Kentucky Power Company KPSC Case No. 2021-00346 Commission Staff's Post Formal Conference Data Requests Dated February 18, 2022 Page 1 of 2

DATA REQUEST

KPSC PHDR_1 Refer to the Direct Testimony of Nicholas C. Koehler, page 10, lines 11–21, and response to Commission Staff's First Request for Information, Items 8a and 8b.

a. State how many of the 142 open conditions are on unique structures.

b. State whether any of the 142 open conditions are considered a higher priority than others, if so state whether any of the open conditions require immediate attention and identify those open conditions and their locations.

c. State whether and to what extent any of the 142 open conditions contributed to the six permanent outages that occurred on the Beaver Creek-McKinney 46 kV #1 Circuit in the last five years.

RESPONSE

a. Kentucky Power supplemented Company Witness Koehler's testimony on December 7, 2021 to increase the number of open conditions to 209. The increased number of open conditions reflected the additional 69 open conditions identified, and the two open conditions remediated, since the January 28, 2019 total provided in Company Witness Koehler's testimony. Please see the Company's response to KPSC 1-8 and KPCO_R_KPSC_1_8_Attachment1. Approximately 61% of the total structures on the Beaver Creek-McKinney #1 circuit (93 unique structures out of 152) have at least one open condition.

b. Any open conditions that would have required immediate attention have been addressed.

There are no current open conditions that require immediate attention. The increasing number of open conditions and the continued deterioration of the line could require more urgent mitigation in the future. Please see KPCO_R_KPSC_1_8_Attachment1.

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c. Kentucky Power supplemented Company Witness Koehler's testimony on December 7, 2021 to revise the number of permanent outages to five. Please see the Company's response to KPSC 1-8 and KPCO_R_KPSC_1_8_Attachment2. None of the five permanent outages were directly attributable to the current open conditions. However, greater resilience to events such as lightning strikes and trees falling from outside of the ROW that led to the five permanent outages are provided by current industry codes requiring shield angles providing improved lightning protection and structures meeting increased loading.

Witness: Nicolas C. Koehler

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DATA REQUEST

KPSC PHDR_2 Refer to the Application, Exhibit 20, the Siting Study, page 11. Concerning the selected route for the Hayes Branch-Eastern Focus Area, referred to as a "hybrid" route, state whether property owners along the selected route received personal notice of the proposed location of the 138 kV transmission line, provide the date notice was given and the method by which it was accomplished.

RESPONSE

The proposed "hybrid" route lies between Kentucky Power's Alternative Routes A and B. All landowners affected by the proposed "hybrid" route received the following notices and communications:

<u>March 11, 2021</u> – 328 postcards were mailed to all affected landowners, including those affected by the proposed "hybrid route," to alert them to an upcoming mailing regarding the project.

<u>March 15, 2021</u> – 328 information packets regarding the project were mailed to all affected landowners, including those affected by the proposed "hybrid route." The information packets contained a fact sheet, a detailed map, a comment card, and self-addressed stamped envelope.

<u>March 17, 2021 and March 24, 2021</u> – Automated telephonic messages regarding the virtual town hall meetings were dispatched on both days to the 328 affected landowners, including those affected by the proposed "hybrid route."

<u>March 12, 2021 - April 12, 2021</u> – Facebook ads were run alerting readers to the Project website and virtual open house. The ads targeted Facebook users residing in Zip Codes affected by the Project, including those affected by the proposed "hybrid route."

<u>March 30, 2021</u> – A trifold brochure, with a comment card tear-off, was mailed to all affected landowners, including those affected by the proposed "hybrid route," to remind landowners of the Project and to request comments by April 19, 2021.

<u>June 29, 2021</u> – Letters were mailed to all 328 affected landowners, including those owning property in affected "hybrid" route, notifying the landowners of the proposed as - filed route, including the proposed "hybrid" route between Alternative Routes A and B.

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<u>October 25, 2021</u> – The written notice required by 807 KAR 5:120, Section 2(3) was mailed to all affected landowners, including those affected by the proposed "hybrid route," in accordance with the regulation. This notice specifically illustrated the proposed "hybrid" route.

The proposed "hybrid" route was announced in June 2021. Landowners directly affected by the proposed "hybrid" route received the June 29, 2021 and October 25, 2021 mailings specifically identifying the proposed "hybrid" route.

The Company also publicized the Project prior to filing the application through additional means. These included newspaper ads, the public notice required to be published by 807 KAR 5:120, Section 2(5), three news releases, the Project website, conversations with some affected landowners, the virtual open house conducted between March 11, 2019 and April 19, 2021, and the virtual "live" open house conducted on April 1, 2021.

Please also see the direct testimony of Company Witnesses Reese at 13-16 and West at 8.

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DATA REQUEST

KPSC PHDR_3 Provide the map, which was displayed in the February 17, 2022 conference, showing the property lines of Mr. Allen, the route proposed by Kentucky Power, and the two alternative routes proposed by Mr. Allen. Include the map ID numbers, and the locations of the structures as proposed by Kentucky Power.

RESPONSE

Kentucky Power reviewed Mr. Allen's proposed routes Unnamed and B shown on KPCO_PHDR_KPSC_1_3_Attachments2-3, 5. After a preliminary engineering review, the Company identified multiple challenges and risks that preclude the construction of either proposed route.

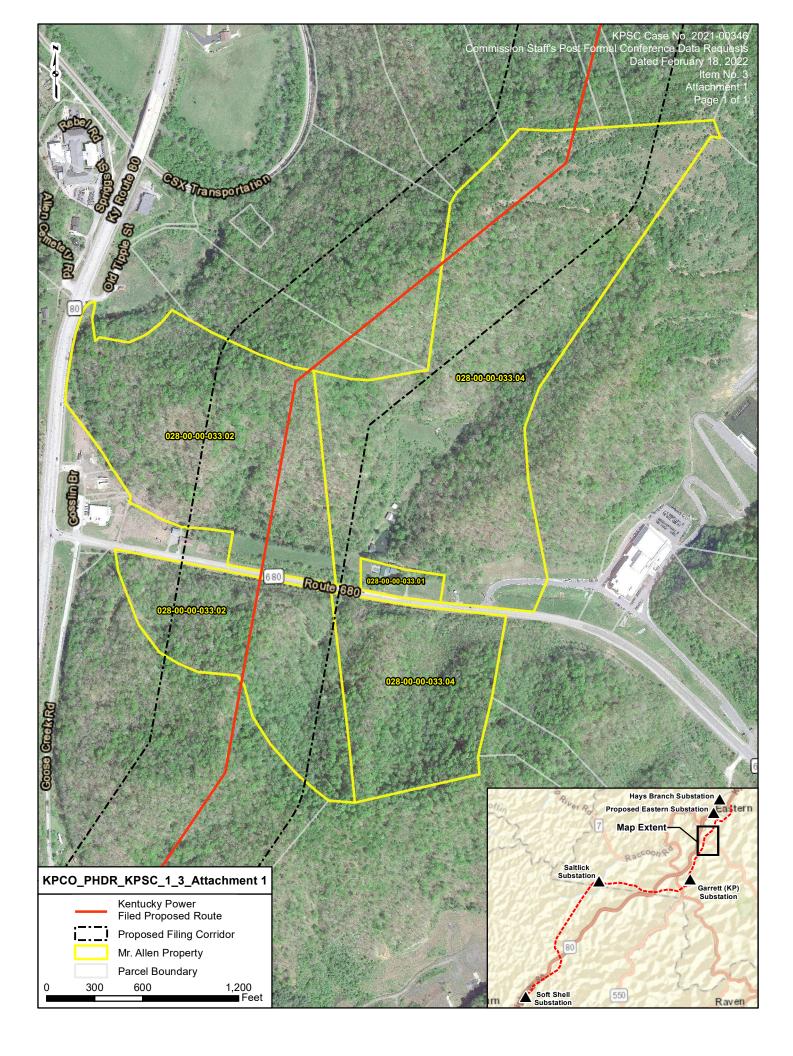
Conductor movement under high wind conditions would have positioned the conductor over Mr. Allen's house on Mr. Allen's Proposed Unnamed Route ("Mr. Allen Alternative Route 1"). His proposed route also would require right-of-way clearing of trees in the watershed that feeds the ponds that are the subject of Mr. Allen's objections. Mr. Allen Alternative Route 1 also requires locating the structures and conductor on a very steep side hill adjacent to Floyd Central High School. Their placement on the steep hillside presents construction difficulties, safety concerns, and an increased risk of landslides during and after construction.

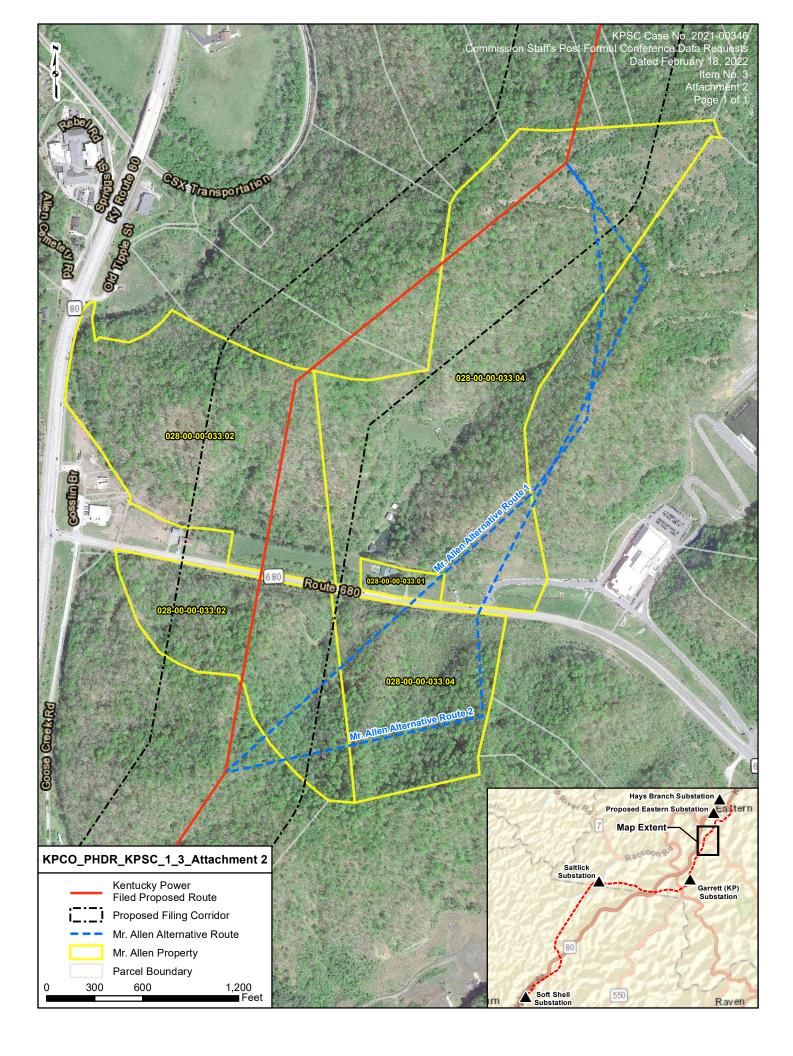
Mr. Allen's Proposed Route B ("Mr. Allen Alternative Route 2") would require several costly extra heavy angle structures to accommodate the sharp alignment changes. His proposed route also would require right-of-way clearing of trees in the watershed that feeds the ponds that are the subject of Mr. Allen's objections. Mr. Allen Alternative Route 2 also requires locating the structures and conductor on a very steep side hill adjacent to Floyd Central High School. Their placement on the steep hillside presents construction difficulties, safety concerns, and an increased risk of landslides during and after construction.

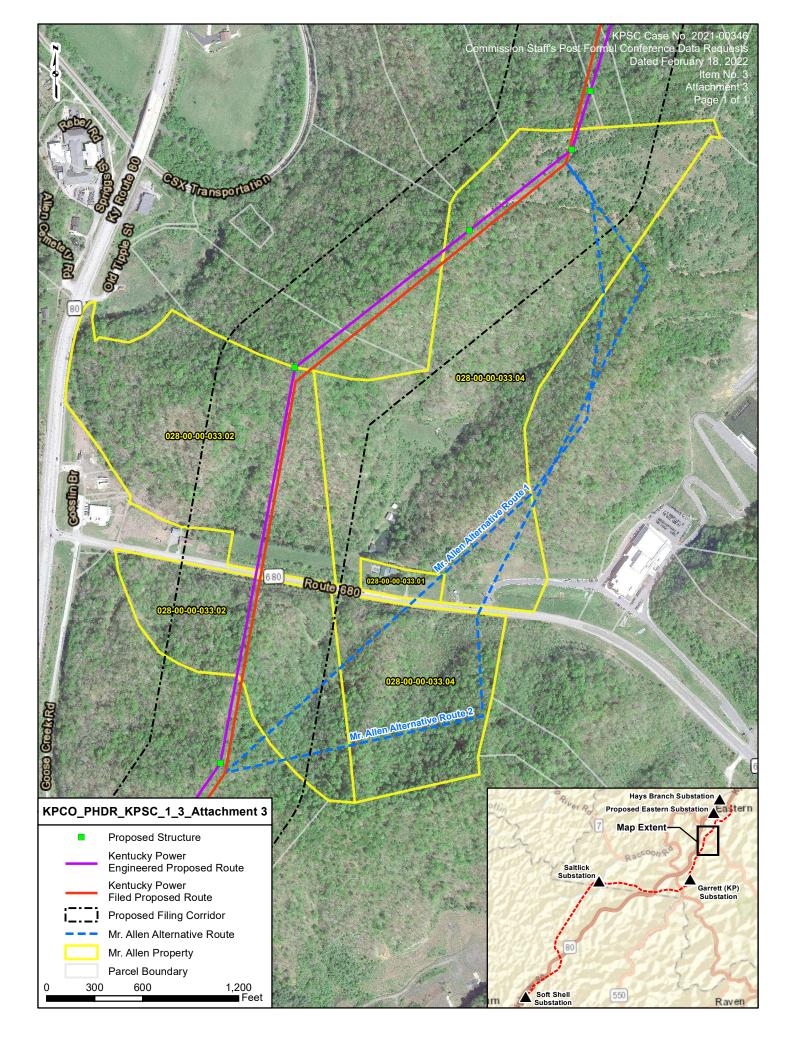
The 1,000-foot filing corridor associated with Mr. Allen's Alternative Route 1 would cross one landowner (Commonwealth of Kentucky) that has not previously been notified directly. The 1,000-foot filing corridor associated with Mr. Allen's Alternative Route 2 and the Modified Mr. Allen Alternative Route 2 would cross two landowners (Appalachian Land Company and Commonwealth of Kentucky) that have not previously been notified directly.

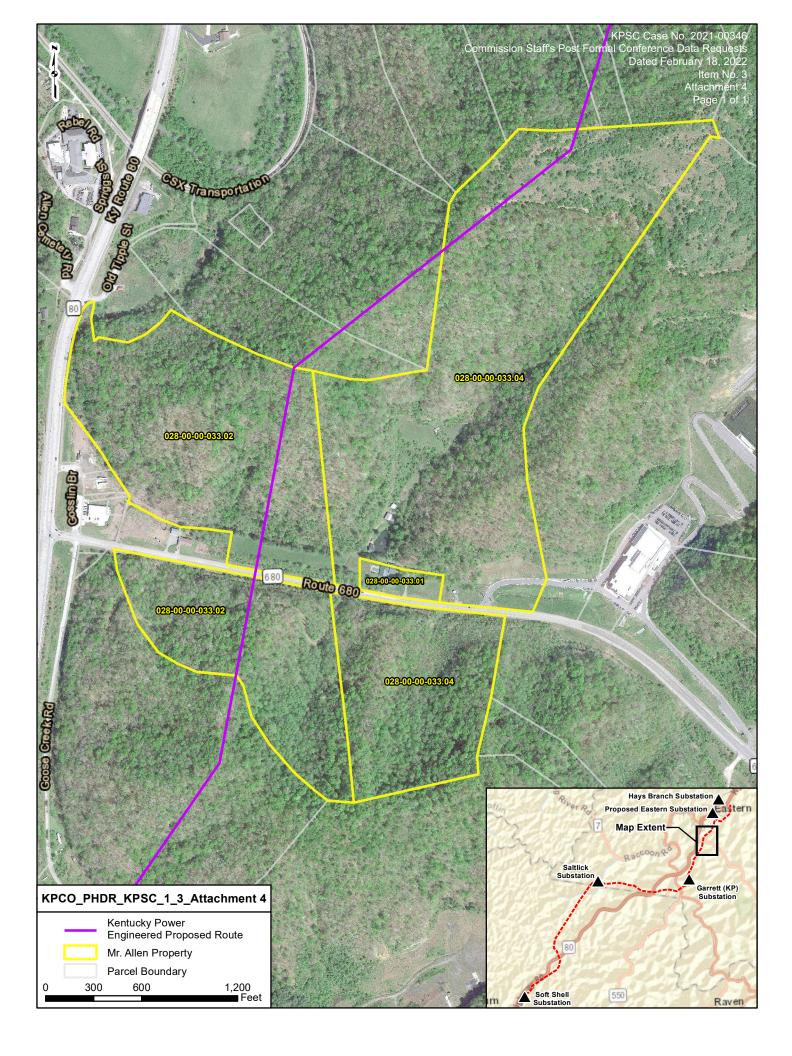
Kentucky Power Company KPSC Case No. 2021-00346 Commission Staff's Post Formal Conference Data Requests Dated February 18, 2022 Page 2 of 2

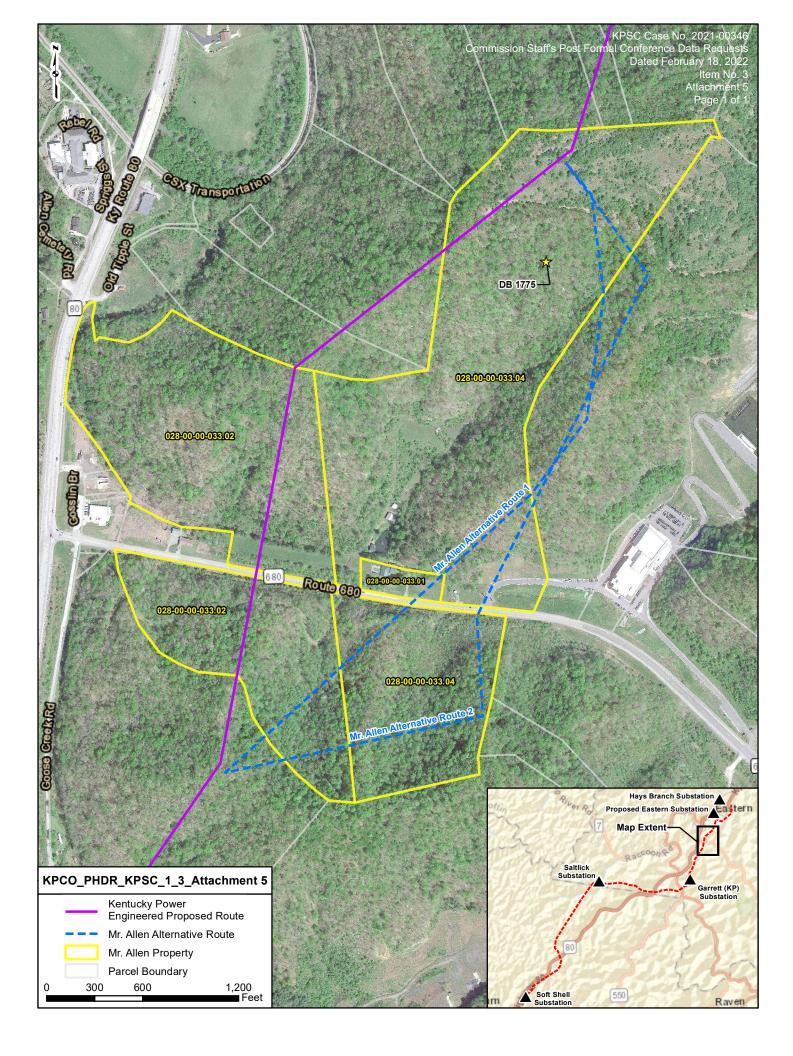
The Company examined a modification of Mr. Allen's Alternative Route 2 in an effort to address to the extent possible the constructability, terrain, cost, safety, and constructability constraints identified with Mr. Allen's two proposed routes, and to provide the Commission with a complete understanding of the issues. The modified route ("Modified Mr. Allen Alternative Route 2"), which is located on top of the ridge identified by Mr. Allen, is shown on KPCO_PHDR_KPSC_1_7_Attachment2, page 1 of 15. Building along this ridge also will likely require more access roads to be built in the ponds' watershed (with the subject of one of Mr. Allen's objections) than the route proposed by Kentucky Power.











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DATA REQUEST

KPSC PHDR_4 For each alternative route proposed by Mr. Allen:

a. Provide the estimated cost to construct the 138 kV transmission line along that route.b. Provide the difference in cost when compared to Kentucky Power's proposed route.

RESPONSE

Because of the constraints identified in the Company's response to PHDR 1-3 with Mr. Allen's two alternatives, the Company did not attempt to calculate an estimate for Mr. Allen's two proposed routes. Kentucky Power nevertheless anticipates that the cost of the two alternatives proposed by Mr. Allen would exceed the cost estimate for Modified Mr. Allen Alternative Route 2.

The estimated costs reflected in the Company's responses to 4a and 4b are high level estimates based on limited siting investigation performed with respect to Modified Mr. Allen Alternative 2. The estimate shown in 4a, and consequently the cost difference calculated in 4b, may increase with further engineering, siting, and environmental work.

a. Constructing Modified Mr. Allen Alternative Route 2 would cost an estimated \$5,000,000.

b. Kentucky Power's Engineered Proposed Route and the Modified Mr. Allen Alternative Route 2 were evaluated to generate cost estimates. Please see KPCO_PHDR_KPSC_1_7_Attachment2, page 1 of 15, page 2 of 15, and page 3 of 15 for details of these routes.

The cost of the Modified Mr. Allen Alternative Route 2 is estimated at a high level to be \$825,000 more expensive (an approximate 20 percent increase) than Kentucky Power's Engineered Proposed Route.

Kentucky Power Company KPSC Case No. 2021-00346 Commission Staff's Post Formal Conference Data Requests Dated February 18, 2022

DATA REQUEST

KPSC PHDR_5 State how wide the maintenance right-of-way for any 138 kV transmission line crossing Mr. Allen's property would be.

RESPONSE

The right-of-way (ROW) will be 100 feet wide (50 feet on each side of the centerline) across Mr. Allen's property except for the span crossing over Route 680 (between structures 1318-9 and 1318-10 on Kentucky Power's Engineered Proposed Route) and Modified Mr. Allen Alternative Route 2 (between structures 1318-10 and 1318-11). Along these spans, the ROW width will be as follows:

Kentucky Power's Engineered Proposed Route: 225 Feet Modified Mr. Allen Alternative Route 2: 220 Feet

The increased ROW width for the span crossing Route 680 is required by the length of the span. Much of the expanded ROW will not be cleared because of the height of the conductor above the ground.

Please see KPCO_PHDR_KPSC_1_7_Attachment2, pages 6 of 15 and 12 of 15 respectively.

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DATA REQUEST

KPSC PHDR_6 State whether the width of the maintenance right-of-way is a matter of Kentucky Power policy, or whether any state or federal regulation, or industry standard requires a right-of-way to be a particular width. Provide a citation to the regulation if one exists.

RESPONSE

The National Electrical Safety Code (NESC) requires a minimum conductor clearance of 6.6 feet from all vegetation and other obstacles under high wind conditions (50 mph). This clearance is added to the calculated conductor movement under the high wind conditions as the conductor sways away from the centerline.

Kentucky Power typically requests a 100 foot (50 feet on either side of the centerline) right-of-way (ROW) for 138kV construction. A 100 foot ROW covers most 138 kV construction and allows Kentucky Power to adequately protect the public and maintain the transmission lines. For unusually long spans (typically greater than 1,200 feet), conductor movement is greater and additional ROW in excess of the typical 100 feet is needed to meet NESC clearances.

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DATA REQUEST

KPSC PHDR_7 Assume the centerline and facility locations crossing Mr. Allen's property as proposed by Kentucky Power.

a. Provide the expected distance between conductor and the ground at the closest point to the ground between span 11 and span 10.
b. Provide the expected distance between conductor and the ground of Mr. Allen's property, specifically the area referred to as the "bottoms," between span 11 and span 10, assuming ordinary operating conditions.

c. Provide the expected distance between conductor and the ground of Mr. Allen's property, specifically the area referred to as the "bottoms," between span 11 and span 10, assuming maximum allowable "sag."

d. Confirm the distance from the centerline of the 1,000-foot filing corridor to Mr. Allen's residence, Mr. Allen's garage building which includes an apartment, and the cabana building erected adjacent to one of Mr. Allen's ponds.

RESPONSE

a. The ongoing engineering resulted in the renumbering of the structures shown on KPCO_PHDR_KPSC_1_7_Attachment2, page 1 of 15. The span across Route 680 is now between structures 1318-9 and 1318-10 for Kentucky Power's Engineered Proposed Route, and structures 1318-10 and 1318-11 for the Modified Mr. Allen Alternative Route 2.

The conductor to ground distance will vary along the terrain but the distance at the closest point to the ground will be approximately 35.6 feet under normal operating conditions for Kentucky Power's Engineered Proposed Route and 52.5 feet under normal operating conditions for the Modified Mr. Allen Alternative Route 2. Please see KPCO_PHDR_KPSC_1_7_Attachment2, pages 7 of 15 and 13 of 15 respectively.

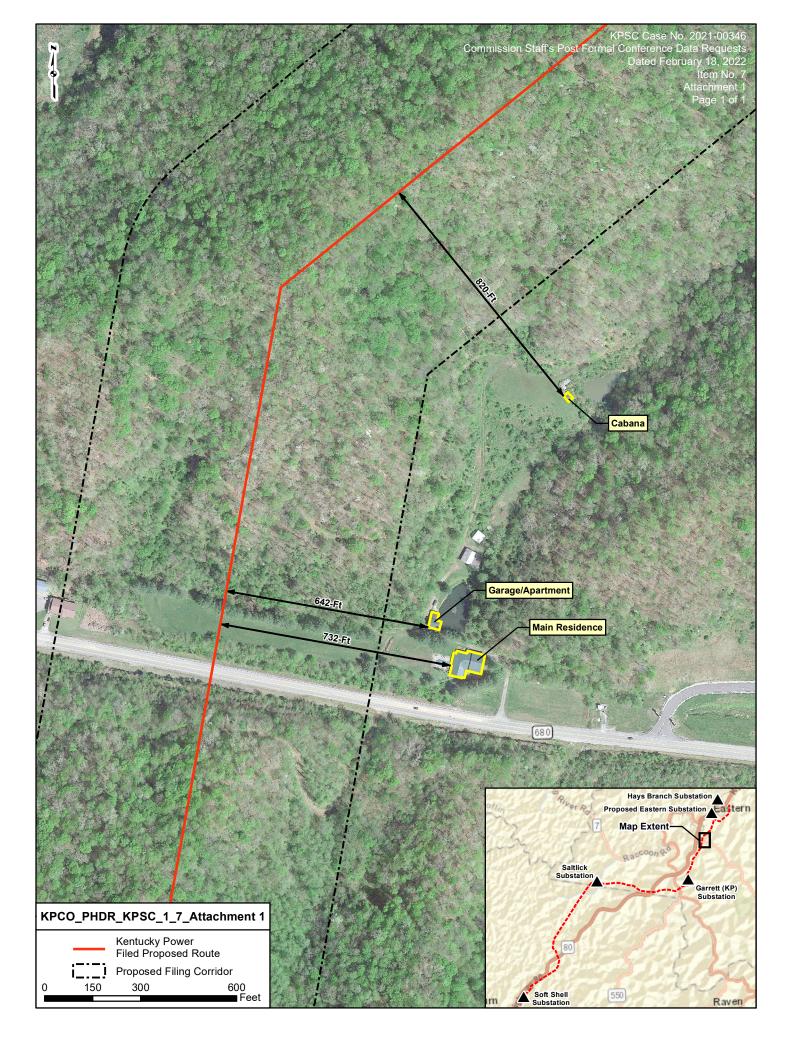
b. The conductor to ground distance at the closest point to the ground for Kentucky Power's Engineered Proposed Route will be approximately 319 feet at ordinary operating conditions. Please see KPCO_PHDR_KPSC_1_7_Attachment2, page 7 of 15.

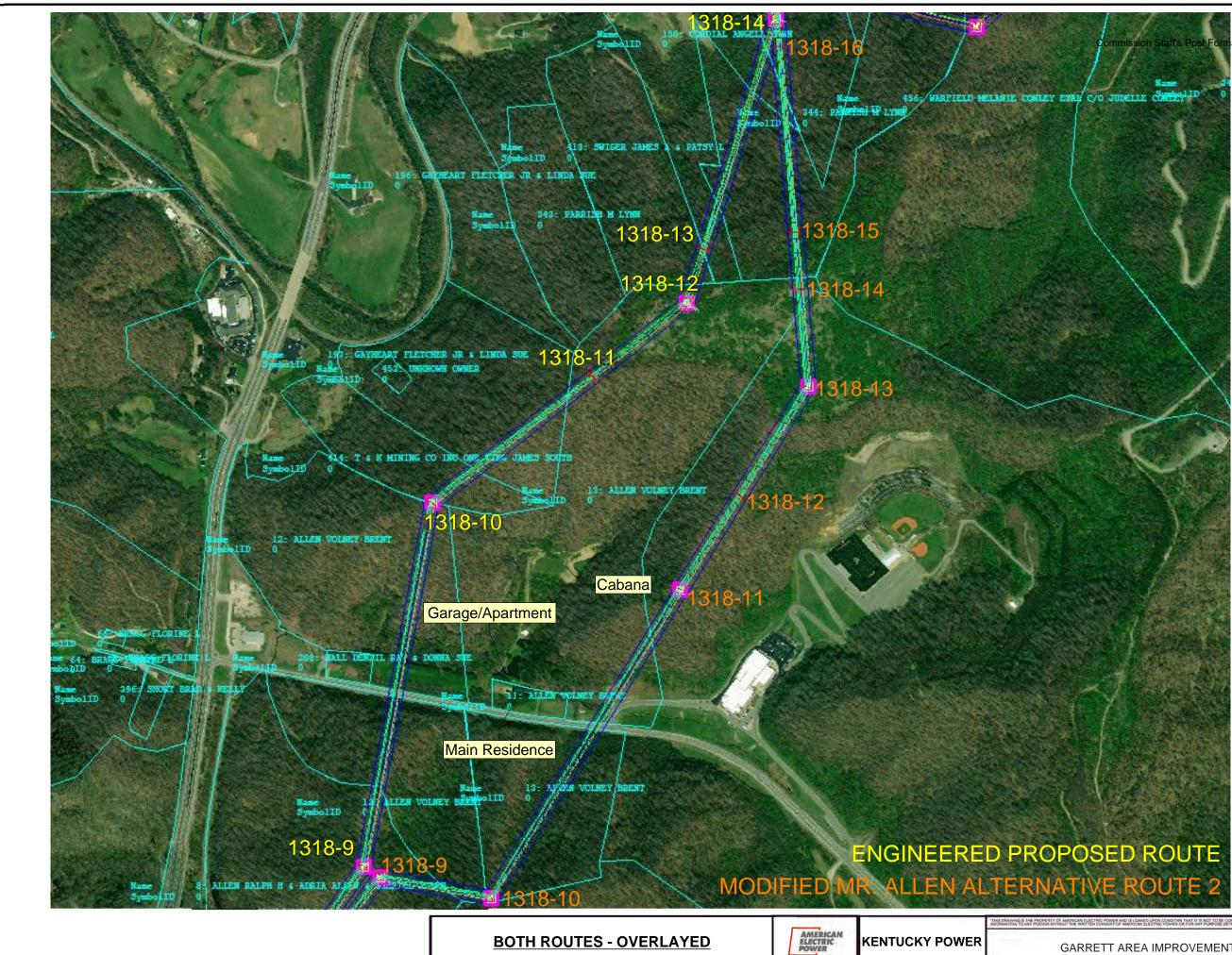
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c. The conductor to ground distance at the closest point to the ground for Kentucky Power's Engineered Proposed Route will be approximately 310 feet at maximum operating conditions. Please see KPCO_PHDR_KPSC_1_7_Attachment2, page 8 of 15.

d. The closest distance from the Filed Proposed Route (centerline of the 1,000-foot filing corridor) to Mr. Allen's residence is 732 feet. The closest distance from the Filed Proposed Route (centerline of the 1,000-foot filing corridor) to Mr. Allen's garage/ apartment is 642 feet. The closest distance from the Filed Proposed Route (centerline of the 1,000-foot filing corridor) to Mr. Allen's cabana is 820 feet. Please see KPCO_PHDR_KPSC_1_7_Attachment1, page 1 of 1.

The closest distance from the centerline of the Engineered Proposed Route to Mr. Allen's residence is 770 feet. The closest from the centerline of the Engineered Proposed Route to Mr. Allen's garage/apartment is 668 feet. The closest distance from the centerline of the Engineered Proposed Route to Mr. Allen's cabana is 759 feet. Please see KPCO_PHDR_KPSC_1_7_Attachment2, page 5 of 15.

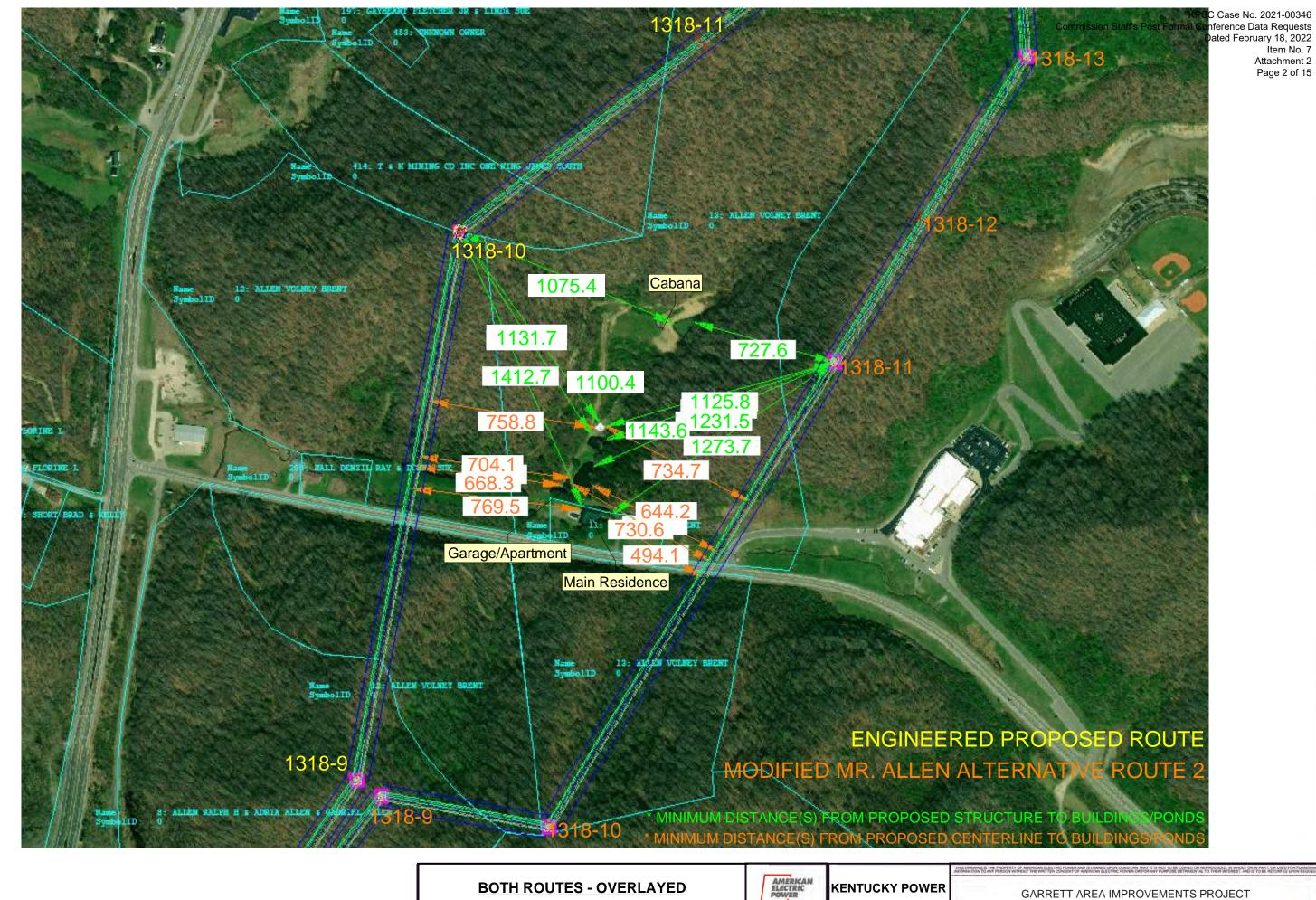




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GARRETT AREA IMPROVEMENTS PROJECT

OR REPRODUCED, IN WHOLE OR IN PART, OR



BOTH ROUTES - OVERLAYED

KENTUCKY POWER



BOTH ROUTES - OVERLAYED



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KPSC Case No. 2021-00346 Commission Staff's Post Formal Conference Data Requests Dated February 18, 2022 Item No. 7 Attachment 2 Page 4 of 15

MAPS & PROFILE VIEWS OF ENGINEERED PROPOSED ROUTE NEAR MR. ALLENS PROPERTY



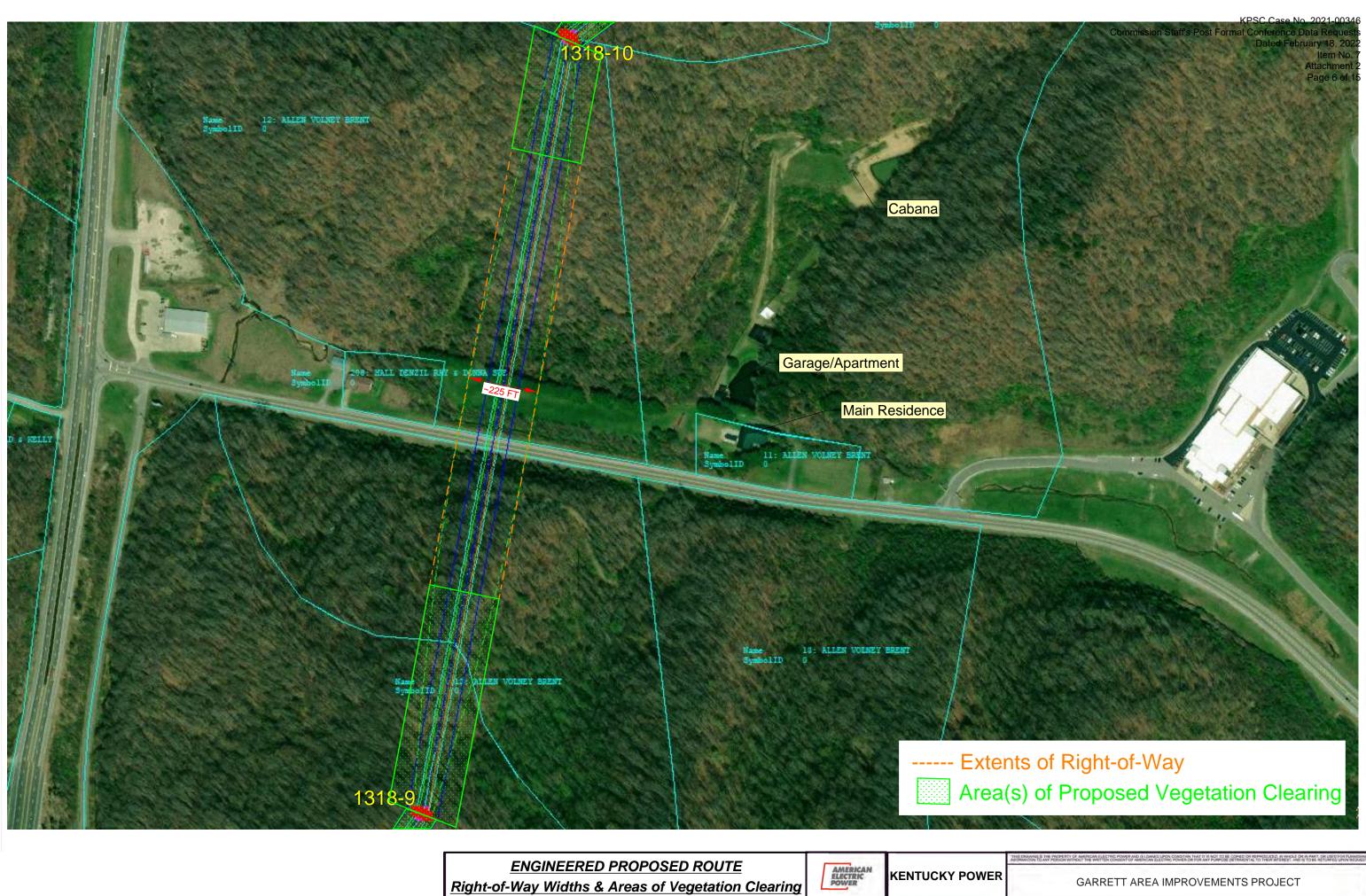
ENGINEERED PROPOSED ROUTE Plan View - Zoomed In on Dimensions

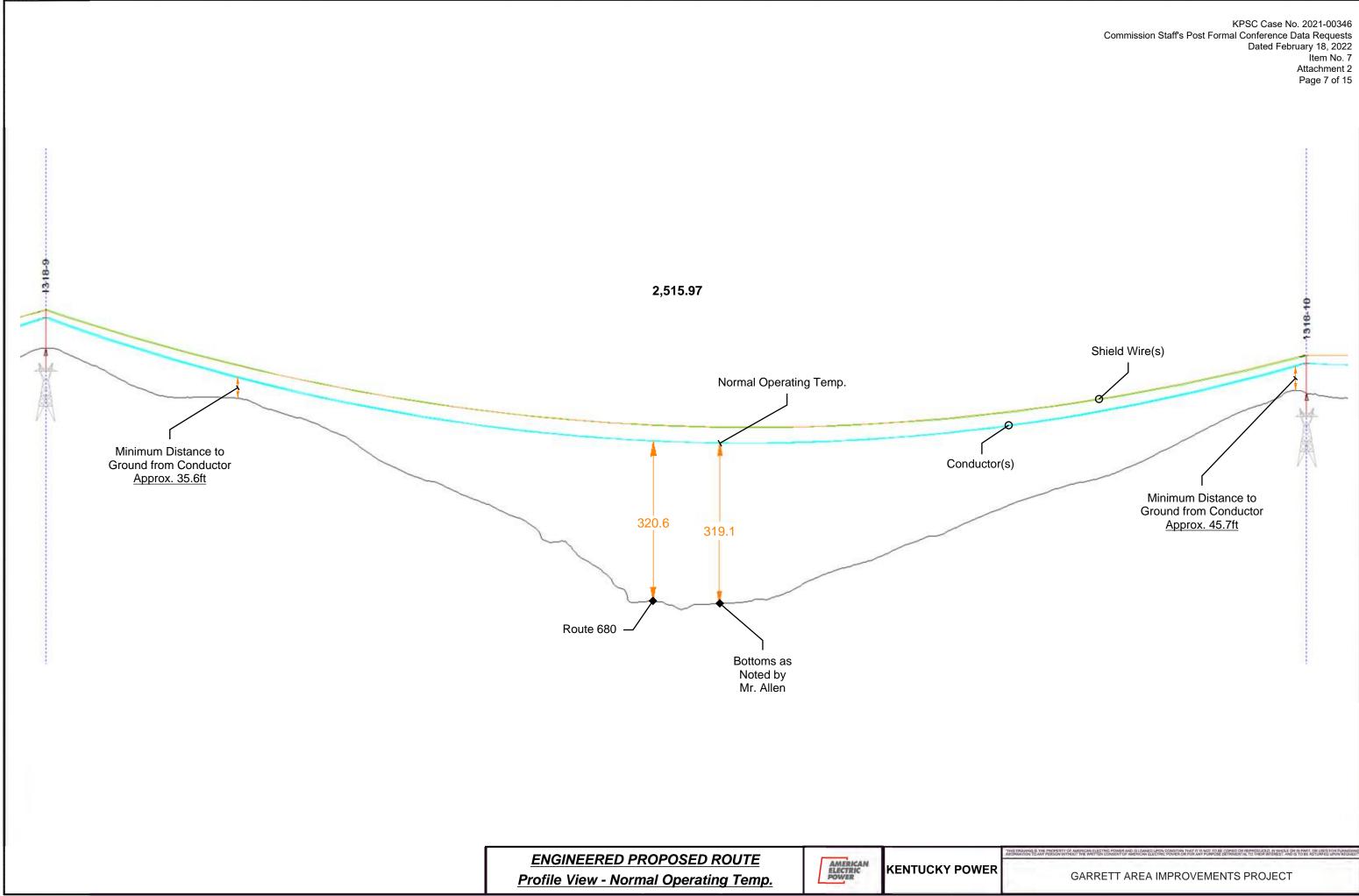


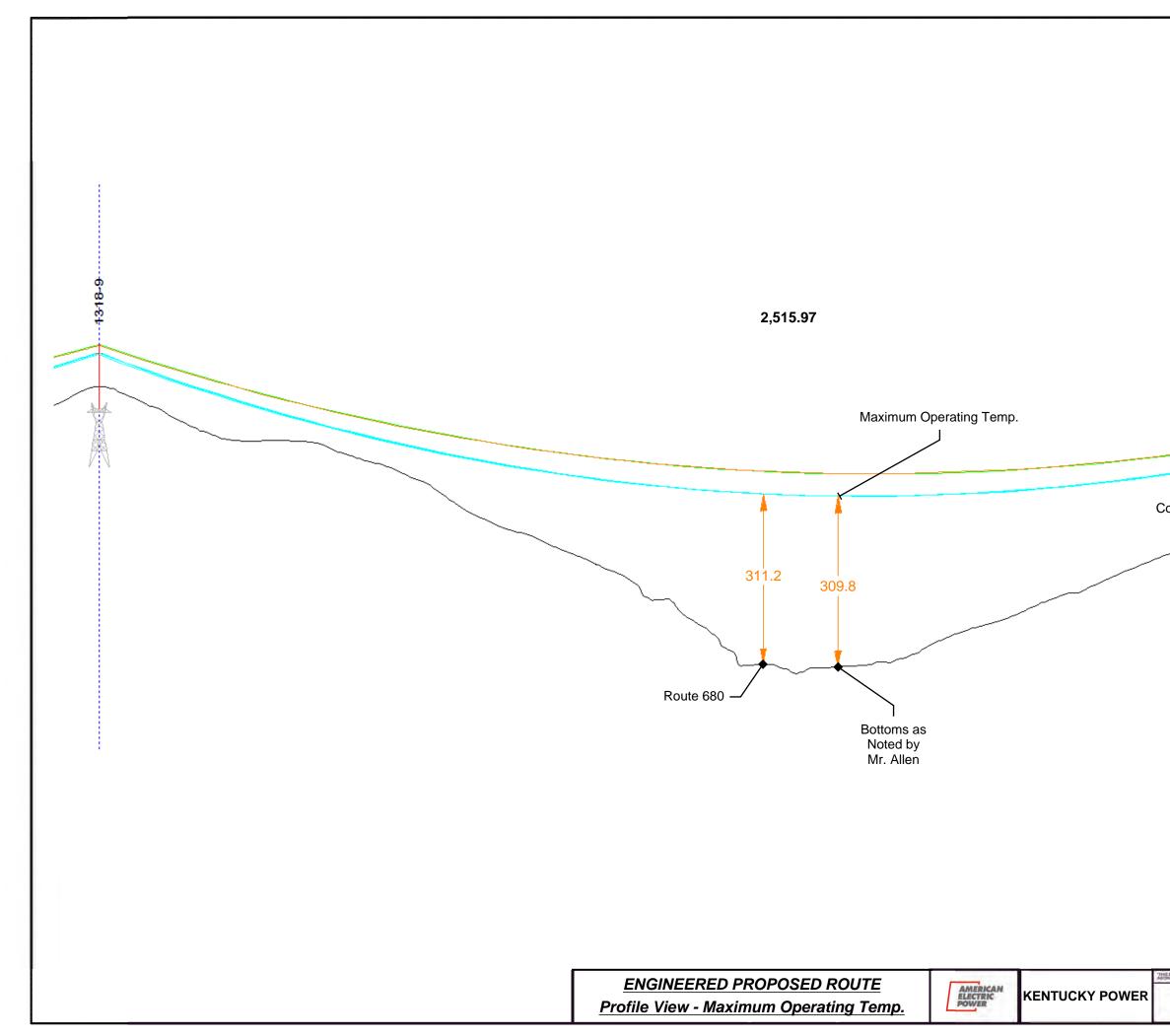
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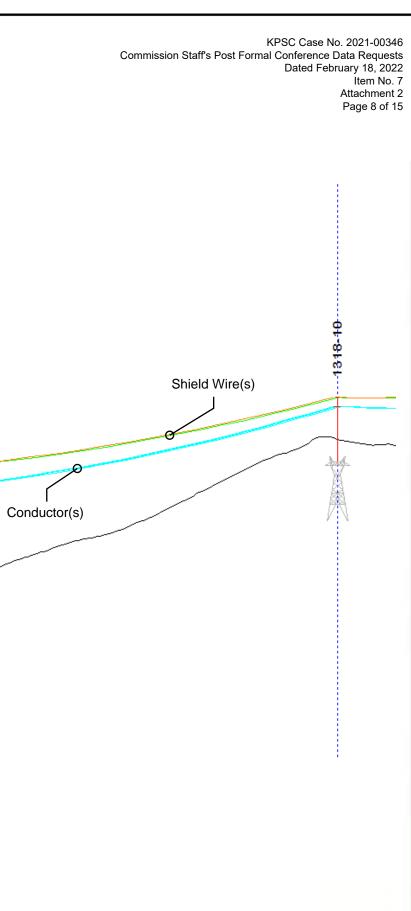
KPSC Case No. 2021-00346 Commission Staff's Post Formal Conference Data Requests Dated February 18, 2022 Item No. 7 Attachment 2 Page 5 of 15

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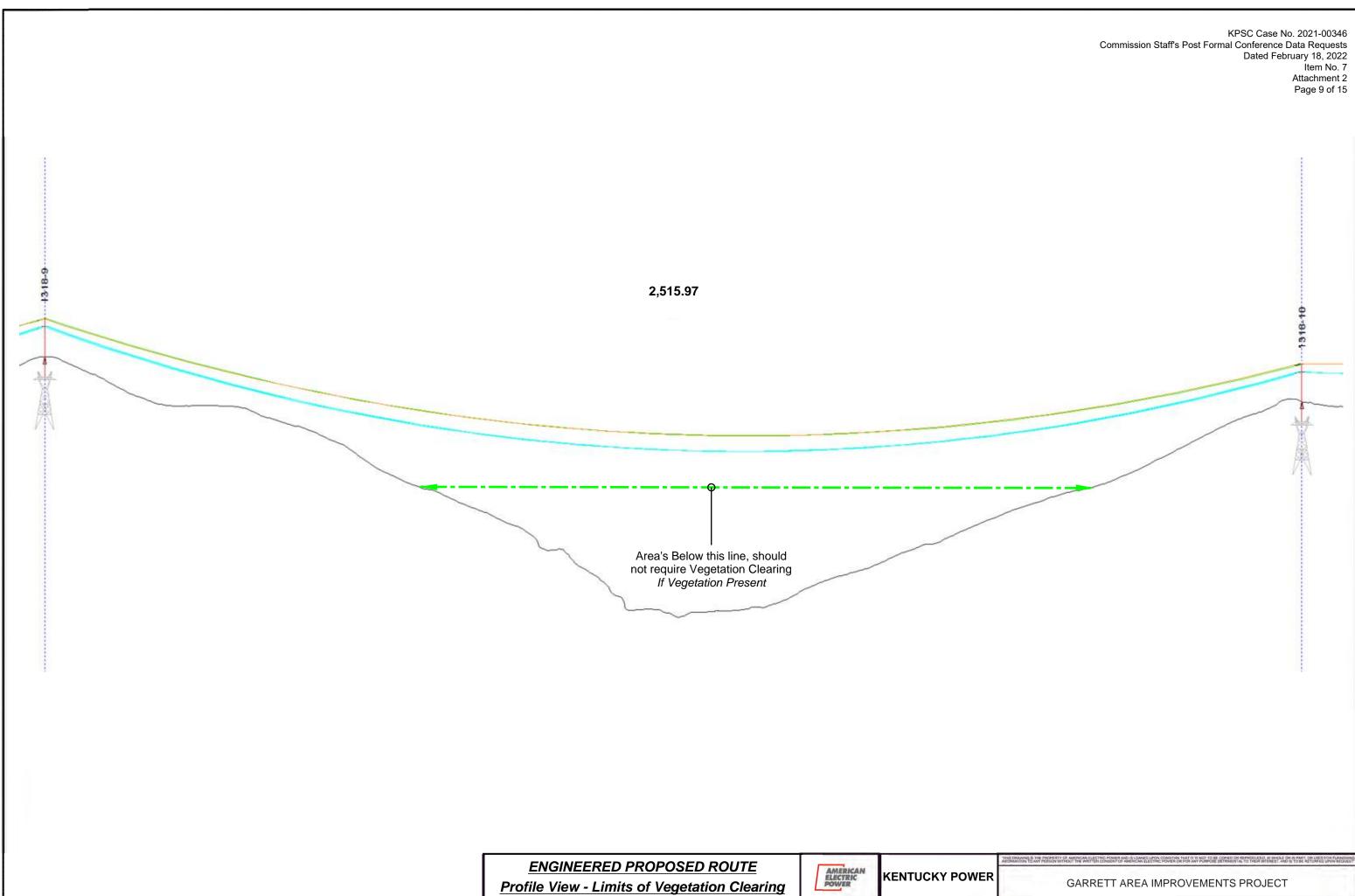








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MAPS & PROFILE VIEWS OF MODIFIED MR. ALLEN ALTERNATIVE ROUTE 2

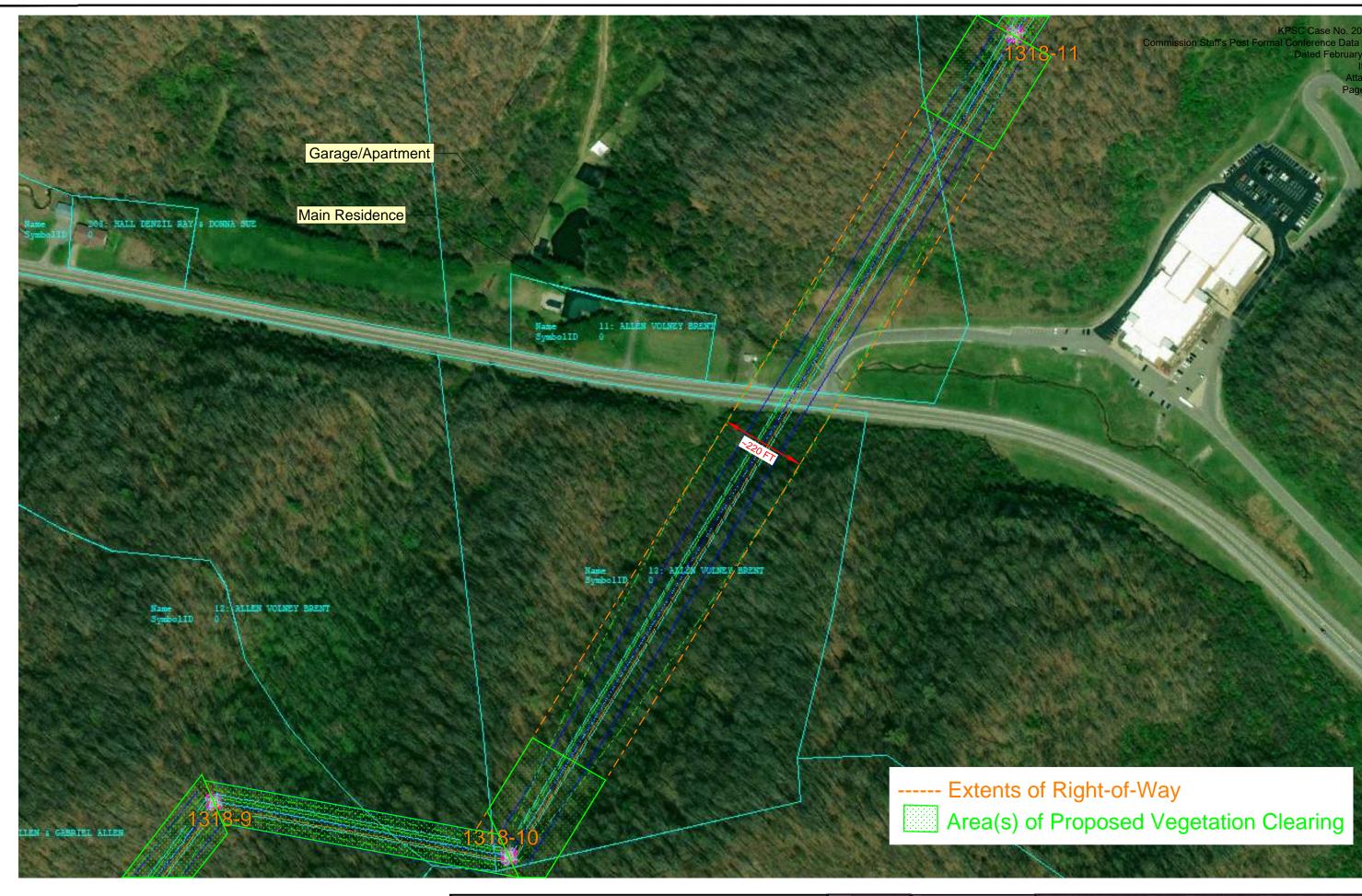


<u>MODIFIED MR. ALLEN ALTERNATIVE ROUTE 2</u> <u>Plan View - Zoomed In on Dimensions</u>



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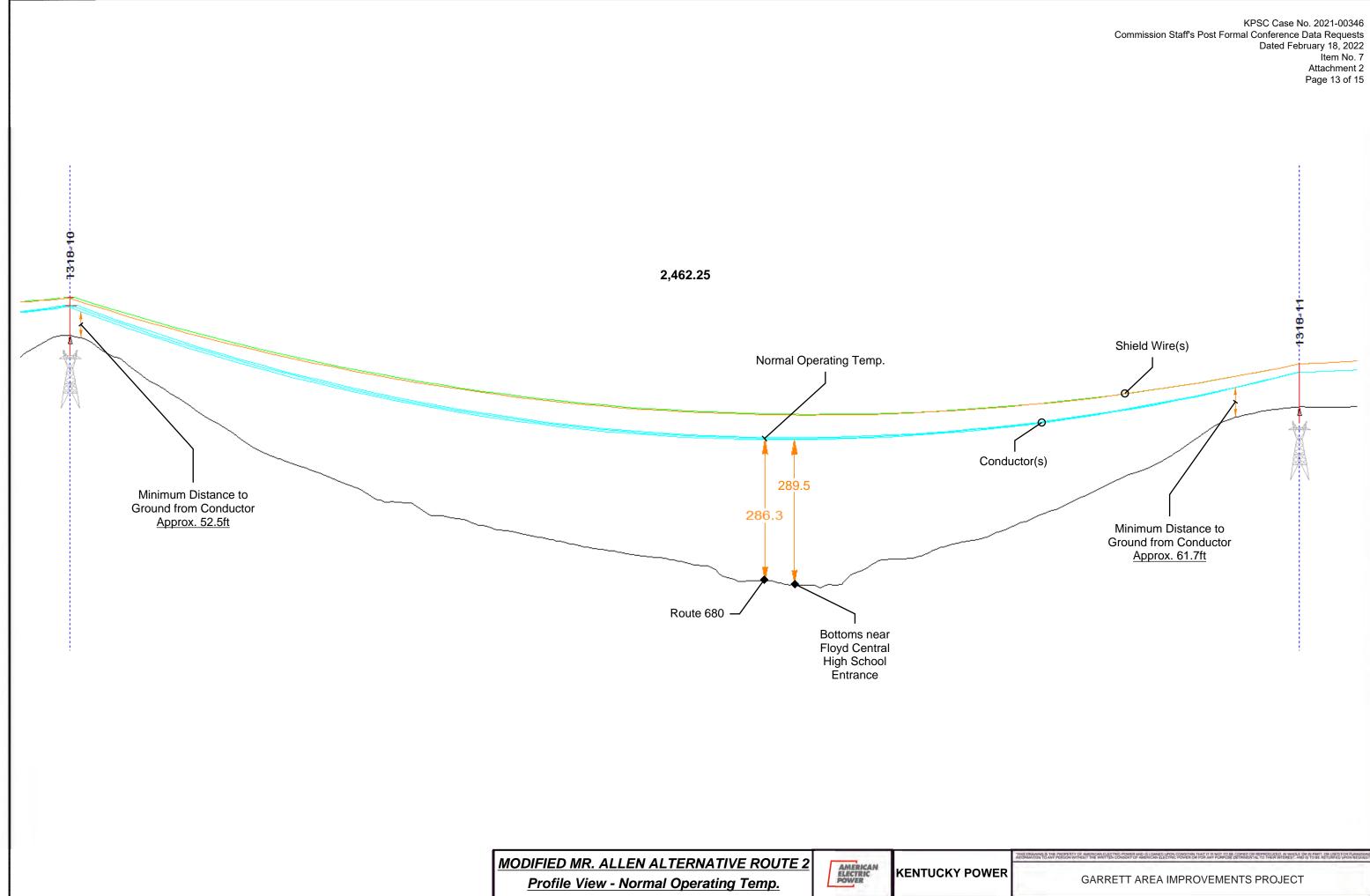
<u>MODIFIED MR. ALLEN ALTERNATIVE ROUTE 2</u> <u>Right-of-Way Widths & Areas of Vegetation Clearing</u>

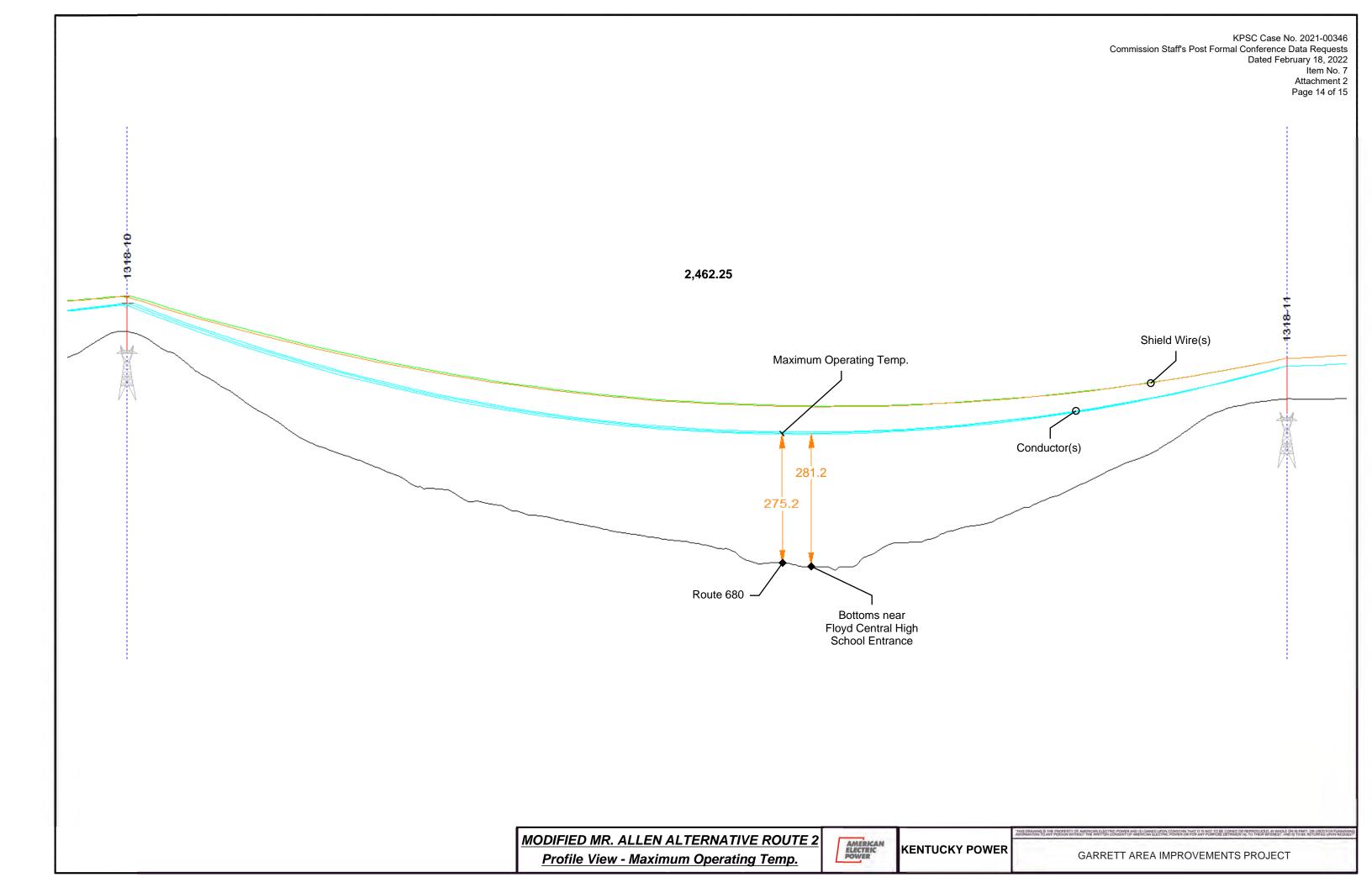


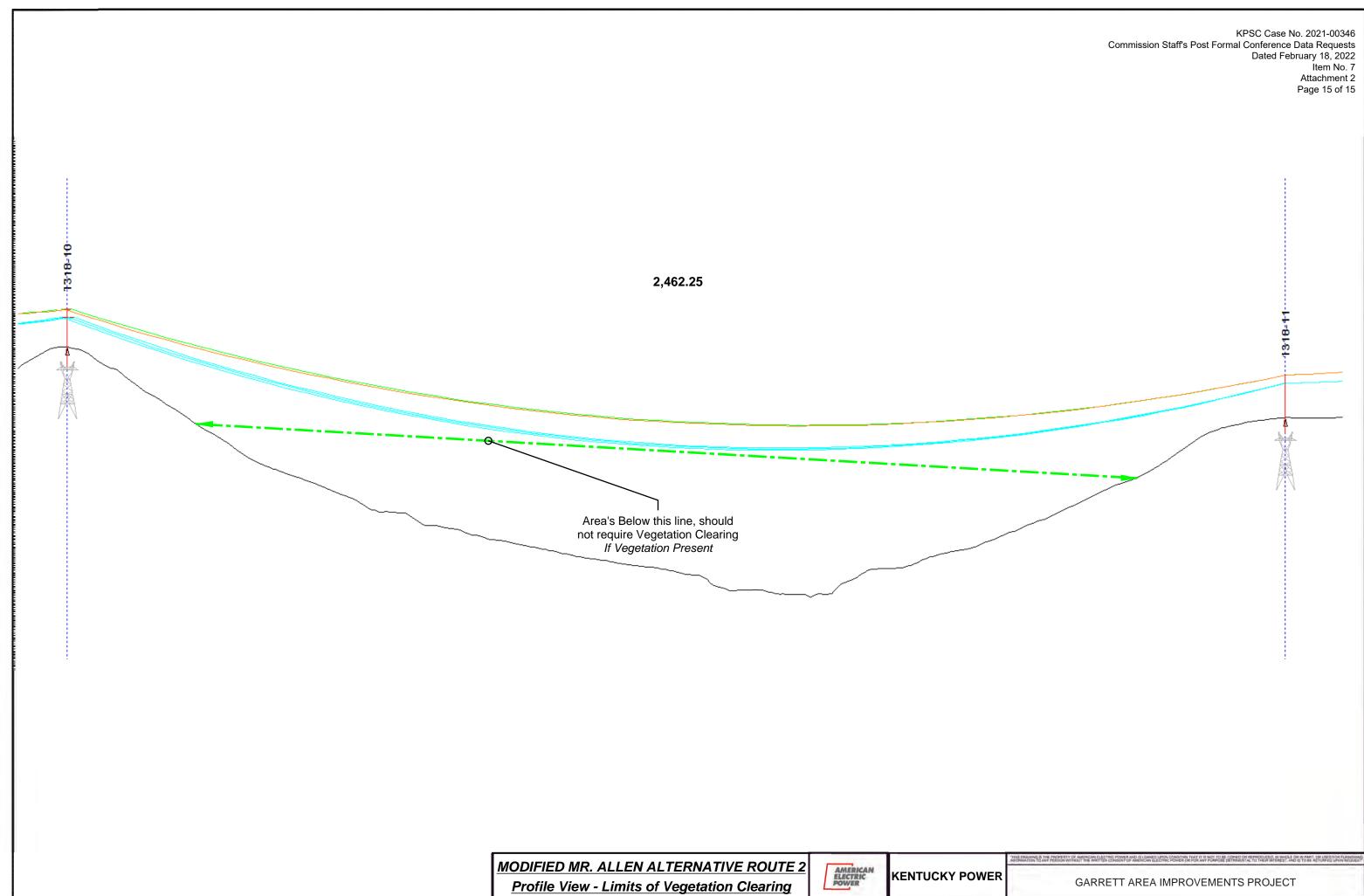
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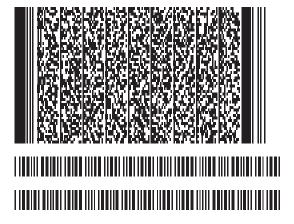
E-Signature 1: Nicolas C Koehler (NCK)

February 23, 2022 09:34:27 -8:00 [0AFFC887CF0B] [167.239.221.101] nckoehler@aep.com (Principal) (Personally Known)

E-Signature Notary: S. Smithhisler (SRS)

February 23, 2022 09:34:27 -8:00 [5BF7D21130EA] [161.235.221.103] srsmithhisler@aep.com

I, S. Smithhisler, did witness the participants named above electronically sign this document.



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VERIFICATION

The undersigned, Nicolas C. Koehler, being duly sworn, deposes and says he is the Director of Transmission Planning for American Electric Power Service Corporation, that he has personal knowledge of the matters set forth in the forgoing responses, and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

| | Nicolas C Koehler |
|--------------------|---------------------------------|
| | Nicolas C. Koehler |
| STATE OF OHIO |)) Case No. 2021-00346) |
| COUNTY OF FRANKLIN | |

Subscribed and sworn to before me, a Notary Public in and before said County and State, by

Nicolas C. Koehler, on ________

TARY PUBLIC Sarah Smithhisler Commission # 2019-RE-775042 **Electronic Notary Public** State of Ohio My Comm Exp. Apr 29, 2024 ATE OF O

Notarial act performed by audio-visual communication

S Smithhala

Notary Public

Notary ID Number: 2019-RE-775042

VERIFICATION

The undersigned, George T. Reese, being duly sworn, deposes and says he is the Vice President, Business Sector Manager for Power Delivery – Environmental for GAI Consultants, Inc., that he has personal knowledge of the matters set forth in the forgoing responses, and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

George T. Reese

STATE OF PENNSYLVANIA

)) Case No. 2021-00346)

COUNTY OF ALLEGHENY

Subscribed and sworn to before me, a Notary Public in and before said County and State, by

George T. Reese, on

Notary Public

Notary ID Number:

Commonwealth of Pennsylvania - Notaty Seal Donna J. Zeno, Notary Public Allegheny County My commission expires April 17. 2022 Commission number 1185072 Member, Pennsylvania Association of Notories