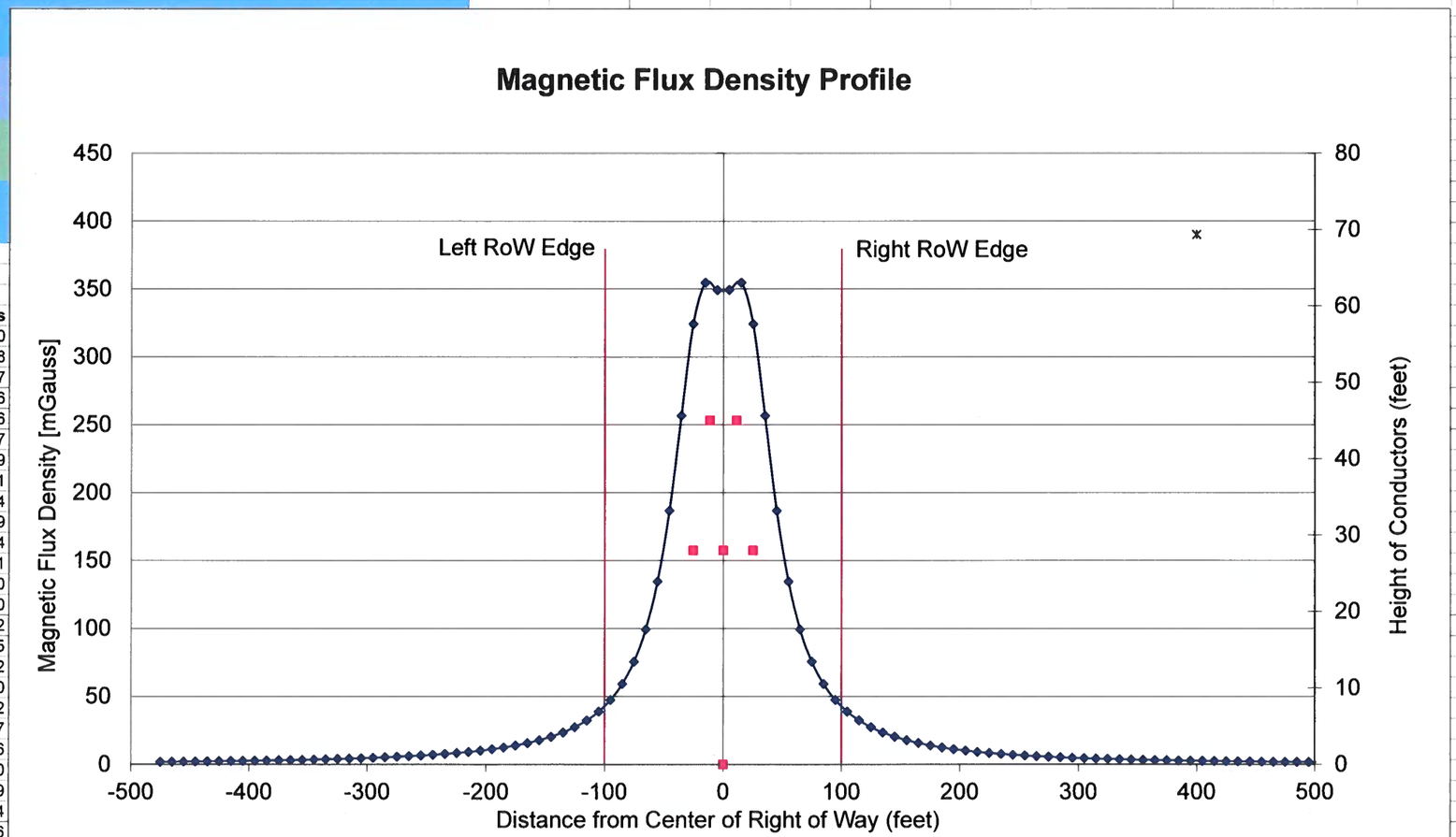
Bundle	x-feet	y-feet	amps	phase	line name
1	-25	28.00	1506	120.00	Line Name No. 2
2	0	28.00	1506	240.00	
3	25	28.00	1506	0.00	
4	11.25	45.00	0	0	Line Name No. 1
5	-11.25	45.00	0	0	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
NPH=	5.00				

Dist - ft	Vert	milligauss
-475	3.28	1.90
-465	3.28	1.98
-455	3.28	2.07
-445	3.28	2.16
-435	3.28	2.26
-425	3.28	2.37
-415	3.28	2.49
-405	3.28	2.61
-395	3.28	2.74
-385	3.28	2.89
-375	3.28	3.04
-365	3.28	3.21
-355	3.28	3.40
-345	3.28	3.60
-335	3.28	3.82
-325	3.28	4.05
-315	3.28	4.32
-305	3.28	4.60
-295	3.28	4.92
-285	3.28	5.27
-275	3.28	5.66
-265	3.28	6.10
-255	3.28	6.59
-245	3.28	7.14
-235	3.28	7.76
-225	3.28	8.47
-215	3.28	9.27

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00

Project Identifier: Line Name No. 1 and Li

Magnetic Flux Density [mGauss]	
at Left RoW Edge	42.906
at Right RoW Edge	42.906
Max MFD Value	354.7



MID-STATE TRANSMISSION TORRANCE, SOCORRO, AND VALENCIA COUNTIES			
PROJECT NUMBER: 26-5018			
REVISIONS			
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A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT NEW MEXICO 24890 10-23-26 PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

MAGNETIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0503
REVISION: C

MID-STATE TRANSMISSION - AUDIBLE NOISE FOR SINGLE CIRCUIT 345kV H-FRAME TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (avg max)	phase	Kv/cm	line name	l-l voltage (rated)	l-l voltage (avg max)
1	-25	28	2	1.382	18	204.9622	120	13.7372	Line Name No. 2	345	355.005
2	0	28	2	1.382	18	204.9622	240	14.8361		345	355.005
3	25	28	2	1.382	18	204.9622	0	13.7372		345	355.005
4	11.25	45	1	0.528	0	0	0	4.5680	Line Name No. 1	0	0
5	-11.25	45	1	0.528	0	0	0	4.5680		0	0
6								0.0000			
7								0.0000			
8								0.0000			
9								0.0000			
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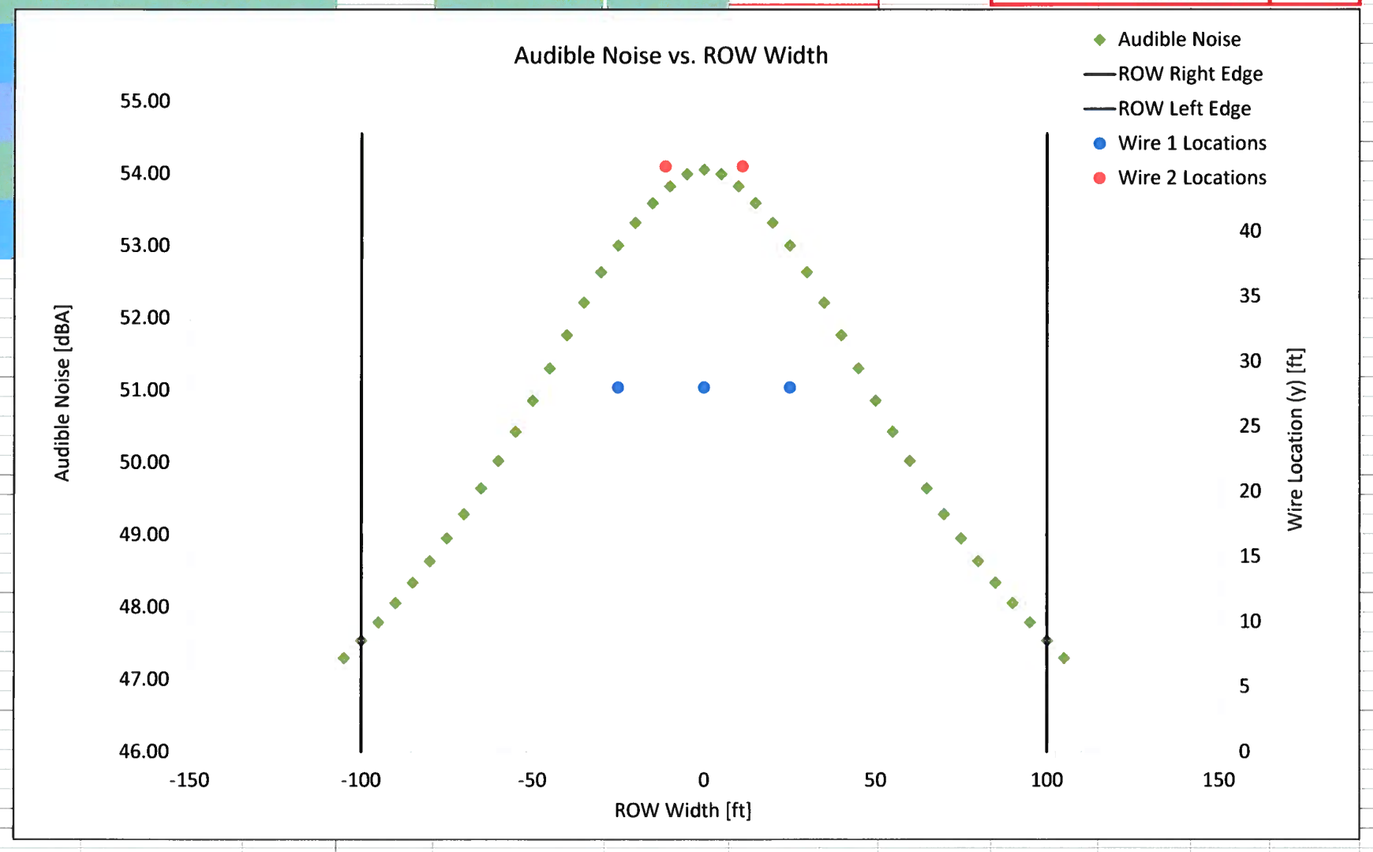
RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li

Audible Noise [dBA]	
at Left RoW Edge	47.536
at Right RoW Edge	47.536
Max ANoise Value	54.1

NPH= 5.00

Altitude ft= 7240

Dist	Vert	Calculated L50 rain	Coord on RoW Center : Dist
-500	5	39.56	-500.00
-480	5	39.76	-480.00
-460	5	39.97	-460.00
-440	5	40.20	-440.00
-420	5	40.43	-420.00
-400	5	40.67	-400.00
-380	5	40.92	-380.00
-360	5	41.19	-360.00
-340	5	41.47	-340.00
-320	5	41.77	-320.00
-300	5	42.09	-300.00
-280	5	42.43	-280.00
-260	5	42.80	-260.00
-240	5	43.20	-240.00
-220	5	43.63	-220.00
-200	5	44.10	-200.00
-180	5	44.62	-180.00
-160	5	45.21	-160.00
-140	5	45.87	-140.00
-105	5	47.29	-105.00
-100	5	47.54	-100.00
-95	5	47.79	-95.00
-90	5	48.06	-90.00
-85	5	48.34	-85.00
-80	5	48.64	-80.00
-75	5	48.95	-75.00
-70	5	49.29	-70.00



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY
Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

AUDIBLE NOISE FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0504
REVISION: C

MID-STATE TRANSMISSION - ELECTRIC FIELD FOR SINGLE CIRCUIT 345kV H-FRAME TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

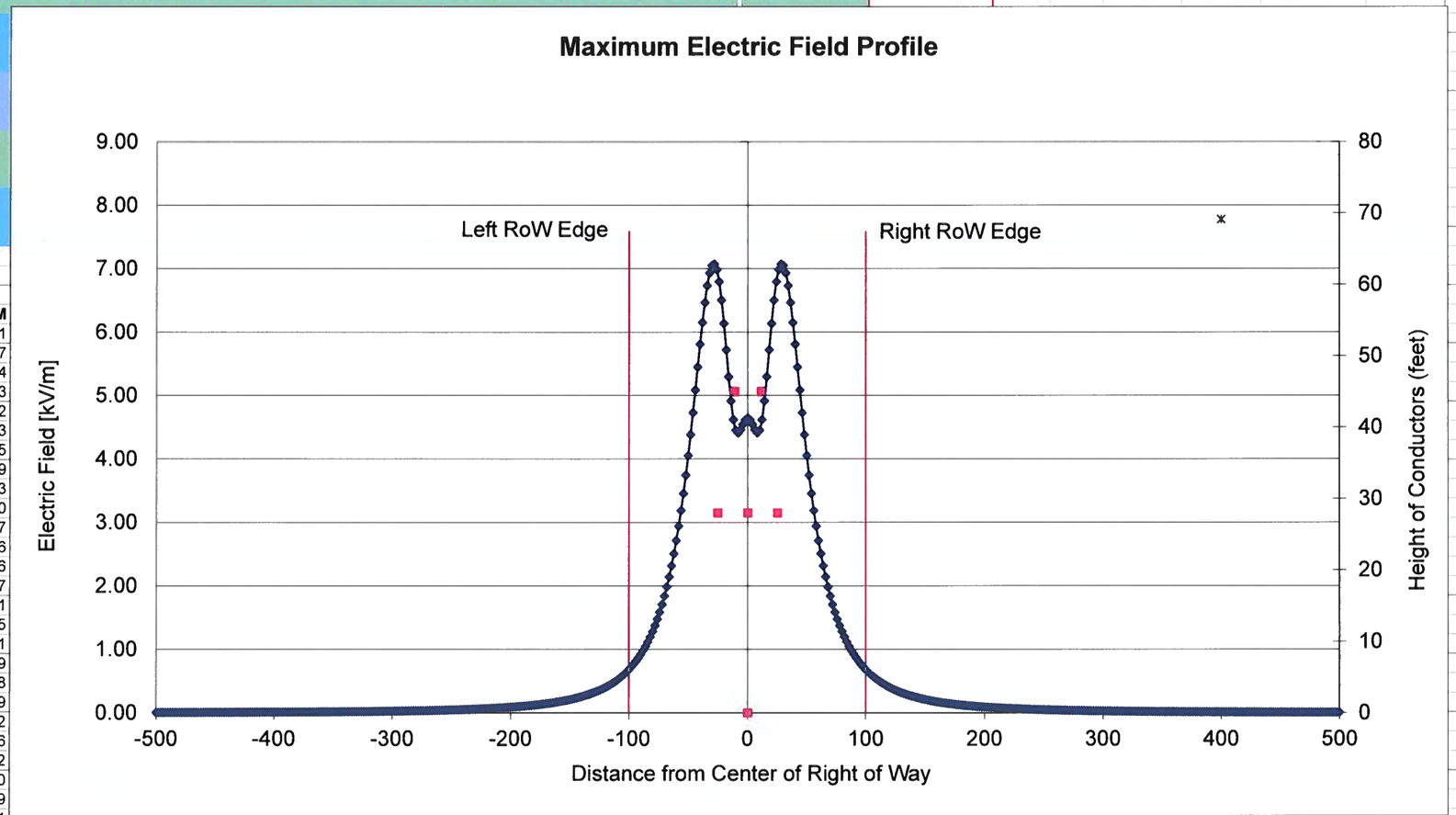
Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (max)	phase	line name	l-l voltage (rated)	l-l voltage (max)
1	-25	28	2	1.382	18	209.1451	120	Line Name No. 2	345	362.25
2	0	28	2	1.382	18	209.1451	240		345	362.25
3	25	28	2	1.382	18	209.1451	0		345	362.25
4	11.25	45	1	0.528	0	0.0000	0	Line Name No. 1	0	0
5	-11.25	45	1	0.528	0	0.0000	0		0	0
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RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and l

Electric Field [kV / m]	
at Left RoW Edge	0.682
at Right RoW Edge	0.682
Max E Field Value	7.1

NPH= 5.00

Dist	Vert	kV/M
-500	3.28	0.007421
-498	3.28	0.007497
-496	3.28	0.007574
-494	3.28	0.007653
-492	3.28	0.007732
-490	3.28	0.007813
-488	3.28	0.007895
-486	3.28	0.007979
-484	3.28	0.008063
-482	3.28	0.008150
-480	3.28	0.008237
-478	3.28	0.008326
-476	3.28	0.008416
-474	3.28	0.008507
-472	3.28	0.008601
-470	3.28	0.008695
-468	3.28	0.008791
-466	3.28	0.008889
-464	3.28	0.008988
-462	3.28	0.009089
-460	3.28	0.009192
-458	3.28	0.009296
-456	3.28	0.009402
-454	3.28	0.009510
-452	3.28	0.009619
-450	3.28	0.009731
-448	3.28	0.009844



0.63	0.80	0.99	1.07	-450.00
0.58	0.76	0.98	1.12	-448.00

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

ELECTRIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

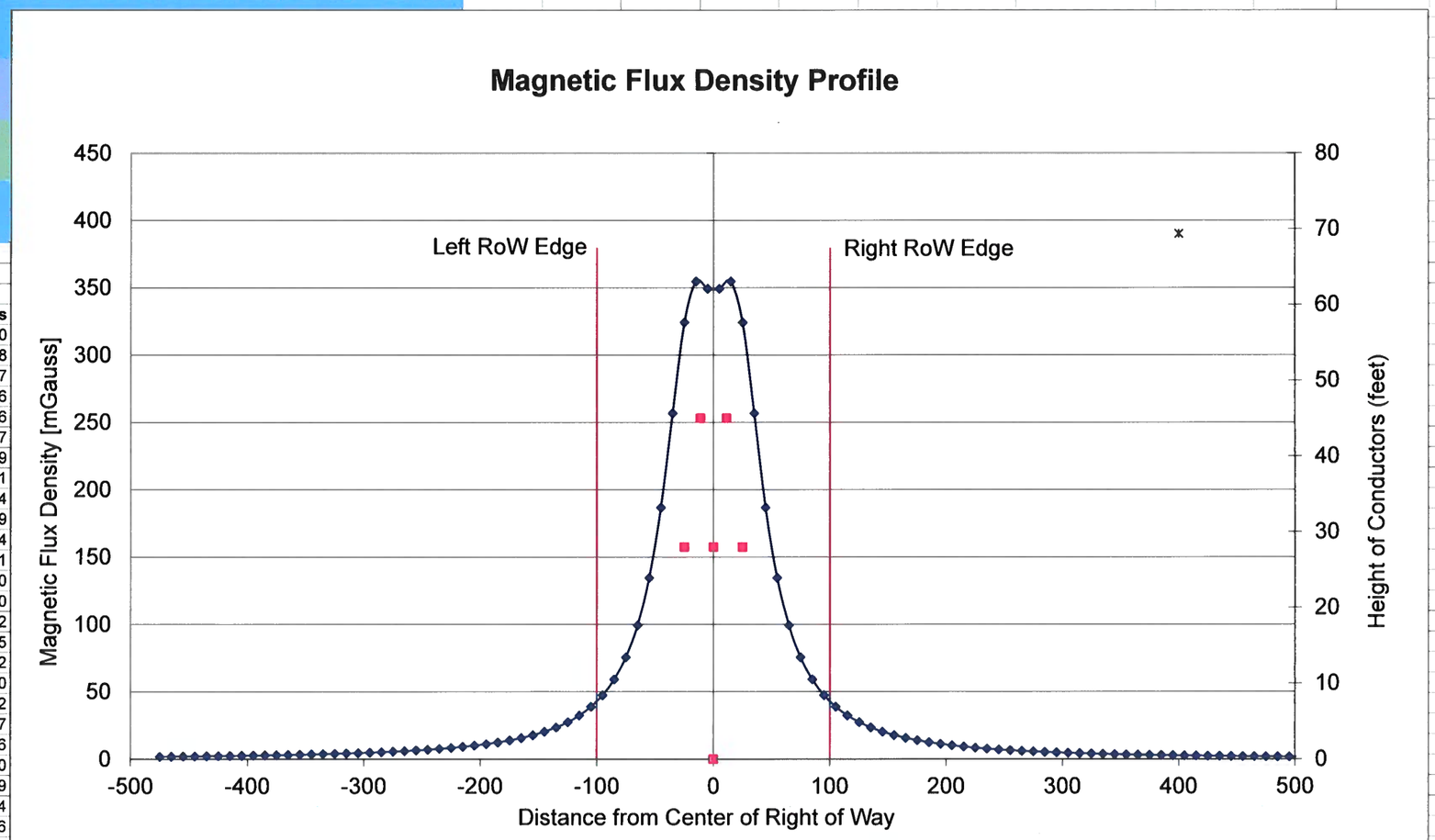
DRAWING NUMBER: MST-ROW-0505
REVISION: C

MID-STATE TRANSMISSION - MAGNETIC FIELD FOR SINGLE CIRCUIT 345kV H-FRAME TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

Bundle	x-feet	y-feet	amps	phase	line name
1	-25	28.00	1506	120.00	Line Name No. 2
2	0	28.00	1506	240.00	
3	25	28.00	1506	0.00	
4	11.25	45.00	0	0	Line Name No. 1
5	-11.25	45.00	0	0	
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23					
24					
NPH=	5.00				

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li

Magnetic Flux Density [mGauss]	
at Left RoW Edge	42.906
at Right RoW Edge	42.906
Max MFD Value	354.7



Dist - ft	Vert	milligauss
-475	3.28	1.90
-465	3.28	1.98
-455	3.28	2.07
-445	3.28	2.16
-435	3.28	2.26
-425	3.28	2.37
-415	3.28	2.49
-405	3.28	2.61
-395	3.28	2.74
-385	3.28	2.89
-375	3.28	3.04
-365	3.28	3.21
-355	3.28	3.40
-345	3.28	3.60
-335	3.28	3.82
-325	3.28	4.05
-315	3.28	4.32
-305	3.28	4.60
-295	3.28	4.92
-285	3.28	5.27
-275	3.28	5.66
-265	3.28	6.10
-255	3.28	6.59
-245	3.28	7.14
-235	3.28	7.76
-225	3.28	8.47
-215	3.28	9.27
-205	3.28	10.20

-205.00

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
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24890
10-23-26
PROFESSIONAL ENGINEER

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Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

MAGNETIC FIELD FOR 345KV SINGLE CIRCUIT H-FRAME TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0506
REVISION: C

MID-STATE TRANSMISSION - AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 795 KCMIL ACSR DRAKE CONDUCTOR

Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (avg max)	phase	Kv/cm	line name	l-l voltage (rated)	l-l voltage (avg max)
1	11	80	2	1.108	18	204.9622	120	16.1502	Line Name No. 2	345	355.005
2	11	54	2	1.108	18	204.9622	240	17.3033		345	355.005
3	11	28	2	1.108	18	204.9622	0	16.9638		345	355.005
4	34.5	48.13	1	1.108	0	68.3207441	120	9.0412	Line Name No. 1	115	118.335
5	34.5	35.467	1	1.108	0	68.3207441	240	8.5609		115	118.335
6	34.5	22.8	1	1.108	0	68.3207441	0	6.9567		115	118.335
7	-1.33	91.75	1	0.528	0	0	0	9.1735	OPGW	0	0
8	32	91.75	1	0.528	0	0	0	7.1442		0	0
9								0.0000			
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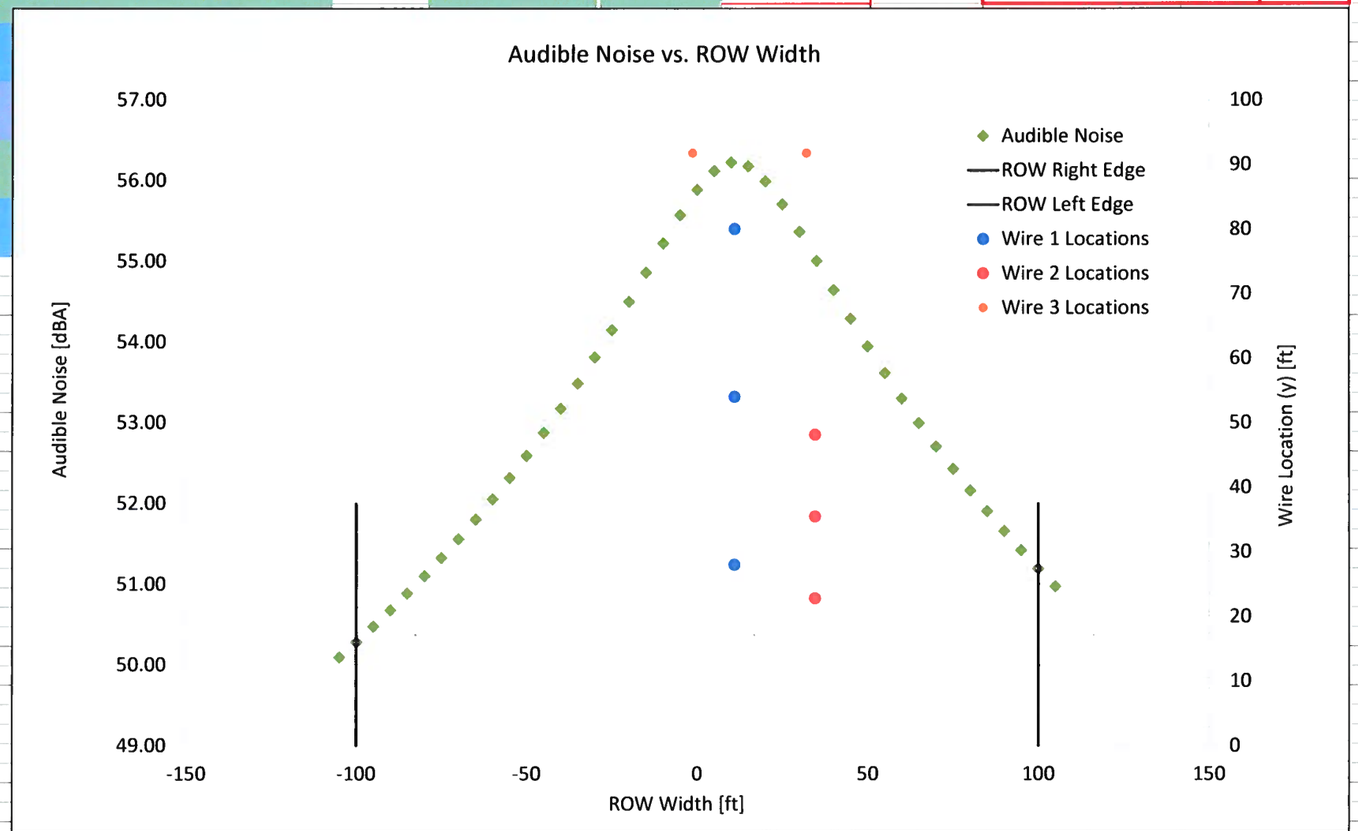
RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li

Audible Noise [dBA]	
at Left RoW Edge	50.280
at Right RoW Edge	51.190
Max ANoise Value	56.2

NPH= 8.00

Altitude ft= 7240

Dist	Vert	Calculated L50 rain	Coord on RoW Center : Dist
-500	5	43.11	-500.00
-480	5	43.30	-480.00
-460	5	43.51	-460.00
-440	5	43.72	-440.00
-420	5	43.94	-420.00
-400	5	44.17	-400.00
-380	5	44.42	-380.00
-360	5	44.67	-360.00
-340	5	44.94	-340.00
-320	5	45.23	-320.00
-300	5	45.53	-300.00
-280	5	45.85	-280.00
-260	5	46.19	-260.00
-240	5	46.56	-240.00
-220	5	46.95	-220.00
-200	5	47.38	-200.00
-180	5	47.85	-180.00
-160	5	48.36	-160.00
-140	5	48.93	-140.00
-105	5	50.09	-105.00
-100	5	50.28	-100.00
-95	5	50.47	-95.00
-90	5	50.68	-90.00
-85	5	50.88	-85.00
-80	5	51.10	-80.00
-75	5	51.33	-75.00
-70	5	51.56	-70.00



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG G. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26

STATE REGISTRATION:
0008122236

AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0507
REVISION: C

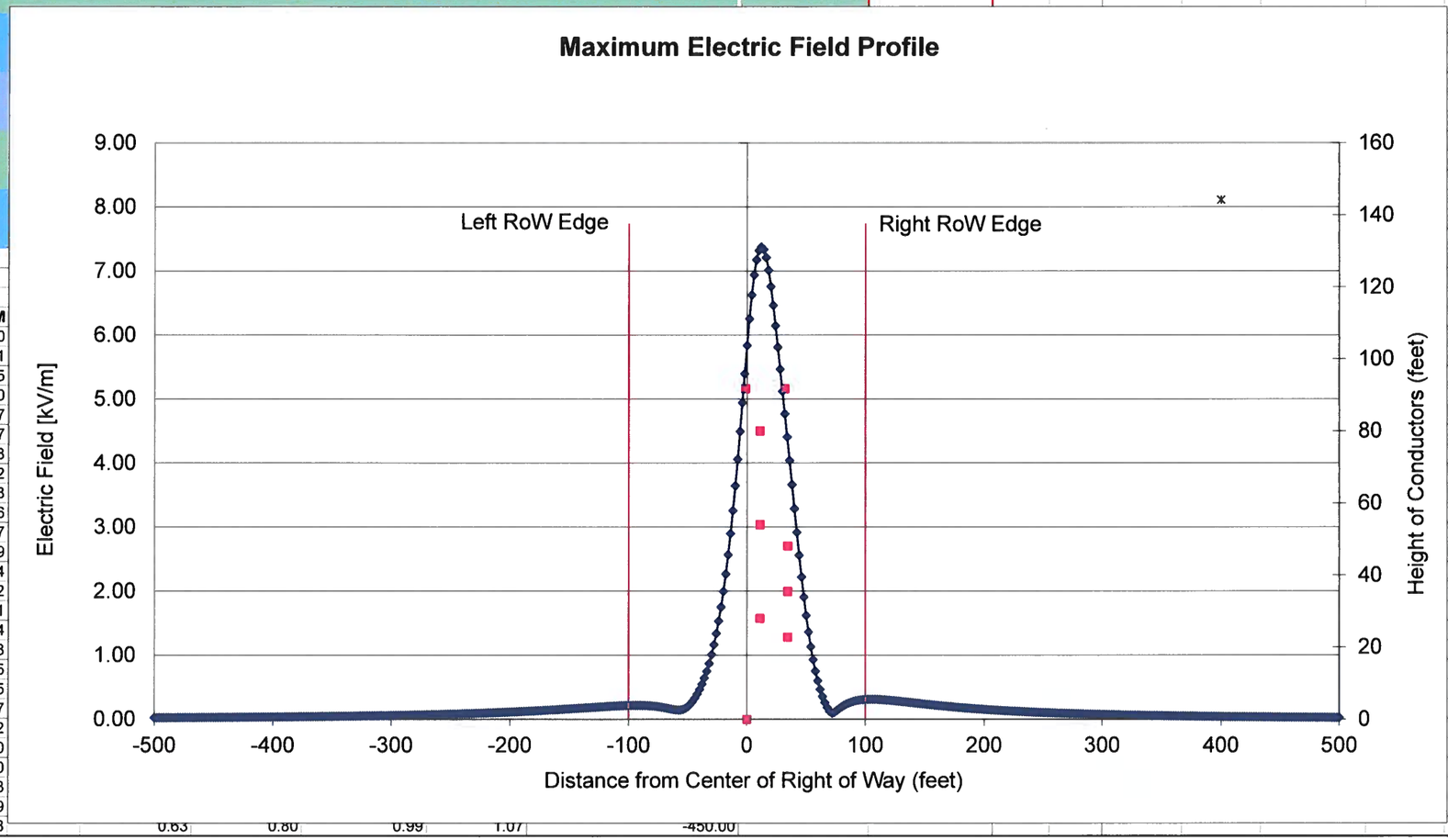
MID-STATE TRANSMISSION - ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 795 KCMIL ACSR DRAKE CONDUCTOR

Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (max)	phase	line name	l-l voltage (rated)	l-l voltage (max)
1	11	80	2	1.108	18	209.1451	120	Line Name No. 2	345	362.25
2	11	54	2	1.108	18	209.1451	240		345	362.25
3	11	28	2	1.108	18	209.1451	0		345	362.25
4	34.5	48.13	1	1.108	0	69.7150	120	Line Name No. 1	115	120.75
5	34.5	35.467	1	1.108	0	69.7150	240		115	120.75
6	34.5	22.8	1	1.108	0	69.7150	0		115	120.75
7	-1.33	91.75	1	0.528	0	0.0000	0	OPGW	0	0
8	32	91.75	1	0.528	0	0.0000	0		0	0
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24										
NPH=	8.00									

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and

Electric Field [kV / m]	
at Left RoW Edge	0.180
at Right RoW Edge	0.165
Max E Field Value	7.4

Dist	Vert	kV/M
-500	3.28	0.024270
-498	3.28	0.024451
-496	3.28	0.024635
-494	3.28	0.024820
-492	3.28	0.025007
-490	3.28	0.025197
-488	3.28	0.025388
-486	3.28	0.025582
-484	3.28	0.025778
-482	3.28	0.025976
-480	3.28	0.026177
-478	3.28	0.026379
-476	3.28	0.026584
-474	3.28	0.026792
-472	3.28	0.027001
-470	3.28	0.027214
-468	3.28	0.027428
-466	3.28	0.027645
-464	3.28	0.027865
-462	3.28	0.028087
-460	3.28	0.028312
-458	3.28	0.028540
-456	3.28	0.028770
-454	3.28	0.029003
-452	3.28	0.029239
-450	3.28	0.029478



0.63 0.80 0.99 1.07 -450.00

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0508
REVISION: C

MID-STATE TRANSMISSION - MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 795 KCMIL ACSR DRAKE CONDUCTOR

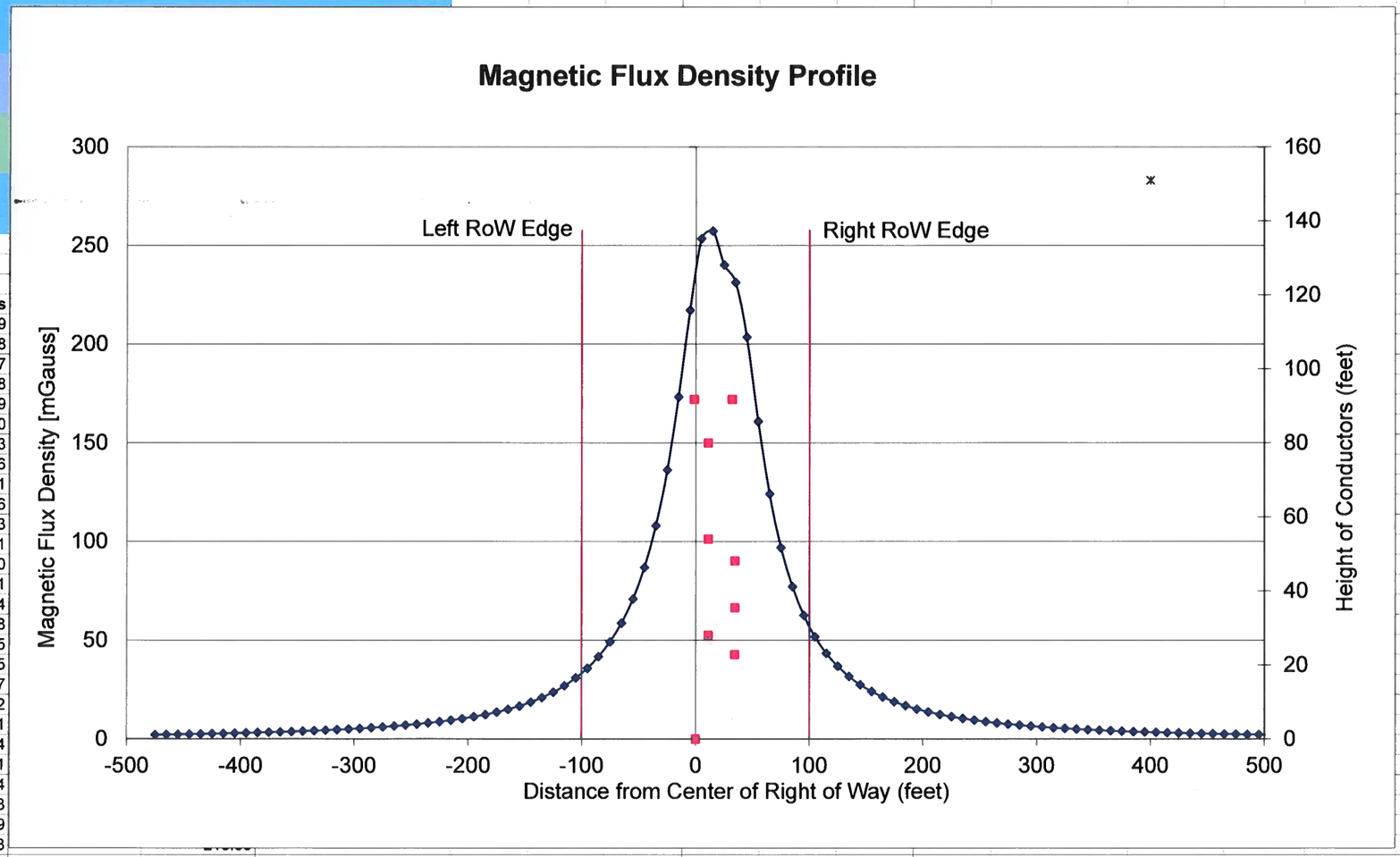
Bundle	x-feet	y-feet	amps	phase	line name
1	11	80.00	1506	120.00	Line Name No. 2
2	11	54.00	1506	240.00	
3	11	28.00	1506	0.00	
4	34.5	48.13	594	120	Line Name No. 1
5	34.5	35.47	594	240	
6	34.5	22.80	594	0	
7	-1.3	91.8	0.0	0.0	OPGW
8	32.0	91.8	0.0	0.0	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
NPH=	8.00				

Dist - ft	Vert	milligauss
-475	3.28	2.19
-465	3.28	2.28
-455	3.28	2.37
-445	3.28	2.48
-435	3.28	2.59
-425	3.28	2.70
-415	3.28	2.83
-405	3.28	2.96
-395	3.28	3.11
-385	3.28	3.26
-375	3.28	3.43
-365	3.28	3.61
-355	3.28	3.80
-345	3.28	4.01
-335	3.28	4.24
-325	3.28	4.48
-315	3.28	4.75
-305	3.28	5.05
-295	3.28	5.37
-285	3.28	5.72
-275	3.28	6.11
-265	3.28	6.54
-255	3.28	7.01
-245	3.28	7.54
-235	3.28	8.13
-225	3.28	8.79
-215	3.28	9.53
-205	3.28	10.37

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00

Project Identifier Line Name No. 1 and Li

Magnetic Flux Density [mGauss]	
at Left RoW Edge	33.225
at Right RoW Edge	56.820
Max MFD Value	257.3



-205.00

MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG G. PARENT
NEW MEXICO
24890
10-23-26
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1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 795KCMIL ACSR "DRAKE"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0509
REVISION: C

MID-STATE TRANSMISSION - AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (avg max)	phase	Kv/cm	line name	l-l voltage (rated)	l-l voltage (avg max)
1	11	80	2	1.382	18	204.9622	120	13.4525	Line Name No. 2	345	355.005
2	11	54	2	1.382	18	204.9622	240	14.4329		345	355.005
3	11	28	2	1.382	18	204.9622	0	14.1378		345	355.005
4	34.5	48.13	1	1.108	0	68.3207441	120	9.0654	Line Name No. 1	115	118.335
5	34.5	35.467	1	1.108	0	68.3207441	240	8.5615		115	118.335
6	34.5	22.8	1	1.108	0	68.3207441	0	6.9183		115	118.335
7	-1.33	91.75	1	0.528	0	0	0	9.3714	OPGW	0	0
8	32	91.75	1	0.528	0	0	0	7.2875		0	0
9								0.0000			
10								0.0000			
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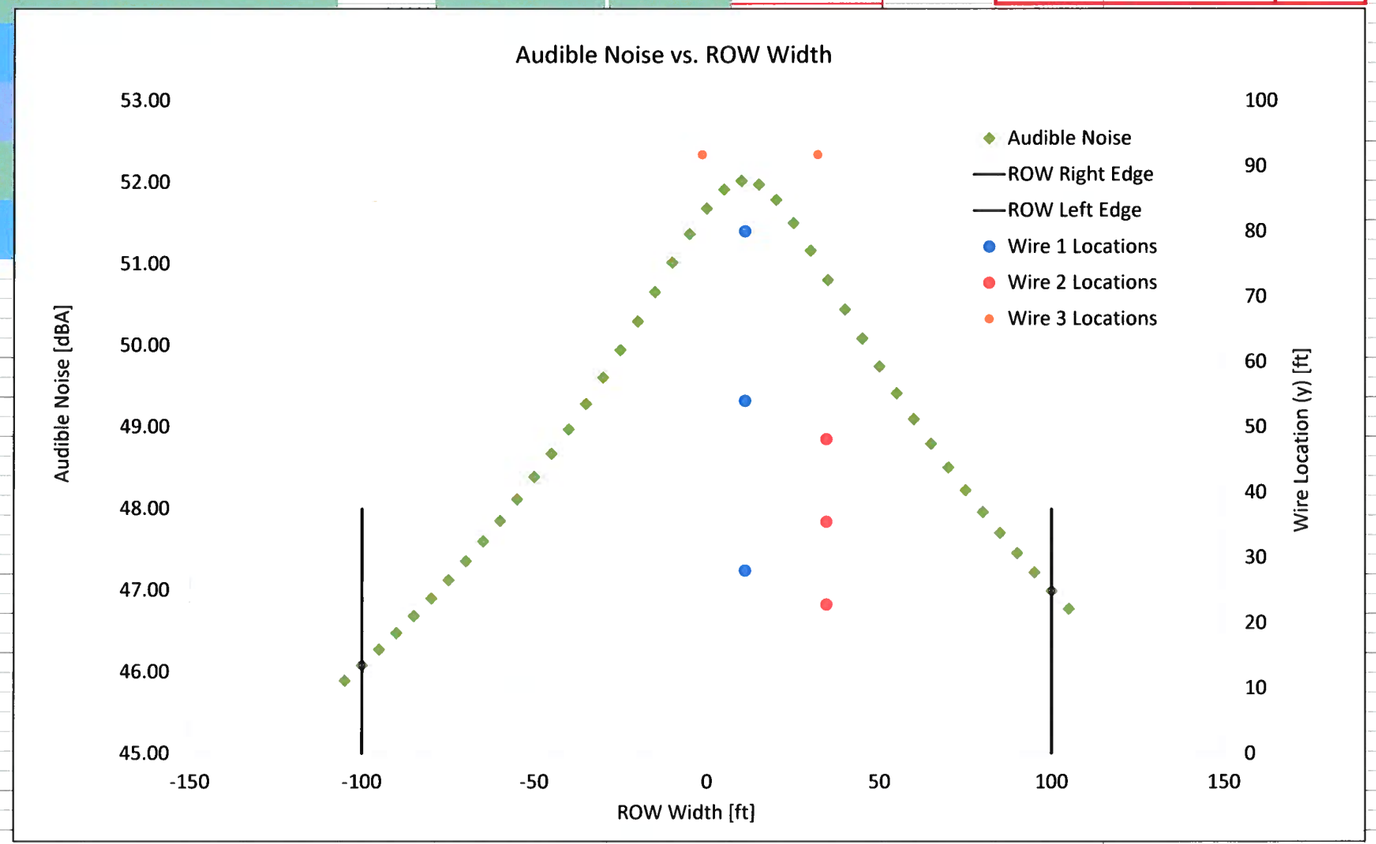
RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li

Audible Noise [dBA]	
at Left RoW Edge	46.078
at Right RoW Edge	46.989
Max ANoise Value	52.0

NPH= 8.00

Altitude ft= 7240

Dist	Vert	Calculated L50 rain	Coord on RoW Center : Dist
-500	5	38.90	-500.00
-480	5	39.10	-480.00
-460	5	39.30	-460.00
-440	5	39.52	-440.00
-420	5	39.74	-420.00
-400	5	39.97	-400.00
-380	5	40.21	-380.00
-360	5	40.47	-360.00
-340	5	40.74	-340.00
-320	5	41.02	-320.00
-300	5	41.33	-300.00
-280	5	41.65	-280.00
-260	5	41.99	-260.00
-240	5	42.36	-240.00
-220	5	42.75	-220.00
-200	5	43.18	-200.00
-180	5	43.65	-180.00
-160	5	44.16	-160.00
-140	5	44.73	-140.00
-105	5	45.89	-105.00
-100	5	46.08	-100.00
-95	5	46.27	-95.00
-90	5	46.47	-90.00
-85	5	46.68	-85.00
-80	5	46.90	-80.00
-75	5	47.12	-75.00
-70	5	47.36	-70.00



MID-STATE TRANSMISSION
TORRANCE, SOCORRO, AND VALENCIA COUNTIES

PROJECT NUMBER: 26-5018

REVISIONS

REV	DATE	DESCRIPTION	BY
A	08/28/26	FOR PRC SUBMITTAL	EXO
B	09/11/26	REVISED PRC SUBMITTAL	EXO
C	10/23/26	REVISED PRC SUBMITTAL	EXO

GREG C. PARENT
NEW MEXICO
24890
10-23-26
PROFESSIONAL ENGINEER

EXO
ENSURING STRUCTURAL INTEGRITY

Exo Headquarters
1735 Hughes Landing Blvd., Floor 3B
The Woodlands, Texas 77380
TELE: 281-259-7000

DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

AUDIBLE NOISE FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0510
REVISION: C

MID-STATE TRANSMISSION - ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

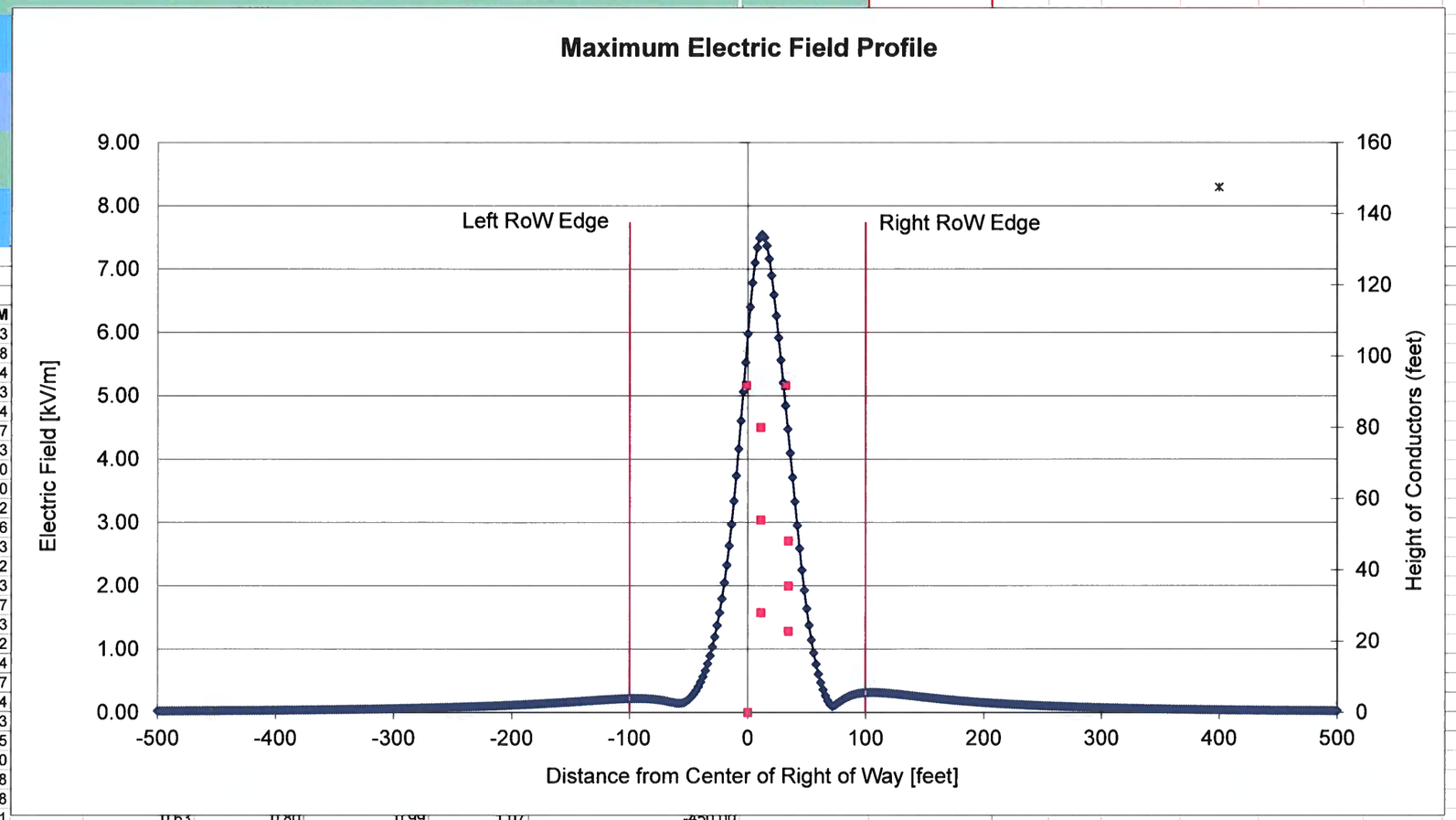
Bundle	x-feet	y-feet	n cond	cond dia	spacing	l-n voltage (max)	phase	line name	l-l voltage (rated)	l-l voltage (max)
1	11	80	2	1.382	18	209.1451	120	Line Name No. 2	345	362.25
2	11	54	2	1.382	18	209.1451	240		345	362.25
3	11	28	2	1.382	18	209.1451	0		345	362.25
4	34.5	48.13	1	1.108	0	69.7150	120	Line Name No. 1	115	120.75
5	34.5	35.467	1	1.108	0	69.7150	240		115	120.75
6	34.5	22.8	1	1.108	0	69.7150	0		115	120.75
7	-1.33	91.75	1	0.528	0	0.0000	0	OPGW	0	0
8	32	91.75	1	0.528	0	0.0000	0		0	0
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
NPH=	8.00									

RoW Data

Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and

Electric Field [kV / m]	
at Left RoW Edge	0.184
at Right RoW Edge	0.170
Max E Field Value	7.5

Dist	Vert	kV/M
-500	3.28	0.024743
-498	3.28	0.024928
-496	3.28	0.025114
-494	3.28	0.025303
-492	3.28	0.025494
-490	3.28	0.025687
-488	3.28	0.025883
-486	3.28	0.026080
-484	3.28	0.026280
-482	3.28	0.026482
-480	3.28	0.026686
-478	3.28	0.026893
-476	3.28	0.027102
-474	3.28	0.027313
-472	3.28	0.027527
-470	3.28	0.027743
-468	3.28	0.027962
-466	3.28	0.028184
-464	3.28	0.028407
-462	3.28	0.028634
-460	3.28	0.028863
-458	3.28	0.029095
-456	3.28	0.029330
-454	3.28	0.029568
-452	3.28	0.029808
-450	3.28	0.030051
-448	3.28	0.030297



			0.63	0.80	0.99	1.07	-450.00
			0.58	0.76	0.98	1.12	-448.00

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TORRANCE, SOCORRO, AND VALENCIA COUNTIES

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DESIGN BY: E. DACONES
DRAWN BY: B. WATSON
APPROVED BY: G. PARENT
DATE: 08/27/26
STATE REGISTRATION: 0008122236

ELECTRIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

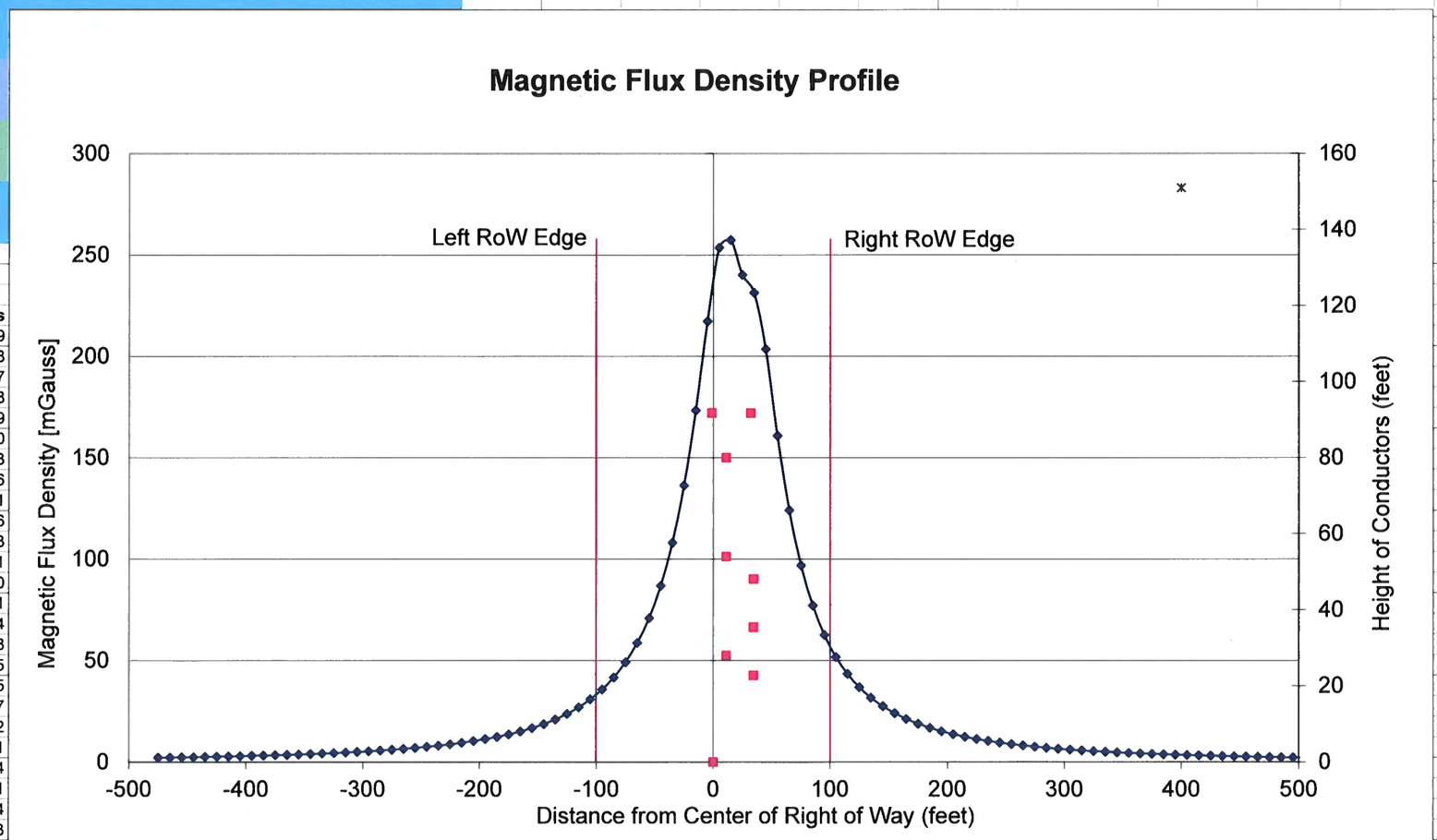
DRAWING NUMBER: MST-ROW-0511
REVISION: C

MID-STATE TRANSMISSION - MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH A (2) 1272 KCMIL ACSR PHEASANT CONDUCTOR

Bundle	x-feet	y-feet	amps	phase	line name
1	11	80.00	1506	120.00	Line Name No. 2
2	11	54.00	1506	240.00	
3	11	28.00	1506	0.00	
4	34.5	48.13	594	120	Line Name No. 1
5	34.5	35.47	594	240	
6	34.5	22.80	594	0	
7	-1.3	91.8	0.0	0.0	OPGW
8	32.0	91.8	0.0	0.0	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
NPH=	8.00				

RoW Data	
Distance from X=0 to Left RoW edge	-100.00
Distance from X=0 to RoW center	0.00
Width of RoW	200.00
Project Identifier	Line Name No. 1 and Li

Magnetic Flux Density [mGauss]	
at Left RoW Edge	**33.225**
at Right RoW Edge	**56.820**
Max MFD Value	**257.3**



Dist - ft	Vert	**milligauss**
-475	3.28	2.19
-465	3.28	2.28
-455	3.28	2.37
-445	3.28	2.48
-435	3.28	2.59
-425	3.28	2.70
-415	3.28	2.83
-405	3.28	2.96
-395	3.28	3.11
-385	3.28	3.26
-375	3.28	3.43
-365	3.28	3.61
-355	3.28	3.80
-345	3.28	4.01
-335	3.28	4.24
-325	3.28	4.48
-315	3.28	4.75
-305	3.28	5.05
-295	3.28	5.37
-285	3.28	5.72
-275	3.28	6.11
-265	3.28	6.54
-255	3.28	7.01
-245	3.28	7.54
-235	3.28	8.13
-225	3.28	8.79
-215	3.28	9.53
-205	3.28	10.37

-205.00

MID-STATE TRANSMISSION
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DATE: 08/27/26
STATE REGISTRATION: 0008122236

MAGNETIC FIELD FOR 115/345KV DOUBLE CIRCUIT MONOPOLE TANGENT AT MIDSPAN WITH (2) 1272KCMIL ACSR "PHEASANT"

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0512
REVISION: C

Blowout, Audible Noise and EMF Calculation Summary

Midstate Transmission Line

Engineer: GCP | Date: 10/23/2026

Structure Type	Conductor Type Per Phase	Proposed ROW Width	Blowout Width Results: At Rest [ft]	Blowout Width Results: 6psf [ft]	Blowout Width Results: Extreme Wind [ft]	Audible Noise and EMF Limits: 55*	NA	55*	5**	10**	5**	9000***	9000***	9000***
						Audible Noise Results			Electric Field Results			Magnetic Flux Density Results		
						Left ROW [dBA]	Max [dBA]	Right ROW [dBA]	Left ROW [kV/m]	Max [kV/m]	Right ROW [kV/m]	Left ROW [mGauss]	Max [mGauss]	Right ROW [mGauss]
345kV Single Circuit H-Frame	(2) 795kcmil ACSR "DRAKE"	200ft	84.8	145.4	192.4	51.7	58.2	51.7	0.67	6.90	0.67	42.9	354.7	42.9
Tangent at midspan	(2) 1272kcmil ACSR "PHEASANT"	200ft	84.8	139.2	191.4	47.5	54.1	47.5	0.68	7.10	0.68	42.9	354.7	42.9
115kV/345kV Dual Circuit	(1) 795kcmil ACSR "DRAKE" on 115kV & (2) 795kcmil ACSR "DRAKE" on 345kV	Existing - 50ft, New - 150ft	53.6	87.5	121.6	50.3	56.2	51.2	0.18	7.40	0.17	33.2	257.3	56.8
Monopole Tangent at midspan	(1) 795kcmil ACSR "DRAKE" on 115kV & (2) 1272kcmil ACSR "PHEASANT" on 345kV	Existing - 50ft, New - 150ft	53.6	86.3	121.6	46.1	52.0	47.0	0.18	7.50	0.17	33.2	257.3	56.8

NOTES:

*EPA - Information on Levels of Enviornmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (55dBA audible noise limit applies at the edge of the ROW. Audible noise can exceed 55dBA within the ROW)

**IEEE C95-6 - Table 4

*** ICNIRP Figure 1

MID-STATE TRANSMISSION
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APPROVED BY: G. PARENT
DATE: 08/27/26

STATE REGISTRATION:
0008122236

TRANSMISSION LINE AUDIBLE NOISE AND EMF SUMMARY

FOR PRC SUBMITTAL

DRAWING NUMBER: MST-ROW-0513
REVISION: C

AFFIDAVIT OF GREG PARENT

THE STATE OF Colorado)
)
COUNTY OF Jefferson)

Greg Parent hereby deposes and states under oath that the foregoing Direct Testimony of Greg Parent and supporting Exhibits were prepared under my direct supervision and the statements therein are true and accurate based on my personal knowledge and belief.

Greg Parent

SUBSCRIBED AND SWORN TO BEFORE ME, notary public, on this the 23 day of October 2026.

My Commission expires: 10/27/30 Notary Public, State of: Colorado

CHASE GONZALES
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20224041494
MY COMMISSION EXPIRES OCTOBER 27, 2030