

APPLICATION FOR LISTING AN AVOIDED CONVERSION U.S. FOREST OFFSET PROJECT

OPR Staff Use Only	Date Application Received:	OPR Tracking Number:	Date Application Reviewed:	OPR Staff Use Only
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PART I. ENTITY APPLYING FOR LISTING

Is this form being submitted by the Offset Project Operator (OPO) or by the Authorized Project Designee (APD)? Notes: 1. The person completing this form should be an OPO/APD employee. 2. If the APD is submitting this form, the OPO should submit the form <i>Designation of Authorized Project Designee</i> simultaneously.			<input type="checkbox"/> OPO <input checked="" type="checkbox"/> APD
Name of Person Completing Form: Douglas Hunter Parks		Organization, if applicable: Green Assets, Inc.	
Date Form Completed: 8/19/2015	Phone Number: 910-821-8165	Email Address: hunter@green-assets.com	

PART II. OFFSET PROJECT INFORMATION

Offset Project Name: Green Assets - Lukens Avoided Conversion Project		
Offset Project Commencement Date: 4/29/2015	First Reporting Period Start Date: 4/29/2015	First Reporting Period End Date: 10/29/2015
Provide an explanation and justification for the commencement date. Specify the action(s) that identify the offset project commencement date. The commencement date coincides with the recordation of a Memorandum of Easement, monumenting the execution of a Qualified Conservation Easement in accordance with ARB QCE requirements (Section 3.5 of the Compliance Offset Protocol for U.S. Forest Projects, Nov. 14, 2014).		

PART III. OPO/APD INFORMATION

A. OPO			
OPO Name: Lukens Island Timber Enterprises, LLC		OPO's CITSS ID#: CA 1 9 2 3	
Mailing Address: P.O. Box 190	City: Newport	State: NC	Zip: 28570
Contact Person: Patrick Joyce	Phone Number: 252-223-3171	Email Address: pat@joyceandassoc.com	
B. APD (if applicable) <input type="checkbox"/> No APD/Not Applicable			
APD Name: Green Assets, Inc.		APD's CITSS ID#: CA 1 4 2 0	
Mailing Address: 7655 Market Street, Suite B	City: Wilmington	State: NC	Zip: 28411
Contact Person: Douglas Hunter Parks	Phone Number: 910-821-8165	Email Address: hunter@green-assets.com	

PART IV. LAND OWNERSHIP

A. Is the Offset Project Operator (OPO) the owner in fee for the Project Area? Further documentation is required for all projects. Submit as attachment labeled "Attachment A." See Part X of this listing document for more information. If "no," explain how the entity identified as the OPO has the right to undertake and list the project.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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B. List all Forest Owners. This includes owners in fee as well as third parties with existing property interests within the Project Area that affect the trees and standing timber located in the Project Area (e.g., mineral rights, timber rights, easements, rights of way, leases, etc.). Lukens Island Timber Enterprises, LLC is the owner in fee of the Project Area.		
C. Does the offset project occur on public or private lands? <i>If the project occurs on public lands, proceed to questions C1 and C2. Otherwise, skip to Question D. Further documentation is required if project occurs on public lands. Submit as attachment labeled "Attachment B." See Part X of this listing document for more information.</i>		<input checked="checked" type="checkbox"/> Private <input type="checkbox"/> Public
1. Describe the public process that has been used to approve forest management activities and baseline.		
2. Describe the documentation being submitted with this listing document demonstrating approval of planned forest management activities and baseline.		
D. Does the offset project occur on any of the following categories of land? (check all that apply) <input type="checkbox"/> Land that is owned by, or subject to, an ownership of possessory interest of a Tribe <input type="checkbox"/> Land that is "Indian lands" of a Tribe as defined by 25 U.S.C. §81(a)(1) <input type="checkbox"/> Land that is owned by any person, entity, or Tribe, within the external borders of such Indian lands <input checked="checked" type="checkbox"/> None of the above <i>If "none of the above," skip to Part V. Otherwise, proceed to questions D1 and D2. Further documentation is required for projects occurring on land listed in the first three categories. Submit supporting documents as attachments labeled "Attachment C." See Part X of this listing document for more information.</i>		
1. Does a limited waiver of sovereign immunity between ARB and the governing body of the Tribe exist?		<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Describe how the land within the Project Area is owned.		
PART V. OFFSET PROJECT AREA		
<i>Maps depicting specific elements of the Project Area are required for all projects. Submit supporting documents as attachments labeled "Attachment D." See Part X of this listing document for more information.</i>		
Latitude of Offset Project Location: 34.97071945	Longitude of Offset Project Location: -76.54301667	Project Area Total Acreage: 4,134.88
A. Identify the assessment area (or assessment areas, if project crosses more than one) that contain Project Area lands and list the acreage of project lands within each assessment area. North Atlantic Coastal Plain Swamp Hardwood & Cypress: 2,391.59 acres North Atlantic Coastal Plain Loblolly pine, longleaf pine, shortleaf pine, slash pine: 1,743.29 acres		
B. Identify the governing jurisdiction(s) applicable to the Project Area. The project area is located within the jurisdiction of Carteret County, N.C.		
C. Describe how the Project Area was determined. The project area was determined based on the recordation of a Qualified Conservation Easement which avoids the conversion of the property from forestland to agricultural production.		
D. Describe the existing land cover, and land use of the Project Area. The existing land cover is forestland including a diverse range of native upland species including loblolly and longleaf pine as well as assorted bottomland species such as maples and various oaks. The land is primarily used to provide wildlife habitat and outdoor recreation.		
E. Describe the forest vegetation types within the Project Area boundary. The Project Area is delineated into 3 strata.		
Stratum/Stand	Description	Area (acres)
Hardwood	Mixed hardwoods (e.g. sweetgum, water oak)	645.51
Mixed Pine/Hardwood	Mixed hardwoods and pine (e.g. red maple, loblolly pine)	1,746.09
Pine	Southern pines (loblolly, longleaf, pond pine)	1,743.28
F. Describe the site classes within the Project Area boundary. To determine the site classes within the Project Area, inventory data was compared and correlated with the		

associated supersection and assessment areas in the ARB Assessment Area Data File. The results indicate that the site classes in the Project Area are low to moderate.

G. Describe the land pressures and climate zone/classification applicable to the Project Area.

Prior to the execution of the Qualified Conservation Easement, the Project Area's foremost land pressure was conversion to agriculture. The Project Area is located in Climate Zone 8a according to the USDA Plant Hardiness Zone Map found at: <http://planthardiness.ars.usda.gov/PHZMWeb/InteractiveMap.aspx>.

H. Describe the historical land uses, current zoning, and projected land use within the Project Area and surrounding areas.

The Project Area was managed for agricultural production in the past, but has since regenerated to forestland. The property is currently Unzoned. The projected land use within the Project Area is wildlife habitat conservation and outdoor recreation. The surrounding areas have been converted for agricultural production by other landowners.

I. Describe generally the forest conditions within the Project Area, including species composition, age class distribution, and management history.

The forest consists of a diverse mix of native species in different age classes, meeting the Natural Forest Management requirements in Table 3.2 of the Compliance Offset Protocol for U.S. Forest Projects, adopted Nov. 14, 2014.

Native Species dominate the forest and account for over 95% of the sum of carbon in the standing live carbon pool, in accordance with Table 3.2 of the Protocol and Section VI.C.1 of the Listing Application.

In accordance with the Protocol and Section VI.C.2 of the Listing Application, no single species exceeds the percentage value of standing live carbon specified in the "Species Diversity Index" in the Assessment Area Data File: 60% for the Swamp Hardwood-Cypress Assessment Area; 70% for the Southern Pine Assessment Area.

Common Name	Species Composition (%)
Longleaf Pine	27.4%
Loblolly Pine	40.2%
Pond Pine	2.9%
Red Maple	6.3%
Tulip Poplar	9.3%
Black Gum	9.4%
Redbay	2.2%
Southern Red Oak	0.4%
Laurel Oak	0.7%
Water Oak	0.1%
Post Oak	0.6%
Sweetbay Magnolia	0.4%
Loblolly-bay	0.1%

Adhering to the Natural Forest Management requirements outlined in Table 3.2 of the Protocol, and Section VI.C.3.b of the Listing Application, no more than 40% of the Project Area is in age classes younger than 20 years old: 0-20 years (35%); 20+ years (65%).

The Project Area has not been actively managed. Per the Protocol and Section VI.C.3 of the Listing Application, a forest management plan is being developed and third party certification will be obtained from an ARB-approved organization (Forest Stewardship Council, Sustainable Forest Initiative, American Tree Farm System) to ensure sustainable management practices.

PART VI. OFFSET PROJECT ELIGIBILITY**A. Will the land in the Project Area be dedicated to continuous forest cover through a Qualified Conservation Easement (QCE) or transfer to public ownership?**

If employing a QCE, proceed to questions A1, A2, and A3. Otherwise, skip to question B. Supporting documentation for a QCE is required. Submit as attachment labeled "Attachment E." See Part X of this listing document for more information.

- ☒ **QCE**
☐ **Public Ownership**

1. Date that the QCE was or will be recorded.

A Memorandum of Easement was recorded on 4/29/15, monumenting the execution of a QCE in accordance with ARB QCE requirements (Section 3.5 California ARB Compliance Offset Protocol for U.S. Forest Projects, Nov. 14, 2014).

2. Will the project take place in a state that requires third-party beneficiaries to sign the easement (i.e., to "accept and record that acceptance"), such as Arizona, Pennsylvania, or West Virginia?

- ☐ **Yes**
☒ **No**

3. Provide the terms within the easement that affect forest management.

Terms within the easement that affect forest management include:

Purposes - The exclusive conservation purpose of this Easement is to prevent any use of the Property that will significantly impair or interfere with the Conservation Values of the Property, and specifically, prevent the conversion of all or a portion of the property to tillable acres or pastureland.

Section 2.6 - A Forest Management Plan shall be prepared by a registered professional forester and shall be certified by the American Tree Farm System, Sustainable Forestry Initiative, Forest Stewardship Council, any State-Approved forest management plan, or successor to said certifying bodies.

Grantor shall have the right to harvest timber from the Property for commercial purposes pursuant to a sustainable Forest Management Plan...(and) third party certification.

B. Indicate the type of documentation being submitted to demonstrate that the anticipated land use conversion is legally permissible. (check all that apply)

- ☒ **Documentation indicating that the current land use policies, including zoning and general plan ordinances, and other local and state statutes and regulations, permit the anticipated type of conversion**
☐ **Documentation indicating that the Forest Owner(s) obtained all necessary approvals from the governing county to convert the Project Area to the proposed type of non-forest land use**
☐ **Documentation indicating that similarly situated forest lands within the project's assessment area were recently able to obtain all necessary approvals from the governing county, state, or other governing agency to convert to a non-forest land use**

Supporting documentation is required. Submit as attachment labeled "Attachment F." See Part X of this listing document for more information.

C. Indicate how the offset project meets (or will meet) the definition of Natural Forest Management per Table 3.2 in the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.**1. Native species:**

- a) **Will the project consist of at least 95% native species based on the estimated sum of carbon in the standing live carbon pool?**

If "no," proceed to question 1b. Otherwise, skip to question C2.

- ☒ **Yes**
☐ **No**

- b) **If no, describe how the project will meet this requirement. (Avoided Conversion Projects are assessed using estimates of basal area per acre.)**

2. Composition of native species:

- a) **Does the Project Area naturally consist of a mixed species distribution where no single species' prevalence, measured as the percent of the basal area of all live trees in the Project Area, exceeds the percentage value of standing live carbon shown under the heading 'Species Diversity Index' in the Assessment Area Data File?**

If "no," proceed to questions 2b and 2c. Otherwise, skip to question C3.

- ☒ **Yes**
☐ **No**

- b) **Explain how the project will demonstrate a trend toward achieving the Species Diversity Index of native species and meet this requirement within 25 years.**

- c) **If the Project Area does not naturally consist of a mixed species distribution: Will or have you provided a written statement from the government agency in charge of forestry regulation in the state where the project is located stipulating that the Project is not capable of meeting the requirement that the Project Area consists of a mixed species distribution?**

- ☐ **Yes**
☐ **No**
☐ **N/A**

3. Distribution of age classes/sustainable management: a) Indicate how the project will meet the requirement for sustainable management at first regeneration harvest. This applies to all of the forest landholdings of the Forest Owner(s) (check one of the boxes). <input type="checkbox"/> Not applicable; no commercial harvesting is occurring within the Project Area <input checked="" type="checkbox"/> Third party certification under the Forest Stewardship Council, Sustainable Forestry Initiative, or Tree Farm System, whose certification standards require adherence to and verification of harvest levels which can be permanently sustained over time <input type="checkbox"/> Adherence to a renewable long-term management plan that demonstrates harvest levels which can be permanently sustained over time and that is sanctioned and monitored by a state or federal agency <input type="checkbox"/> Employ uneven-aged silvicultural practices and maintain canopy retention averaging at least 40% across the forest, as measured on any 20 acres within the entire forestland owned by the Forest Owner, including land within and outside of the Project Area (areas impacted by Significant Disturbance may be excluded from this test).	
b) On a watershed scale up to 10,000 acres (or the Project Area, whichever is smaller), projects must maintain, or make progress toward maintaining, a maximum of 40% of the project's forest lands in ages that are less than 20 years old. (Areas impacted by Significant Disturbance are exempt from this test until 20 years after reforestation of such areas.) Does the acreage within this project does meet this requirement? <i>If "no," proceed to question 3c. Otherwise, skip to question C4.</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
c) Explain how the project intends to show continuous progress toward and meet this requirement within the next 25 years.	
4. Structural elements (standing and lying dead wood): How will the project ensure that structural elements are retained in sufficient quantities throughout the project life? The removal of standing or lying dead wood has not been historically performed in the Project Area. As a result of the carbon project, trees will continue to grow and die in place, thereby maintaining and potentially increasing volumes of structural elements within the forests. Consideration of maintaining/increasing structural elements will be incorporated into the forest management plan, which will be certified by an ARB-approved third party to ensure sustainable management practices.	
D. Is the anticipated alternative land use commercial, residential, or agricultural? If "yes," indicate the maximum slope of the Project Area. The maximum slope of the project area is less than 5%.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E. Is the anticipated alternative land use commercial, residential, or recreational? <i>If "yes," proceed to questions E1, E2, and E3. Otherwise, skip to question F.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Indicate the proximity of the Project Area to metropolitan areas.	
2. Indicate the proximity of the Project Area to grocery and fuel services and accessibility of those services.	
3. Indicate the population growth (people per year) within 180 miles of the Project Area.	
F. Is mining the anticipated alternative land use? If "yes," describe the extent of mineral resources existing in the Project Area.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
G. Describe the management activities that will lead to increased carbon stocks in the Project Area compared to the baseline. Carbon stocks are increased in the Project Area compared to the baseline by avoiding the conversion of the property and maintaining it in a forested state. Additionally, a third-party certified sustainable management plan will be implemented to ensure forest health and increased carbon stocks over the life of the project.	
H. Is this project being implemented and conducted as the result of any law, statute, regulation, court order, or other legally binding mandate? If "yes," explain:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
I. Will the offset project employ broadcast fertilization?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
J. Does the offset project take place on land that was part of a previously listed and verified Forest Offset Project? <i>If "yes," proceed to questions J1 and J2. Otherwise, skip to Part VII.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Was the previous Forest Offset Project terminated due to an Unintentional Reversal?	<input type="checkbox"/> Yes <input type="checkbox"/> No

2. Is the project transitioning to the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014, after previously being listed as an early action offset project?

☐ Yes
☐ No

PART VII. CARBON STOCK INVENTORY

A. Provide a general description of the inventory methodology to be used to quantify carbon stocks for each required carbon pool in the forest project's offset boundary. The inventory methodology must describe the information required in Appendix A.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.

AC-1 Standing Live:

The inventory employs stratified random sampling on 10 meter (m) fixed radius circular plots. Within each plot all stems with a Diameter at Breast Height (DBH) greater than or equal to 12.7 centimeters (cm) were measured and species type was recorded. For borderline trees, the distance from the plot center to the center of the base of the tree was measured to the nearest centimeter. Trees were marked with paint and were temporarily numbered to ensure measurements were accurately assigned to the corresponding tree. Distance Measuring Equipment (DME) was used to identify the plot boundary (Haglof Forester 201 DME). Since the project area is flat, no slope correction was applied. For each live tree greater than or equal to 12.7cm DBH and greater than or equal to 4.6 m (15 feet) in height, the following was recorded:

Azimuth from plot center to tree, species, DBH in centimeters, visual appraisal of percent defect of tree aboveground sections (top, middle, and bottom thirds), total height in meters, bole height to approximately a 4 inch top diameter in meters (Ash species only).

The diameter of all trees was measured at breast height (4.5 feet or 1.37 m above ground level). Diameter of trees with buttresses were measured 1.5 feet above the point of termination of the buttress when the tree was buttressed at breast height. To aid in the determination of breast height, measuring sticks (1.37 m in height) were carried by each team. Additionally, each pipe was scored and marked with a permanent marker at 1.5 feet below the top of the establishing a permanent reference for measuring the 1.5 feet above buttress termination, when applicable. To avoid either missing trees or double recording, the point of initiation of measurement was marked. The first tree was flagged and following measurements proceeded in either a clockwise or counter-clockwise fashion.

Percent defect was assessed visually, identifying any areas of breakage or cavities, by assigning the percentage missing (from a complete, un-damaged state, specified in 10% increments) in each of the three aboveground sections: top 1/3, middle 1/3 and bottom 1/3.

Height was measured using a Haglof hypsometer. If readings could not be acquired with the hypsometer, a clinometer was used. The hypsometer was calibrated at the beginning of each day of field work, and re-calibrated during the day if significant changes in temperature and humidity occurred. Total height was measured as the distance from ground level to the highest visible point on the crown (or apical meristem). Bole height (only measured on Ash species) was measured as the distance from the ground level to an approximately 4 inch top diameter on the central stem/leader. Both total and bole height measurements require sighting the level point on the trunk, the top, and the base of the tree at ground level (only level point on the trunk, and the top may be sighted when using Haglof hypsometer Height 2P sampling). A minimum of two height measurements were obtained, from different vantage points if necessary, and the recorded height was taken as the average of the two measurements. When tops were missing, heights were reconstructed by referencing heights of comparable trees nearby.

AC-3 Standing Dead:

In the same plot used to first sample standing live trees, each standing dead tree with a DBH greater than or equal to 12.7centimeters (5 inches) and a total height greater than or equal to 4.6 meters (15 feet), the following were recorded:

Azimuth from plot center to tree, species (or hardwood/softwood if species/genus cannot be identified), DBH in

centimeters, total height in meters, bole height to approximately a 4 inch top in meters (Ash species only), visual appraisal of percent defect in each of the tree aboveground sections (top, middle and bottom thirds), qualitative assignment of decay class.

The same guidance for live trees applies to measuring standing dead trees. For assignment of decay class, the following five categories will be used:

Decay Class	Description
1	All limbs and branches are present; the top of the crown is still present; all bark remains; sapwood is intact with minimal decay; heartwood is sound and hard.
2	There are few limbs and fine branches; the top may be broken; a variable amount of bark remains; sapwood is sloughing with advanced decay; heartwood is sound at the base but beginning to decay in the outer part of the upper bole.
3	Only limb stubs exist; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay at the base and is sloughing in the upper bole.
4	Few or no limb stubs remain; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay at the base and is sloughing in the upper bole.
5	No evidence of branches remains; the top is broken; less than 20 percent of the bark remains; sapwood is gone; heartwood is sloughing throughout.

Standing dead wood is defined as all dead trees emanating from the original stump which are standing at an angle of greater than 45 degrees relative to the ground.

AC-6 Soil (if applicable):

According to the Compliance Offset Protocol for U.S. Forests, adopted Nov. 14, 2014, the soil carbon pool is only required when the following conditions in Table 5.3 are met: Site preparation activities involve deep ripping, furrowing, or plowing where soil disturbance exceeds (or is expected to exceed from the baseline characterization and modeling) 25 percent of the Project Area over the Project Life, or mechanical site preparation activities are not conducted on contours. Since above mentioned site preparation activities are not actively being implemented the pool is excluded.

AC-7 Carbon in in-use forest products:

Carbon in in-use forest products will be calculated based on measured harvesting volumes, regional mill efficiencies, and 100-year default storage factors.

AC-8 Forest product carbon in landfills (if applicable):

Forest product carbon in landfills will be calculated based on measured harvesting volumes, regional mill efficiencies and 100-year default storage factors.

AC- 9 Biological emissions from site preparation:

Site preparation biological emissions are only quantified based on measured carbon stock changes in included reservoirs (SSR #AC-6, where applicable), per Table 5.3 of the Compliance Offset Protocol for U.S. Forests, adopted Nov. 14, 2014. Since above-mentioned site preparation activities are not actively being implemented, the inclusion of this pool has no net effect.

AC-13 Biological emissions from clearing of forestland outside the Project Area:

Biological emissions from clearing of forestland outside project area are estimated using default forestland conversion factors.

AC-17 Biological emissions from decomposition of forest products:

Biological emissions from decomposition of forest products are quantified as a component of calculating carbon stored for 100 years in wood products (SSR #AC-7) and landfills (SSR #AC-8).

B. Describe the calculation methodologies to be used to determine metric tons per acre for each of the carbon pools included in the Offset Project Data Report.**AC-1 Standing Live:**

Standing Live will be calculated based on standardized FIA cubic foot volume and biomass equations following the Component Ratio Method. Carbon will be estimated as 50% of the dry biomass. Carbon will be converted to CO₂e using a conversion factor of 3.664.

AC-3 Standing Dead:

For all trees, gross cubic foot volume of stem wood was adjusted to deduct any portion observed missing in the central stem (referencing defect assessments for the top, middle, and bottom thirds of the aboveground portion of inventory trees), to produce sound cubic foot volume of stem wood. Sound cubic foot volume of stem wood and DBH were then used to produce estimates of biomass using the Component Ratio Method, as described in Appendix J of the FIA Database Users Manual "Biomass Estimation Using the Component Ratio Method", and referencing coefficients consolidated in the ARB database "Biomass Coefficients for Use with the Component Ratio Method." Adjustments for missing biomass and density of standing dead wood reference procedures outlined in Climate Action Reserve (2012) and density reduction factors from Harmon et al (2011). Biomass was converted to carbon applying a carbon fraction of 0.5, and carbon converted to carbon dioxide equivalent (CO₂e) applying a conversion factor of 3.664. All estimates of carbon dioxide equivalent per unit area are converted to metric tons (1000 kg) per acre.

AC-6 Soil (if applicable):

N/A (see Section A)

AC-7 Carbon in in-use forest products:

Carbon in in-use forest products will be calculated based on measured harvesting volumes and regional mill efficiencies.

AC-8 Forest product carbon in landfills (if applicable):

Forest product carbon in landfills will be calculated in accordance with the methodology provided in Appendix C, based on measured harvesting volumes and regional mill efficiencies.

AC- 9 Biological emissions from site preparation:

N/A (see Section A)

AC-13 Biological emissions from clearing of forestland outside the Project Area:

Emissions from clearing of forestland outside project area are estimated using default forestland conversion factors.

AC-17 Biological emissions from decomposition of forest products:

Biological emissions from decomposition of forest products will be quantified as a component of carbon stored in in-use forest products (AC-7) and landfills (AC-8).

C. Provide a summary of the inventory of carbon stocks for each carbon pool.**AC-1 Standing Live:**

53.3 tCO₂e/acre (preliminary estimate)

AC-3 Standing Dead:

0.64 tCO₂e/acre (preliminary estimate)

AC-6 Soil (if applicable):

N/A (see Section A)

AC-7 Carbon in in-use forest products:

0.0 tCO₂e/acre (preliminary estimate)

AC-8 Forest product carbon in landfills (if applicable):

0.0 tCO₂e/acre (preliminary estimate)

AC- 9 Biological emissions from site preparation:

N/A (see Section A)

AC-13 Biological emissions from clearing of forestland outside the Project Area:0.0 tCO₂e/acre (preliminary estimate)**AC-17 Biological emissions from decomposition of forest products:**0.0 tCO₂e/acre (preliminary estimate)**D. Provide a summary of the inventory confidence statistics.**

The sampling error was calculated as described in Section A.4 of the Compliance Offset Protocol for U.S. Forest Projects, Nov. 14, 2014. The standard error as determined from the current project inventory was multiplied by the t-value 1.645, and the result was divided by the weighted project mean to give the sampling error at the 90% confidence interval, which is 7.5%. The confidence deduction is 2.5%, according to table A.4 in the ARB Compliance Offset Protocol U.S. Forest Projects, adopted Nov. 14, 2014.

E. Provide the calculation of the offset project's reversal risk rating and expected contribution to the Forest Buffer Account.

In accordance with section D.5 of Appendix D of the California ARB Compliance Offset Protocol, U.S. Forest Projects, adopted Nov. 14, 2014:

Financial Risk 1%

Risk of Illegal Harvesting 0%

Risk of Conversion to Non-Forest Land Use 0%

Risk of Over-Harvesting 0%

Social Risk 2%

Wildfire Risk 4%

Disease or Insect Outbreak Risk 3%

Other Catastrophic Event Risk 3%

$$100\% - [(1-1\%) \times (1-0\%) \times (1-0\%) \times (1-0\%) \times (1-2\%) \times (1-4\%) \times (1-3\%) \times (1-3\%)] = 12.37\%$$

PART VIII. OFFSET PROJECT BASELINE**A. Describe the highest value alternative land use identified in the appraisal.**

The highest value alternative land use is agriculture.

Supporting documentation is required. Submit a full copy of the appraisal as attachment labeled "Attachment G." See Part X of this listing document for more information.

B. Provide an estimate of the rate of conversion and removal of onsite carbon stocks.

The rate of conversion was estimated using the default conversion rate of 9% per year over a 10 year period, as specified in Table 6.3 of the Compliance Offset Protocol for U.S. Forest Projects, Nov. 14, 2014.

C. Compare the fair market value of the anticipated alternative land use for the Project Area with the value of the current forested land use.

The fair market value of the anticipated alternative land use for the Project Area was appraised to be TWENTY SIX MILLION EIGHT HUNDRED SEVENTY FIVE THOUSAND DOLLARS (\$26,875,000).

The fair market value of the existing forested land use for the Project Area was appraised to be FOUR MILLION NINE HUNDRED SIXTY THOUSAND DOLLARS (\$4,960,000). Therefore, the appraised value under the alternative land use for the Project Area is 441% higher than the appraised value of the current forest land use of the Project Area.

D. Provide the calculation for the Discount for Uncertainty of Conversion Probability.

Utilizing Equation 6.11 from the California ARB Compliance Offset Protocol, U.S. Forest Projects (adopted Nov. 14, 2014):

If $(VA/VP - 1) > 0.8$, then $ACD = 0$

$((26,875,000/4,960,000) - 1) = 4.41$, which is > 0.8 and therefore NO Avoided Conversion Discount is applied.

E. Describe the project's modeling plan, following the requirements and methods in Appendix B, Section B.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.

The modeling plan will use Forest Vegetation Simulator (FVS) Southern Variant growth and yield model and

will be calibrated using the regional options available. A mixture of silvicultural methods including even-aged and uneven-aged systems will be employed. Trees will be retained based on similar species that were present at the time of harvest. Harvest frequency will be determined as necessary to promote the health of the forest and maintain natural forest management practices. Regeneration assumptions will be based on species specific variants. A preliminary assessment does not identify any legal constraints that will affect management practices in the Project Area. Site indices are described by species in the FVS Southern Variant overview. The baseline will be modeled and presented in accordance with the assumed conversion rate of 9% per year over a 10 year period, as specified in Table 6.3 of the Compliance Offset Protocol, adopted Nov. 14, 2014. After the initial 10 year period, the baseline will remain static for the remainder of the project life. This will be accomplished by removing 9% of the total carbon stocks annually for 10 years, after which, the baseline will depict carbon stocks reflecting a 90% non-forest use. A detailed modeling plan will be finalized and provided along with the Offset Project Data Report.

F. Describe and estimate the project's baseline onsite carbon stocks. Explain any annual changes in baseline carbon stocks over time.

See Attachments H and I. The baseline stocking level indicates a dramatic decline over an initial 10 year period, as these forests were anticipated to be converted to agricultural land. However, in the baseline scenario, during the initial 10 year period, 90% of the project area will be converted. After the initial 10 year period, the baseline will include the carbon stocks of the remaining 10% of forested acres following the property's conversion, with little to no changes dependent on stratum.

A graph portraying the baseline onsite carbon stocks, labeled "Attachment H," and a diagram of the baseline incorporating all required carbon stocks, labeled "Attachment I," are required. See Part X of this listing document for more information.

G. Identify the approved growth model that will be used for the project.

Forest Vegetation Simulator (FVS) Southern Variant

H. If harvesting is planned in the Project Area will the project use a harvest schedule model? If "yes," how do you plan to address age class and stratification as part of your harvest scheduling?

☐ Yes
☒ No
☐ N/A

I. Provide an estimate of carbon that will be stored long-term in harvested wood products in the baseline.

4,022 tCO₂e (preliminary estimate)

PART IX. ADDITIONAL QUESTIONS

A. Have any lands within the Project Area ever been listed or registered with an offset project registry or program in the past?

If "yes," identify the registry or program and provide details on the issued credits below.

☐ Yes
☒ No

B. Have greenhouse gas emission reductions or removal enhancements associated with lands within the Project Area been credited or claimed for the purpose of greenhouse gas mitigation or reduction goals, whether in a voluntary or regulatory context?

If "yes," identify the registry or program and provide details on the issued credits below.

☐ Yes
☒ No

Registry/Program:

Reporting Period(s):

Vintage(s):

Number of Credits Issued:

PART X. ATTACHMENTS

A. If the answer to Part IV.A is "yes," provide documentation (e.g., deed of trust, title report, etc.) showing the OPO's ownership interest in the property and its interest in the trees and standing timber on the property. If the answer to Part IV.A is "no," provide documentation supporting the explanation of the OPO's right to undertake and list the project.

B. If the answer to Part IV.C is "public," provide documentation demonstrating explicit approval of the offset project's management activities and baseline including any public vetting processes necessary to evaluate management and policy decisions concerning the offset project.

☒ N/A

C. If the project is located on one of the categories of Tribal land listed in Part IV(D), provide documentation demonstrating that the land within the Project Area is owned by a tribe or private entity. Also provide documentation that demonstrates the existence of a limited waiver of sovereign immunity between ARB and the governing body of the Tribe entered into pursuant to section 95975(I) of the Cap-and-Trade Regulation.





☒ N/A

D. Attach a map(s) of the Project Area including:

1. Public and private roads
2. Towns
3. Major watercourses (4th order or greater), water bodies, and watersheds
4. Topography
5. Townships, ranges, and sections or latitude and longitude
6. Existing land cover and land use (optional)
7. Forest vegetation types (optional)
8. Site classes (optional)
9. Land pressures and climate zone/classification (optional)
10. Historical land uses, current zoning, and projected land use within the Project Area (optional)
11. A georeferenced shape file (or other electronic file that can be read in a geographic information system) that clearly identifies the Project Area and boundaries. *Note that the georeferenced shape file may constitute the required map if it includes the required map information listed above.*

- E. If a Qualified Conservation Easement (QCE) has been recorded, provide a copy. The listing information contained in this form and the documents attached to it will eventually be submitted to ARB so submitting a copy of the QCE as an attachment to this listing document fulfills the requirement in Section 9.1.1.1(18)(a) of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014 to provide ARB with a copy. If no QCE has been recorded, provide supporting documentation demonstrating the planned or completed dedication of the land in the Project Area to continuous forest cover through a Qualified Conservation Easement or transfer to public ownership.
- F. Provide documentation demonstrating that the type of anticipated land use conversion is legally permissible per the requirements of Section 3.1.1.3 and Section 6.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- G. Provide a full copy of the appraisal that was prepared for the Project Area per the requirements in Section 3.1.2.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- H. Attach a graph portraying the baseline onsite carbon stocks with time depicted on the x-axis and metric tons CO₂e depicted on the y-axis.
- I. Attach a diagram of the baseline incorporating all required carbon stocks.

PART XI. ATTESTATIONS AND OPO SIGNATURE

 Initial	I certify under penalty of perjury under the laws of the State of California the GHG reductions and/or GHG removal enhancements for			
	Project Name: Green Assets - Lukens Avoided Conversion Project	from	Crediting Period Start Date: 4/29/2015	to Crediting Period End Date: 4/28/2040
	will be measured in accordance with the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014, and all information required to be submitted to ARB is true, accurate, and complete.			
 Initial	I understand I am voluntarily participating in the California Greenhouse Gas Cap-and-Trade Program under title 17, article 5, and by doing so, I am now subject to all regulatory requirements and enforcement mechanisms of this program and subject myself to the jurisdiction of California as the exclusive venue to resolve any and all disputes arising from the enforcement of provisions in this article.			
 Initial	I understand that the offset project activity and implementation of the offset project must be in accordance with all applicable local, regional, and national environmental and health and safety laws and regulations that apply to the offset project location. I understand that offset projects are not eligible to receive ARB or registry offset credits for GHG reductions and GHG removal enhancements that are not in compliance with the requirements of the cap-and-trade program.			
In signing this form, I certify under penalty of perjury of the laws of California that the information contained in this form is true, accurate, and complete. I further certify that I am an Account Representative of the Offset Project Operator (OPO).				
SIGNATURE: 		PRINTED NAME: Douglas Hunter Parks		
TITLE: Chairman, Green Assets, Inc.		DATE: 8/19/2015		

Background for Application of Listing an Avoided Conversion U.S. Forest Offset Project

Section 95975 of the Cap-and-Trade Regulation describes the requirements and process for an Offset Project Operator (OPO) or Authorized Project Designee (APD) to list an offset project with an approved Offset Project Registry. This form is designed to help an OPO or APD fulfill the requirements of Section 95975 of the Cap-and-Trade Regulation and of Section 9.1.1 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014, for listing an offset project. The U.S. Forest protocol designates three project types: Avoided Conversion, Improved Forest Management, and Reforestation. This form is designed for Avoided Conversion projects only. The information in the completed form should be submitted to the approved Offset Project Registry with which the OPO or APD would like their offset project listed.

Where to Submit Information Contained in This Form

Please complete the information on the form using your computer. Then either add an electronic signature to the form or print, sign, and scan the form. The completed and signed information and all supporting documentation should be submitted to the appropriate [Offset Project Registry](#).

Copies of this form can be downloaded from the ARB website at:
<http://www.arb.ca.gov/cc/capandtrade/offsets/forms/forms.htm>

Detailed Instructions for Application for Listing an Avoided Conversion U.S. Forest Offset Project

This form is protected with restricted editing to facilitate completing the form. If the applicant wishes to unprotect the form, the password is "form".

Part I. Entity Applying for Listing:

- Indicate whether the Offset Project Operator (OPO) or Authorized Project Designee (APD) is submitting the information for project listing. Section 95975(a) of the Cap-and-Trade Regulation requires that the OPO and, if applicable, the APD must register with ARB for the Cap-and-Trade Program prior to listing a project. It also requires that neither the OPO nor APD be subject to any Holding Account restrictions imposed as part of an enforcement action. To register with ARB, please visit the website for Compliance Instrument Tracking System Services (CITSS): <https://www.wci-citss.org/>
- List the name, organization, phone number, and email address of the person submitting the information. This person should be an employee of the OPO or APD, whichever entity is making the submission. The person submitting the information need not be the same person as the contact person listed for the OPO or APD in Part III and also need not be the person signing the form in Part XI.
- The person submitting the information should indicate the date the form is completed.

Part II. Offset Project Information:

- Provide the name for the offset project. Indicate the offset project commencement date and the start and end dates of the first reporting period; approximations are acceptable if precise dates are unknown.
- Project commencement for an Avoided Conversion Project is identified as the date on which the Project Area is either committed to continued forest management and protection through recording a conservation easement with a provision to maintain the Project Area in forest cover or transferred to public ownership.

Part III. OPO/APD Information:

- Enter contact information for the OPO and APD requesting the offset project listing. Every offset project will have an OPO. If an offset project does not have an APD, please mark the box indicating the Offset Project does not have an APD and leave the remaining fields blank.
- For both the OPO and, if applicable, the APD, enter the entity's name, its mailing address, and the name, phone number, and email address of a contact person for the entity. Also include its CITSS ID number. The CITSS ID is six characters in length, with two letters followed by four numbers (e.g.,

"CA1234"). **DO NOT PROVIDE THE CONFIDENTIAL CITSS ACCOUNT NUMBER**, which begins with the CITSS ID number followed by a hyphen and more numbers.

Part IV. Land Ownership:

- This part includes questions regarding land ownership and property interests.
- Further documentation is required based on the responses to some questions. See Part X of this listing form for more information on the precise requirements.

Part V. Offset Project Area:

- This part asks for qualitative descriptions of the offset Project Area.
- Maps are required to complement the descriptions provided in this part. See Part X of this listing form for more information on the precise requirements.
- The Project Area should be determined following the requirements of Section 4 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- Assessment areas shall be determined by referencing the Assessment Area Data File available at: <http://www.arb.ca.gov/cc/capandtrade/protocols/usforestprojects.htm>

Part VI. Offset Project Eligibility:

- The questions in this part are designed to facilitate the determination of project eligibility for Avoided Conversion Projects.
- Further documentation is required based on the responses to some questions. See Part X of this listing form for more information on the precise requirements.
- Details on the eligibility requirements for Avoided Conversion Projects can be found in Sections 2.1.3, 3.1, and 3.8 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- Details on the Natural Forest Management criteria can be found in Table 3.2 in the Compliance Offset Protocol U.S. Forest Project, November 14, 2014.
- Further information about qualifying documentation to demonstrate that the type of anticipated land use conversion is legally permissible can be found in Section 3.1.1.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- When a requirement is not applicable to the project being listed, please select the "N/A" (Not Applicable) checkbox next to the requirement so that it is clear that the question was not inadvertently left unanswered.

Part VII. Carbon Stock Inventory:

- Projects are not required to have completed a full carbon stock inventory at the time of listing, but OPOs/APDs should be familiar with Appendix A and have a plan for how they will meet the requirements therein. Therefore, a general description of the project's inventory methods and procedures, consistent with the requirements in Appendix A.3, is required at the time of listing. ARB recognizes that some information provided will be preliminary and based on best estimates. If the project's inventory methodology changes between the time of listing and submission of the first OPDR, this should be reported as a change to the information submitted at project listing when submitting the first OPDR.
- Section 6.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014 outlines the approved quantification methodologies for Avoided Conversion Projects. Further details on completing a forest project carbon inventory can be found in Appendix A of the Protocol.
- Follow the steps in Appendix D of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014 to quantify the project's reversal risk rating.
- The project's expected contribution to the Forest Buffer Account is determined annually based upon the project's risk of reversal and is calculated by multiplying the project specific reversal risk rating by the total net GHG reductions/removals achieved by the project. An approximation of the contribution to the Forest Buffer Account is acceptable.

Part VIII. Offset Project Baseline:

- Projects are not required to have a finalized baseline at the time of listing, but OPOs/APDs should be familiar with Appendix B and have a plan for how they will meet the requirements therein. A complete modeling plan reflecting the requirements in Appendix B.3 is therefore required at the time of listing. ARB recognizes that some information provided will be preliminary or based on best estimates. If the project's modeling plan or baseline estimates change between the time of listing and submission of the first OPDR, this should be reported as a change to the information submitted at project listing when submitting the first OPDR.

- Section 6.3 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014 outlines the approved quantification methodologies for Avoided Conversion Projects. Further details on modeling carbon stocks can be found in Appendix B of the Protocol.
- The rate of conversion and removal of onsite carbon stocks should be estimated per Section 6.3.1 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- The Discount for Uncertainty of Conversion Probability should be calculated per Section 6.3.1 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- ARB approved growth models can be found in Appendix B, Section B.1 of the Compliance Offset Protocol U.S. Forest Projects, November 14, 2014.
- When a requirement is not applicable to the project being listed, please select the "N/A" (Not Applicable) checkbox next to the requirement so that it is clear that the question was not inadvertently left unanswered.

Part IX. Additional Questions:

- Answer both questions. If the answer to either question is "yes," identify the registry or program and provide details on the issued credits in the space provided.

Part X. Attachments:

- Provide each attachment on a separate sheet of paper and submit along with the completed application for listing.
- To aid with tracking each attachment, it is recommended that the attachments are labeled to correspond with the letter in Part X that they refer to (e.g. "Attachment B").
- When an attachment is not applicable to the project being listed, please select the "N/A" (Not Applicable) checkbox next to the requirement so that it is clear that the attachment was not inadvertently left off.

Part XI. Attestations and OPO Signature:

- Section 95975(c) of the Cap-and-Trade Regulation requires three attestations for listing an offset project. The required attestations are provided in this section. Each attestation should be initialed by the person signing the form.
- The first attestation requires the applicant to provide the offset project name and the start and end dates of the crediting period to complete the statement. The offset project name should match the name entered in Part II. The dates for the offset project's crediting period must also be provided. Please note that the dates provided in the attestation are for the crediting period, not for the first reporting period provided in Part II. The crediting period dates may be approximate if precise dates are not known.
- Amendments adopted in April 2014 to section 95975(d) require the attestations "be provided to an Offset Project Registry with the listing information, if being listed with an Offset Project Registry."
- The individual signing the document must be registered in CITSS as the OPO's Primary Account Representative or Alternate Account Representative. The individual signing the document may be an APD employee and/or representative; but to sign the document, the individual must be an Account Representative on the OPO's CITSS account.
- Please provide the person's signature, printed name, corporate title, and date signed.

Please contact your Offset Project Registry with any questions regarding the Listing Form.