

This document follows the information requirements presented in the \$25.512. Texas Energy Fund Grants for Facilities outside of the ERCOT Region document. The following statements detail where information requested in the online OEGP application portal may be found:

- *A map with the project infrastructure marked may be seen in Attachment 1 on page 25.*
- *The proposed project schedule with anticipated dates for major milestones may be seen on page 19.*
- *Evidence of the technical feasibility of the project, including staffing plans, material contracts, and required permits, as applicable may be seen on pages 20-22.*
- *Justification for budget estimates, including vendor quotations, if applicable may be seen on pages 23-24 as well as in the budget spreadsheet submitted with this application.*
- *An organizational chart may be seen in Attachment 2 on page 26.*

(1) Applicant

(A) Applicant Information

(i) Legal Name

Rita Blanca Electric Cooperative, Inc.

(ii) Form of Organization

Electric Cooperative

(iii) Contact Information

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(B) Applicant Experience

(i) History of Operations

Rita Blanca Electric Cooperative (RBEC) was incorporated on September 4, 1945. The organization initially served just 9 members and has since grown to become a community-based distribution electric utility serving approximately 1,756 members in the northwest corner of Texas, a rural area dominated by small towns and agriculture. RBEC has been

operating distribution assets for over 80 years and has been operating transmission assets for over 75 years.

(ii) Quality of Services and Management

According to RBEC's most recent Key Ratio Trend Analysis (KRTA) report, RBEC is the 15th largest cooperative in the state of Texas in terms of kWh sales. When solely compared to cooperatives of similar size, RBEC ranks first among the other 97 cooperatives. RBEC has the 2nd lowest electric revenue per kwh sold in the state of Texas and is within the lowest 2% in the country. This demonstrates RBEC's commitment to maintaining affordable rates for its members.

It should also be noted that of the 16 cooperatives that are members of the Golden Spread Electric Cooperative (GSEC) generation and transmission entity, RBEC sold the second highest number of MWh in 2023 at 926,049 MWh while having the fewest employees. RBEC was able to accomplish this because of their dedication to workforce development. RBEC currently has 14 linemen and operators as well as an established relationship with Northwest Lineman College (NLC), which provides safety and certification training in the power delivery industry. RBEC project team members have over 110 years of combined experience. CEO and General Manager Grace Subealdea has over 34 years in the power industry with 15 years at RBEC.

(iii) Efficiency of Operations

As stated previously, RBEC sold the second highest number of MWh in 2023 while having the fewest employees relative to all cooperatives in GSEC. RBEC strives to maximize the efficiency of its operations to retain low rates for its customers while offering reliable power and maintaining highly resilient transmission and distribution assets.

RBEC currently operates approximately 56 miles of transmission and 3,502 miles of distribution assets across its 5,100 square miles of territory. These transmission lines currently only serve the portion of RBEC's territory that is east of Dalhart and operate at maximum capacity. This means RBEC's existing transmission system does not have the ability to take on new load in the region. The western portion of RBEC's territory is entirely dependent on distribution lines, with feeder lines spanning 20 to 30 miles in length. In addition to the project under this application, Project Outage Defender, Rita Blanca is also pursuing Project Wheeler, which would effectively double the amount of transmission in RBEC's territory, increasing system efficiency, creating availability to bring on new load and generation resources, and reducing dependence on distribution, substantially decreasing the length of outages during severe weather events.

RBEC currently inspects its substation assets on a monthly basis to ensure their proper function and address any resiliency or safety concerns. This process typically requires over a week of labor due to the significant hours of drive time needed to cover RBEC's territory. RBEC is currently working to deploy SMART technologies and Supervisory Control and Data Acquisition (SCADA) software at some of its substation locations so that the functionality of its substations can be inspected on a daily basis from the central office. This allows for more frequent inspections with less labor required. This also allows RBEC to manage its substations remotely when natural disasters or outage events are anticipated.

It should be noted that RBEC has begun introducing the use of SCADA technology for system automation in the past year. Although the project team has limited experience deploying these technologies, this deployment represents significant technological advancement for RBEC and a chance to substantially improve the efficiency of their operations.

(iv) Evidence of Good Financial Standing and Compliance

RBEC has been a 100% borrower of the National Rural Utilities Cooperative Finance Corporation (NRUCFC) since August of 2021. This means that NRUCFC is usually the only financial entity that RBEC borrows funds from. RBEC has maintained compliance with all NRUCFC requirements including the following:

- Receipt of covenants including evidence of a Modified Debt Service Coverage (MDSC) of 1.35 averaged over a 3-year period;
- Receipt of annual Officer's Compliance Worksheet and Certificates; and
- Receipt of audited financial statements with an Auditor's Certificate attached, which verify the Loan Fund Expenditures.

(v) Past Grant Management and Administration

Though RBEC has not yet been a primary recipient of a grant award, in 2009 RBEC was a subrecipient of a grant awarded to GSEC. GSEC applied for approximately \$17-million in federal funding through the US Department of Energy American Recovery and Reinvestment Act of 2009. GSEC matched this grant with an additional \$25-million cost-share. These funds supported the deployment of over 80,000 advanced metering infrastructure (AMI) meters, load control devices, and other automation equipment across 10 of the 16 member cooperatives. RBEC received \$296,822.01 to install AMI meters. The project was executed from August of 2010 through May of 2013.

(2) Project

(A) Project Information

(i) Project Name

Project Outage Defender

(ii) Objective and Subcategory

Rita Blanca is submitting two applications under the Outside ERCOT Grant Program. Project Wheeler was submitted under a separate application from this Project Outage Defender application because Project Wheeler has the potential to receive funding from the DOE Grid Deployment Office. If Project Wheeler is awarded DOE funding, it will simplify the reporting process during project execution if it is under its own application as opposed to being combined with other scopes of work.

The overall project objective for Project Outage Defender is Facility Modernization, with the overarching subcategory being substation automation. However, given that Project Outage Defender consists of multiple scopes, these have been broken down into separate projects with distinct objectives and subcategories as may be seen below:

- Project A: Construction of a New Substation
 - o Project A Objective: Facility Modernization
 - o Project A Subcategory: Substation Automation
- Project B: Advanced Metering Infrastructure (AMI)
 - o Project B Objective: Facility Modernization
 - o Project B Subcategory: Advanced Metering Installation and Analytics
- Project C: EXUM Substation SCADA System Upgrade
 - o Project C Objective: Facility Modernization
 - o Project C Subcategory: Substation Automation
- Project D: Mobile Substation
 - o Project A Objective: Facility Modernization
 - o Project A Subcategory: Substation Automation
- Project E: Distribution Line Undergrounding
 - o Project D Objective: Reliability and Resiliency
 - o Project D Subcategory: Undergrounding
- Project F: Replace Four Substation Transformers with Upgraded Capacity Transformers with Load Tap Changers
 - o Project E Objective: Reliability and Resiliency

- Project E Subcategory: Electric Transmission and Distribution Infrastructure Hardening
- Project G: Steel Structures for Resiliency and Overhead Line Switches
 - Project F Objective: Reliability and Resiliency
 - Project F Subcategory: Pole Upgrading

(iii) Grant Amount Requested

Total Funding Request: \$29,920,000

Funding Request by Project:

- Project A: \$12,240,000
- Project B: \$2,800,000
- Project C: \$400,000
- Project D: \$4,480,000
- Project E: \$1,600,000
- Project F: \$7,520,000
- Project G: \$880,000

(iv) Description of the Proposed Project

Rita Blanca Electric Cooperative (RBEC) is a community-based distribution electric utility serving approximately 1,756 members in the northwest corner of Texas, a rural area dominated by small towns and agriculture. RBEC joined the Golden Spread Electric Cooperative (GSEC) in 1984 and currently manages 3,205 distribution line miles across an area that is 85 miles wide and 60 miles long, or 5,100 square miles. In recent years, RBEC has been heavily impacted by the increase in regional wildfires leading to widespread outages and infrastructure damage. RBEC desires to significantly modernize and fortify its transmission and distribution system to protect its infrastructure and customers.

As a rural area, RBEC members experience significant negative economic impacts from frequent outages. For example, dairy farms are unable to mix feed or water their cows during an outage, which drink approximately 10 or more gallons of water per day. One of RBEC's commercial dairy members reported that the resulting lack of milk production causes approximately \$2,777 loss in sales per hour, and this amount increases after the first hour by 10%. Should a dairy cow not be milked for an extended period, her production will decrease, and she will not regain full production and will have to be replaced. That is a potential loss of \$18,649.25 for a 5-hour outage in milk production alone, not counting cow replacement.

To respond to the economic losses that occur in RBEC's territory because of widespread outages, RBEC is looking to implement Project Outage Defender: a series of sub-projects

that will upgrade and modernize RBEC's transmission and distribution system to reduce the length and impacts of outages. Project Outage Defender will also provide some elements of grid hardening, improving the overall reliability and resiliency of RBEC's infrastructure. Project Outage Defender's scope of work includes the following sub-projects:

Project A: Construction of a New Substation

The buildout of a new substation would meet both the transmission and distribution needs that are essential for delivering reliable electricity to RBEC's 1,756 members. The substation will be equipped with a 230kV to 115kV stepdown enabling high voltage to be carried over long distances and then reduced to a lower voltage at the substation. The substation will also be equipped with a distribution step down, bringing voltage from the 115kV transmission level to the 24.94kV or 14.4kV distribution level. Distribution enables lower voltage to be transported that is suitable for homes, businesses, and industrial facilities. This modern substation will be equipped with the latest automation and monitoring technologies and will be fully SCADA enabled. The substation will also introduce three-phase power in a region that currently only has single-phase power available. RBEC will therefore be able to add customers who have been requesting interconnection for several years. There is even a known dairy producer that would be able to expand its operations in the area where this substation is to be installed. In addition to the ability to serve additional customers, the new substation will be able to provide a backup source of power to at least four other substations in the territory. This means that if a nearby substation malfunctions, RBEC will be able to connect the new substation to the region experiencing an outage and quickly restore power. This resolves an N-1 contingency issue in that region.

Project B: Advanced Metering Infrastructure

Though RBEC has 1,756 members, many of which require numerous meters at their businesses to operate. Therefore, RBEC services 8,300 meters within its territory. These meters were last updated a decade ago with the available SMART metering technology of that time. With OEGP funding, advanced metering infrastructure (AMI) will be implemented systemwide. Currently, meters send reading at approximately 15-minute intervals. With AMI's, they will read every 15 seconds, putting usage in members hands. These upgraded meters provide RBEC and their members with nearly immediate two-way real-time data collection. This data includes power quality, energy usage, and outages. Collection of that data provides clarity on the part of the consumer and RBEC on a customer's power usage and also provides faster outage detection overall resulting in higher grid reliability and enhanced customer service.

AMI's also introduce the capacity for RBEC to use a demand response grid management strategy. Demand response is the ability for a utility to understand how much power is being demanded by its customers in real time. This would enable RBEC to more accurately manage the amount of load it serves in response to the amount of generation capacity being provided by its generation and transmission provider, Golden Spread Electric Cooperative (GSEC). This is a critical upgrade because a failure to match power demand with power supply could result in devastating grid failure. Currently, when GSEC is unable to provide enough power to meet the demands of RBEC's customers, RBEC is forced shed part of the load on its system. Typically, RBEC will contact five primary customers, and then send out a lineman to temporarily disconnect that customer until adequate generation is available. RBEC has the highest load shed responsibility in the Southwest Power Pool (SPP). While AMI upgrades would not decrease RBEC's load shed burden, they would provide in-house, real-time data that may be used to better target which customers to disconnect during load shed periods.

Project C: EXUM Substation SCADA System Upgrade

In the past year, RBEC has initiated efforts to introduce automation software and hardware to its grid system. RBEC is currently working to upgrade its substations with infrastructure that will allow it to be controlled remotely at RBEC's operations center in Dalhart, Texas through the use of SCADA. However, one of their substations, EXUM, has significantly outdated infrastructure, much of which is over 16 years old. Therefore, this substation will require completely new control technology in addition to the installation of automation equipment. As part of Project Outage Defender, RBEC would like to install a new computer panel and six automated reclosers at the EXUM substation so that it can be fully operated through SCADA. It should be noted that this work will not occur for likely eight to ten years because of the significant costs of upgrading the computer panel, and the current expense RBEC is undertaking to upgrade its other 20 substations. This scope of work also includes the cost of deployment of SCADA software in RBEC's territory for five years.

Project D: Mobile Substation

A mobile substation is a self-contained transformer, circuit switcher, and a distribution breakermounted to a trailer system. This unit may be transported across RBEC's territory to temporarily replace any substation during an outage or planned system maintenance. During extreme weather events, a mobile substation serves as a temporary tool to restore power in effected areas. For example, over the 2024 Labor Day weekend, one of the transformers in RBEC's territory failed, causing most customers connected to that substation to lose power for over 12 hours. RBEC was able to restore power to some smaller customers through backup tie lines and was very luckily able to borrow a spare

transformer from nearby Tri-County Electric Cooperative (TCEC) in Oklahoma to get that section of the grid back up and running. However, with outage events becoming more frequent, RBEC needs to have backup equipment within its territory that can quickly replace failed substation equipment. The procurement of a new transformer can take over a year to acquire. Therefore, the impact of losing a transformer on a system with no readily available replacement can have massive negative repercussions on RBEC's customers. In addition to the ability to quickly restore power in RBEC's service territory, RBEC also sees this as an opportunity to provide support to other cooperatives and power districts across Texas, Oklahoma, and New Mexico. The new mobile substation will have the capacity to serve transmission ranging from 69kV to 115kV, and the capacity to serve distribution ranging from 7.2 to 14.4 kV.

Project E: Distribution Line Undergrounding

RBEC intends to route distribution service lines underground to feed new subdivisions that are planned for development in the coming years. RBEC anticipates this to result in the addition of approximately 800 customers to their service territory. Routing this infrastructure below ground mitigates the risk of downed lines during extreme weather events such as wildfires, hurricanes, high winds, falling trees, and ice storms. In order to execute these projects, RBEC needs to acquire major equipment including backhoes, trenchers, and potentially a boring machine. This machinery would enable RBEC to begin undergrounding of distribution across its residential service territory to substantially reduce the likelihood of outage events at those homes.

Project F: Replace Four Substation Transformers with Upgraded Transformers with Load Tap Changers

This project will replace four of the substation transformers with new, higher-capacity transformers that are equipped with Load Tap Changers (LTCs). LTC's assist in regulating the voltage output for load power supply, an essential function during severe weather and outage events when voltage across power lines is known to fluctuate substantially. The current transformers in place require manual tap adjustments, such that a RBEC team member must travel to the substation to adjust the voltage on the line when significant voltage fluctuations occur. LTCs allow for real-time voltage adjustments to maintain service levels without disruption overall supporting grid stability. LTCs also eliminate the need to retrofit the substations with updated voltage regulators.

Project G: Steel Structures for Resiliency and Overhead Line Switches

RBEC intends to upgrade approximately 50 wooden poles currently supporting transmission and distribution lines with steel alternatives. A wood pole's service life

averages of 30-40 years where steel poles sustain across 50-80 years. The steel poles also represent a more structurally sound support for overhead lines and are less likely to experience a failure during an extreme weather event. RBEC specifically intends to make these replacements in areas of rough terrain and hard to access areas . This way, these poles are less likely to fail during an extreme weather event. A fault in areas that are challenging to access typically results in a longer timeframe for power restoration and represents a safety hazard to workers making repairs on that infrastructure.

In addition to the installation of steel structures, RBEC also intends to install overhead line switches. These switches will replace very old models of line switches to improve the functionality of both RBEC's transmission and distribution overhead lines. These devices allow RBEC to isolate sections of line whether maintenance is needed or if an outage has occurred. The switches can enable smaller spans of line to be isolated such that other lines may be re-energized. This prevents the need for an outage during system maintenance and reduces the length of outages to customers outside a potential fault zone.

(v) Eligibility

RBEC is an eligible applicant as it is an electric cooperative that owns and manages distribution infrastructure in Texas, outside the ERCOT region. RBEC is also an eligible applicant as it is compliant with the requirements in the Lone Star Infrastructure Protection Act.

Project Outage Defender is an eligible project because it consists of a series of actions, acquisition of equipment, and construction of infrastructure. RBEC will conduct a series of construction projects requiring the acquisition of materials and technologies to install a new substation, procure a mobile substation, install AMIs, steel poles, new transformers, line switches, and SCADA equipment. The project also includes the undergrounding of distribution line. This all represents critical infrastructure across RBEC's territory.

RBEC is also submitting a second application for a separate project, Project Wheeler. This project is solely tied to the installation of a new transmission line and the upgrading of three transmission substations, and therefore is not inter-dependent with Project Outage Defender.

The following describes Project Outage Defender's alignment with the objectives of the Outside ERCOT Grant Program:

- Project A: Construction of a New Substation
 - o Project A Objective: Facility Modernization

- Project A Subcategory: Substation Automation
- Project B: Advanced Metering Infrastructure (AMI)
 - Project B Objective: Facility Modernization
 - Project B Subcategory: Advanced Metering Installation and Analytics
- Project C: EXUM Substation SCADA System Upgrade
 - Project C Objective: Facility Modernization
 - Project C Subcategory: Substation Automation
- Project D: Mobile Substation
 - Project A Objective: Facility Modernization
 - Project A Subcategory: Substation Automation
- Project E: Distribution Line Undergrounding
 - Project D Objective: Reliability and Resiliency
 - Project D Subcategory: Undergrounding
- Project F: Replace Four Substation Transformers with Upgraded Transformers with Load Tap Changers
 - Project E Objective: Reliability and Resiliency
 - Project E Subcategory: Electric Transmission and Distribution Infrastructure Hardening
- Project G: Steel Structures for Resiliency and Overhead Line Switches
 - Project F Objective: Reliability and Resiliency
 - Project F Subcategory: Pole Upgrading

The following describes Project Outage Defender's alignment with the objectives of the Outside ERCOT Grant Program:

- **Facility Modernization:** Project Outage Defender will include the construction of a new substation and the procurement of a mobile substation. These projects will incorporate automation technologies into the substations to overall improve the capacity and functionality of RBEC's transmission and distribution system. Project Outage Defender will also install advanced meters to improve the accuracy of power consumption data across its customers. RBEC will also install a new panel for operating its SCADA system and install new reclosers at six substations for automated operations using SCADA software.
- **Facility Weatherization:** Project Outage Defender will include the installation of steel reinforcements for the transmission lines across RBEC's territory. These poles are specifically manufactured to better withstand wildfires and other severe weather like high winds when compared to wood alternatives. The project will also include the undergrounding of distribution lines that will service multiple subdivisions in RBEC's

territory. Undergrounding the lines eliminates the potential for faults during extreme weather events like rain, high winds, tornadoes, hail, snow, and wildfires.

- **Reliability and Resiliency:** Project Outage Defender will include the installation of steel poles that will support RBEC's grid to withstand extreme weather events, overall making it a more resilient system. The scope of work also includes undergrounding distribution lines to make those spans more resilient to the impacts of severe weather. The acquisition of a mobile substation will enable RBEC to keep its transmission system up and running if severe weather causes a fault at a substation.

(vi) Operational Attributes of the Transmission and Distribution Infrastructure

Project Outage Defender includes the installation of a new transmission substation with a 115kV to 230kV capacity. The mobile substation will be designed with a 69kV to 115kV capacity. The underground distribution lines that will be installed are anticipated to operate at 14.4kV to 24.9 kV.

Overall, RBEC operates approximately 56 miles of 69kV to 115kV transmission line, and approximately 3,205 miles of distribution line ranging from 24.9kV to 34.5kV. RBEC currently owns and operates 21 substations at varying voltage capacities. In its other grant application submitted on the OEGP, RBEC is applying to install 55 miles of 115kV transmission line.

(vii) Name, Location, Owner, and Applicable Share of Ownership of the Transmission and Distribution Infrastructure

The new substation installed as part of Project Outage Defender will be referred to as the Mead substation. This will be installed between Hartley and Channing, Texas along US highway 385.

One new transformer will be installed at the EXUM substation west of Cactus, Texas, two new transformers will be installed at the Stokes and Sheldone substation northeast of Dumas, Texas, and one new transformer will be installed at the Sneed substation between Dumas and Stinnet, Texas .

The undergrounding of distribution lines will initially occur at four subdivisions outside of Dalhart, Texas. This will eventually expand to service numerous subdivisions across RBEC's service territory.

The mobile substation will be stationed at RBEC's operations headquarters in Dalhart, Texas. It will then be deployed to substations across RBEC's territory as needed. The panel

replacement for RBEC's SCADA system will also be installed at RBEC's operations headquarters.

The AMIs, overhead line switches, and steel pole reinforcements will be installed at several locations across RBEC's territory. RBEC's 5,100 square mile service territory generally extends from the Texline, Texas in the northwest, as far east as Morse, Texas. The territory is as far north as Texhoma, Texas, and spans to the south past Channing, Texas. A map of RBEC's service territory may be seen in Figure 1, below.

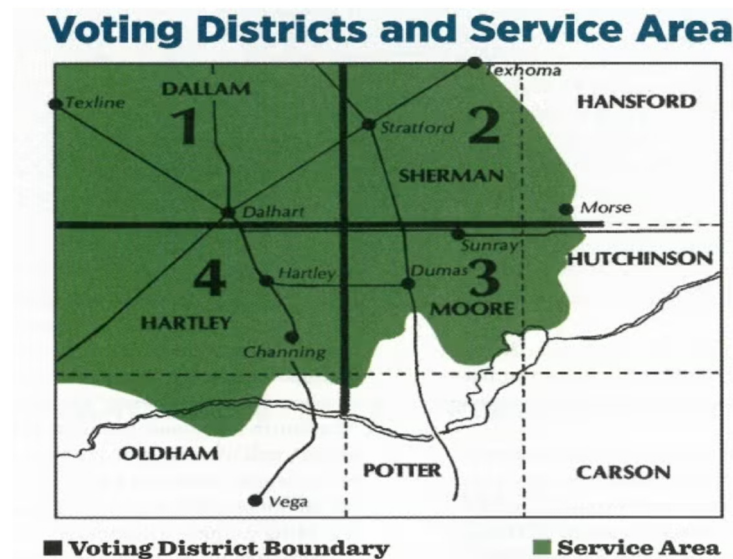


Figure 1. RBEC Service Territory Map

Infrastructure Owner: All existing infrastructure to be upgraded and infrastructure to be installed and constructed under this project is or will be owned by Rita Blanca Electric Cooperative, Inc.

Applicable Share of Ownership: RBEC will fully own the existing infrastructure to be upgraded and the infrastructure to be constructed or installed under this project.

(viii) Priority of Project

RBEC considers Project Wheeler a higher priority project relative to Project Outage Defender to receive funding. RBEC has submitted a separate application for Project Wheeler and therefore is seeking funding for both projects. RBEC has limited financing available for new projects, but it has received partial financial support from the Department of Energy Grid Deployment Office under the Grid Resilience and Innovation Partnerships (GRIP) program for Project Wheeler. Therefore, RBEC would like to leverage the DOE financial support as well

as the Texas Energy Fund to install this highly critical infrastructure in RBEC's territory that it otherwise could not afford to install.

(B) Expected Benefits

(i) Description of Expected Benefits

As a rural area, RBEC members experience significant negative economic impacts from frequent outages. For example, during outages, dairy farms are unable to mix feed or water their cows, which drink approximately 10 or more gallons of water per day. One of RBEC's commercial dairy members reported that the resulting lack of milk production causes approximately \$2,777 loss in sales per hour, and this amount increases after the first hour by 10%. Should a dairy cow not be milked for an extended period, her production will decrease, and she will not regain full production and will have to be replaced. That is a potential loss of \$18,649.25 for a 5-hour outage in milk production alone, not counting cow replacement. Between 2019 and 2021, RBEC experienced a 444% increase in similarly impactful power supply-related outages. After 2021, RBEC began resiliency-focused upgrades to mitigate these issues and saw a 90% reduction from their 2021 peak by 2023. Successful implementation of Project Outage Defender will continue to significantly decrease the number of power supply-related outages throughout their territory and is crucial for member resiliency.

The new substation to be constructed will be equipped with the latest automation and monitoring technologies and will be fully SCADA enabled, meaning that RBEC will be able to control the substation's functions remotely from its operations center in Dalhart, without needing to send out a lineman to adjust equipment. The substation will also introduce three-phase power in a region that currently only has single-phase power available. RBEC will therefore be able to interconnect customers to their grid that have been requesting interconnection for several years but require three-phase. There is even a known dairy producer that would be able to substantially expand its operations in the area where this substation to be installed. In addition to the ability to serve additional customers, the new substation will be able to provide a backup source of power to at least four other substations in the territory. This means that if a nearby substation malfunctions, RBEC will be able to connect the new substation to the region experiencing an outage to quickly restore power. This resolves an N-1 contingency issue in that region.

The installation of AMIs will increase the frequency with which RBEC is able to monitor the amount of and quality of power being consumer by its customers. AMIs can send a voltage reading to RBEC every 15 seconds, where the current meters in place only send a reading

every 15 minutes. Furthermore, the new meters will send data via cellular signals where the current equipment uses the FLEXnet system. The current models are unreliable in the frequency with which RBEC is able to get voltage readings. This often means that RBEC needs to send a team member out to a customer, potentially hours away, to check on the quality of the power they are getting. Cellular models will be able to accurately and reliably communicate the quality of power reaching each of RBEC's customers without needing to send a truck out for verification.

The replacement of the substation computer panel at the EXUM substation as well as the installation of six automated reclosers will allow RBEC to operate that substation remotely from its control center in Dalhart, Texas. Right now, there is no remote-control capacity at that substation, meaning that RBEC must send out a lineman to inspect the substation anytime there is suspected maintenance needed. Furthermore, enabling SCADA technology on the substation means that RBEC will be able to isolate portions of the grid connected to that substation nearly instantaneously in the event of severe weather or a fault. This means that if a pole or other structure fails during a weather event, and a live electric line is no longer suspended, that line can be shut off almost immediately, mitigating the risk of a fire or other safety event occurring. Events like these can frequently start wildfires in the region. Therefore, by enabling SCADA use at the EXUM substation, the risk of wildfires in the region caused by live electric lines is substantially reduced.

A mobile substation may temporarily replace any substation during an outage or planned system maintenance. New transformers require at least a year for procurement, therefore, in the event of an outage caused by a faulty transformer, a utility is reliant on the supply of a spare transformer in the region to restore power to potentially hundreds of customers. RBEC currently has no backup transformers in the event of a transformer-caused outage. Therefore, a mobile substation will provide necessary backup equipment, considering RBEC has already experienced a transformer-caused outage that left some of its customers without power for over 12 hours. Furthermore, in addition to the ability to quickly restore power in RBEC's service territory, RBEC also sees this as an opportunity to provide support to other cooperatives and power districts across Texas, Oklahoma, and New Mexico.

The acquisition of undergrounding equipment will enable RBEC to provide underground distribution lines to four new subdivisions looking to locate in RBEC's territory. These residential areas would have access to more reliable and resilient connections than they would otherwise receive through overhead distribution lines. Furthermore, this equipment

would enable RBEC to grant power access to over 800 homes, with more anticipated in the years to come.

The replacement of four transformers with larger and more updated technologies will enable RBEC to transport more power through their service territory in addition to providing more reliable power in the event of extreme fluctuations in power demand. During extreme temperatures and weather events, voltage fluctuation across a power line can be significant. Currently, these fluctuations are managed with basic voltage regulators, however, these regulators often fail during extreme voltage conditions. The new transformers will be equipped with LTCs capable of handling this variance in voltage, reducing the need for RBEC team members to manually adjust the voltage at a substation.

RBEC will replace approximately 50 wood poles with steel structures in hard to access areas of its service territory. During an outage event, response times to restore power can be extended if a fault occurs in an area that requires additional equipment or safety precautions to access. By installing steel alternatives, RBEC significantly reduces the likelihood of a fault in a rough terrain area, reducing the likelihood extended response times.

RBEC will also install overhead line switches that allow portions of the grid to be isolated during maintenance or outage events. This means when a fault is identified, the outage can be isolated to that smaller span of power line instead of impacting a larger area. The line switch can cut off power to certain spans of lines, allowing service to be restored more rapidly to customers outside of a fault zone.

(ii) Ability to Address Regional and Reliability Needs

All of the sub-projects under Project Outage Defender will support regional power needs and the reliability of the grid:

- The addition of a new substation will enable new customers to interconnect to the grid in northwest Texas and will also provide a backup power option to other substations in the area. The new substation also represents significant technological advancement for RBEC as it will be fully equipped with the latest automation and monitoring technologies.
- New AMIs will provide more frequent and accurate measurements of the power quality and consumption reaching RBEC's customers so that RBEC can quickly understand which customers may need support during an outage event, or other form of service disruption.

- The replacement of a computer panel and installation of six automated reclosers at the EXUM substation will autonomize a currently outdated substation system so that it can be remotely controlled, and faults can be quickly isolated during severe weather to mitigate the likelihood of wildfires and other safety incidents.
- The acquisition of a mobile substation will provide backup transformer capacity if any substation in RBEC's territory fails. This way, power can be quickly restored to the region experiencing an outage. This scope also represents the potential for RBEC to support other service territories in Texas, New Mexico, and Oklahoma in the event of a transformer outage in those territories.
- The undergrounding of distribution lines in new subdivisions in northwest Texas will introduce new residential areas to the region with highly reliable and resilient power access. RBEC anticipates that over 800 new customers could be brought on the grid due to undergrounding technology.
- The replacement of four substation transformers in RBEC's territory will greatly enhance resiliency and the reliability of power to RBEC customers during extreme temperatures and severe weather. These new transformers will be equipped with LTCs that can regulate significant fluctuations in voltage that the current regulators are not able to control. This means that RBEC employees will not need to travel out to substations, sometimes over an hour away, during extreme conditions to address voltage concerns across their system.
- The installation of additional steel structures to RBEC's territory will create a safer and more reliable way to address grid resiliency concerns in hard-to-access areas. Wood poles in these areas will be changed out for more structurally stable steel alternatives that can better withstand extreme weather events. RBEC anticipates this will reduce outage response times as the necessity to repair faults in hard-to-access areas will be reduced.

(iii) Past Performance

Established in 1945, RBEC has nearly eight decades of history as a cooperative electric utility. RBEC has demonstrated successful construction of 69kv lines. RBEC has significant operating experience and can assure the successful operation and maintenance of the 115kv line. Most recently, RBEC oversaw the construction of transmission for Cargill Sweet Bran. This included construction of 0.7 miles of 115kv transmission line with under build 3 phase triple circuit, 1.34 miles of 69/115kv transmission line with under build 3 phase double circuit distribution and rebuild of 0.2 miles of 69kv transmission with concrete self-supporting structures. Like Project Wheeler, these projects deployed either steel or concrete structures and 477 ACSR wire.

2016 and 2017 were pivotal years in which RBEC showcased its resilience and management capabilities. In 2016, RBEC faced several ice storms that encased power lines, resulting in galloping lines, broken poles, and broken crossarms. To mitigate future issues, RBEC proactively invested more than half a million dollars' worth of air deflectors. That same year, RBEC launched a pole inspection program aimed at improving electrical infrastructure and outage prevention. Crews inspected five thousand poles, addressing concerns related to the damage, decaying wood, and broken insulators. Poles that failed the code-mandated strength test were replaced. This pole inspection program is another way RBEC strives to bring reliable power to its members. In early 2017, RBEC encountered two ice storms – one in January and another in April – within its service area. These storms collectively caused almost half a million dollars' worth of damage, resulting in over 250 broken poles and 226 damaged crossarms. A new hydraulic bucket truck was purchased for the aid of this disaster, and crews from neighboring electric cooperatives were called in to assist in power restoration. This collaborative effort underscores the collective effort of the Project Outage Defender team to efficiently address potential future incidents.

It should be noted that RBEC is introducing the use of SCADA technology for system automation just in the past year. This means that though the project team has limited experience deploying these technologies, it represents significant technological advancement for RBEC to substantially improve the efficiency of its operations.

In addition to project experience, what truly speaks to RBEC's capability to complete Project Outage Defender is their workforce. Members of the project team have over 110 years of combined experience. Most were raised in the RBEC service territory, which underscores their dedication to local resiliency efforts. Of GSEC's 16 cooperative members, RBEC sold the second highest number of MWh in 2023 at 926,049 MWh while having the fewest employees. RBEC was able to accomplish this because of their dedication to workforce development. RBEC currently has 14 linemen and operators, and an established relationship with Northwest Lineman College (NLC), which provides safety and certification training in the power delivery industry.

(iv) Why Grant Funding?

RBEC's territory is becoming increasingly more vulnerable to disruptions from extreme weather—over the past four years, RBEC had an average System Average Interruption Duration Index (SAIDI) of 838 while the Energy Administration Index (EIA) estimates the average for all of Texas to be only 593.8. But for this funding, Project Outage Defender will not occur. RBEC does not have the funding to execute these scopes of work and will need to acquire debt funds to cover any cost-share portions of the project. Additionally, as a non-

profit entity, RBEC cannot recover costs from transmission buildouts in the same manner as their distribution member model, further weakening their ability to self-fund portions of the project.

RBEC's Board approval of Project Outage Defender is dependent upon successful award of approximately 80% of project funds through grant funding. This large amount of grant funding needed is primarily due to the concurrent execution of Project Wheeler that may occur. Project Wheeler is an approximately \$80-million project of which RBEC will be required to finance approximately 25% if awarded grant funding from the DOE and OEGP. RBEC is not financially able to take on a \$20-million loan for Project Wheeler and incur the full cost of Project Outage Defender at the same time. However, if RBEC receives partial funding from OEGP for Project Outage Defender, the board will approve the execution of both projects concurrently.

(C) Implementation Details

(i) Project Schedule

The project schedule for Project Outage Defender may be seen in Figure 2 below:



Figure 2. Project Outage Defender Schedule

(ii) Technical Feasibility

Staffing Plans:

Project Outage Defender is powered by a robust team of qualified, experienced professionals who showcase a profound commitment to Rita Blanca Electric Cooperative (RBEC). With over 110 years of collective experience in the rural non-profit electric cooperative sector, the team brings a diverse set of educational backgrounds and a wealth of expertise in leadership roles that makes them exceptionally qualified for Project Outage Defender's success. What uniquely distinguishes this team from others is their intimate connection to the community they serve as most members grew up in the RBEC service area. This local upbringing gives them a comprehensive and holistic understanding of the community's needs and concerns as they develop and bring about the project. RBEC also currently has 14 linemen and operators available to support the project as needed. The following RBEC staff will lead the execution of Project Outage Defender:

- **Grace Subealdea** serves as the current Chief Executive Officer/General Manager and will be Project Outage Defender's executive sponsor. With 34 years of experience in rural non-profit electric cooperatives, split between 16 years at RBEC and 18 years at Swisher Electric Co-Op, Grace possesses a strong foundation in managing daily operations, analyzing financial data and rates, and coordinating distribution and transmission lines—all underscoring her readiness to undertake a Project Outage Defender that will impact thousands of members. Demonstrating her business and leadership skills, Grace has completed the National Rural Electric Cooperative Association (NRECA) Management Essential Program and furthered her education with the RUS Borrower Accounting (Electric) course. Her skill set encompasses policy and procedure implementation, cost containment, budgeting, cost control, and operations management. Moreover, her proficiency in Spanish can enhance communication with members, an advantage given that 47% of the service area population has Hispanic backgrounds.
- **Preston Mead**, RBEC's Engineering Supervisor, will serve as Project Outage Defender's project manager. Preston has shown a notable 12-year commitment to RBEC and has navigated through various positions to his current supervisory role, demonstrating proficiency in managing warehouse operations, coordinating orders with multiple contractors, and overseeing projects with concurrent deadlines and rapid schedules. Certified as a Staking Technician and knowledgeable in SEL-651R Advanced Recloser Controls, Preston's daily responsibilities involve analyzing and producing regulatory and load documents relevant to transmission and distribution systems, highlighting his capability to effectively manage Project Outage Defender.

His current expertise extends to contract negotiation, field operations management, budget coordination, project oversight, and systems design.

- **Erik Badillo** is RBEC's Information & Technology/Metering Supervisor and will serve as Project Outage Defender's technical lead. With a wealth of 16 years of experience and a range of certifications, Erik upholds the technology infrastructure, ensuring operational integrity. Some of his daily responsibilities encompass developing and coordinating with the Metering Department, conducting cybersecurity assessments, maintaining the organization's Geographical Information Systems (GIS) systems, and managing all software. With a track record of managing staff across various departments, Erik's expertise spans technology deployment and substation management. His Firefighter Level 1 certification can support the fire safety mitigation strategies in Project Outage Defender's evolution. Like Grace, Erik has successfully completed the NRECA Supervisor and Manager Development Program.
- **Tammy Rinne** is RBEC's Inside Operations Manager/Benefit & Human Resources Administrator and will serve as Project Outage Defender's financial lead. With 9 years of experience, split between 7 years at RBEC and 2 years at Swisher Electric Co-Op, coupled with her certification as a Public Accountant in the State of Texas, Tammy possesses a deep understanding of cooperative financial operations. Her responsibilities at RBEC encompass a range of functions including payroll, personnel, HR, general accounting, and overall business coordination, all of which uniquely qualify her as a valuable asset to the Project Outage Defender team, showcasing her competitive edge and collaborative spirit.

An organization chart of RBEC's employees has been included in Attachment 2.

Material Contracts:

RBEC has long established relationships with multiple material providers including Schweitzer Engineering Laboratories (SEL), Techline, TEC, Anixter, Hubbel, and Virginia. RBEC also has a well-established relationship with VIZ Engineering who is anticipated to be the design engineer for the new substation and undergrounding scopes of work. Site inspectors and environmental permitting will also be handled by a contractor. Project Manager, Preston Mead, is experienced in directing RBEC's standard selection process and will oversee a competitive RFP for vendor and contractor selections required for Project Outage Defender.

RBEC utilizes National Information Solutions Cooperative (NISC) for managing project financials. NISC allows users to designate materials, labor, and other areas relevant to the scope of work. RBEC expects minimal change orders but will follow its standard procedure

for change management. All engineering and construction will be overseen by RBEC to address changes in a timely manner and confirm quality assurance and control. In addition to a construction kickoff meeting, RBEC will have regularly occurring meetings with key members of the contractors' teams. RBEC requests written updates from contractors to for record keeping on project tasks and deliverables.

Required Permits:

RBEC anticipates needing to acquire Right-of-Way (ROW) permits for highway and railroad crossings through the Texas Department of Transportation. RBEC has significant experience obtaining ROW and Railroad Cross permits from the various transmission and distribution construction projects that have occurred in the past ten years.

(iii) Asset Maintenance

RBEC hires contractors to perform inspection and maintenance activities at various intervals to maintain system operations:

- The entirety of the existing transmission system, including poles and midspan clearances, is inspected every five years, and this practice would carry over to the new steel poles and overhead switches installed as part of Project Outage Defender. The lines are also inspected after major storm events occur in that region.
- All 21 of RBEC's existing substations are inspected monthly. This practice would continue for the new substation built as part of Project Outage Defender.
- RBEC employees do period rides along transmission and distribution assets to do spot checks on the lines and understand regions where maintenance may need to occur.
- RBEC performs oil testing on its transformers every year.
- RBEC plans to inspect newly installed underground distribution lines every five years.
- The remainder of RBEC's equipment including circuit breakers, terminals, controllers, and reclosers are inspected on a frequency ranging from annually to every four years.

(iv) Performance Metrics and Targets

Project Outage Defender's performance metrics and targets include the following:

1. Introduce three-phase power and remote operation control to RBEC's southern territory through the construction of a new substation;

2. Decrease RBEC's response time to restore power after an outage by 25% in its southern territory due to the availability of backfeed from the newly constructed substation;
3. Introduce highly reliable and resilient underground distribution lines in at least three subdivisions representing over 800 customers following receipt of Project Outage Defender funds;
4. Establish automation technology at one substation;
5. Improve meter function across all customers to increase data collection from every 15 minutes to every 15 seconds;
6. Replace approximately 50 wood poles with steel alternatives in hard to access areas; and
7. Eliminate the need to manually inspect transformers at three substations by introducing load tap changers.

(D) Budget and Project Costs

(i) Capital Costs and Commitments

RBEC anticipates incurring four categories of costs throughout Project Outage Defender:

1. Equipment: RBEC will incur approximately \$36,416,125 in equipment costs for the project. This equipment includes items such as substation transformers, the mobile substation, new SCADA panels, new SCADA reclosers, equipment for a new substation, overhead line switches, steel poles, cellular meters, and equipment for undergrounding distribution lines.
2. Software: RBEC will incur approximately \$83,875 in software. The software RBEC desires to procure is Survalent, which includes SCADA. RBEC intends for these costs to cover five years of software use.
3. Contractors: RBEC anticipates incurring approximately \$900,000 in contractual expense over the course of the project. This includes the design and commissioning of the new substation, the design and commissioning of the four higher-capacity transformers equipped with LTCs, the design and commissioning of overhead line switches and steel structures, and the design and commissioning of the mobile substation.

(ii) Operating Expenses

RBEC anticipates operation and maintenance costs to total approximately \$850,000 annually, likely increasing annually as well with inflation.

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(iii) Timing Requirements of Funds

RBEC anticipates requiring approximately \$3,360,000 in grant funding from the Texas Energy Fund in 2025, \$3,720,000 in 2026, \$8,000,000 in 2027, \$3,600,000 in 2028, \$8,000,000 in 2029, and \$3,240,000 in 2030.

(iv) Portions of Budget Funded by:

(I) This Grant Program

80% or \$29,920,000

(II) Applicant Cost-Share

20% or \$7,480,000

(III) Other Sources

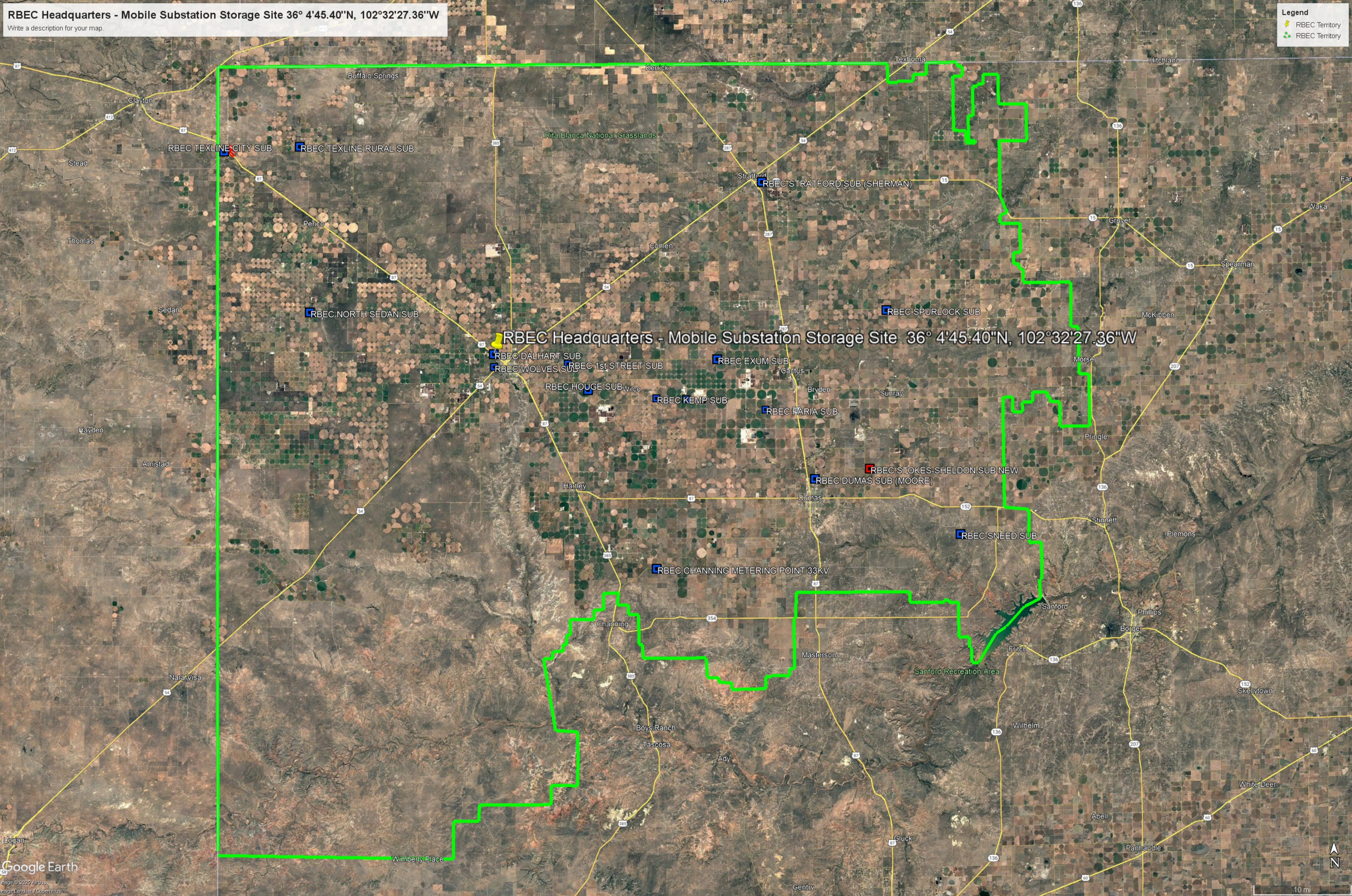
0% or \$0

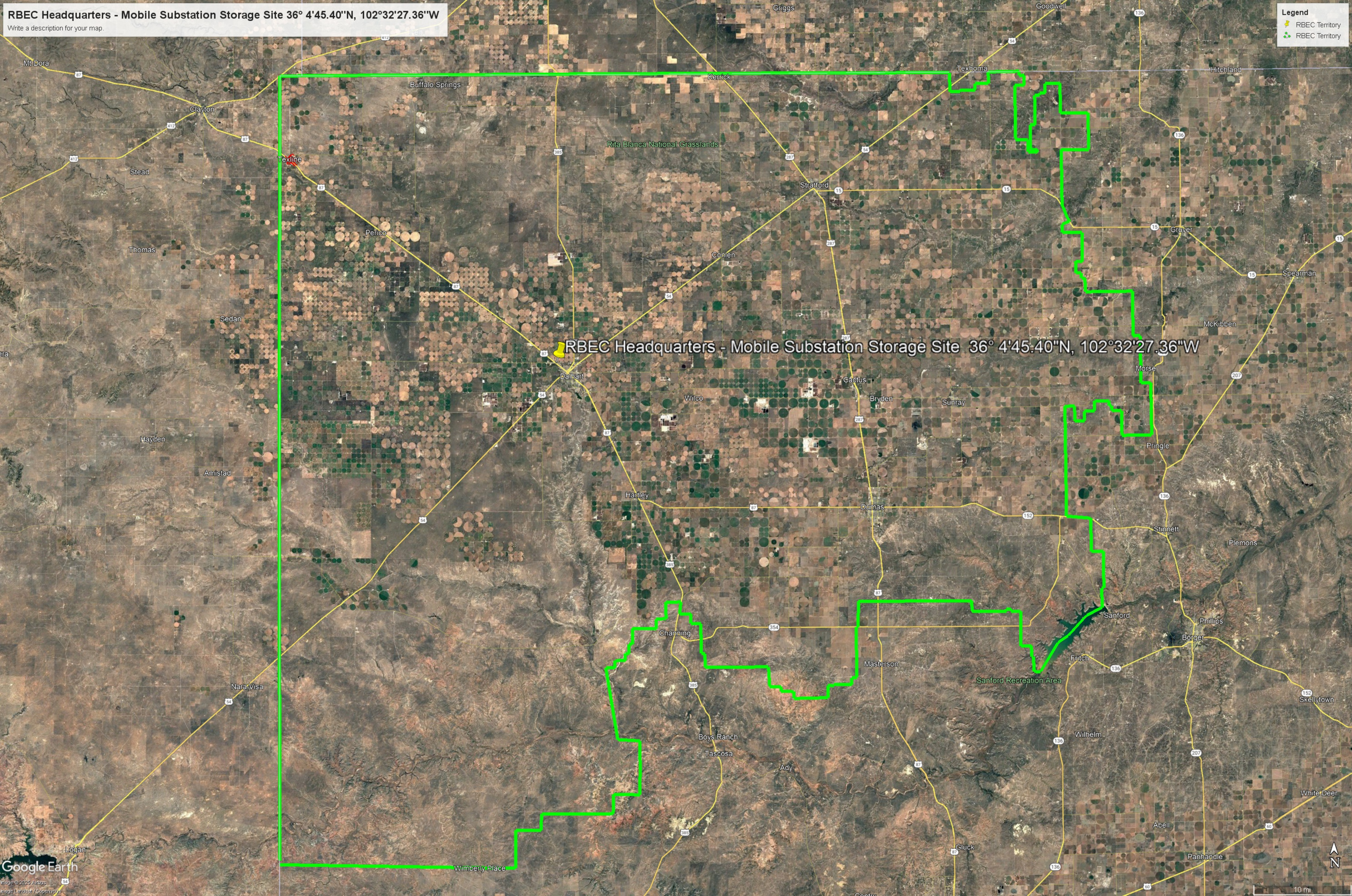
(v) Joint Application Funding Allocation

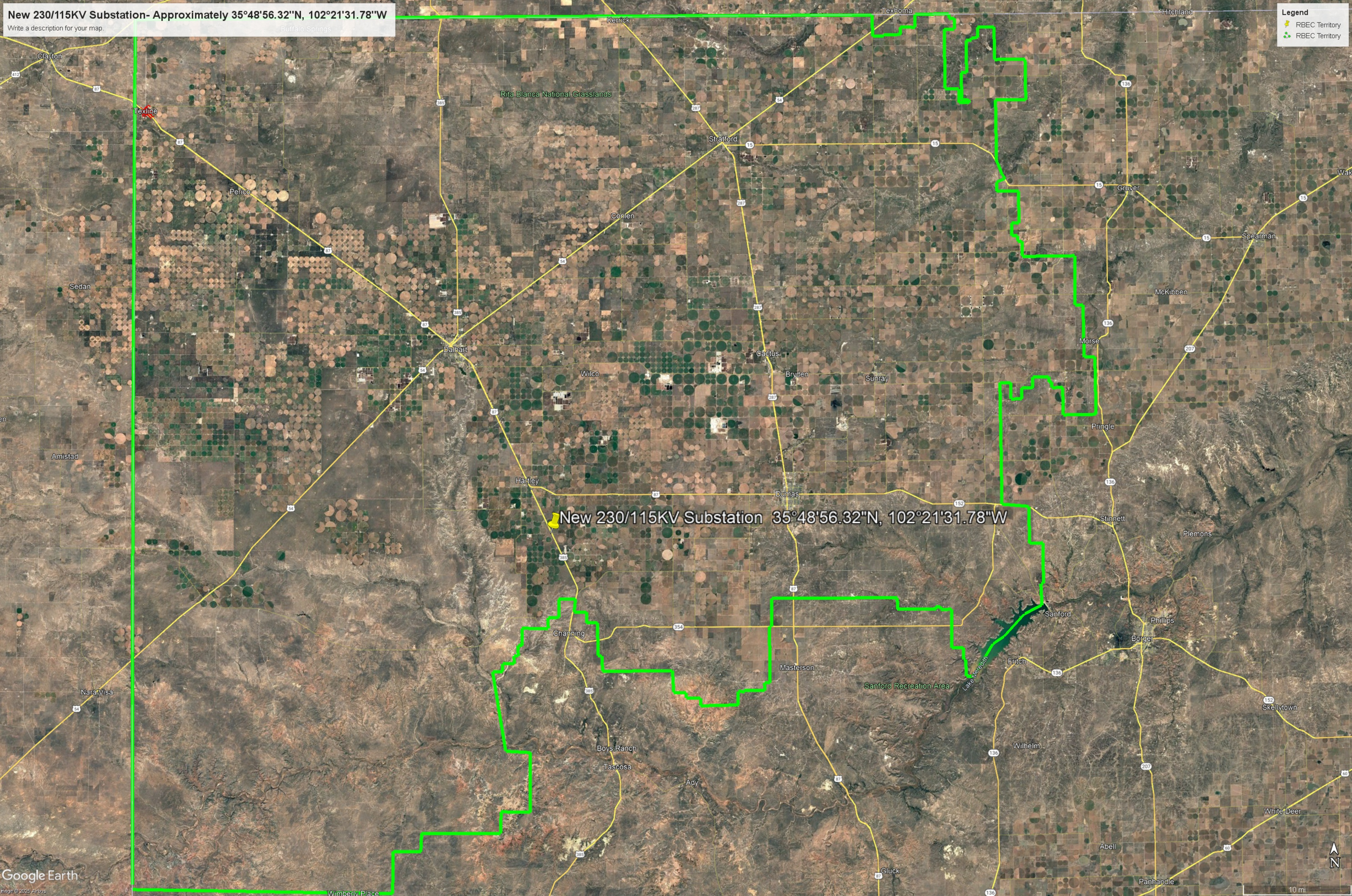
RBEC is the sole entity pursuing this application.

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Attachment 1 – Project Map







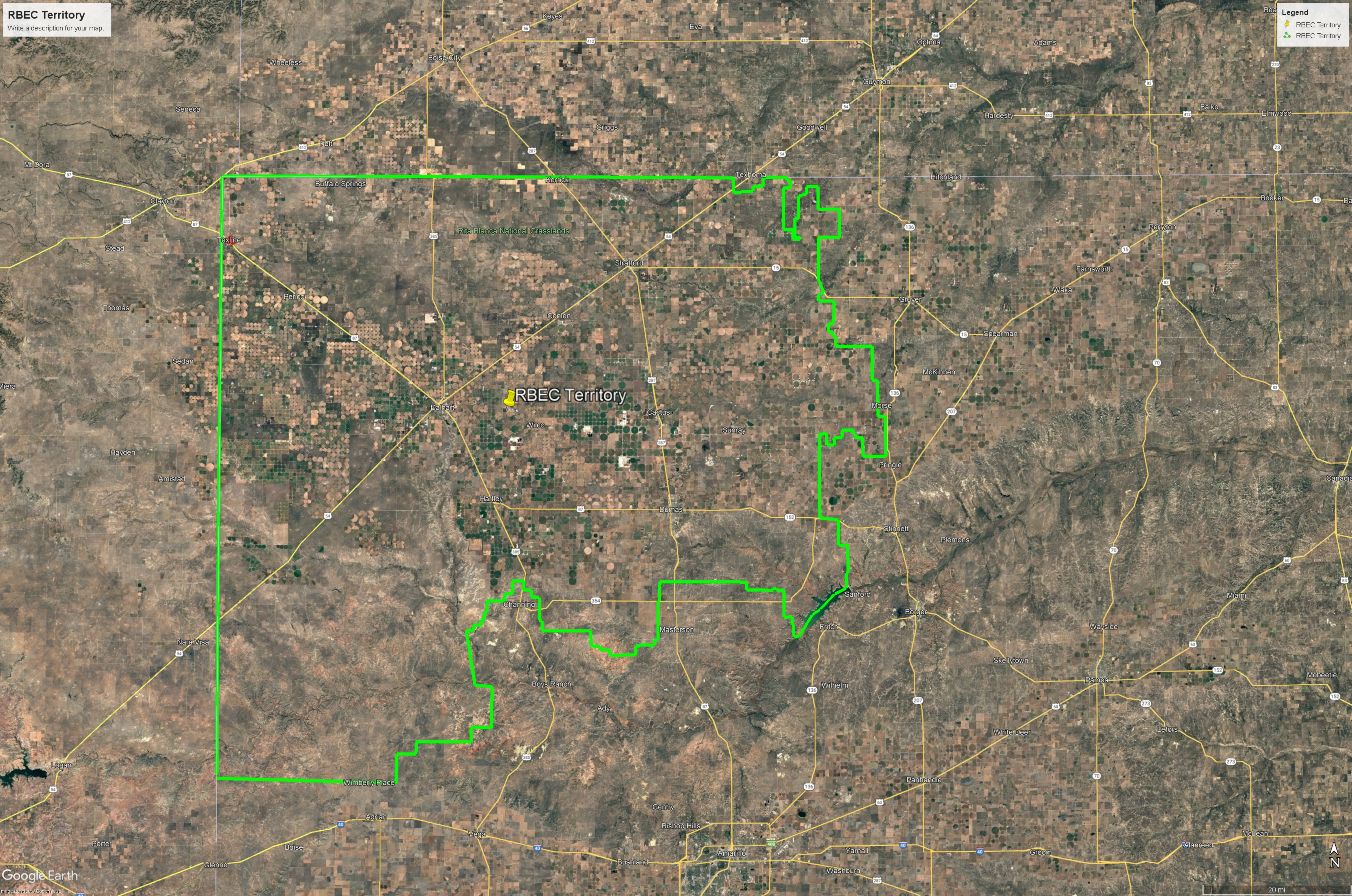
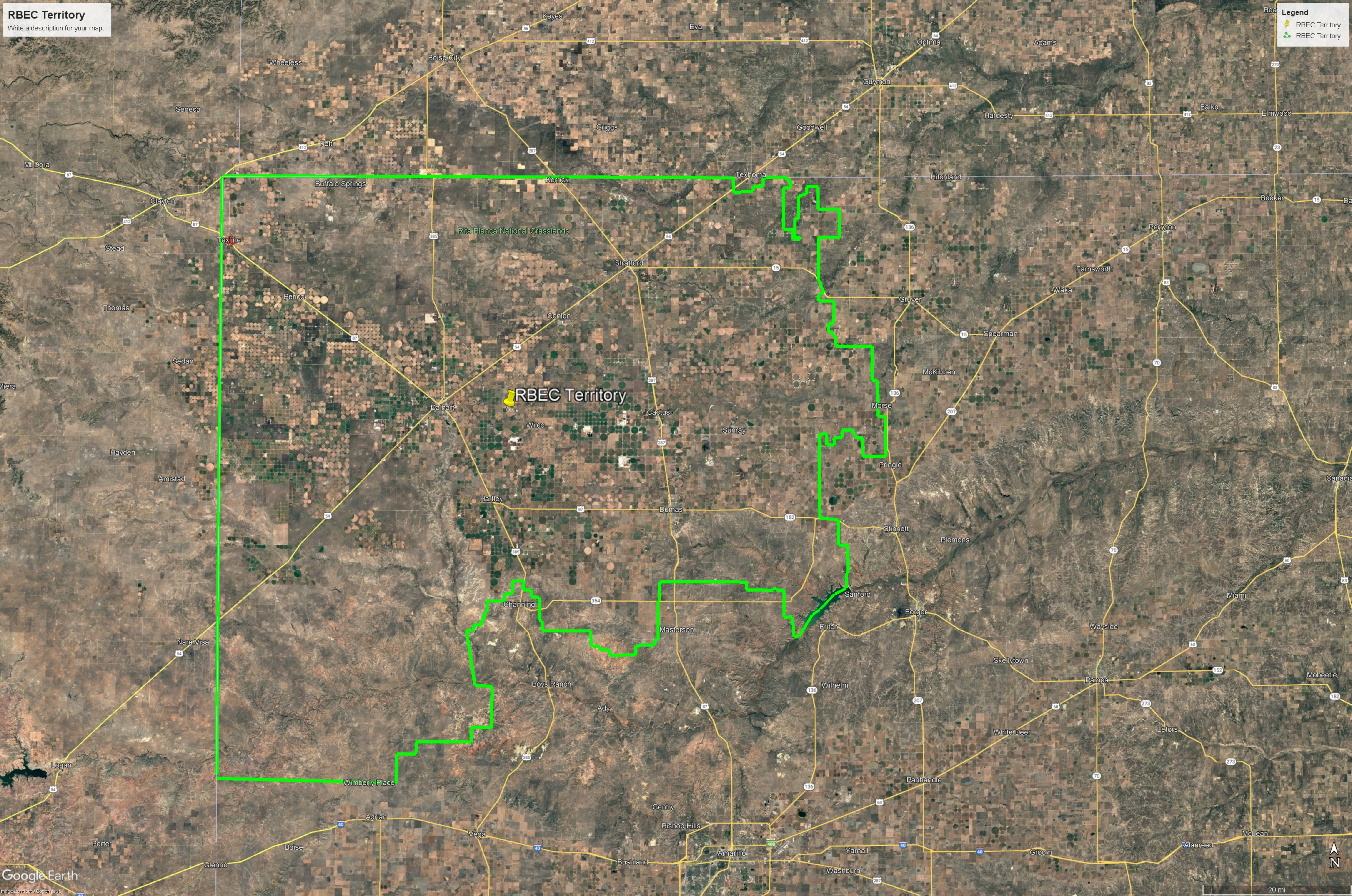
New 230/115KV Substation- Approximately 35°48'56.32"N, 102°21'31.78"W

Write a description for your map.

Buffalo Springs

Legend

- RBE Territory
- RBE Territory




RBEC Territory

Write a description for your map.

Legend

 RBEC Territory
 RBEC Territory

 RBEC Territory

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

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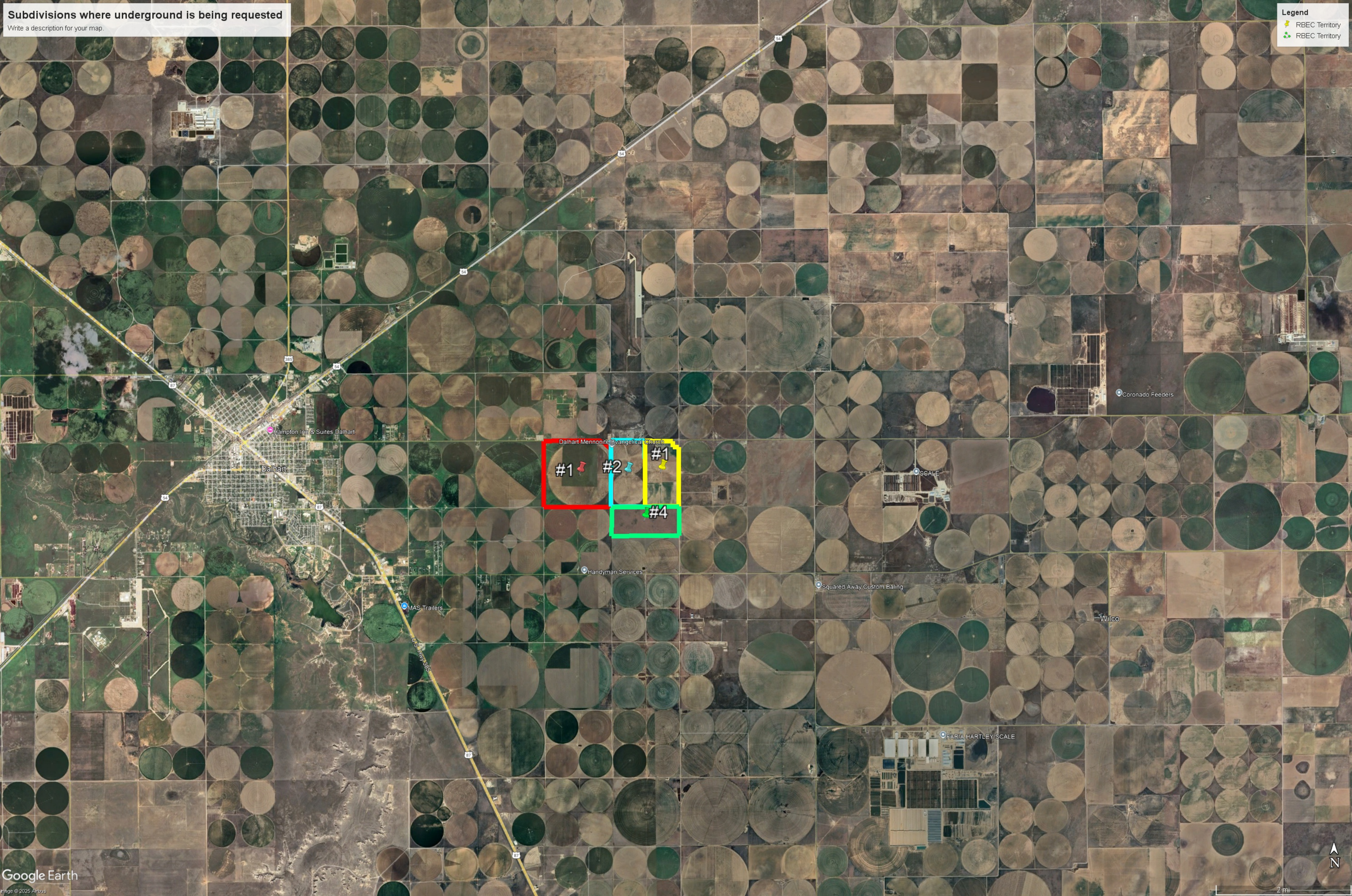
100 mi



#1
#2 EXUM Substation - Upgrade (2) Substation Transformers 36° 4'11.03"N, 102° 8'13.49"W

📍 Upgrade S&S Substation Transformer 35°54'30.39"N, 101°51'50.03"W

📍 Upgrade Sneed Substation Transformer 35°48'39.35"N, 101°42'6.1"



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Attachment 2 – Organizational Chart

