

David Pelren
Fish and Wildlife Biologist
U.S. Fish & Wildlife Service
Tennessee Ecological Services Office
446 Neal Street
Cookeville, TN 38506

06/03/2021

Subject: Cumberland Project
Dickson, Houston, and Stewart Counties, Tennessee

Dear Mr. Pelren:

Tennessee Gas Pipeline Company, L.L.C., (“TGP”) is evaluating the potential for a new approximately 32-mile interstate natural gas pipeline. The proposed pipeline would provide natural gas as one of several options being evaluated by the Tennessee Valley Authority (“TVA”) as they consider retirement of the existing coal-fired units at the Cumberland Fossil Plant and the construction and operation of facilities to replace part of the retired generation. Jackson Group is requesting concurrence relating to a threatened and endangered bat species presence/probable absence survey for the Cumberland Project in Dickson, Houston, and Stewart Counties, Tennessee.

Cardno has contracted Jackson Group to conduct a presence/probable absence survey for the Cumberland Project. The proposed project includes forested habitat that provides potential suitable summer habitat for threatened and endangered bat species (see attached Map).

The following proposed survey methods are based on the technical criteria outlined in USFWS’s *2020 Range-Wide Indiana Bat Summer Survey Guidelines*, dated March 2020. Based on forested habitat delineated into 1 km segments, surveys will be conducted at forty-eight sampling sites.

Mist-Net Survey

Jackson Group will survey 48 sites for 2 nights for a total of 96 net nights (48 sites/1 Net/2 Nights = 96 net nights). The locations of the net sites will be determined by selecting the best possible net placement (e.g., streams, trails) that are typically the most effective places to survey. Specific sites for net placement will be determined by permitted bat biologists in the field and will follow USFWS (2020) guidelines for mist net surveys. Netting will begin at sunset and last for a minimum of five hours. If severe weather occurs for more than 30 minutes during the first 5 hours of the survey night that night will not count towards the required 2 nights at the site (see Severe Weather section below). Standard two-ply, 50 or 75 denier, nylon mist-nets with a mesh size of 38 millimeters (1.50 inches) will be used at all mist-net sites. Mist-nets will typically be placed in suitable bat habitat and positioned perpendicularly across flight corridors, filling the corridor from side to side and extending from ground-level up to overhanging canopy. Nets will be checked approximately every 10 minutes. Net set locations at the site will be distributed as evenly as possible throughout suitable habitat. Disturbance in the form of noise, light, and/or movement will be minimized at net locations. Additionally, surveyors will decontaminate and/or dispose of field gear according to the most current USFWS white-nose syndrome decontamination protocol. We will also follow the recent COVID-19 guidelines released in a memo by the USFWS in June 2020 suggesting we follow the guidance (<https://www.cdc.gov/coronavirus/2019-ncov/index.html>) of the Centers for Disease Control (CDC) and be in accordance with state, local, and other Federal requirements when handling wild bats. The mist-net location will

be recorded using a handheld GPS unit in decimal degrees.

Radio Telemetry

Radio transmitters will be affixed to a maximum of two captured bats per site of the following species: Indiana bats (*Myotis sodalis*) and northern long-eared bats (*Myotis septentrionalis*). Preference will be given to reproductive females and juveniles, however, the first individual of the target species captured will be affixed with a radio transmitter (172 MHz range) regardless of sex if it meets the minimum weight requirements. Bats fitted with a transmitter will be tracked to their diurnal roost. No foraging tracking is proposed. Bats will be tracked during the day within a search radius of 2.5 miles from the point of capture to locate roost trees, up to a maximum of seven days. Daily telemetry searches will be conducted until the bat is located, or for a maximum of 8 hours per day. Telemetry crews, using a vehicle equipped with a five-element Yagi antenna (Wildlife Materials, Carbondale, Illinois), will attempt to track bats from parks, roads, and other public lands within this radius; however, crews will not enter any property without the express consent of the landowner. If access to roost trees is not possible (e.g., located on private property), roost locations will be estimated using triangulation. Where landowner permission is granted to access the roost tree, crews will gather the following information regarding roost trees: tree species, tree condition (living or dead), percent exfoliating bark, diameter at breast-height, estimated percent overstory within stand, and estimated percent understory/midstory within stand. If accessible, a photograph will be taken and the tree's location recorded using a handheld GPS.

A minimum of two emergence surveys will be conducted at each accessible roost tree identified during the tracking period to enumerate bats using the roost. Surveys will begin 30 minutes before dusk and continue until at least one hour after sunset or until the roost tree is not visible without additional illumination.

Severe Weather Definitions (related to mist-net surveys)

Severe weather is defined as including: temperatures below 10°C (50°F), precipitation (rain or heavy fog), and sustained winds exceeding 4-mps (9-mph). Light rain not lasting more than 30-minutes is not considered severe weather and surveyors may choose to continue netting during these conditions.

Closing

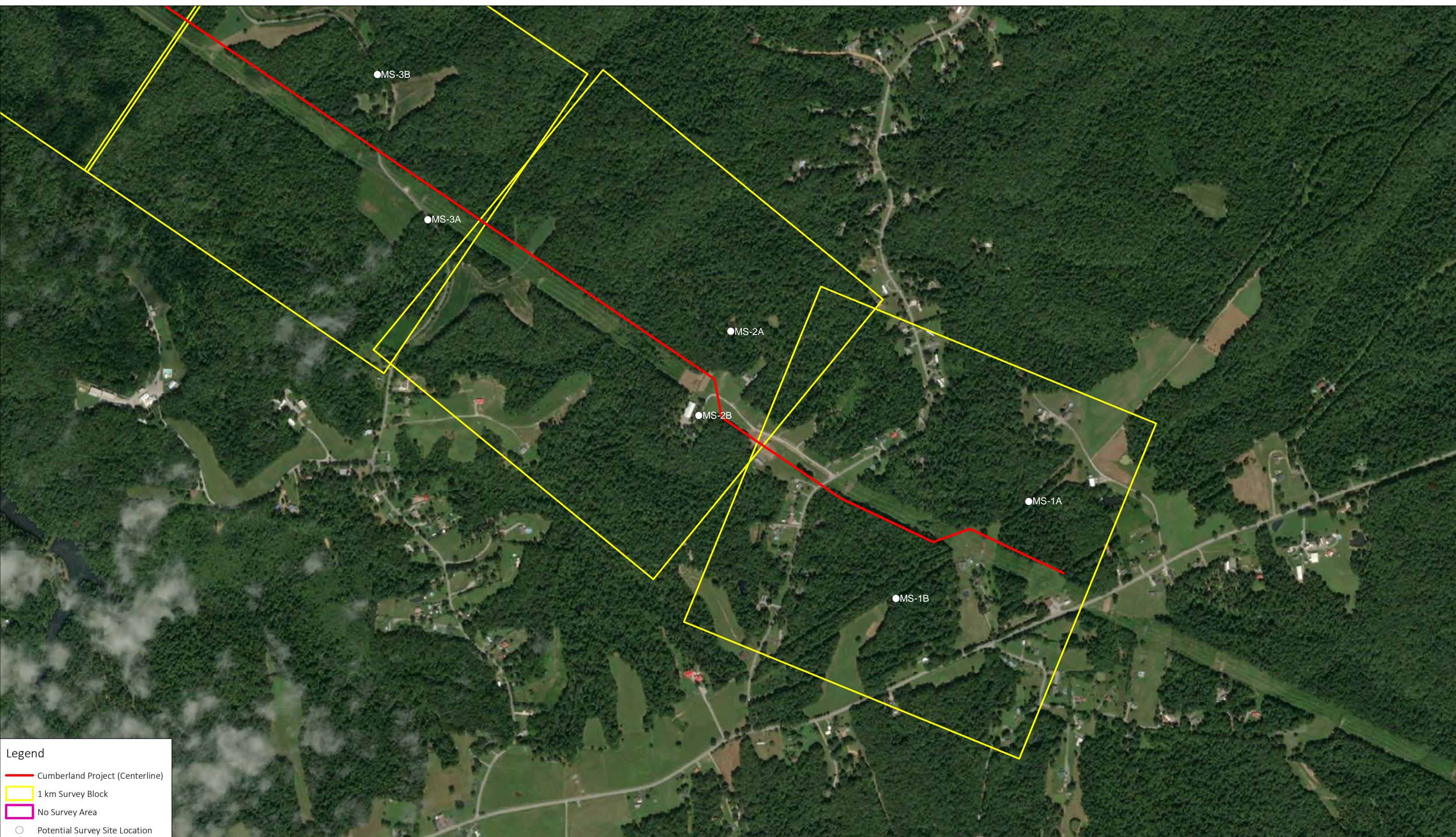
This presence/probable absence survey will strictly follow the technical criteria outlined in the 2020 Range-Wide Indiana Bat Summer Survey Guidelines, as well as any additional recommendations provided by your office. At this time, we respectfully request concurrence with our methodology and level of effort.

Please reply via email to sroberts@jacksongroupco.com with your concurrence, or with any additional requests or guidelines needed for concurrence. If you have any questions or require additional information, please contact me at (859) 200-6242.



Shane Roberts
Vice President

Enclosures: Survey Overview Map



Legend

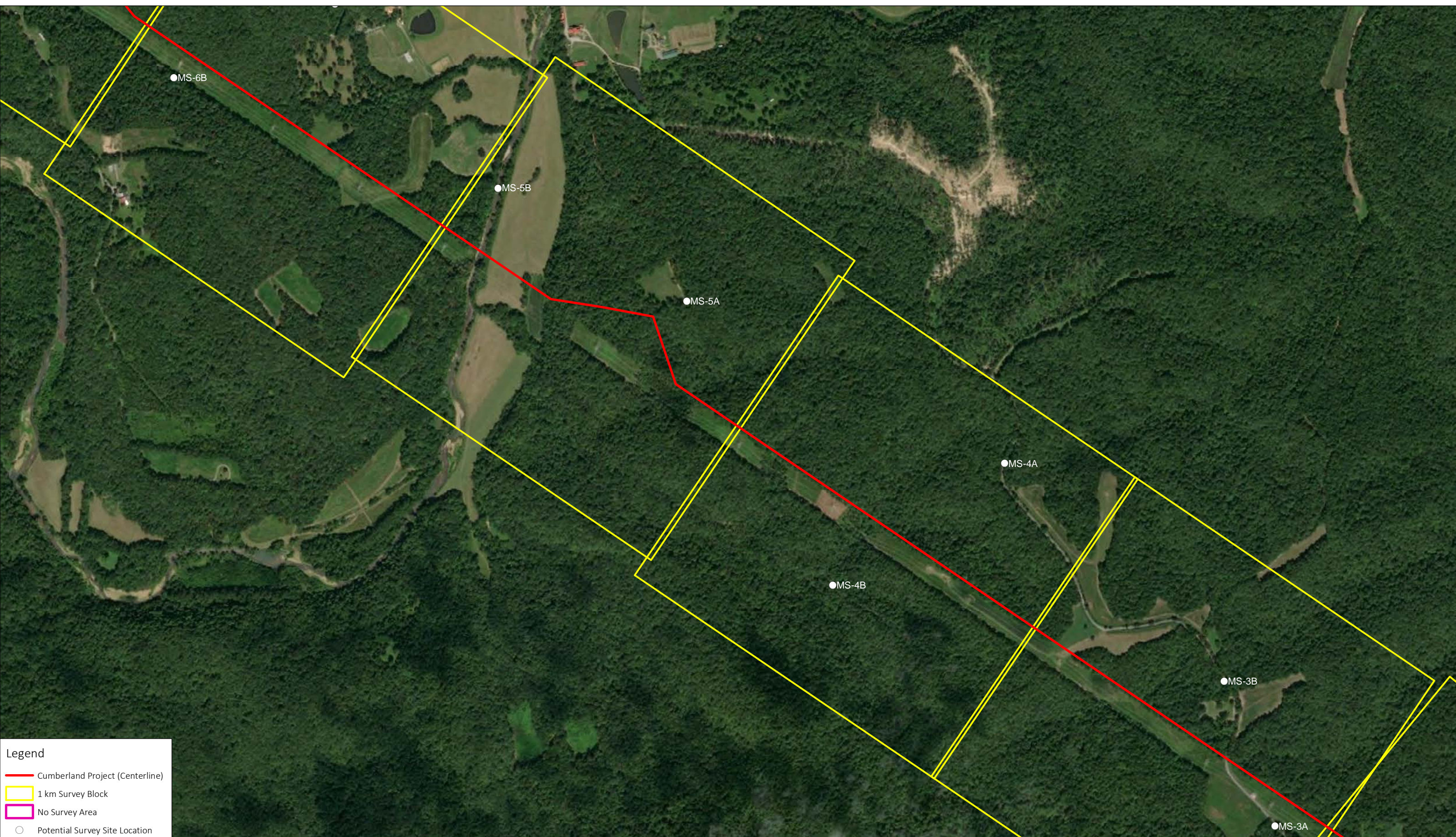
- Cumberland Project (Centerline)
- 1 km Survey Block
- No Survey Area
- Potential Survey Site Location

0 80 160 320 Meters

CLIENT	Tennessee Gas Pipeline Company, L.L.C.
PROJECT	CUMBERLAND PROJECT
SCALE	1:9,500
DATE	06-03-2021

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TITLE
Bat Survey



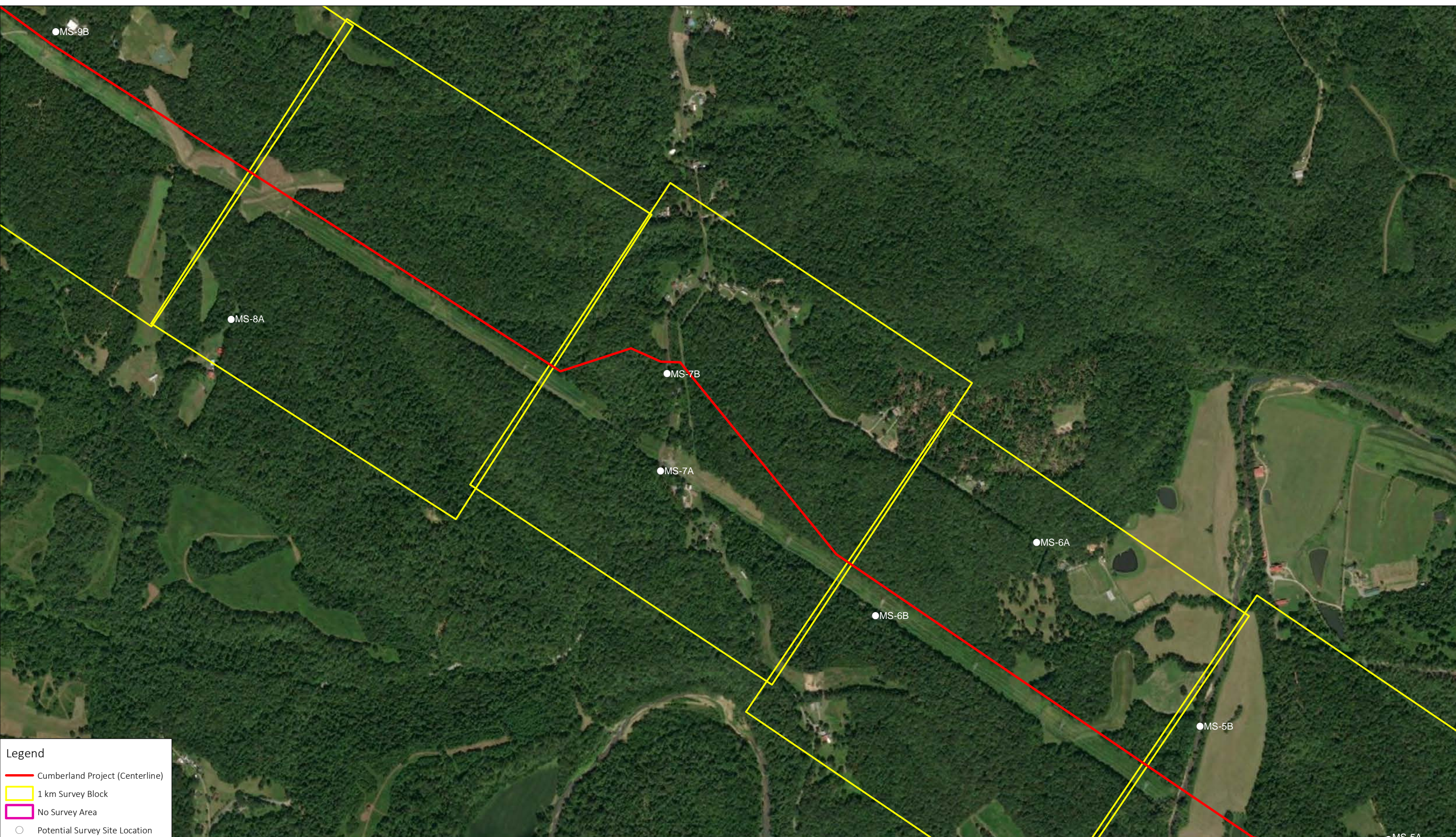
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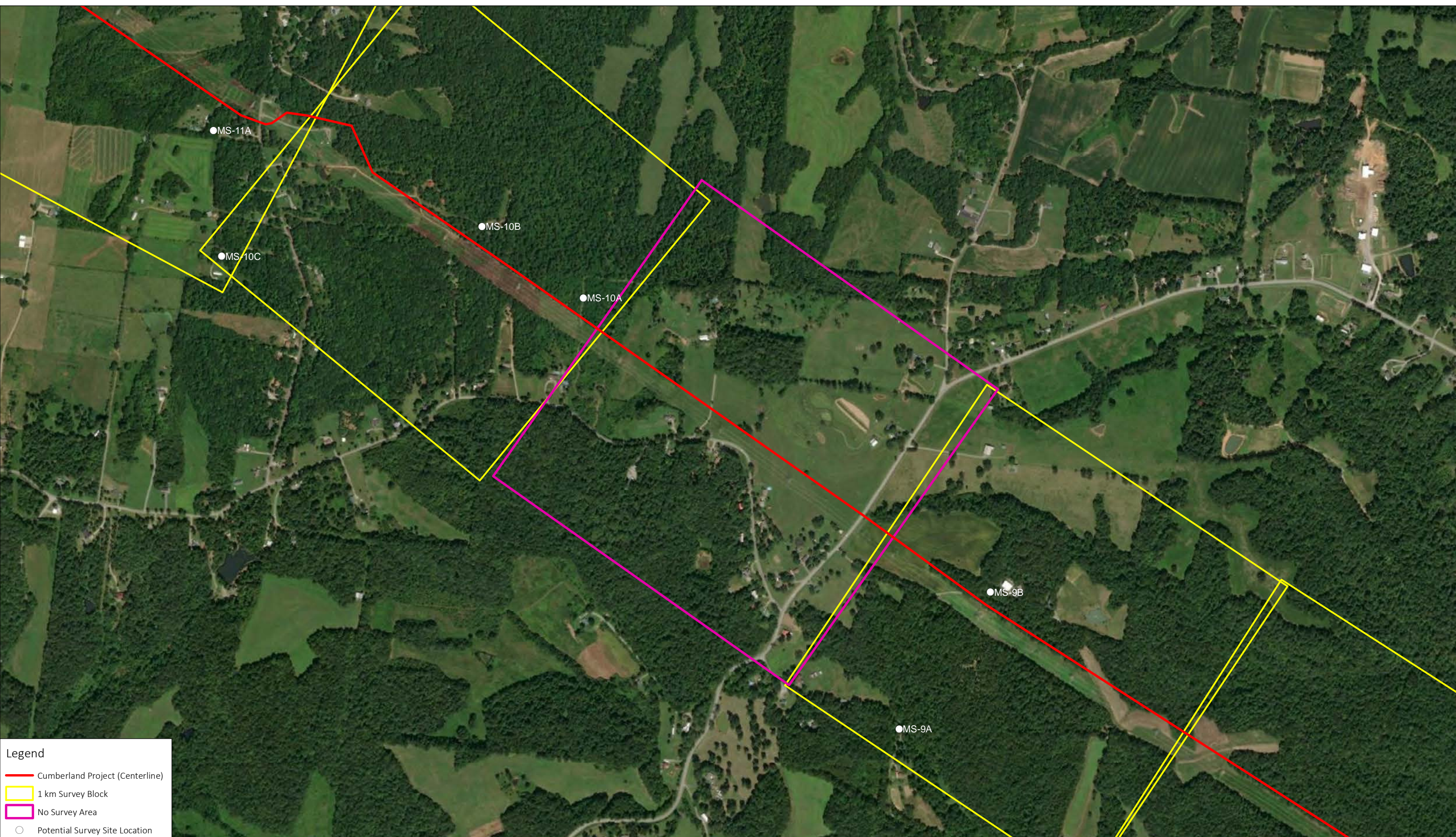
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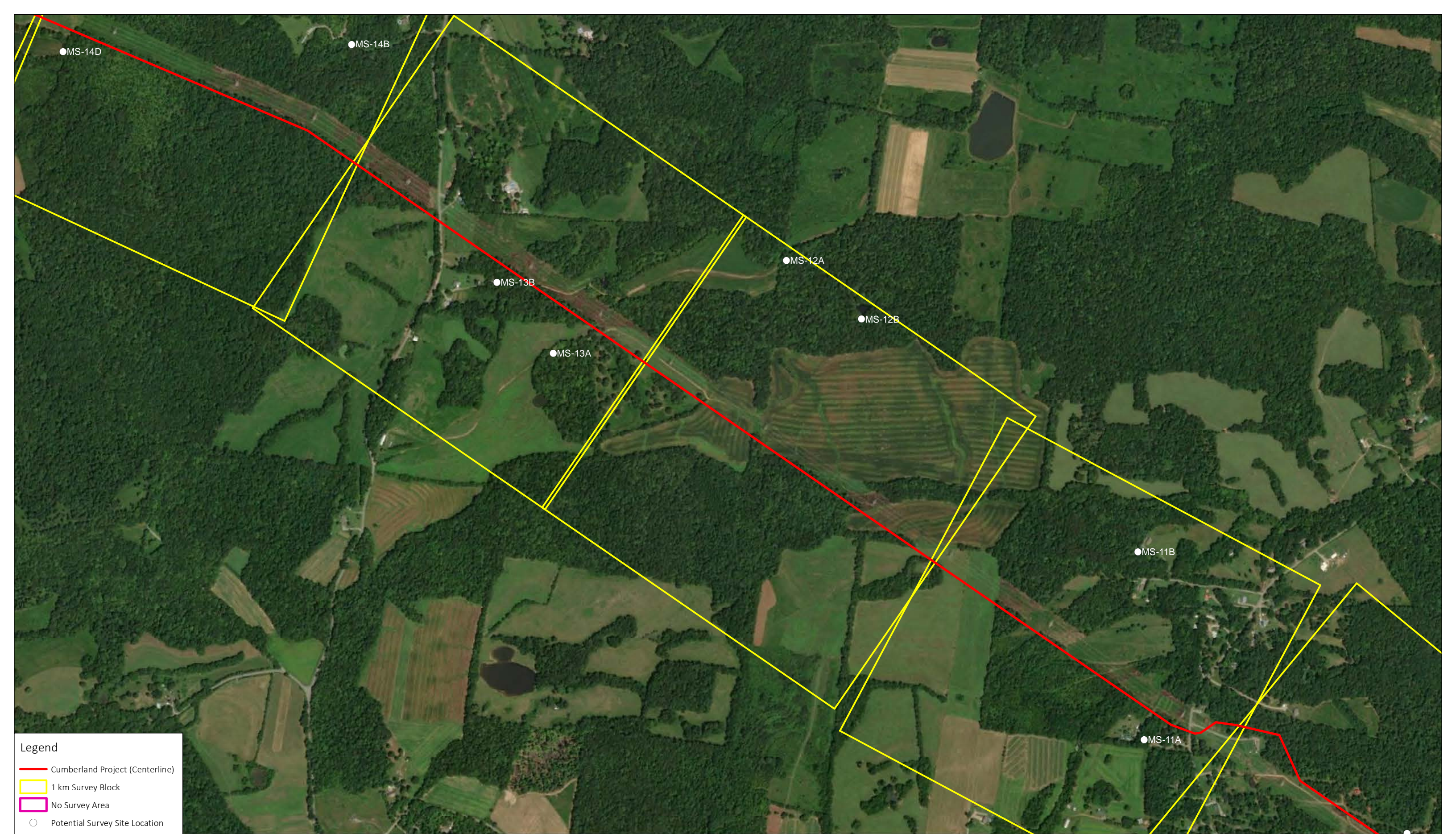
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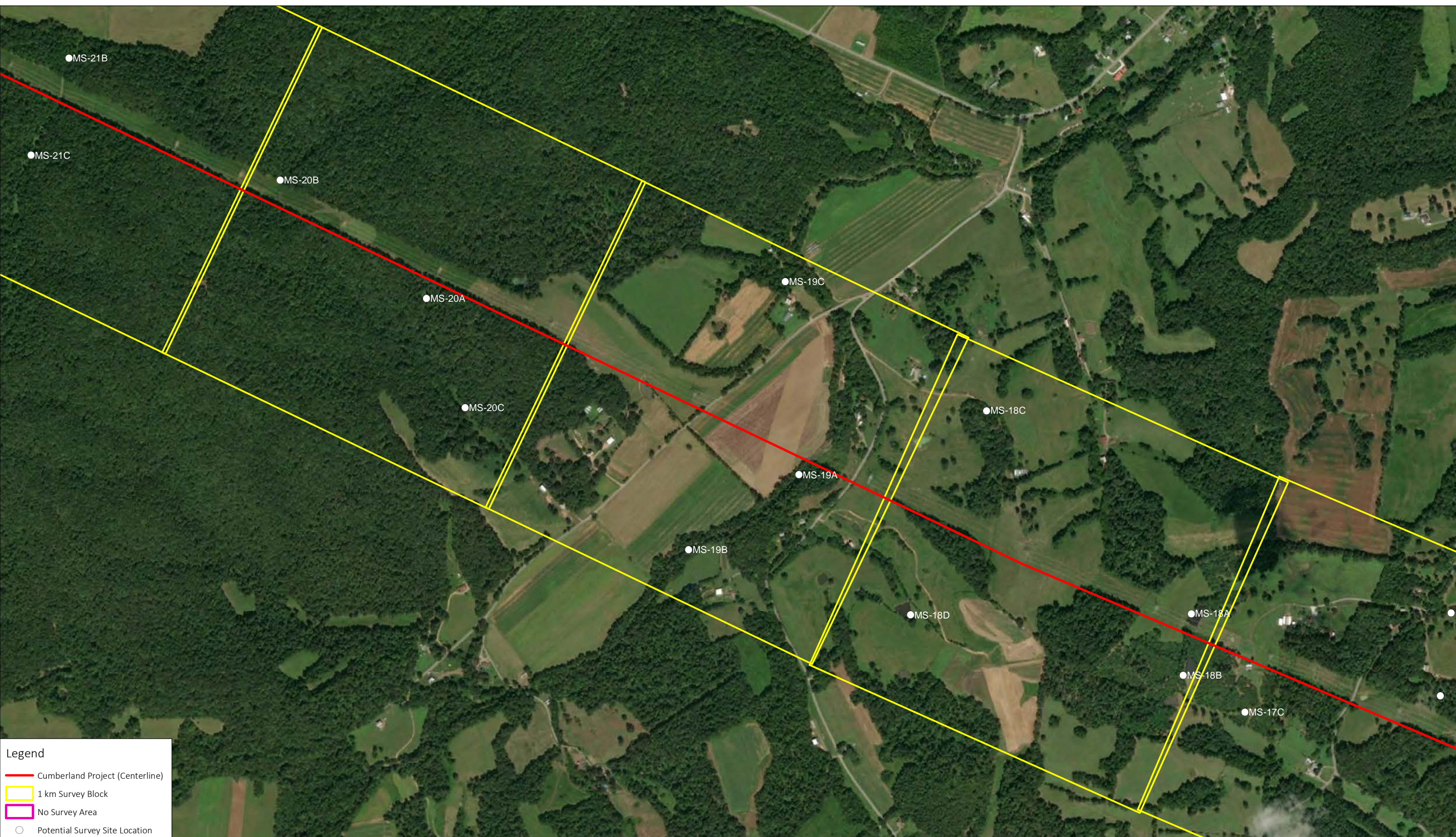
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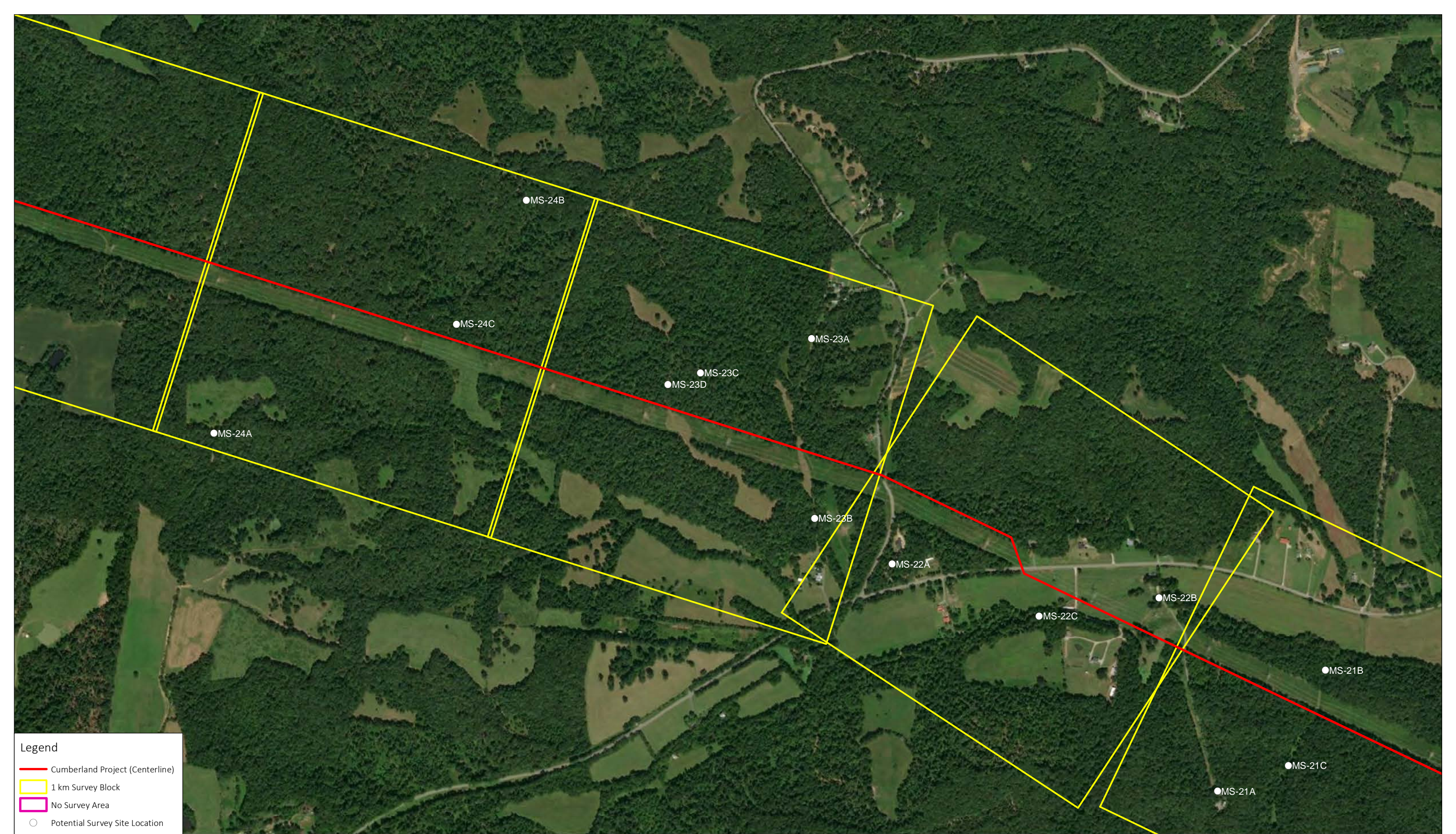
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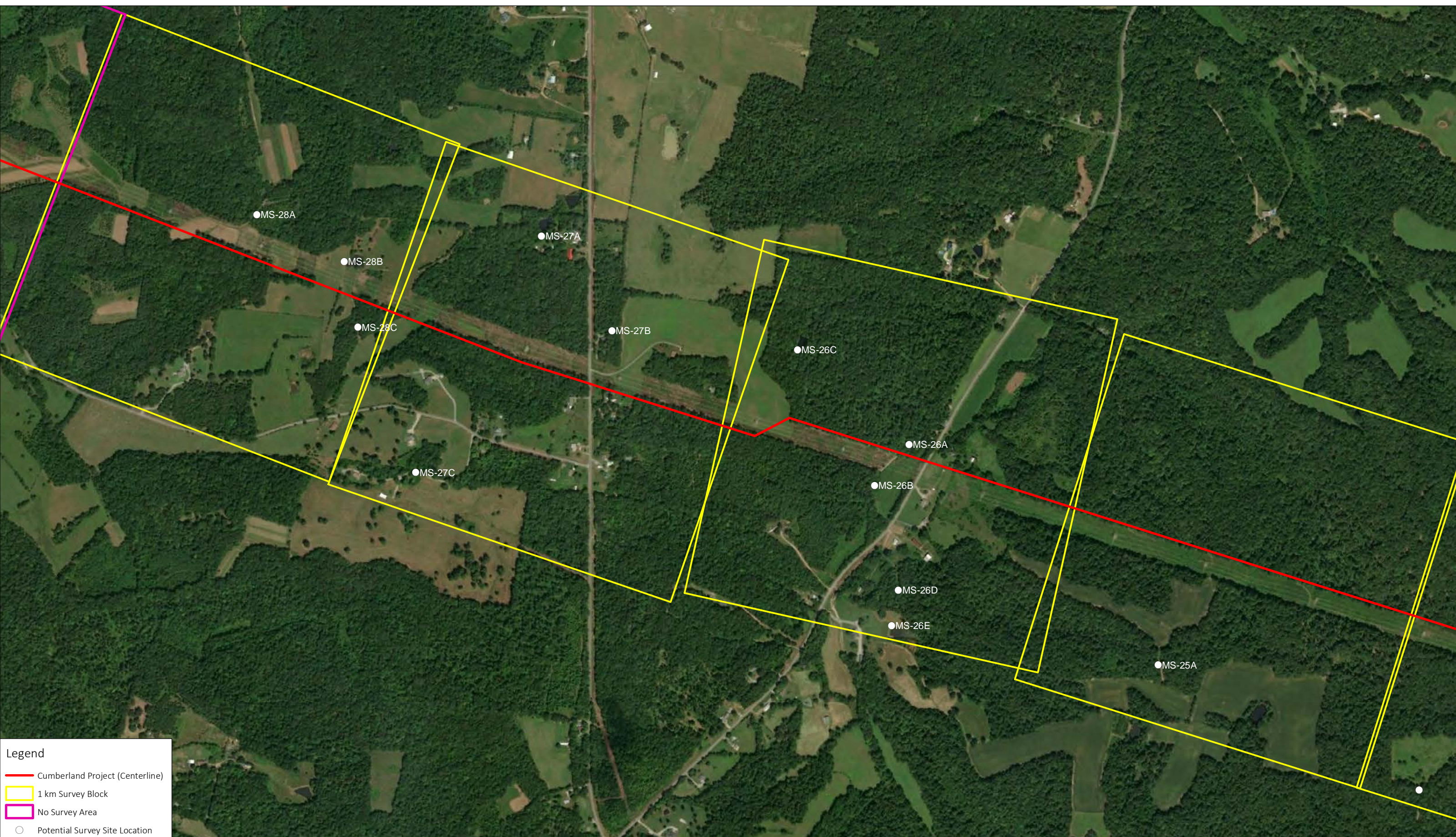
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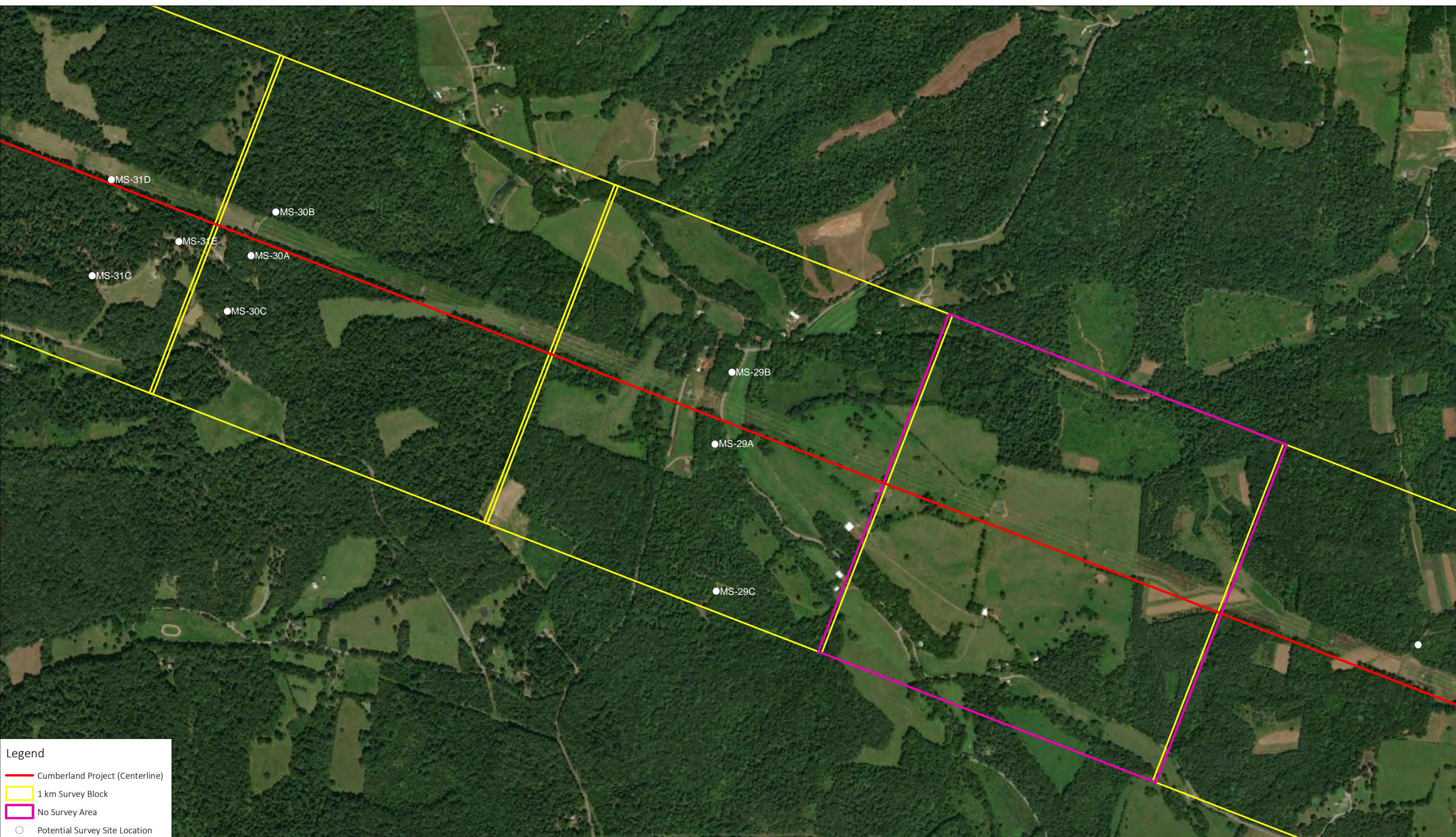
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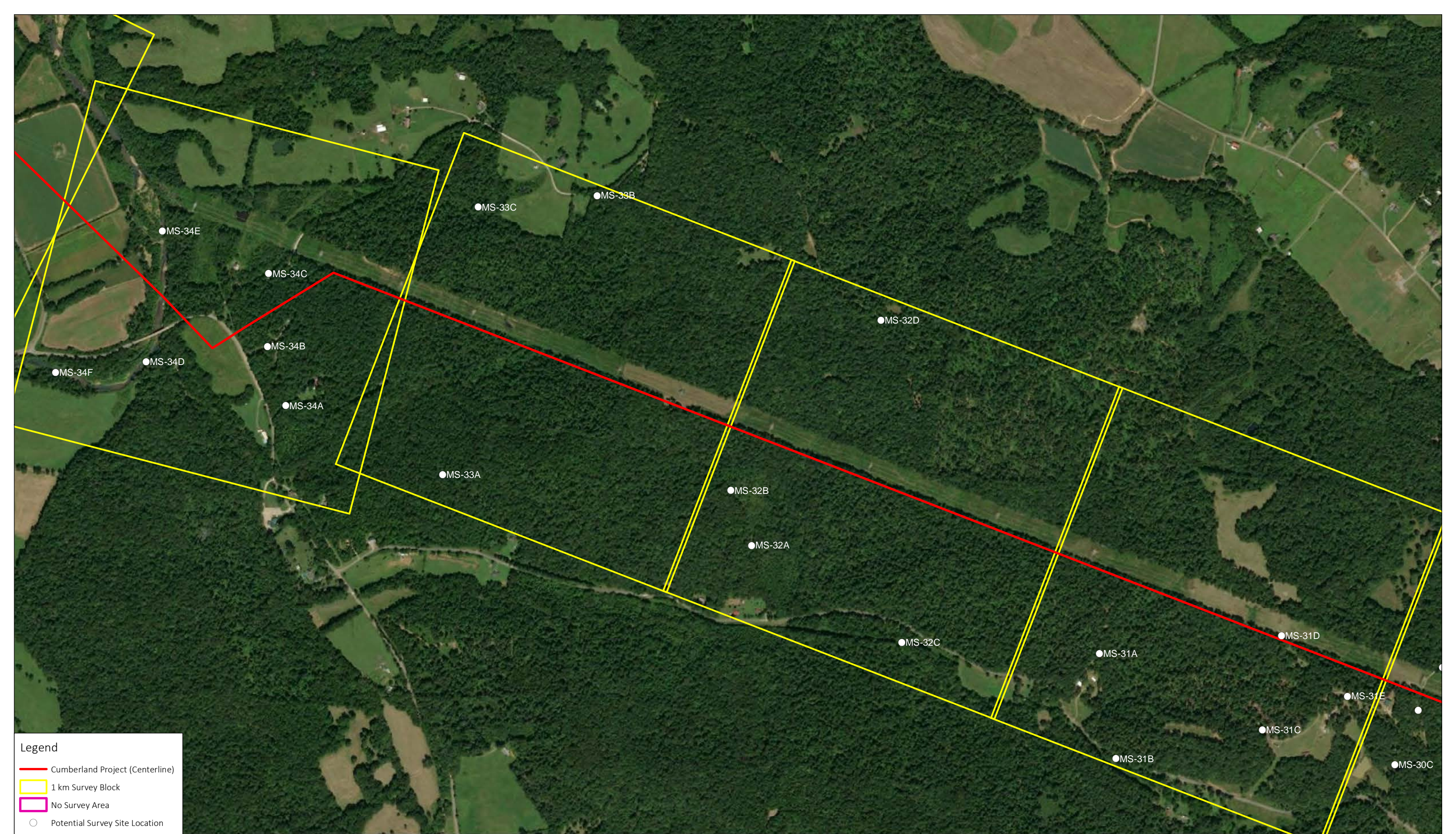
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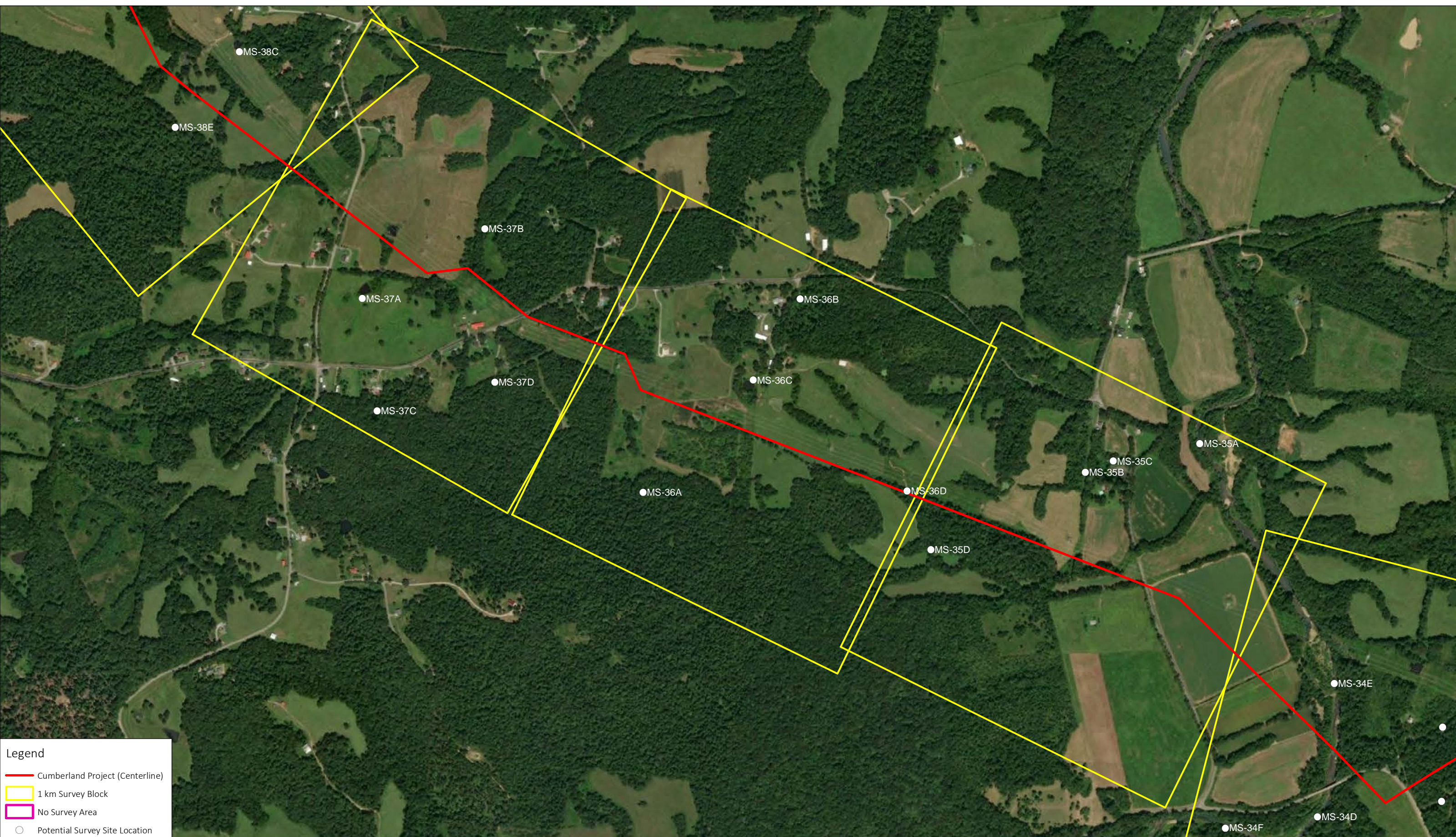
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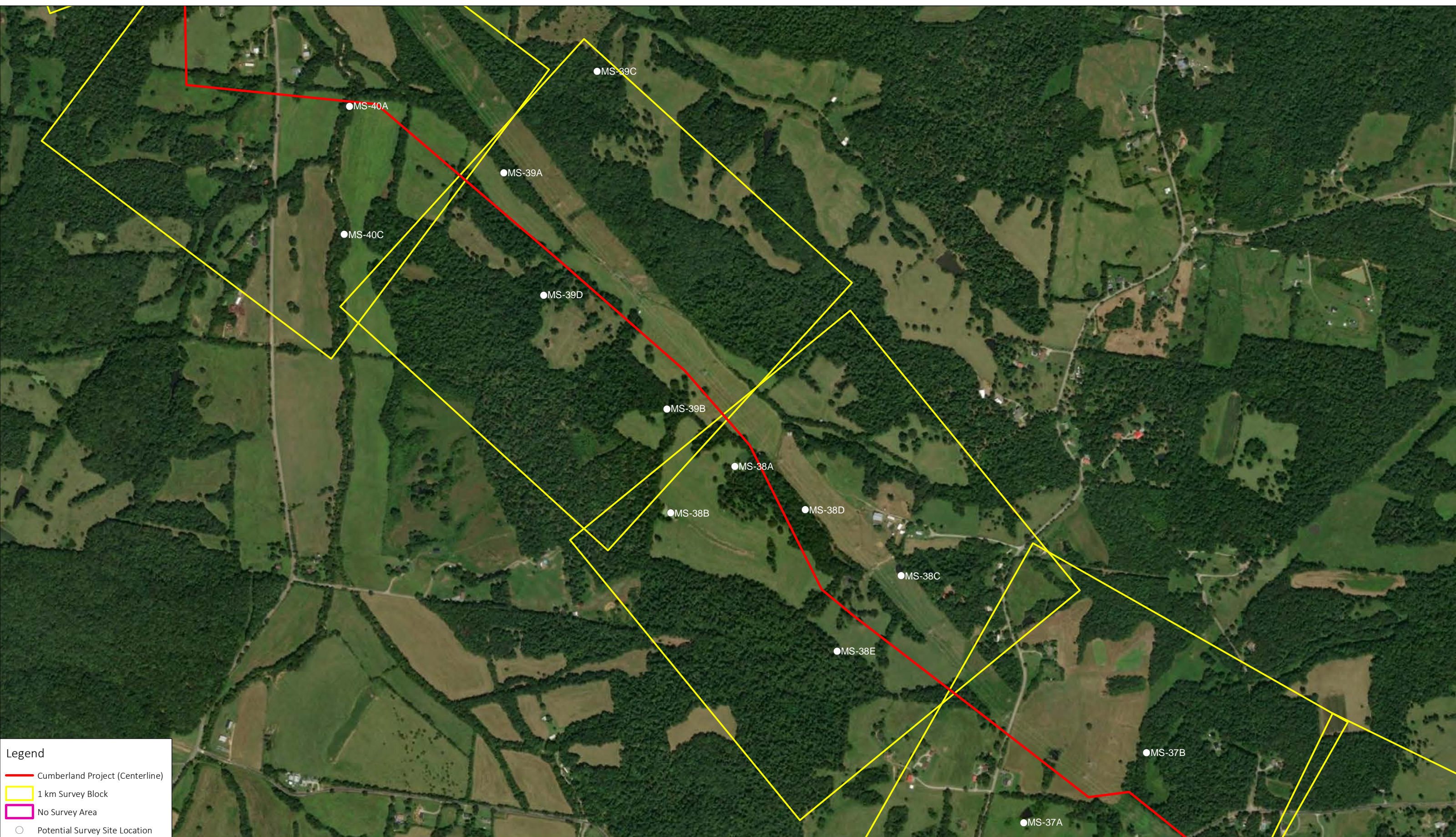
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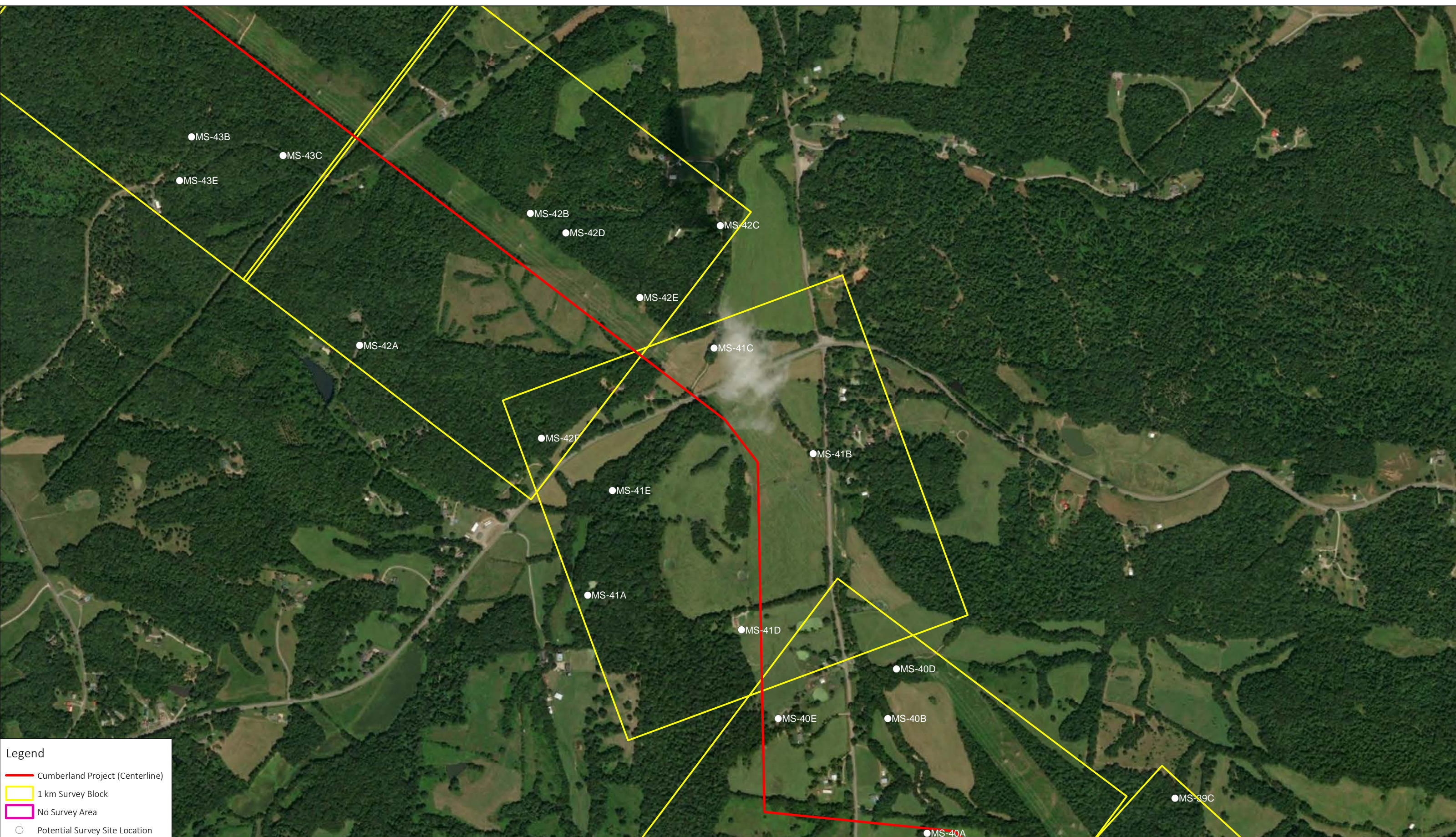
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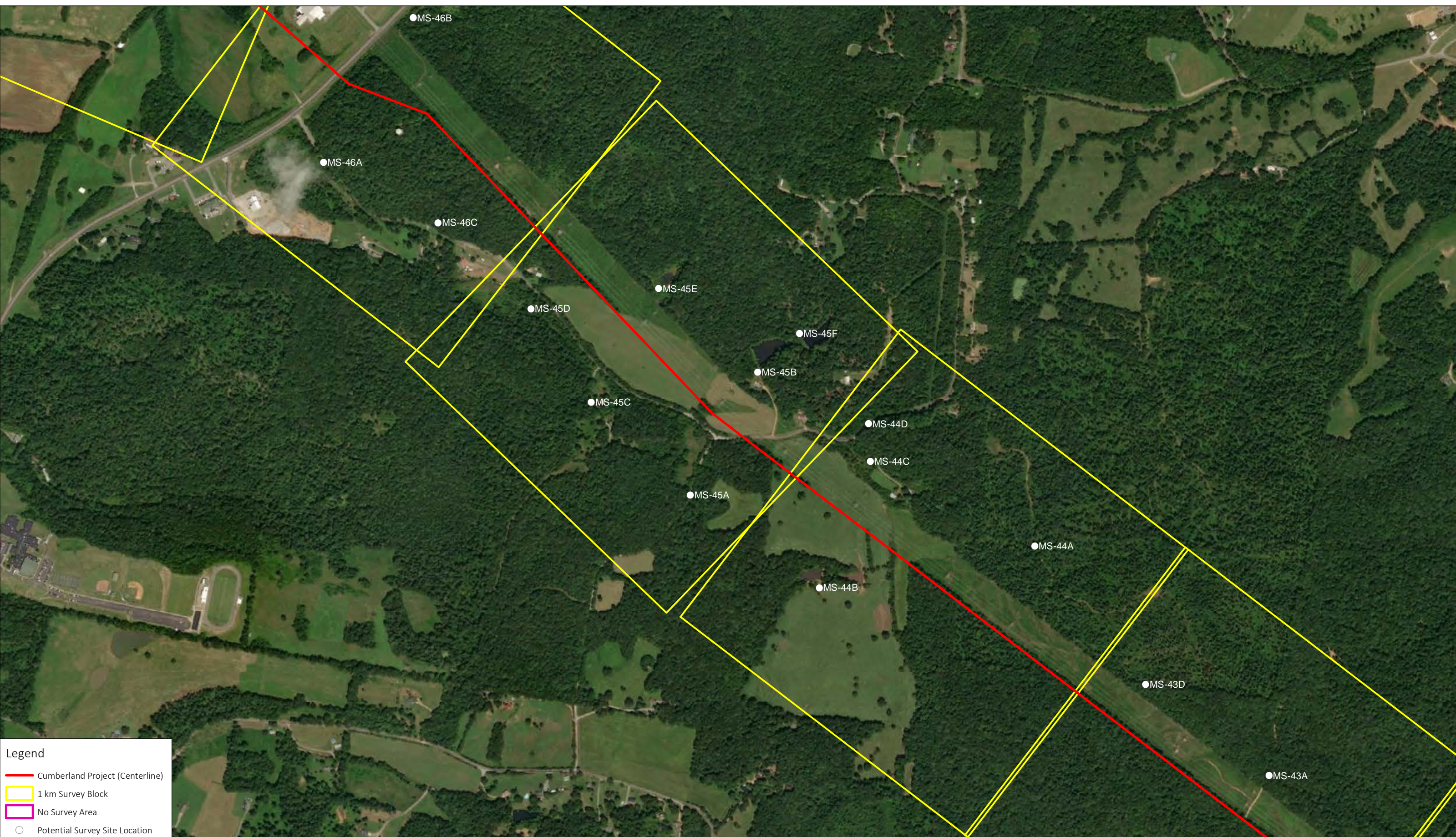
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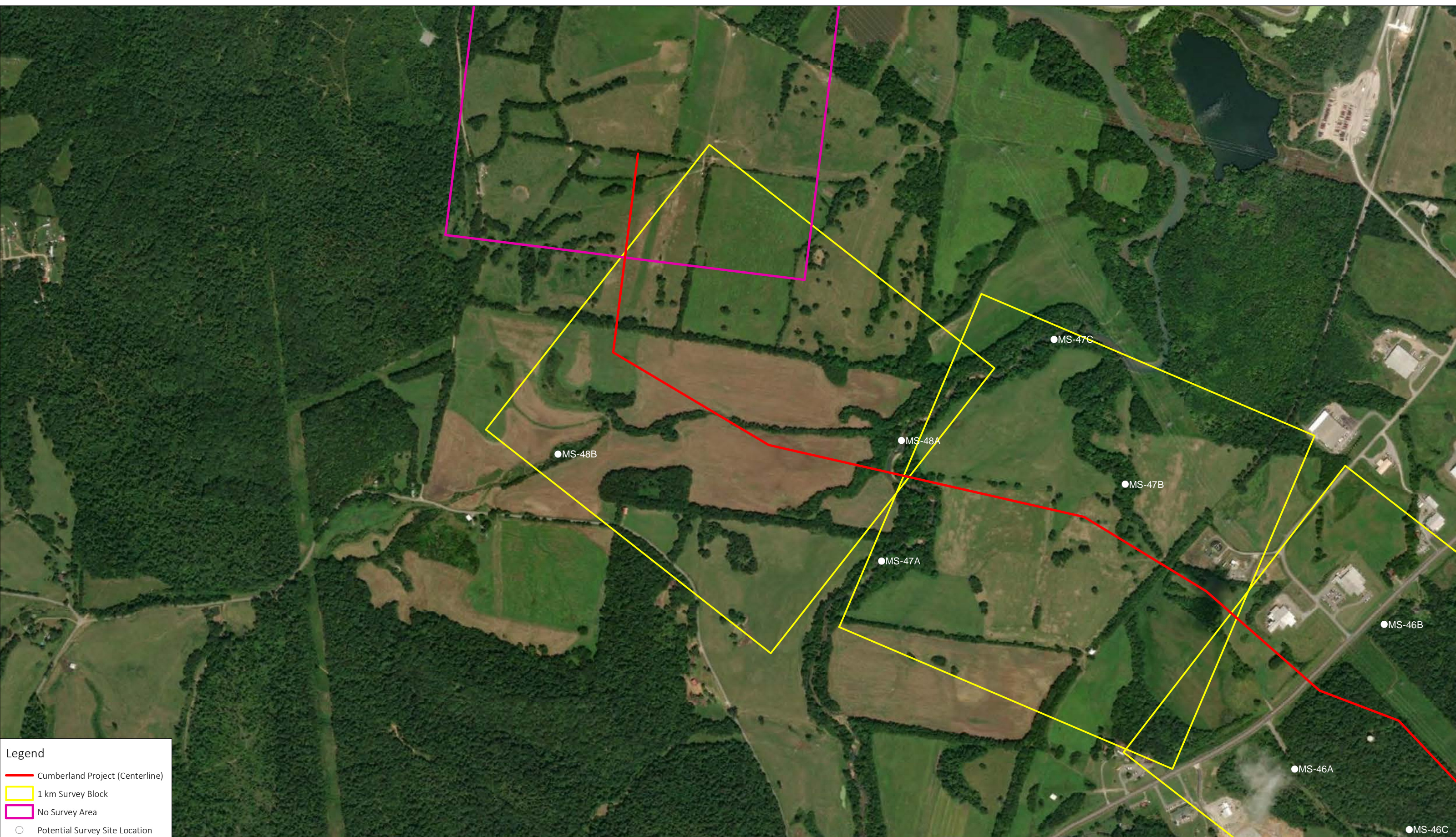
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