



# **Kirtland Hills Community Forest Validation Report**

Document Prepared by City Forest Credits

August 16, 2024

## PROJECT OVERVIEW

<i>Project Name</i>	Kirtland Hills Community Forest
<i>Project Registry Number</i>	057
<i>Project Type</i>	Tree Preservation
<i>City Forest Credits Protocol Version</i>	Version 13.40, February 29, 2024
<i>Project Start Date</i>	June 27, 2024
<i>Project Location</i>	Kirtland Hills, Ohio
<i>Project Operator</i>	Western Reserve Land Conservancy

## SUMMARY

*Provide a few sentences about the overall project*

Western Reserve Land Conservancy permanently preserved the 64.07-acre Kirtland Hills Community Forest in partnership with the Village of Kirtland Hills. The Project includes diverse stands of oak, pine, maple, beech, and other species of trees as old as 75 years in an area with increasing development pressure. The Land Conservancy's and the Village's overall goal is to protect the Project in perpetuity through conservation restrictions. Without the opportunity to register the forest as a carbon project, the trees would not have been protected and may have eventually been developed.

The Project is currently zoned to allow for residential (56.67 acres) and retail (7.4 acres) development. The inclusion of the retail commercial district is especially noteworthy, as it suggests that the Village is willing to forgo that development income in favor of conservation. The Village plans to eventually operate the Project area as a public park, allowing public access to over 1.5 miles of walking trails. Upon recording of the conservation easement, the Village will work together with the Land Conservancy staff to undergo a park planning process with the goal of opening the Project to public access a few years later.

## ELIGIBILITY

### **Project Operator Identity (Section 1.1)**

#### *Criteria*

A Project requires at least one Project Operator ("PO"), an entity organized and licensed under the laws of its jurisdiction, or a governmental body, which undertakes a Project, registers it with the registry of City Forest Credits (the "Registry"), and is ultimately responsible for all aspects of the project and its reporting.

#### *Issue Validated*

To demonstrate that they are an entity organized under the laws of their jurisdiction, the Project Operator, Western Reserve Land Conservancy, provided documentation in the form of a letter from the IRS attesting to their tax-exempt status to City Forest Credits.

## **Project Submittal Dates (Section 2.1, 2.3)**

### *Criteria*

Project must submit applications to the Registry within two years of the date of the Preservation Commitment. The Preservation Commitment must be recorded no later than 6 months after Registry Approval of the Project Application. Projects whose Preservation Commitment dates from prior to November 1, 2017 are not eligible.

### *Issue Validated*

Project Operator submitted the application on December 20, 2023. The Preservation Commitment effective date is June 27, 2024, which meets protocol criteria Section 2.1 and 2.3. CFC provided an extension to the Project Operator, to accommodate parties involved in the project.

## **Permanence – Project Duration and Reversals**

### **A. Project Duration (Section 1.2 and 2.2)**

#### *Criteria*

Project Operator must sign a Project Implementation Agreement with the Registry setting forth the Project Operator’s obligation to comply with the protocol. Project Operator must monitor and report for 40 years.

#### *Issue Validated*

Western Reserve Land Conservancy and City Forest Credits signed a Project Implementation Agreement on February 12, 2024, for the Kirtland Hills Community Forest project (Project Registry Number 057). The project has a 40-year duration under City Forest Credits Tree Preservation Protocol Version 13.40.

### **B. Reversals (Section 9)**

#### *Criteria*

A “Reversal” is loss of stored carbon such that the remaining stored carbon within the Project Area is less than the amount of stored carbon for which Registry credits have been issued. The Registry will retain in a Reversal Pool account 10% of all credits issued to preservation projects. This Reversal Pool account shall be used to compensate for Unavoidable Reversals.

#### *Issue Validated*

The Project Design Document and request for credits based on GHG mitigation includes a 10% deduction for the Reversal Pool of credits. 741 were contributed from this Project to the Registry Reversal Pool. The carbon quantification and Reversal Pool deduction were verified by the Validation and Verification Body, Zack Boerman.

## **Project Location (Section 1.3 and 1.4)**

### *Criteria*

Project Area must be located in parcels within or along the boundary of at least one of the urban area criteria. The Project Operator must specify the Project Area and provide an electronic map of the Project area with geospatial location.

### *Issue Validated*

The Project is located in the Village of Kirtland Hills, which meets protocol criteria Section 1.3B. The Project Operator has provided maps as supporting evidence, including geospatial location, regional-scale, and project area maps.

The 64.07-acre Project Area includes portions of contiguous parcel numbers: 22-A-001-0-00-005-0, 22-A-001-0-00-004-0, 22-A-004-0-00-010-0, 22-A-004-0-00-006-0, 22-A-004-0-00-012-0, 22-A-004-0-00-011-0, 22-A-001-0-00-003-0, 22-A-001-0-00-007-0.

The Project Area is in a location that receives more than 20 inches of precipitation per year and has more than 80% tree canopy, meeting protocol criteria Section 1.4 C. The Project Operator has provided an iTree Eco report to demonstrate the percentage of canopy cover for the Project Area is about 80.1%.

## **Ownership or Eligibility to Receive Potential Credits (Section 1.5)**

### *Criteria*

Project Operator must demonstrate ownership of potential credits or eligibility to receive potential credits.

### *Issue Validated*

The Village of Kirtland Hills is the landowner for the Kirtland Hills Community Forest Project, meeting protocol criteria Section 1.5C. The Project Operator provided a signed Agreement to Transfer Potential Credits, signed June 24, 2024, between them and the Village of Kirtland Hills as supporting documentation.

## **Tree Preservation Commitment (Section 4.1)**

### *Criteria*

Project Operator must demonstrate that trees in the Project Area are preserved for at least 40 years.

### *Issue Validated*

Project Operator included specific language in the conservation easement to protect the trees and carbon stock:

- Section B.1(d) on page 4: “Tree Removal. In addition to the Forestry Right granted in paragraph 2(e) below, Grantor reserves the right to remove (i) from anywhere on the Protected Property dead, diseased or materially damaged trees and trees that pose a danger to human life or neighboring properties, and (ii) trees from areas within which existing trails are being widened or new trails created (as provided in subparagraph 4(c); **provided, however, that any such removal does not materially impair significant conservation interests and has no more than a negligible or de minimis impact on biomass and carbon stock.**” (emphasis added)
- Section B.2(b) on page 5: “Maple Sugaring. Grantor reserves the right to tap maple trees on the Protected Property and to collect sap from such trees for the purpose of converting maple sap into maple syrup by any methods utilized by the maple syrup industry (“Sugaring”); provided, however, that such activities do not impair significant conservation interests as described in this Grant. Grantor may construct trails necessary for Sugaring, provided such trails shall be installed

and maintained using Best Management Practices and in accordance with the provisions of subparagraph 4(c) such that soil erosion, soil degradation, and habitat disturbance are minimized. Temporary structures directly associated with sap collection, such as small pole buildings commonly used to cover sap gathering tanks, may be constructed on the Protected Property; however **permanent structures, such as a sugarhouse, which are permanently attached to the ground and contain a foundation or impermeable surface covering the ground, are not permitted** on the Protected Property.

- Section B.2(c) on pages 5: Reservation of Forestry Management.
  - (i) Springing Forest Management Right. Grantor reserves the right to engage in forestry management in the manner described below beginning on the forty-second anniversary of the date upon which this Grant is made (the “Forestry Management Effective Date”). **In no event shall Grantor, or Grantor’s successors and assigns, exercise this Springing Forestry Management right until after the Forestry Management Effective Date.**

The project meets protocol criteria Section 4.1.

### **Demonstration of Threat of Loss (Section 4.2, 4.3, 4.4)**

#### *Criteria*

Project Operator must demonstrate that prior to the Preservation Commitment, the project trees were not preserved from removal. The Project Area must be in a land use designation that allows for at least one non-forest use and is not in an overlay zone that prohibits all development. The Project Area must also meet one of three conditions that demonstrate threat of loss as described in Section 4.4 A, B, or C such as surrounding developed or improved uses, per acre value, or fair market value.

#### *Issue Validated*

Project Operator has signed an Attestation of Additionality on June 3, 2024, stating that prior to the start of the Project, the trees in the Project Area were not protected by easement, recorded encumbrance, or protected zoning status.

The Project Area spans all or portions of eight parcels within the Village of Kirtland Hills. All parcels are currently zoned for “Farm and Residence” (56.67 acres) or “Retail Commercial” (7.4 acres) development. As designated by the Village zoning code, all areas allow for development and tree removal. As noted in the Zoning Documentation (Attachment H), Chapter 1354 - Tree Cutting section, a permit for tree cutting is required within the Village, though, the intent is not to restrict or hinder acceptable development. The Village lays out the legal pathway to remove trees and develop the land.

To demonstrate Threat of Loss, the Project Operator provided a map demonstrating that the Project Area property perimeter is bordered on over 30% by improved uses, meeting Protocol Section 4.4A.

### **No Double Counting of Credits and No Net Harm (Section 5)**

#### *Criteria*

The City Forest Credits Standard describes safeguards and the “No Net Harm” Principle in Section 5. Project activities shall not cause net harm to the environment or urban communities. Project Operator must sign an Attestation of No Net Harm.

The City Forest Credits Standard describes prevention of double-counting in Section 5. Project Operator must sign an Attestation of No Double Counting of Credits. Per Section 5.2 of the Tree Preservation Protocol, the Project Operator must submit documentation showing no overlap of Project Area with any other registered urban forest carbon project. As part of Validation, the Registry shall use the appropriate tool on GIS software (such as the Intersect tool on ArcGIS) to independently investigate whether there is any overlap between the Project Area and other registered urban forest carbon projects.

#### *Issue Validated*

Project Operator has submitted a signed Attestation of No Double Counting and No Net Harm on June 3, 2024, and the Registry sees no evidence of net harm from this project. The Registry has analyzed geospatial data of the Project Area against that of all other registered urban forest carbon preservation projects to confirm that the Project Area for this project has not already received credits under the CFC standard.

### **Additionality (Section 6)**

#### *Criteria*

The City Forest Credits Standard and Tree Preservation Protocol (Section 6) ensure additionality for every carbon project. A project activity is additional if it can be demonstrated that the activity results in emission reductions or removals that are in excess of what would be achieved under a “business as usual” scenario and the activity would not have occurred in the absence of the incentive period provided by the carbon markets.

Projects must demonstrate the following:

- Prior to the start of the project, the trees in the project area cannot be protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees.
- The zoning in the project area must currently allow for a non-forest use.
- The trees in the project area face some risk of removal or conversion out of forest.

The Tree Preservation Protocol sets out three tests to determine whether the trees or forest in a project area face a threat or risk of tree removal or conversion out of a forested use, as described in Section 4.4. Taken together, these elements allow crediting only for unprotected trees, at risk of removal, which are then protected by a project action of preservation, providing additional avoided GHG emissions.

Additionality is embedded also in the quantification methodology. Projects cannot receive credits for trees that would have remained had development occurred, nor can they receive soil carbon credits for soil that would have been undisturbed had development occurred.

Project Operator must sign an Attestation of Additionality.

#### *Issue Validated*

Project Operator has demonstrated that prior to the start of the project the trees were not protected, the zoning allows for a non-forest use, and the trees are at risk of removal or conversion out of forest. Project Operator has followed the carbon quantification methodology to demonstrate how the number of credits to be issued. Project Operator signed the Attestation of Additionality on June 3, 2024.

## Carbon Quantification (Section 11)

### Criteria

Project Operator must follow the carbon stock and soil carbon quantification methods outlined in Section 11 of the Protocol.

### Issue Validated

Project Operator completed on-site sampling to determine accounting stock, per protocol criteria Section 11.1B. The tree canopy percentage was measured using i-Tree Eco.

To quantify carbon, the Land Conservancy completed an on-site plot sample inventory to determine carbon stock. The Land Conservancy conducted a sample forest assessment to the standards set in CFC Tree Preservation Protocol Section 11.1.B. The sample established 17 plots sized 1/10th-acre. Within each plot, each live tree was inventoried that was at least 5 inches in diameter. Species, diameter, and overall tree condition were recorded for each tree. The Land Conservancy used i-Tree Eco to input the sample data to determine carbon storage. The CFC Carbon Calculator was used for quantification for subsequent steps 11.2, 11.4, and 11.5.

Forest composition from the plot-sample inventory was provided as supporting documentation, but forest age was not necessary for carbon quantification for this project.

Per Protocol Section 11.2A and 11.2B, 50.14% of Accounting Stock is at risk of conversion. The fraction of biomass at risk differs by zoning district and ranges from 44.94% to 90% for the based on minimum acre size per unit. The Project Area is zoned for a Farm and Residence District, which allows for residential development, and a Retail Commercial District, which allows for business development.

The Retail Commercial District consists of 7.4 acres stretching 800 feet easterly from Little Mountain Rd and 400 feet southerly of State Route 84. Given the zoning requirements stipulated through Village of Kirtland Hills zoning, residential lots must have a minimum of five acres. Depending on configuration, the 56.67 acres of the Project Area zoned residential could accommodate approximately 11 residential lots with the addition of public roads and necessary infrastructure, further risking biomass removal and increasing the percentage of impervious surface.

The method outlined in Protocol Section 11.2.B.ii was used to calculate the percent avoided biomass emissions. The Project Area was sub-divided by zoning to determine how many acres could be cleared according to the relevant zoning regulations. Calculations are described in detail in the Fraction at Risk Calculation Spreadsheet. In the table below, the total potentially cleared acres is listed as N/A when the fraction at risk of tree removal calculated per 11.2.B.ii was greater 90%.

Zoning	Number of Acres	Allowed Number of Dwellings	Total Potentially Cleared Acres	Fraction at Risk of Tree Removal
Farm/Residential	56.67	11	26.97	47.6%
Retail Commercial	7.4	N/A	N/A	90%

For the 7.4 acres of Project Area zoned Retail Commercial District, Section 11.2.A in the Preservation Protocol allows for 90% of the Accounting Stock on commercial and other primarily non-residential zones to be counted as "Avoided Biomass Emissions". There is not enough information provided in the zoning code to utilize one of the 11.2.B.ii calculations; therefore, the standard 90% Protocol allowance was used.

The total potentially cleared acres across the Project Area is 32.13 acres, encompassing 25.47 acres for the Farm and Residence District (44.94% of 56.67 acres) and 6.66 acres for the Retail Commercial District (90% of 7.4 acres). Thus 50.14% of the Project Area is at risk of tree removal. Calculations can be viewed in detail in Attachment U Kirtland Hills Community Forest Fraction at Risk Calculations.

Project Operator quantified the avoidance of emissions from soil carbon caused by conversion of soils to impervious surfaces under Protocol Section 11.3. Applicable zoning.

The Project Area is zoned for a Farm and Residence District, which allows for residential development, and Retail Commercial District, which allows for business development. As with the fraction at risk, the ratio of impervious surface avoided was calculated for the entire 64.07 acres.

Zoning regulations for the Farm and Residence District specify building ground coverage of a minimum 2,500 square feet, but do not specifically limit impervious surfaces. The zoning code does specify yard setback requirements of 130 feet from the front street, and 50 feet from adjacent rear and side property lines. Although the code does not require that these setbacks be pervious, to be conservative, it was assumed that the yard setbacks would not be converted to impervious surface. On that basis, 47.60% of the Project Area was considered as eligible for conversion.

Per 11.4.A., 90% of the Project Area is allowable in a commercial zone as eligible for conversion, and zoning regulations for the Retail Commercial District does not offer enough specificity regarding development to provide an alternative number. Thus, for the 7.4 acres of the Project Area zoned for the Retail Commercial District, 90% is eligible for conversion to impervious surface.

The overall weighted average of the entire Project Area is 52.50% avoided conversion to impervious surface.

Zoning – Stand	Total Acres	Fraction at Risk of Impervious Surface
Farm/Residential	56.67	47.60%
Retail Commercial	7.4	90.00%

A deduction of 18.3% for displaced development was included in carbon quantification, per Protocol Section 11.4.

The Carbon Quantification Summary is as follows:

Project Area (acres)	<b>64.07</b>
Does carbon quantification use stratification (yes or no)	<b>No</b>
Percent tree canopy cover within Project Area	<b>80.10%</b>
Accounting Stock (tCO <sub>2</sub> e)	<b>11,227</b>
On-site avoided biomass emissions (tCO <sub>2</sub> e)	<b>5,629</b>
On-site avoided soil carbon emissions (tCO <sub>2</sub> e)	<b>4,036</b>
Deduction for displaced biomass emissions (tCO <sub>2</sub> e)	<b>1,030</b>
Deduction for displaced soil emissions (tCO <sub>2</sub> e)	<b>1,223</b>



Credits from avoided biomass emissions (tCO <sub>2</sub> e)	<b>4,599</b>
Credits from avoided soil emissions (tCO <sub>2</sub> e)	<b>2,813</b>
Total credits from avoided biomass and soil emissions (tCO <sub>2</sub> e)	<b>7,412</b>
Credits attributed to the project (tCO <sub>2</sub> e), excluding future growth	<b>7,412</b>
Contribution to Registry Reversal Pool Account	<b>741</b>
<b>Total credits to be issued to the Project Operator (tCO<sub>2</sub>e)</b> <i>(excluding future growth)</i>	<b>6,671</b>

**Co-Benefits Quantification (Section 11.5)**

*Criteria*

Project Operator follows co-benefit quantification for rainfall interception, air quality, and energy savings, per protocol criteria Section 11.5.

*Issue Validated*

Project Operator has followed the co-benefits quantification method using the templates provided by City Forest Credits. Project Operator included 61 percent deciduous, and 19 percent coniferous for 64.07-acre Project Area. The following table documents the quantified ecosystem services in resource units and avoided costs.

<b><i>Ecosystem Services</i></b>	<b><i>Resource Units</i></b>	<b><i>Value</i></b>
Rainfall Interception (m <sup>3</sup> /yr)	30,622.5	\$64,723.81
Air Quality (t/yr)	2.3150	\$5,795.04
Cooling – Electricity (kWh/yr)	84,234	\$11,801.25
Heating – Natural Gas (kBtu/yr)	3,356,584	\$46,946.16
<b>Grand Total (\$/yr)</b>		<b>\$129,266.26</b>

**Monitoring and Reporting (Section 8)**

*Criteria*

Project Operator must report on tree conditions across the Project Area for the Project Duration. Reports must be submitted no less frequently than on the triennial anniversary of the date of the first Verification Report.

*Issue Validated*

Project Operator has agreed to submit written reports every three years using the template provided by City Forest Credits.

**Social Impacts (Section 12)**

*Criteria*

Project Operator shall use the Carbon Project Social Impact template to evaluate the SDGs to determine how a Project provides social impacts that contribute towards achievement of the global goals, as described in Section 12.

*Issue Validated*

Project Operator has submitted a completed Carbon Project Social Impact document. The project meets protocol criteria Section 12.

## VERIFICATION REPORT

CFC reviewed the Verification Report to ensure it accurately reflects the documentation contained in the Project Design Document and supporting documents.

## VALIDATION CONCLUSION

All the information provided in this validation report is free of material misstatement, to the best of our knowledge. The project complies with the validation criteria outlined in the City Forest Credits Standard and Tree Preservation Protocol Version 13.40.

Approved by City Forest Credits on August 16 in 2024.