



DATE: May 5, 2025

MEMO TO: Paul Frank, Chair
Planning Committee

Agenda Item # 10.5

Gina Roberts, Chair
Finance Committee

FROM: Pati Vitt
Director of Natural Resources

RECOMMENDATION: Recommend approval of an Ordinance approving a license agreement with HGS, LLC, for the Development and Operation of a Wetland Mitigation Bank at Ray Lake Forest Preserve.

STRATEGIC DIRECTIONS SUPPORTED: Conservation, Organizational Sustainability, Leadership

FINANCIAL DATA: If the final design of the mitigation bank is approved by the District and the Federal Mitigation Bank Interagency Review Team (IRT), HGS will (at no cost to the District) engineer, construct, and, for a minimum of five (5) years, maintain the proposed mitigation bank in accordance with the detailed plans and federal requirements. The licensed area is approximately 332.88 acres. Within that area, HGS will also undertake restoration on an area of 154.28 acres (at no cost to the District) with an estimated value of \$1,339,500. As part of the consideration for the license, HGS will either (i) complete a storm sewer replacement that is part of the project or (ii) if the District determines that the storm sewer project is unnecessary or will be paid for through a grant that the District intends to apply for (in which case District staff will complete the storm sewer work), pay a license fee to the District of \$1,082,604.00, which is the cost estimate for the installation of the storm sewer. At the District's direction, the license fee will be paid to the Preservation Foundation.

Under federal law, HGS is also required to provide to the District a long-term maintenance fund/escrow, which is estimated to be \$446,500, that the District will use to manage and maintain the restored mitigation bank areas after HGS sells the Mitigation Bank credits. The maintenance fund/escrow will be managed by the Preservation Foundation.

BACKGROUND: A mitigation bank is a wetland, stream, or other aquatic resource that has been restored, established, enhanced, or preserved by a mitigation bank developer. The values of the restored, enhanced, or created aquatic resources (known as "compensatory mitigation credits") are then purchased by real estate developers or governmental agencies completing public works projects to mitigate, and as compensation for, the unavoidable impacts of their development projects to wetlands and other aquatic resources.

Mitigation banks are governed by Section 404 of the federal Clean Water Act, its regulations, and/or similar state or local wetland regulations. The approval and administration of mitigation banks under federal jurisdiction are administered by the IRT, which is a three-member team with representatives from the US Army Corps of Engineers, US Fish and Wildlife Service, and US Environmental Protection Agency.

The “compensatory mitigation credits” purchased by developers/governments provide revenue to the mitigation bank developer and also fund the following costs: land value, costs of permit application and approval, costs of monitoring and management, and the funding of an escrow account for long-term management. The IRT requires the mitigation bank developer to provide for the perpetual ecological management of the bank, either through the owner of the mitigation bank or through the designation of a long-term land management party.

At its May 3, 2021, meeting, the Planning Committee gave staff the direction to (i) work with HGS’s parent company (Resource Environmental Solutions, Inc. (RES)) on concept plans for a wetland mitigation bank at Ray Lake Forest Preserve at no cost to the District and (ii) negotiate a license agreement that would allow HGS to develop and operate the mitigation bank at Ray Lake. HGS, in consultation with the Natural Resources and Planning Departments, has submitted to staff a concept plan (which would be incorporated into the proposed license agreement), to develop, engineer, install and maintain (for a minimum period of five years) a mitigation bank at Ray Lake that will:

- Re-meander and restore a portion of Manitou Creek and on-site wetlands in accordance with the concept plan, at no cost to the District. Specifically, HGS will establish 20.45 acres of wetland, re-establish an estimated 2,253 linear feet of stream and 45.68 acres of wetland, and enhance 200.14 acres of upland buffer areas. With the 100-foot perimeter buffer, HGS will re-establish and rehabilitate an additional 3.88 acres.
- Include a minimum five-year post-restoration maintenance and management period at no cost to the District.
- Require HGS to undertake additional restoration of approximately 154.28 acres of upland buffer within the licensed area, at no cost to the District. The entire estimated restored acres to be included within the licensed area is 332.88 acres.
- Require HGS to perform all obligations under the wetland mitigation banking instrument that will be required by the IRT and other applicable documents.

REVIEW BY OTHERS: Chief Operations Officer, Director of Finance, Manager of Board Operations, Corporate Counsel.

**LAKE COUNTY FOREST PRESERVE DISTRICT
LAKE COUNTY, ILLINOIS**

**AN ORDINANCE APPROVING A LICENSE AGREEMENT WITH HGS, LLC
FOR THE DEVELOPMENT AND OPERATION OF A MITIGATION BANK
AT RAY LAKE FOREST PRESERVE**

WHEREAS, the Lake County Forest Preserve District (the “District”) is the owner of certain real property that is commonly known as Ray Lake Forest Preserve in Lake County, IL, as shown and more fully detailed on the Site Map attached hereto as Exhibit A (the “Property”); and

WHEREAS, on May 3, 2021 the Planning Committee of the District’s Board of Commissioners gave staff the direction to work with Resource Environmental Solutions, Inc. (“RES”) on concept plans for a wetland mitigation bank at Ray Lake Forest Preserve, which would be developed and operated at no cost to the District; and

WHEREAS, HGS, LLC (“Licensee”) is a wholly owned subsidiary of RES and in the business of wetland and stream credit generation and brokerage; and

WHEREAS, HGS has submitted to District staff a concept plan for (i) a wetland mitigation bank on the Property consisting of new, enhanced or restored wetlands for the purpose of generating wetland credits and (ii) other improvements to and benefits for District property; and

WHEREAS, HGS has requested that the District enter into a license agreement with HGS in substantially the form attached hereto (the “License Agreement”) under which: (i) the District would grant to HGS a license (a) to enter upon and use the Property (1) to conduct surveys, feasibility studies and analyses of the conditions of the Property, its geology, topography, hydrology, water quality, soils, fauna and flora as well as the historical and present human uses of the Property; and (2) prepare wetland mitigation bank plans and documents (including a mitigation banking instrument (a “MBI”) for restoration and development of a wetland mitigation bank within the Property (the “Mitigation Bank”) to be submitted to the IRT for its review and approval and (b) if the IRT approves such plans and documents, including an MBI, restore and enhance the Property, at no cost to the District, and use such restored areas as the Mitigation Bank, as approved by the MBI, (ii) Licensee would maintain, at no cost to the District, the Mitigation Bank for a minimum of five years after the Mitigation Bank is complete and has satisfied the performance criteria required by the IRT, (iii) Licensee would provide a sufficient long-term endowment to be used for maintenance of the restored areas, at no cost to the District, (iv) Licensee would be allowed to generate and sell wetland mitigation credits, and (v) upon termination of the License Agreement, the District will continue to retain fee simple ownership of the restored and enhanced areas of the Property; and

WHEREAS, it is in the best interest of the District to enter into the License Agreement with HGS for the operation of the Mitigation Bank at the Property in substantially the form attached hereto;

NOW, THEREFORE, BE IT ORDAINED by the Board of Commissioners of the Lake County Forest Preserve District, Lake County, Illinois **THAT**:

Section 1. Recitals. The recitals set forth above are incorporated as a part of this Ordinance by this reference.

Section 2. Approval of License Agreement. The License Agreement is hereby approved, in substantially the form attached hereto.

Section 3: Execution of License Agreement. The Executive Director and Secretary of the District are hereby authorized and directed to execute and attest to the License Agreement on behalf of the District, in substantially the form attached hereto.

Section 4: Effective Date. This Ordinance shall be in full force and effect from and after its passage and approval in the manner provided by law.

PASSED this _____ day of _____, 2025

AYES:

NAYS:

APPROVED this _____ day of _____, 2025

Jessica Vealitzek, President
Lake County Forest Preserve District

ATTEST:

Julie Gragnani, Secretary
Lake County Forest Preserve District

Exhibit No. _____

Exhibit A.

Ray Lake Forest Preserve



Disclaimer: Property boundaries and other data provided is for general information only and not for commercial purposes. The District provides this data for the user's exclusive use only. Any re-use, transmission, duplication, or distribution without the permission of the District, is prohibited. Map sources include: Lake County GIS Division | Basemap: 2024 Aerial

 **Lake County
Forest Preserves**

Map Created on 3/7/2025

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 Forest Preserve Boundaries

 Forest Preserve Property

**WETLAND MITIGATION BANK
LICENSE AGREEMENT
(Ray Lake Forest Preserve)**

This WETLAND MITIGATION BANK LICENSE AGREEMENT (this “Agreement”) is made and entered into as of _____, 2025, by and between HGS, LLC, a Virginia limited liability company, with a mailing address at 6575 West Loop South, Suite 300, Bellaire, Texas 77401 (“Licensee”) and Lake County Forest Preserve District, a body politic and corporate, organized and existing under the Downstate Forest Preserve District Act, 70 ILCS 805/0/001 et seq., with a mailing address at 1899 West Winchester Road, Libertyville, Illinois 60048 (“District”; Licensee and District are, collectively, the “Parties”).

RECITALS

WHEREAS, District owns certain real property commonly known as “Ray Lake Forest Preserve”, which is generally depicted on Exhibit A (the “Property”); and

WHEREAS, the Property incudes streams, wetlands, other aquatic resources and/or habitat or other features that may be suitable for the Mitigation Bank (defined below); and

WHEREAS, Licensee is in the business of wetland and stream credit generation and brokerage in various States, including the State of Illinois; and

WHEREAS, Licensee desires to establish the Mitigation Bank within that portion of the Property that is the Licensed Premises (defined below) in accordance with the Concept Plan (defined below); and

WHEREAS, the District (i) desires that the Mitigation Bank be established and operated in accordance with the Concept Plan and the Mitigation Banking Instrument (defined below) and that all of the Work be completed as consideration for the Long-Term License granted herein and for the District’s other obligations herein and (ii) agrees that, upon completion of the operation of the Mitigation Bank in accordance with the Concept Plan and the Mitigation Banking Instrument, it will preserve and maintain the Licensed Premises in accordance with the Mitigation Banking Instrument; and

NOW, THEREFORE, for their mutually held interests in enhancement and preservation of the environment, in consideration of the terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of Illinois and all other applicable authority, the Parties hereby agree as follows:

A. PURPOSE

The purpose of this Agreement is:

1. To allow Licensee to evaluate the Licensed Premises to determine its suitability for the Mitigation Bank and to seek approvals for the Mitigation Bank from the Mitigation Authority (defined below); and
2. Set forth the various instruments and documents that will be required to be executed by the Parties in connection with the foregoing and that will govern the Mitigation Bank and Licensee’s operation thereof; and
3. To preserve, protect, restore, and enhance the native flora, fauna, soils, water table, aquifer, drainage patterns, streams, wetland resources and other related environmental functions and values of the Licensed Premises; and

4. To maintain the natural view shed of the Licensed Premises in its native, enhanced, scenic and open condition; and
5. To assure that the Licensed Premises, including its air space, streams and other aquatic resources on or beneath the Licensed Premises, and including, but not limited to, subsurface aquifers, springs, and the water table, will be maintained in its natural condition, as that may be enhanced, as provided herein; and
6. To prevent any use of the Licensed Premises that threatens to or will impair, interfere with, or otherwise negatively affect its natural resource functions and values.

B. CERTAIN DEFINITIONS

The following terms, as used herein, have the following meanings:

1. “Applicable Laws” means, collectively, any applicable federal, state and/or local constitutions, statutes, ordinances, rules, regulations, and/or judicial decisions applicable to the Property or the Licensed Premises, respectively; including, but not limited to, environmental statutes, ordinances, rules, and/or regulations.
2. “Closing” means recordation of the Site Protection Instrument (defined below) on the date which is ninety (90) days after the Inspection Period ends or on such earlier date as is mutually acceptable to Licensee and District. The Closing shall take place by mail or overnight courier.
3. “Concept Plan” means the “Ray Lake Conceptual Restoration & Wetland Mitigation Bank Plan” updated March 12, 2025, attached to this Agreement as Exhibit B.
4. “Effective Date” means the latest date set forth on the signature pages hereto (or if there is no such date, the date on which Licensee receives a fully executed counterpart of this Agreement from District).
5. “Expiration Date” means the date upon which (i) the Mitigation Authority has determined in writing that all required performance criteria for the Mitigation Bank have been satisfied, (ii) the Mitigation Authority has accepted and approved the Mitigation Bank, and (iii) all mitigation credits arising from the Mitigation Bank have been released for sale in accordance with the Mitigation Banking Instrument.
6. “Farm License” means any license agreement entered into by the District with any person or entity, pursuant to which the District grants such person or entity a license allowing the person or entity to use any portion of the Licensed Premises for agricultural purposes.
7. “Foundation” means the Preservation Foundation of the Lake County Forest Preserves, a private, not for profit corporation organized and existing under the Illinois General Not For Profit Corporation Act of 1986 (805 ILCS 105/101.01). The Foundation's primary purpose is to provide financial assistance to District's mission. The Foundation raises funds for a variety of District's purposes, including land acquisition, habitat restoration, development of trails or other amenities and educational programs.
8. “Inspection Period” means the period commencing on the Effective Date and ending upon the earlier of (i) the third anniversary of the Effective Date or, if Licensee (within the last thirty (30) days of the Inspection Period) sends written notice of its desire to extend the Inspection Period, a date (identified by Licensee in such notice) that is after the third anniversary but not

later than the fourth anniversary of the Effective Date and (ii) the date upon which the Mitigation Authority has approved the Mitigation Banking Instrument governing the Mitigation Bank. The Inspection Period may be extended by the written consent of Licensee and the District's Executive Director.

9. "License Fee" means \$1,082,604.
10. "Licensed Premises" means that approximately 332.88-acre portion of the Property located within the boundary generally depicted in the Concept Plan as the "Project Boundary"; the final description, boundaries, and acreage of the Licensed Premises will be established by the Final Survey obtained as provided in Section C.3. hereof. The anticipated Licensed Premises are also generally depicted on Exhibit A as the "Proposed Mitigation Bank Project Area".
11. "Mitigation Authority" means the Chicago District of the U.S. Army Corps of Engineers, and/or any other federal, state or local governmental authority or agency with jurisdiction over the Mitigation Bank proposed to be established within the Licensed Premises, including without limitation, to the extent they have such jurisdiction individually or as part of an Interagency Review Team, the Illinois Department of Natural Resources, the United States Fish and Wildlife Service, and the United States Environmental Protection Agency.
12. "Mitigation Bank" means the use of the Licensed Premises for the restoration, establishment, enhancement and/or preservation of aquatic or other natural resources (including, without limitation, habitat for endangered species) in accordance with the Mitigation Banking Instrument.
13. "Mitigation Banking Instrument" means a mitigation banking instrument that (i) authorizes the establishment and operation of a Mitigation Bank within the Licensed Premises in substantial compliance with this Agreement, including the Concept Plan and the Scope of Work, (ii) requires Licensee to perform all of the Work, (iii) requires Licensee to perform all maintenance and monitoring work for the Mitigation Bank required under Applicable Laws, (iv) requires Licensee to deposit with the District (or, at the District's written direction, with the Foundation, for the benefit of the District) a Long-Term Maintenance Fund not less than \$446,500, and (v) is otherwise acceptable to the District.
14. "Prospectus" means a prospectus for the Mitigation Bank that complies with and is consistent with this Agreement, including the Scope of Work.
15. "Scope of Work" means Exhibit C attached to this Agreement.
16. "Storm Sewer Work" means the installation of a new storm sewer within the area depicted on the Concept Plan as "Areas Within 40' Pipeline Easement".
17. "Work" means (i) the restoration, enhancement, and infrastructure work depicted in the Concept Plan and (ii) maintenance and monitoring work for the Mitigation Bank required under Applicable Laws. The Work includes both (i) work that is required under the Mitigation Banking Instrument or Applicable Laws to construct, maintain, and monitor the Mitigation Bank and (ii) additional restoration of approximately 154.28 upland acres of the Licensed Premises, in accordance with the Concept Plan (the "Upland Restoration Work"), and the Parties acknowledge that, even if the Upland Restoration Work is not required under Applicable Laws for the operation or maintenance of the Mitigation Bank, Licensee must perform the Upland Restoration Work as part of the consideration for the Long-Term License granted herein. The Work includes the Storm Sewer Work.

C. INSPECTION AND SURVEY

1. As a condition to Licensee's obligation to implement the Mitigation Bank, District grants to Licensee a license (the "Short-Term License") permitting Licensee and its agents to conduct such inspections that Licensee, in its sole discretion, deems appropriate, including but not limited to title examination, environmental and soil testing, engineering studies, legal, financial and other inspections and evaluations of the Property and the transaction contemplated hereby and the other activities identified in this Section C (the "Inspection").
2. District hereby authorizes Licensee and its agents, engineers, representatives, and contractors to enter the Property at any reasonable time to conduct the Inspection, and upon request from Licensee and/or Licensee's authorized representatives shall cooperate with such parties to coordinate such entry.
3. During the Inspection Period, Licensee shall obtain a survey of the Licensed Premises that identifies a boundary that is substantially the same as the "Project Boundary" identified in the Concept Plan, except to the extent deviations from such boundary are approved by both Parties (the "Survey"). The Survey shall certify to the Parties both as to a metes and bounds property description for, and the number of acres within, the Licensed Premises and shall otherwise be in form and content acceptable to both Parties (the Survey, once certified by the surveyor and approved by both Parties, shall be referred to herein as the "Final Survey").
4. During the Inspection Period, Licensee shall prepare, and submit to the District for its information and to the Mitigation Authority for its approval, a Prospectus, a Mitigation Banking Instrument, and a construction, management and monitoring/reporting plan (which may be part of the Mitigation Banking Instrument) and use good faith and diligent efforts to obtain approval thereof from the Mitigation Authority.
5. During the Inspection Period, Licensee shall use good faith and diligent efforts to undertake the other tasks identified in the Scope of Work.
6. If Licensee is not satisfied with the outcome of the Inspection that renders the Licensed Premises unsuitable for Licensee's purposes for any reason in Licensee's sole discretion, Licensee may terminate this Agreement by written notice to District on or before the expiration of the Inspection Period.
7. If, within the Inspection Period, the Mitigation Authority has not finally approved a Mitigation Banking Instrument, then this Agreement will terminate, with no further action by either Party.
8. If this Agreement is terminated by Licensee during the Inspection Period pursuant to Section C.6 or pursuant to Section C.7, Section L, or Section P, any license granted herein will also be terminated, and the Parties shall be released from all obligations hereunder that accrue following such termination, except those that expressly survive termination of this Agreement as provided herein.

D. LONG-TERM LICENSE

1. If neither Party terminates this Agreement as provided in Section C, then the District grants to Licensee a license to install and operate the Mitigation Bank within the Licensed Premises (the "Long-Term License"). The Long-Term License shall commence as provided in Section D.3 below.

2. Licensee shall (i) install and operate the Mitigation Bank, and use the Long-Term License and (ii) perform all Work, all at no cost to the District and all in accordance with this Agreement, the Mitigation Banking Instrument, and Applicable Laws.
3. The Long-Term License will be effective as of the earliest to occur of (i) Closing or (ii) the date, if any, upon which the District's Executive Director waives the District's termination right in writing, and will terminate on the Expiration Date, unless terminated earlier as provided herein. On or prior to the Expiration Date, Licensee shall vacate the Licensed Premises.
4. District hereby covenants that (a) it shall not sell, convey or transfer fee title to all or any portion of the Licensed Premises during the term of this Agreement, and (b) it shall ensure that Licensee, all Work Contractors and the Mitigation Authority shall have reasonable ingress and egress between the Licensed Premises and a public roadway.
5. Licensee acknowledges that (i) the Licensed Premises are, and will remain at all times, the property of the District, (ii) the Agreement grants only contractual license rights only and does not create an easement, a leasehold, or any other real property rights, and (iii) the District shall retain legal possession and control over the Licensed Premises. The District represents that its purposes in entering into this Agreement are set forth in Section A.3-6 of this Agreement, and that this Agreement provides a means for the long-term restoration of the Licensed Premise for the benefit of the public and for the furtherance of the District's statutory mission, all of which is reasonably related to the purposes for which the District was created. Therefore, the Parties agree that this agreement grants a license pursuant to Section 7b of the Downstate Forest Preserve District Act, 70 ILCS 805/7b. Notwithstanding the foregoing, if the Chief County Assessment Office or any other government official or agency determines that the rights under this Agreement create a leasehold interest and, as a result, an *ad valorem* or any other tax is imposed upon such leasehold, then Licensee shall pay all such taxes.

E. WORK

1. Licensee shall perform the Work in a good and workmanlike manner, at no cost to the District, and in accordance with this Agreement, the Mitigation Banking Instrument, and Applicable Laws. Without limiting the preceding sentence, Licensee, at no cost to the District, shall perform the required maintenance and monitoring of the Work (including maintenance of the Upland Restoration Work so that it complies with the Concept Plan) until the Expiration Date (at which point the District shall be deemed to assume all management and maintenance obligations under the Mitigation Banking Instrument).
2. The Work shall be confined entirely to the Licensed Premises. If any District property is damaged by Licensee or any Work Contractor (defined below), Licensee shall repair and restore the damaged property to its condition prior to such damage. The Parties acknowledge that reasonable and normal wear, tear, and erosion do not constitute "damage".
3. Licensee shall contact the District's Director of Natural Resources at least seven (7) days prior to the commencement of the Work.
4. In performing the Work, Licensee shall comply, to the extent they apply to the Work and to the extent they are not preempted by any federal law, with (i) the Illinois Prevailing Wage Act (820 ILCS 130/0.01 et seq.) and (ii) the Illinois Public Construction Bond Act (30 ILCS 550/0.01 et seq.). With respect to the Prevailing Wage Act, the District's assessment is that earthwork, grading, drain tile removal, and similar work are likely subject to the Prevailing Wage Act. Any bond required by the Public Construction Bond Act shall not be released until the Expiration Date.

5. Licensee may cause any portion of the Work to be performed by a contractor (a “Work Contractor”) but only if and after (i) Licensee has entered into a written contract with such Work Contractor (a “Work Contract”), in which the Work Contractor agrees to comply with all of licensee’s obligations under Section E (Work), Section G (Insurance and Liens), Section K (Indemnities), Section L (Termination), and Section Q (Notice), and (ii) the District has first had an opportunity to review the Work Contract to ensure that it includes such provisions. Even if Licensee enters into a Work Contract, Licensee is not relieved of its obligation to perform the Work in accordance with, and to otherwise comply with, this Agreement.

F. DOCUMENT AND LICENSE FEE DELIVERY

1. Contemporaneously with the Mitigation Authority’s approval of the Mitigation Banking Instrument, District shall execute and deliver to Licensee at Closing, in suitable form for recording in the applicable real property records, a declaration of restrictive covenants in favor of the Mitigation Authority, in form and substance customarily required by the Mitigation Authority, that runs with the land and is binding on the District and that limits the activities that may be performed on the Licensed Premises, including (i) preserving the right to view the Licensed Premises in its natural and open condition, (ii) prohibiting the placement of dredged or filled material on the Licensed Premises, (iii) prohibiting the installation of certain structures on the Licensed Premises, (iv) prohibiting the destruction of trees and plants (except as necessary for ecological management), (v) prohibiting the operation of certain vehicles, (vi) prohibiting the application of certain insecticides or herbicides, (vii) prohibiting the modification of the hydrology of the Licensed Premises, and (viii) granting to the Mitigation Authority the authority to enforce such declaration (a “Site Protection Instrument”).
2. In consideration of District’s execution and delivery to Licensee of a Site Protection Instrument and the Long-Term License granted herein, Licensee (in addition to its other obligations) shall either (i) at Closing, pay the License Fee to the District (or, at the District’s written direction, to the Foundation, for the benefit of the District) or (ii) complete the Storm Sewer Work. Specifically, the License Fee is payable only if, as of Closing, the Executive Director has determined in their reasonable discretion that the District has obtained grant funds sufficient to pay for the cost of the Storm Sewer Work (in which case Licensee is not required to perform the Storm Sewer Work as part of the Work) or that such Storm Sewer Work is not necessary. If, however, as of Closing, the Executive Director has determined in their reasonable discretion that the District has not obtained grant funds sufficient to pay for the cost of the Storm Sewer Work and that such Storm Sewer Work is necessary, then, in lieu of paying the License Fee, Licensee shall perform the Storm Sewer Work as part of the Work.

G. INSURANCE AND LIENS

1. Licensee shall procure and maintain, at all times until the Expiration Date or during which it is present on the Property, at its sole cost and expense commercial general liability insurance naming District as an additional insured with combined limits of not less than \$1,000,000.00 per occurrence for bodily injury (including death) and property damage, and \$2,000,000.00 aggregate (Umbrella/Excess coverage can be used in combination with primary general liability to satisfy this requirement), and shall furnish evidence of such insurance coverage by way of certificates of insurance which shall provide for thirty (30) days' notice of cancellation. All policies shall provide a waiver of subrogation in favor of District and its affiliates. Licensee shall require its agents, engineers, representatives, and contractors performing work to procure and maintain commercial general liability insurance in commercially reasonable amounts (not to exceed the amounts set forth hereinabove) until completion of their respective work or services, naming District and its affiliates and Licensee, respectively, as additional insureds and complying with all other requirements of this

provision. Certificates of such insurance, in form reasonably satisfactory to District, shall be delivered to Licensee and forwarded by Licensee to District.

2. In exercising the Inspection and its rights under this Agreement, Licensee shall comply with all Applicable Laws and shall not permit any liens to attach to the Property. Should any such liens be filed against or attach to the Property, Licensee shall cause them to be removed of record and fully discharged at Licensee's sole cost and expense within ten (10) days following notice thereof to Licensee.

H. ENFORCEMENT

The Parties and the Mitigation Authority shall have the right to enter the Property to observe the Licensed Premises and to take actions necessary to verify compliance with and to enforce this Agreement. When practicable, Licensee or the Mitigation Authority, as the case may be, shall provide reasonable notice to the District prior to such entry.

I. DISTRICT'S REPRESENTATIONS AND WARRANTIES

District represents and warrants to the best of District's knowledge, as of the Effective Date and as of the Closing, the following are true, complete, and correct:

1. District has not received notice of, and has no knowledge of, any pending or threatened condemnation proceedings, administrative actions or similar actions or proceedings relating to the Licensed Premises. No commitments have been made by District to any governmental entity, agency or authority relating to the Licensed Premises other than those otherwise required by Applicable Law.
2. No litigation is pending, proposed, threatened, or anticipated with respect to any matter affecting the Licensed Premises.
3. The execution, delivery, and performance of this Agreement by District will not require the consent of any third party, and neither this Agreement nor the performance of District hereunder shall constitute a violation of any agreement, contractual commitment, or law applicable to District or the Licensed Premises.
4. The execution, delivery and performance of this Agreement are within the powers of District to the extent provided by Applicable Law and all requisite authorization actions and consents necessary to effectuate the various terms of this Agreement have been taken or will be taken before Closing.
5. District has no knowledge of and has received no notice from any governmental agency regarding any violation or alleged violation of any Applicable Laws applicable to the Licensed Premises.
6. The Licensed Premises, and District's operation and use of the Licensed Premises, complies with all Applicable Laws.
7. Neither District nor any third party is currently using the surface of the Licensed Premises for the investigation, exploration, prospecting, drilling, mining, transportation, storage or production of oil, gas, or other minerals or any surface or subsurface matter (including sand or gravel). In addition, no third party has notified District of its plans or intentions, and District currently has no plans or intentions, to use the surface of the Licensed Premises for any such purposes.

8. As of the Closing, District has complied with Section J and District is not in default under any contract or agreement affecting the Licensed Premises, and no event exists which, with the passage of time or the giving of notice or both, will become a default by a party to any such contract. District is in compliance with the terms and provisions of the covenants, conditions, restrictions, rights-of-way or easements affecting the Licensed Premises, to the best of District's knowledge.
9. All bills and claims for labor performed and materials furnished to or for the benefit of the Property currently due and contracted for by or on behalf of District have been paid in full.
10. Licensee agrees that (i) the condition of the Licensed Premises is an "as is", "where is" condition and "with all faults", (ii) the Licensed Premises is subject to all agreements and rights recorded against the Licensed Premises as of the Effective Date and (prior to the commencement of the Long-Term License) may be subject to a Farm License, and (iii) District has not made any express or implied representations, warranties, promises, covenants, agreements or guarantees of any kind or character whatsoever, whether express or implied, oral or written, past, present or future, concerning the Licensed Premises, including, without limitation: the status of title, the condition or suitability of the Licensed Premises or any portion thereof for any particular purpose; any environmental condition; or concerning the presence or absence of any hazardous substance, hazardous waste (as those terms are defined under any state or federal law, rule or regulation relating to the environment) or any petroleum product or asbestos.

J. DISTRICT COVENANTS

District covenants and agrees that:

1. No later than sixty (60) days after the Effective Date, District will deliver to Licensee any accessible (i) environmental reports, assessments, tests and studies for or of the Licensed Premises, (ii) any contract or agreement giving any person or entity the right to use the Licensed Premises, including any Farm License and all leases (including mineral leases), and (iii) surveys, engineering reports, soil reports, water rights records, and permits of and for the Licensed Premises (collectively, the "Property Information Materials"). In the event District comes into possession or control of any Property Information Materials after the Effective Date, District shall promptly deliver the same to Licensee. District shall afford Licensee access to such additional documents and information in District's possession or control regarding the Property as Licensee may reasonably request.
2. For so long as this Agreement remains in effect, District shall not, without the prior written consent of Licensee: (i) convey or grant an interest in the Licensed Premises or any portion thereof to any person or entity other than Licensee that would prevent Licensee from using the Long-Term License or Short-Term License granted herein or (ii) enter into any agreement, lease, easement or contract with respect to all or any portion of the Licensed Premises that would prevent Licensee from using the Long-Term License or Short-Term License granted herein. The District's entry into the Farm License does not violate this covenant. The District further covenants that (i) the Farm License shall allow Licensee to conduct the Inspection and (ii) the District shall terminate the Farm License prior to the commencement of the Long-Term License.
3. District shall take no action to adversely modify the Licensed Premises' natural state, flora, fauna and/or wetland character including any of the following: (i) construction of any structure or structures; (ii) cutting, burning, removal or destruction of vegetation (including trees) outside of an established natural area management plan; (iii) building of roads, trails or paths on the Licensed Premises; (iv) changing the elevation of or contours of the Licensed Premises; (v)

pumping, draining or causing the Licensed Premises to be drained; (vi) placing, filling, storing, or dumping of refuse, trash, vehicle bodies or parts, rubbish, debris, junk, waste, or similar items on the Licensed Premises; (vii) mechanized land clearing; (viii) deposition of soil, shell, rock or other fill on the Licensed Premises; (ix) grazing of non-native animals on the Licensed Premises; (x) allowing commercial or industrial activities on the Licensed Premises; or (xi) any other activity inconsistent with preserving the Licensed Premises' natural state, flora, fauna and/or wetland character.

K. INDEMNITIES

Licensee shall indemnify and hold District harmless from liability for any damages caused by any negligent acts, omissions, or willful misconduct conducted by Licensee or any party claiming by, through or under Licensee on the Licensed Premises or Property or in the performance of its rights under this Agreement, other than to the extent such damages are caused by the negligence or willful misconduct by District or any party acting by, through or under District. At all times that this Agreement remains effective and for so long as any Site Protection Instrument is binding on the Licensed Premises, District agrees that it shall indemnify and hold Licensee and its successors and assigns harmless from liability for any damages caused by any negligent acts, omissions, or willful misconduct conducted by District or any party claiming by, through or under District on the Licensed Premises and Property or in the performance of its rights under this Agreement, other than to the extent such damages are caused by the negligence or willful misconduct by Licensee or any party acting by, through or under Licensee. The obligations under this Section K shall survive Closing and/or termination of this Agreement.

L. TERMINATION

1. Notwithstanding anything herein to the contrary, if a Party (i) intentionally, willfully, or in a grossly negligent manner commits any act or does anything that damages or affects the Licensed Premises or materially affects its ecological state or otherwise prevents the consummation of the transactions contemplated hereby, or (ii) commits fraud relating to this Agreement, then the other Party shall have the right to immediately terminate this Agreement and pursue any and all remedies available at law or equity, including a suit for damages.
2. If District breaches any representation or warranty set forth herein, or fails to perform any of its material obligations under this Agreement for any reason other than default by Licensee or the Parties' termination of this Agreement under its terms, Licensee may, following not less than sixty (60) days' written notice to District: (i) terminate this Agreement, (ii) enforce specific performance of this Agreement against District, or (iii) pursue any other remedies available to Licensee at law or equity, including a suit for damages; provided, that, if such breach is susceptible of being cured, but cannot reasonably be cured within such sixty (60) day time period, then such cure right shall be extended for such reasonable additional period as long as the District is diligently pursuing such cure in good faith.

M. LICENSED PREMISES RESTRICTIONS

Any activity in or use of the Licensed Premises that is inconsistent with the purposes of this Agreement by the District is prohibited; provided, that, upon execution and recordation of the Site Protection Instrument, the District's obligations under this Section M shall be deemed to be reformed to conform to the restrictions set forth in the Site Protection Instrument, and Licensee's rights to enforce such reformed Section M shall continue hereunder. Without limiting the generality of the foregoing, and except when an approved purpose necessary to accomplish the Mitigation Bank approved under any Mitigation Authority permit(s) reliant upon this Agreement, the following activities and uses are expressly prohibited in, on, over, or under the Licensed Premises, subject to the express terms and conditions below:

1. Structures. The construction of man-made structures including, but not limited to, the construction, removal, placement, preservation, maintenance or alteration of any buildings, roads, utility lines, billboards, or other advertising. This restriction does not include deer stands, bat boxes, bird nesting boxes, bird feeders, and the placement of signs for safety purposes or boundary demarcation.
2. Demolition. The demolition of fencing structures constructed by the Licensee for the purpose of demarcation of the Licensed Premises or for public safety.
3. Soils. The removal, excavation, disturbance, or dredging of soil, sand, peat, gravel, or aggregate material of any kind; or any change in the topography of the land, including any discharges of dredged or fill material, ditching, extraction, drilling, driving of piles, mining or excavation of any kind.
4. Drainage. The drainage or disturbance of any aquifer, the surface water level or the water table.
5. Waste or Debris. The storage, dumping, depositing, abandoning, discharging, or releasing of any gaseous, liquid, solid, or hazardous waste substance, materials or debris of whatever nature on, in, over, or underground or into surface or ground water.
6. Non-Native Species. The planting or introduction of non-native or invasive species.
7. Herbicides, Insecticides, and Pesticides. The use of herbicides, insecticides, or pesticides, or other chemicals, except as may be necessary to control invasive species that threaten the natural character of the Licensed Premises. State-approved municipal application programs necessary to protect public health and welfare and herbicide, insecticide, and pesticide use by a licensee of a Farm License, if such use complies with the requirements of the United States Department of Agriculture Natural Resource Conservation Service, are not included in this prohibition.
8. Removal of Vegetation. The mowing, cutting, pruning, removal; disturbance, destruction, or collection of any trees, shrubs, or other vegetation, except for pruning, cutting or removal for:
 - a. safety; or
 - b. control in accordance with accepted scientific forestry management practices for diseased or dead vegetation; or
 - c. control of non-native species and noxious weeds; or
 - d. scientific nature study.
9. Agricultural Activities. The conversion of, or expansion into, any portion of the Licensed Premises for agricultural, horticultural, aquacultural, silvicultural, livestock production or grazing activities. Licensee acknowledges that the portion of the Licensed Premises generally depicted on Exhibit D as "Active Farm Field" is already used for agricultural purposes and that the continued use of such portion for agricultural purposes, prior to the commencement of the Long-Term License, is not prohibited.
10. Restricted Public Access. During construction and establishment of the Mitigation Bank, the District shall take reasonable steps to prohibit general public access to areas designated by Licensee as sensitive areas.
11. Other. Other acts, uses, excavation, or discharges, which adversely affect fish or wildlife habitat or the preservation of lands, waterways, or other aquatic resources located within the Licensed Premises.

N. RESERVED RIGHTS

1. This Agreement will not prevent the District, or any subsequent owner of the Property and/or portions of the Property, from (i) using the area(s) of the Property outside of the Licensed Premises for any purpose or (ii) using the Licensed Premises in a manner that is consistent with the purposes of this Agreement, including, but not limited to, and subject to review by Licensee, agreements for the extraction of natural gas (regardless of source) or oil, and injection or release of water and other substances to facilitate such extraction, but excluding injection wells subject to state or federal underground injection control programs. The activities subject to such agreement may only occur at subterranean depths at which there can be no impairment of or detectable impact to water quality or quantity, native flora, fauna, soils, water table, aquifer, drainage patterns, and other related environmental functions and values of the Property, or on other resources described in this Agreement. No surface activities or uses, incident to such extraction are permitted in the Licensed Premises. District and Licensee shall provide the Mitigation Authority notice of District's intent to enter into an agreement allowing subsurface activities at least sixty (60) days prior to executing the agreement.
2. If the success of the Mitigation Bank authorized by the Mitigation Authority requires any related or unanticipated infrastructure modifications, utility relocation, drainage ditches, or stormwater controls within the identified Licensed Premises, or if a situation requires measures to remove threat to life or property within the identified Licensed Premises, said activities must be approved in writing by the Mitigation Authority subject to terms and conditions set forth in the written approval. The District and Licensee accept the obligation to place any other and/or subsequent responsible party on reasonable prior notice of their need to request such Mitigation Authority approval.
3. This Agreement is not intended to prohibit future necessary or desired maintenance, repair, or enhancements to the Property, where such actions are approved by the Mitigation Authority as appropriate through the Mitigation Banking Instrument or by a separate permit.

O. ECONOMIC BENEFITS FROM MITIGATION BANK

District acknowledges and agrees that any revenue from the sale of mitigation credits created by the Mitigation Bank shall be paid solely to Licensee and/or its affiliates, and not to District.

P. CASUALTY

District shall be responsible for all risks of damage, loss or injury to the Licensed Premises and its ecological state and for all property-owner liability prior to Closing. If, prior to Closing, the Licensed Premises or any part thereof (including vegetation) shall be destroyed or materially damaged or if the ecological state of the Licensed Premises or any part thereof is materially altered by fire, flood, erosion, weather, wind, disease, infestation or other casualty, in whole or in part, if Licensee, in Licensee's sole discretion, concludes that such casualty renders the Licensed Premises unsuitable for Licensee's purposes, and Licensee notifies District in writing of such conclusion prior to Closing, then this Agreement shall terminate.

Q. NOTICE

Any notice required by this Agreement shall be hand-delivered, or sent in writing, postage prepaid by U.S. mail, by nationally recognized overnight courier, by hand delivery, or by electronic mail, addressed to Licensee or District (and such other notice parties as may be listed for either Licensee or District, as the case may be), to the address of the party set forth on the signature page of this Agreement. Such notice shall be deemed given (a) upon hand delivery, (b) three (3) business days after it is mailed, (c) one (1) business day after sending by overnight courier, or (d) upon transmission by electronic mail upon entry into the recipient's electronic mail server. Notices sent by electronic mail must be promptly followed by notice sent pursuant to one of the other methods set forth above.

R. OTHER MATTERS

1. This Agreement will inure to the benefit of and bind the Parties hereto and their respective representatives, successors, and assigns.
2. District shall keep confidential all information obtained from Licensee except for disclosures required or allowed by Applicable Law, including but not limited to the Illinois Freedom of Information Act. District's obligations under this Section R.2. shall survive the Closing, expiration, or termination of this Agreement.
3. This Agreement shall be governed by the law of the State of Illinois, without reference to its choice of law provisions. Any warranties, representations, or covenants by the parties agreed to herein shall survive the Closing and the recording of the Site Protection Instrument and shall not be merged into the Site Protection Instrument.
4. This Agreement including its exhibits shall constitute the entire agreement between District and Licensee with respect to the Mitigation Bank and supersedes any other written or oral agreements between District and Licensee. This Agreement may be modified only by the written agreement of both Parties.
5. This Agreement may not be assigned by any Party without the prior written consent of the other Party, which consent may be withheld in the sole discretion of the other Party. In the case of an approved assignment, the assignee must assume all obligations of the assigning Party hereunder. The pledge or collateral assignment of this Agreement, or any rights and/or remedies hereunder, by any Party to its primary lender(s) as collateral for such Party's obligations under any secured credit facility will not be deemed an assignment under this Agreement.
6. This Agreement may be executed in multiple counterparts, including a facsimile or .pdf scanned version thereof, each of which shall be considered to be an original thereof. The Parties agree that the electronic signature of a Party to this Agreement shall be as valid as an original signature of such Party and shall be effective to bind such Party to this Agreement and to the public.
7. Each Party agrees, and advises the other, to seek their own legal advice with respect to entering into this Agreement, and any particular issue or term related thereto. The Parties hereto acknowledge that the Parties and their counsel have reviewed and revised this Agreement and agree that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting Party shall not be employed in the interpretation of this Agreement or any exhibits or amendments hereto.
8. Time is of the essence of this Agreement.
9. If the day for performance of any obligation hereunder, or the last day of a particular time period provided for herein, falls on a Saturday, Sunday, or legal holiday recognized by national banks in Lake County, Illinois, such day for performance, and the expiration of such time period, as the case may be, shall be the next day which is not a Saturday, Sunday or such legal holiday.
10. The Parties agree that in discussing, negotiating, and entering into this Agreement, neither Party is relying on representations of the other Party except as to the Party's authority to enter in and perform under the Agreement and the specific representations made in the Agreement.
11. If any portion of this Agreement is held invalid or inoperative, then so far as is reasonable and possible the remainder of this Agreement shall be deemed valid and operative, and, to the greatest extent legally possible, effect shall be given to the intent manifested by the portion held invalid or inoperative. The failure by any Party to enforce against the other any term or provision of this

Agreement shall not be deemed to be a waiver of such Party's right to enforce against the other Party the same or any other such term or provision in the future.

12. Section headings are included for convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement and should not be used to construe or interpret this Agreement. Whenever the words "include", "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation", whether or not they are in fact followed by those words or words of like import.

{Signature Page Follows}

IN WITNESS WHEREOF, District and Licensee have executed this Agreement as of the Effective Date.

DISTRICT:

LAKE COUNTY FOREST PRESERVE DISTRICT

By: _____

Name: _____

Date: _____

Address:

1899 West Winchester Road
Libertyville, Illinois 60048

Attn: _____

E-Mail: _____

LICENSEE:

HGS, LLC

By: _____

Name: Lucas Lilly, General Manager

Date: _____

Address:

c/o Resource Environmental Solutions, LLC
6575 West Loop South, Suite 300
Bellaire, TX 77401

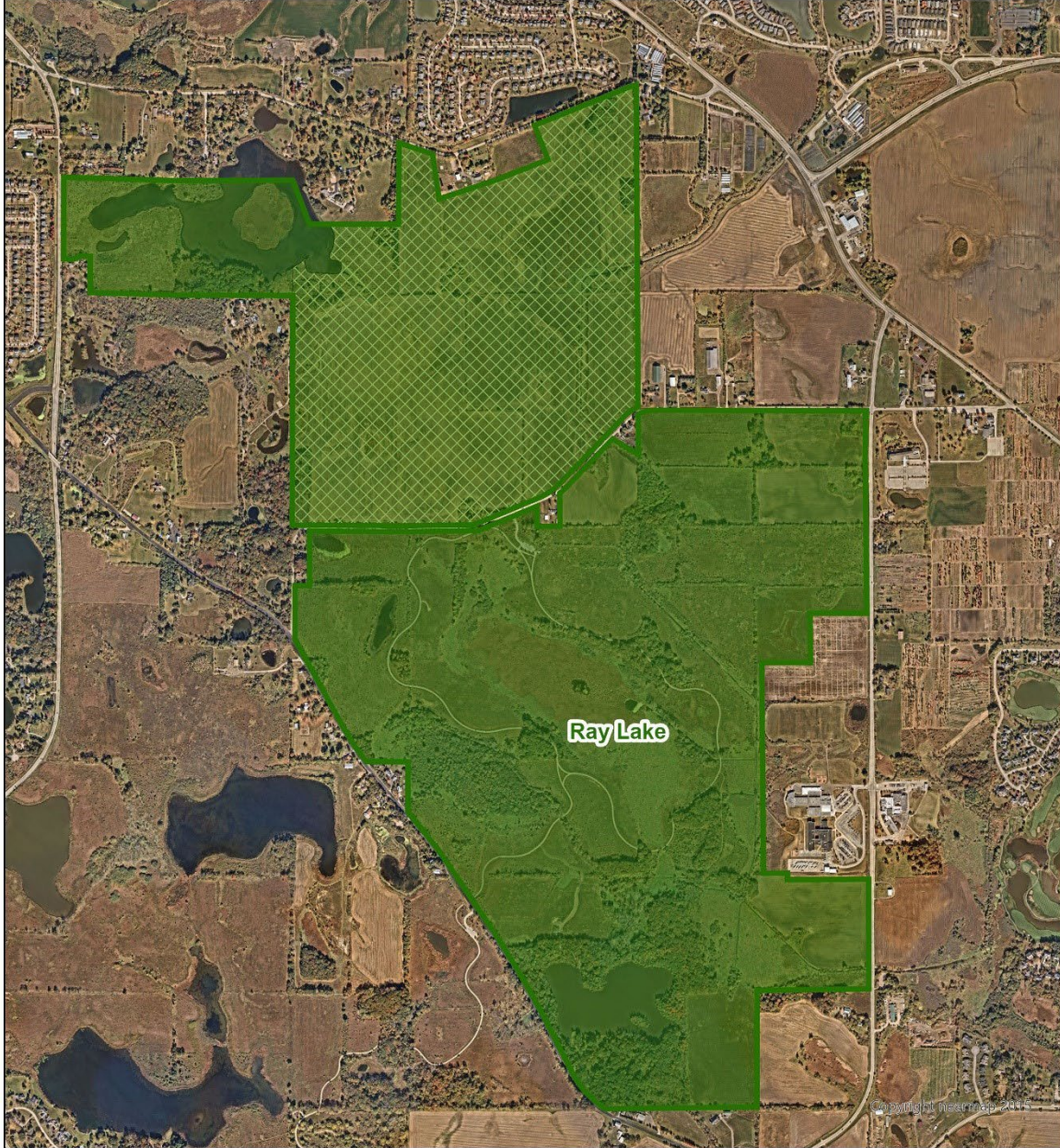
Attn: Lilly Van Maele

E-Mail: lvanmaele@res.us

EXHIBIT A

General Depiction of Property and Licensed Premises

Ray Lake Forest Preserve



Disclaimer: Property Boundaries and other data provided is for general information only and not for commercial purposes. The District provides this data for the user's exclusive use only. Any re-use, transmission, duplication, or distribution without the permission of the District is prohibited. Map sources include: Lake County GIS Division | Basemap: 2024 Aerial

 **Lake County Forest Preserves**
Map Created on 3/24/2025
0 5,000 10,000
Feet



L
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 Forest Preserve Boundaries selection

 Forest Preserve Property

 Proposed Mitigation Bank Project Area

EXHIBIT B

Concept Plan

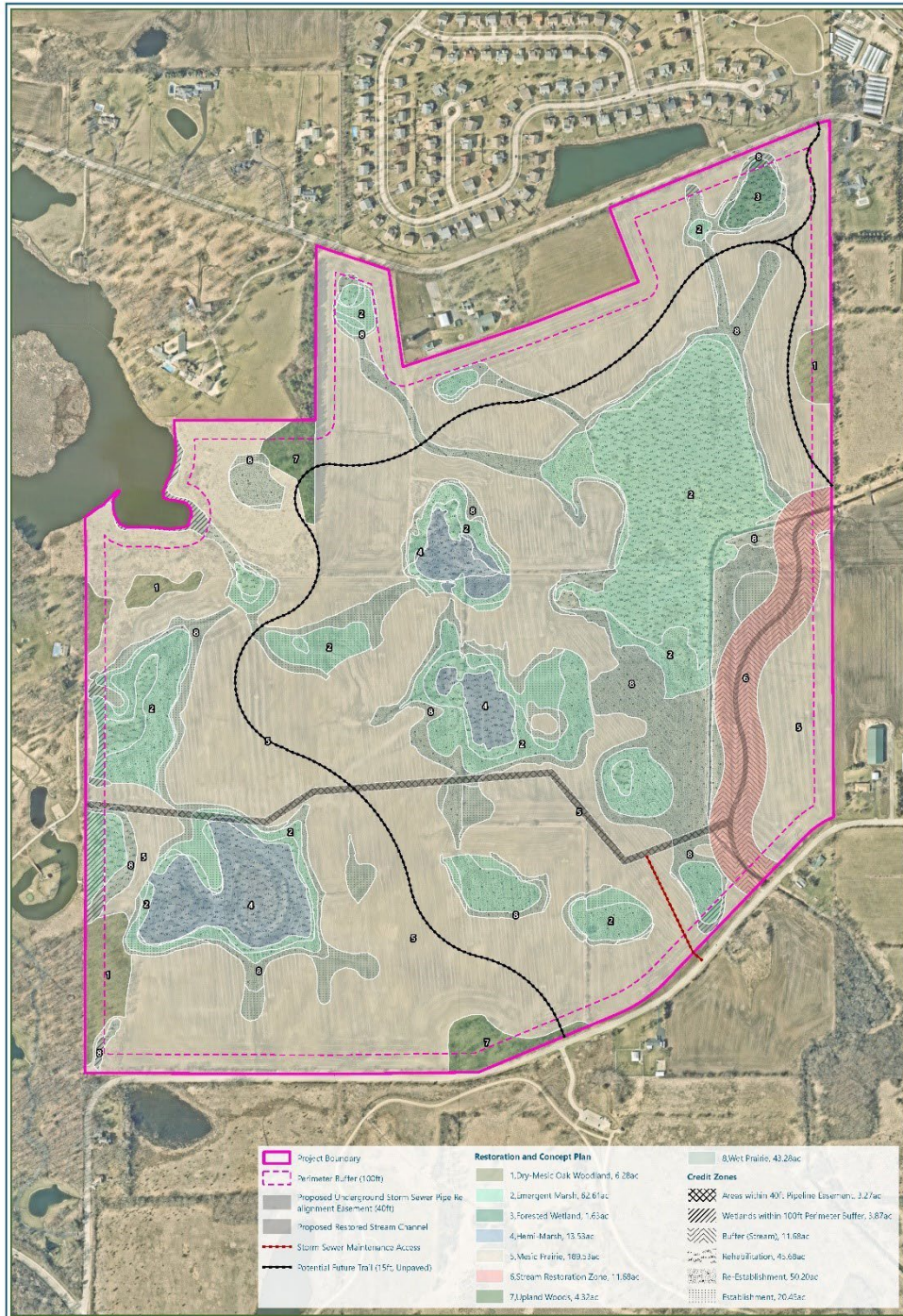
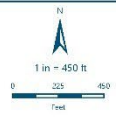


Exhibit B Restoration and Enhancement Communities
Ray Lake WMB
 Lake County, IL



Additional project terms are summarized. The company warrants its best effort on this map but does not warrant accuracy, completeness or timeliness. This information is not intended as legal advice.
 prepared on 08/19/2024 by RES
 Spatial Database: 10/1/2024
 Map File: 10/1/2024
 Map Scale: 1:45000
 Date: 10/1/2024



EXHIBIT C

Scope of Work

(To be attached hereto)

Draft Prospectus

Ray Lake Stream and Wetland Mitigation Bank Lake County, Illinois

April 9, 2025

RES Project # 106537

Prepared By:

HGS, LLC

33 North Dearborn Street, Suite 320
Chicago, IL 60602

630.452.5029

mjochheim@res.us





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1.0 Introduction

Resource Environmental Solutions (RES), by and through its wholly owned subsidiary, HGS, LLC, (hereafter, Sponsor) is proposing to establish the Ray Lake Stream and Wetland Mitigation Bank (hereafter, Bank) to generate stream credits and wetland credits for the purpose of offsetting loss of stream and wetlands. The Bank site is in Lake County, Illinois (Exhibit 1 Site Location) and will provide compensation for future unavoidable wetland impacts within the Upper Mississippi Watershed Service Area for United States Army Corps of Engineers (USACE) regulated impacts and for Lake County Stormwater Management Commission's (LCSMC) regulated impacts in the Upper Fox River Watershed Service Area. The purpose of this document is to define the approach for the successful establishment and operation of the Ray Lake Bank.

This Prospectus is being submitted to the Interagency Review Team (IRT) consisting of the U.S. Army Corps of Engineers-Chicago District (Corps), the U.S. Environmental Protection Agency (EPA), and the U.S Fish and Wildlife Service (FWS). This Prospectus follows the requirements outlined in the 2017 Interagency Coordination Agreement (ICA) on Mitigation Banking within the Regulatory Boundaries of Chicago District, Corps of Engineers, as of September 2017 and the Compensatory Mitigation for Losses of Aquatic Resources: Final Rule, as published in the Federal Register on April 10, 2008 (Final Rule).

As defined in the Final Rule, the benefit of mitigation banks is their ability to help reduce risk and uncertainty, as well as temporal loss of resource function and services (CFR 332.3 b). As mitigation bank credits are not released for debiting until specific milestones associated with the mitigation bank site's protection and development are achieved, the use of mitigation bank credits can help reduce the risk that mitigation will not be fully successful (CFR 332.3 b). The primary purpose of the Bank is to restore high-quality wetlands and streams on the Lake County Forest Preserve District (LCFPD) property to restore ecological function on lands, and to provide compensatory mitigation in advance of unavoidable impacts by offering public, general use credits to mitigate impacts to Waters. The Bank's ecological purpose is consistent with the objectives of the Manitou Creek Watershed Plan (2004). The Bank will improve water quality, wildlife habitat, flood control and natural scenic beauty. Mitigation activities will focus on wetland and stream re-establishment and rehabilitation through hydrology and native plant restoration, to create wetland communities typical of the pre-settlement Chicago Lake Plain region.

2.0 Objectives

There are three goals/objectives of the Bank:

1. Establish a natural, self-sustaining wetland and stream complex that will include the establishment, re-establishment and rehabilitation of wetland communities in the Manitou Creek watershed, the re-establishment of a section of Manitou Creek, and re-establishment of the associated riparian corridor.
2. Provide wetland and stream credits to satisfy compensatory mitigation requirements for adverse impacts to Corps Jurisdictional wetlands and streams in the Upper Mississippi River Watershed.
3. Provide an alternative to smaller permittee responsible mitigation (PRM) sites, which have a poor record of replacing wetland and stream functions.

The overall goal/objective of the Bank is to establish 20.45 wetland acres and re-establish 50.20 acres of high-quality wetlands on tile drained agricultural cropland, rehabilitate 45.68 acres of existing degraded wetland, and restore and enhance 200.14 acres of upland buffer areas. Within the 100-foot perimeter buffer, an additional 3.88 acres of wetlands will be re-established and rehabilitated. The wetland establishment, re-establishment, rehabilitation, upland buffer areas will generate 111.13 wetland mitigation credits. The stream re-establishment will generate 2,253 stream mitigation credits. The



breakdown of wetland mitigation credits can be found in Table 1 and incorporates the results of the 2021 wetland delineation. The breakdown of stream mitigation credits can be found in Table 2.

Table 1. Proposed Wetland Mitigation Credits

Mitigation Bank	Acres Proposed	Range of Credit / Acre	Credit Ratio Proposed	Credit Total
Wetland Areas (116.34 acres)				
Emergent Marsh Establishment	7.92	100%	100%	7.92
Emergent Marsh Re-Establishment	23.90	100%	100%	23.90
Emergent Marsh Rehabilitation	28.87	50%	50%	14.43
Wet Prairie/Sedge Wetland Establishment	12.50	100%	100%	12.50
Wet Prairie/Sedge Wetland Re-Establishment	25.05	100%	100%	25.05
Wet Prairie/Sedge Wetland Rehabilitation	3.10	50%	50%	1.55
Hemi-Marsh Establishment	0.04	100%	100%	0.04
Hemi-Marsh Re-Establishment	1.08	100%	100%	1.08
Hemi-Marsh Rehabilitation	12.34	50%	50%	6.17
Forested Wetland Re-Establishment	0.17	100%	100%	0.17
Forested Wetland Rehabilitation	1.37	50%	50%	0.69
Upland Areas (163.27 acres)				
Mesic Prairie	157.52	0-15%	10.58%	16.67
Dry-Mesic Oak Woodland	3.19	0-15%	0%	0.00
Upland Woodland	2.56	0-15%	0%	0.00
Mitigation Bank Total				111.13

100-Foot Perimeter Buffer	Acres Proposed	Range of Credit / Acre	Credit Ratio Proposed	Credit Total
Wetland Areas (3.88 acres)				
Emergent Marsh Re-establishment and Rehabilitation	1.73	10-25%	25%	0.43
Wet Prairie/Sedge Meadow Re-establishment and Rehabilitation	2.06	10-25%	25%	0.51
Forested Wetland Rehabilitation	0.09	10-25%	25%	0.02
Upland Areas (34.44 acres)				
Mesic Prairie	29.59	0-15%	0%	0.00
Dry-Mesic Oak Woodland	3.09	0-15%	0%	0.00
Upland (Mixed) Woodland	1.76	0-15%	0%	0.00
100-Foot Buffer Total				0.97

Non-Credited Areas within Stormwater Pipeline 40' Easement	Acres Proposed	Range of Credit / Acre	Credit Ratio Proposed	Credit Total
Wetland Areas (0.85 acres)				
Emergent Marsh Establishment and Re-establishment	0.19	0%	0%	0.00
Wet Prairie/Sedge Meadow Establishment, Re-establishment and Rehabilitation	0.58	0%	0%	0.00



Hemi-Marsh Re-establishment and Rehabilitation	0.08	0%	0%	0.00
Upland Areas (2.43 acres)				
Mesic Prairie	2.43	0%	0%	0.00
Stormwater Pipeline 40' Easement Total				0.00

Table 2. Proposed Stream Mitigation Credits

Mitigation Bank (11.68 acres)	Linear Feet Proposed	Range of Credit/LF	Credit Ratio Proposed	Credit Total
Manitou Creek Stream Re-establishment	2,253	100%	100%	2,253
Mitigation Bank Total Credits (Streams)				2,253

Wetland acreage will be achieved through establishment (creation), restoration (re-establishment) and enhancement (rehabilitation) of emergent, wet prairie/sedge meadow, hemi-marsh and forested wetland plant communities. This will be accomplished by restoring natural hydrology by locating and disabling drain tiles and minor recontouring to restore historic wetland rims, and by planting native vegetation.

2.1 Wetland Establishment

Within the bank, 20.45 acres of agricultural ground will be established as wetland (7.92 acres of emergent wetland, 12.50 acres of wet prairie/sedge meadow, and 0.04 acres of hemi-marsh) for which 100% credit (1:1 ratio) is proposed and will generate 20.45 credits (Table 1).

2.2 Wetland Re-establishment

Within the bank, 50.20-acres of agricultural ground will be restored through re-establishment (23.90 acres of emergent wetland, 25.05 acres of wet prairie/sedge meadow, 1.08 acres of hemi-marsh, and 0.17 acres of forest wetland) for which 100% credit (1:1 ratio) is proposed and will generate 50.20 credits (Table 1).

2.3 Wetland Rehabilitation

Sixteen wetlands, of which four are farmed wetlands, collectively make up 45.68 acres of existing wetlands. These communities will receive the same seeding and same short and long-term management activities and will need to achieve the same set of Performance Standards as the wetland re-establishment areas that are proposed to generate a 100% credit (1:1 ratio) per acre. These existing wetland sites possess low to moderate floristic quality and ecological value. The sponsor is proposing these wetland sites be enhanced to emergent, wet prairie/sedge meadow, hemi-marsh, and/or forested wetland, and generate a 50% credit (2:1 ratio) per acre for a total of 22.84 credits. Proposed rehabilitation activities include site preparation, invasive herbaceous and woody herbicide treatment, prescription burning, and native overseeding/plug planting.

Overall, the existing wetlands provide little to low wildlife habitat due to their fragmented nature and past long-term farming activities. They may even act as biological “sinks” for attracting wildlife that have been negatively impacted by subsequent farming activities. Farmed wetland enhancement will likely convert these wetlands into suitable wildlife habitat (e.g., a wildlife “source”). There will be a discernible functional and ecological lift by the proposed rehabilitation activities. Increased wildlife habitat will be realized in both restored (the farmed wetlands) and enhanced in the reed canary grass wetland, emergent wetland, and hemi-marsh communities.

2.4 Wetland Re-establishment & Rehabilitation within Buffer

The 2017 ICA does not mention crediting for wetland re-establishment or enhancement in buffers. Within the 100-foot perimeter buffer (excluding the non-credited areas) we are proposing 1.73-acres of emergent wetlands, 2.06-acres of wet prairie, and 0.09 acres of forested wetlands. These buffer wetlands will receive the same site preparation, the same seed, same plants, the same level of management, and will be under the same set of



Performance Standards as the non-buffer wetlands. While these wetland acres are within the buffer, they still can provide some direct wetland impact compensation as they are existing wetlands to be enhanced or wetlands to be restored. The bank sponsor proposes the 3.87-acres of wetland buffer acres generate the maximal allowable buffer credit of 25% which equates to 0.97 credits. These wetland buffer credits would not be included in the total allowable 15% for upland buffer credits.

2.5 Stream Re-establishment

Inside of the bank, approximately 2,253 linear feet of Manitou Creek will be re-established and will occur via grading to increase stream meanders with gradual side slopes. Riparian buffer re-establishment will occur via herbicide treatments and mechanical removal of woody material followed by seeding and planting native wetland vegetation that will transition into short and long-term management to include mowing, brushing, and burning. The USACE Chicago District in Illinois does not have a detailed methodology for quantifying stream credits from stream re-establishment, however a standard 100% credit (1:1 ratio) is proposed and will generate 2,253 stream credits. The re-established riparian corridor will consist of 11.68 acres and 100 feet on either side of Manitou Creek.

2.6 Upland Mesic Prairie

Upland buffer areas will be restored to a diverse mesic prairie throughout the site and along the edge of the wetland areas. The basis for determining proposed credits per acre is directly tied to the ecological functions and uplift each mitigation type will provide. A detailed narrative on the proposed functional uplift and crediting for each mitigation type is provided below. Buffers are a minimum of 100-foot-wide that follows the project boundary in several locations, the upland prairie extends beyond a 100-foot internal buffer width into the interior of the Bank on areas of higher topographic relief.

The Establishment, Restoration & Enhancement Conceptual Plan (Exhibit 8) includes 189.54 acres of mesic prairie with 29.59 of those acres being part of the 100-foot perimeter upland buffer. Several areas within the 100-foot perimeter buffer will likely revert to wetland. 3.87 acres of wetlands will be re-established and rehabilitated within the buffer. The total perimeter buffer will be 38.31 acres. The Bank acreage for which upland credits are being sought includes the 157.52 acres of mesic prairie which are not part of the perimeter buffer. The Sponsor is not seeking credit for mesic prairie restoration within the buffer but is requesting 25% credit for the 3.87 acres of restored wetlands in the buffer which is the maximum percentage for buffer credit generation in the ICA.

The mesic prairie buffer and internal areas of mesic prairie will function as sediment and nutrient traps before reaching the internal wetlands. The southern buffer will protect the bank from agricultural runoff by absorbing runoff and providing increased infiltration and some limited floodwater storage and some carbon sequestration. Once restored, the buffer will provide wildlife (e.g., grassland birds) habitat and provide increased site biodiversity and minimize any pesticide movement through agricultural drift. Some limited carbon sequestration should accrue over time. Once seeding is complete, the mesic prairie buffer will be incorporated into the Site's yearly maintenance and adaptive management plans and will have a set of performance standards to achieve. The sponsor is proposing using a diverse prairie seed mix in the variable width (minimum 100 feet wide) mesic prairie.

Restored prairies will aid in keeping invasive weeds out of the interior through their dense and fibrous and tap roots which will fill the soil pores and leave reduced space for invading weeds. The prairie roots are perennial, and remain in the soil for years, controlling invasive weeds from season to season, year after year. As the roots die, they become a component of the carbon sequestration cycle. Over time the buffers will part of shifts in species and functional group composition on the site. This increase in native species abundance and floristic quality will lead to declines of non-native species, and lead to increases in native plant diversity. These changes in community structure will lead to changes at the ecosystem level including increases in light capture, peak biomass, primary production, litter biomass, root biomass, and carbon storage in roots.



2.7 Dry-Mesic Oak Woodland and Upland Woods Rehabilitation

Upland woodland communities comprising a total of 10.60 acres will be enhanced and will require a greater level of woody and herbaceous restoration and management: dry-mesic oak woodland and upland woods. Functions provided include varied wildlife habitat and increased plant diversity. Initial site preparation will consist of the removal of woody invasives through cutting and herbicide treatments as well as treatment of invasive herbaceous species. This will be followed by an overseeding of native species. The sponsor is not seeking credit for the woodland rehabilitation.

2.8 Wetland Establishment, Re-establishment, Rehabilitation and Mesic Prairie within Stormwater Pipeline 40' Easement

Within the storm sewer easement, 0.84 acres of wetlands will be established, re-established and rehabilitated, and 2.43 acres of upland mesic prairie will be restored. These areas will receive the same site preparation, seed mixes, and level of management as the established, re-established and rehabilitated wetlands on the rest of the site. The proposed storm sewer pipe may occasionally require maintenance within the easement. Therefore, no credit is being sought for these areas located within the storm sewer easement.

3.0 Establishment and Operation

3.1 Legal Description

The proposed Bank site is owned by the LCFPD. The parcel numbers and legal description are found in Table 3. The site contains no power lines or other easements within the project site. There are no other known land-use restrictions that would affect the Bank as proposed.

Table 3. Legal Descriptions

10 Digit Parcel Number	Legal Description
1017201001	NE1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1017200006	NE1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1017100002	E1/2 NW1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1017200001	W1/2 NW1/4 NE1/4 (EX FARMLAND LEASEHOLD) SECTION 17 TOWNSHIP 44 RANGE 10
1017200002	E1/2 NW1/4 NE1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1017200003	W1/2 W1/2 NE1/4 NE1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1017200004	E1/2 W1/2 NE1/4 NE1/4 SECTION 17 TOWNSHIP 44 RANGE 10
1008300005	(EX W 1193.79 FT AS MEASD ON S LN THOF) & E1/2 SW1/4 LYG S OF CEN LN CHARDON SHIP 44 RANGE 10 RD SECTION 08 TOWN
1008400012	PT SE1/4 LYG SLY OF C LN CHARDON RD (EX COM X W LN SD 1/4 & C LN CHARDON RD, SELY ALG SD C LN 258.61' FOR POB, SELY ALG LN FORMING ANGLE 117D15'10 TO LEFT 553.57', NELY ALG LN
1008300016	PT SW1/4; E200' SW1/4 SW1/4 & PT E1/2 SW1/4 COM AT SW COR, E TO LN 1193.79' E OF W LN, N // TO W LN TO PNT 810' N OF S LN, W // TO S LN 1008.79' MOL TO PNT 185' E OF SD W LN, NWLY



3.2 Site Description

The proposed Bank is in Mundelein, Lake County, Illinois immediately north of West Erhart Road and the existing Ray Lake Forest Preserve and west of Manitou Creek (Exhibit 1 Location Map). The site is currently in agricultural land use but contains small woodland parcels and various farmed and unfarmed wetland complexes (Exhibit 2 Existing Conditions). The Bank site is bounded by Erhart Road and Forest Preserve property to the south, Manitou Creek to the east, Chardon Road to the north and wooded residential properties to the west.

3.2.1 Ecological Suitability

The site is composed largely of agricultural land. Portions of the site are not developable due to its location within Manitou Creek's 100-year floodplain. The site is hydrologically connected to Manitou Creek and contains areas of existing upland and bottomland scrub/shrub and wet, old field, emergent wetlands, reed canary grass wetlands, and mesic/dry-mesic oak woodland. The wide variety of habitats onsite could be transformed into a diverse mosaic of high-quality wetlands and upland ecosystem types. Hydric soils and soils with seasonally high-water table are found on the site and are proposed to be included in the wetland bank.

3.2.2 Soils

Thirty-four (34) soil map units occur within the site boundaries, as identified by NRCS soil scientists during an on-site soil survey completed October 2016 through October 2017 (Exhibit 4 NRCS Soil Survey). Six of these soils are hydric. The proposed bank area is primarily mapped as 232A: Ashkum silty clay loam. Soil data collected in the field during the wetland delineation confirmed the presence of hydric soil throughout the site. The soil data set is located in Table 4.

Table 4. Soil Map Units

Code	Soil Map Unit Name	Drainage Classification	Hydric Soil Rating	Acreage
HYDRIC SOILS				
232A	Ashkum silty clay loam, 0-2% slopes	Poorly drained	Yes	51.38
103A	Houghton muck, 0-2% slopes	Very poorly drained	Yes	44.67
638A	Muskego muck, 0-2% slopes	Very poorly drained	Yes	3.99
637A	Muskego silty clay loam overwash, 0-2% slopes	Very poorly drained	Yes	0.36
153A	Pella silty clay loam, 0-2% slopes	Poorly drained	Yes	5.08
330A	Peotone silty clay loam, 0-2% slopes	Very poorly drained	Yes	12.78
329A	Will silt loam, 0-2% slopes	Poorly drained	Yes	10.76
TOTAL HYDRIC ACREAGE				129.02
NON-HYDRIC SOILS				
443A	Barrington silt loam, 0-2% slopes	Moderately well drained	No	0.67
443B	Barrington silt loam, 2-4% slopes	Moderately well drained	No	6.69
298A	Beecher silt loam, 0-2% slopes	Somewhat poorly drained	No	10.14
298B	Beecher silt loam, 2-4% slopes	Somewhat poorly drained	No	10.89
146A	Elliott silt loam, 0-2% slopes	Somewhat poorly drained	No	44.30
146B	Elliott silt loam, 2-4% slopes	Somewhat poorly drained	No	7.21
698A	Grays silt loam, 0-2% slopes	Moderately well drained	No	3.06
698B	Grays silt loam, 2-4% slopes	Moderately well drained	No	0.94
318B	Lorenzo loam, 2-4% slopes	Well drained	No	4.41
318C	Lorenzo loam, 4-6% slopes	Well drained	No	0.68
531C	Markham silt loam 4-6% slopes	Moderately well drained	No	0.33



531A	Markham silt loam, 0-2% slopes	Moderately well drained	No	2.53
531B	Markham silt loam, 2-4% slopes	Moderately well drained	No	16.80
531C2	Markham silty clay loam 4-6% slopes, eroded	Moderately well drained	No	3.09
531A2	Markham silty clay loam, 0-2% slopes, eroded	Moderately well drained	No	0.79
531B2	Markham silty clay loam, 2-4% slopes, eroded	Moderately well drained	No	0.80
189A	Martinton silt loam 0-2% slopes	Somewhat poorly drained	No	6.10
189B	Martinton silt loam 2-4% slopes	Somewhat poorly drained	No	1.30
802A	Orthents loamy, nearly level	N/A	No	1.05
530B	Ozaukee silt loam, 2-4% slopes	Moderately well drained	No	14.34
530B2	Ozaukee silt loam, 2-4% slopes, eroded	Moderately well drained	No	2.32
530C	Ozaukee silt loam, 4-6% slopes	Moderately well drained	No	1.09
530C2	Ozaukee silt loam, 4-6% slopes, eroded	Moderately well drained	No	16.52
530D	Ozaukee silt loam, 6-12% slopes	Moderately well drained	No	1.82
530C3	Ozaukee silty clay loam, 4-6% slopes, sev eroded	Moderately well drained	No	13.39
530D3	Ozaukee silty clay loam, 6-12% slopes, sev eroded	Moderately well drained	No	8.35
223C2	Varna silty clay loam, 2-4% slopes, eroded	Moderately well drained	No	3.72
TOTAL NON-HYDRIC AC				183.33
OTHER AREAS				
Water	Perennial Water	N/A	N/A	29.15

RES collected soils data during the wetland delineation survey on October 13 and 14, 2021. Soils were sampled by hand using a shovel and soil probe. Data collected included soil texture and color; quantity, color, and depth of redoximorphic features; depth to saturation; depth to the water table, and identification of hydric soil indicators when present.

A total of thirty-three (33) soil data points were established throughout the site for the wetland delineation (Exhibit 7 Delineated Wetlands). In general, field-collected soils data is consistent with NRCS soils mapping. Field-collected soil texture data was found to be consistent with the NRCS soil mapping. Data was collected to refine our understanding of the distribution of soil types throughout the property (including hydric soils); establish boundaries of existing and potentially restorable wetlands; inform the planting plan; determine depths to the water table, saturated soils, and hydric soils; and inform the mitigation design plan.

3.2.3 Topography

The topography of the site is variable with some hilly sections and extensive areas of relatively flat terrain (Exhibits 5a USGS Topographic Survey and 5b LiDAR Topography). Elevations range from 780 to 815 feet.

3.2.4 Hydrology and Hydraulics

The proposed wetland bank boundary is located within the Headwaters of Manitou Creek HUC-12 sub-watershed (071200061007). The bank is situated primarily within agricultural fields and has an area of 332.88 acres, an onsite drainage area of 295.98 acres and an additional 295.22 acres of offsite drainage located west (222.22 acres), northeast (56.04 acres), and southeast (16.96 acres) of the site. Hydrologic inputs to the wetland bank consist of precipitation, runoff from these onsite and offsite drainage areas and Manitou Creek. The offsite drainage area that is tributary to Manitou Creek at its entry-point to the wetland bank is approximately 4,606 acres (7.20 square miles).

Alterations in the site's natural hydrology are prevalent within the project site. Manitou Creek was heavily channelized within the site in the early 1900's, between 1906 to 1939. Surface water management to support



conventional agricultural practices has been accomplished primarily through the installation of drain tiles. The straightening of the creek and draining of the fields have substantially modified the site's natural hydrology.

Manitou Creek enters the wetland bank at its southeast corner via a 9.2-ft x 15.2-ft arch culvert beneath W. Erhart Road. The creek generally flows north before turning east and exiting the site at the center of the east property boundary via a 5.5-ft x 8.5-ft arch culvert. Its upstream and downstream streambed elevations are 781-ft and 778-ft, respectively. Generally, water drains to the east boundary of the site, finally entering Manitou Creek either via overland flow, drain tiles, or storm pipes. A relatively flat and gently sloping topography is present, with topographic elevations ranging from relative high points of 805-ft and 815-ft in the southwest and northwest quadrants of the site, respectively, to the elevation of Manitou Creek at approximately 780-ft. Water drains via overland flow across several depressional areas located across the site.

Numerous drain tiles are present throughout the site, ranging in size from 3 inches to 15 inches, conveying water into Manitou Creek. Generally, the north-northeast third of the site drains to the most downstream portion of Manitou Creek near the east boundary of the site. The remaining drain tiles outlet along the north-south spanning segment of Manitou Creek. A 24-inch reinforced concrete pipe (RCP) bisects the site, conveying stormwater from an offsite pond to the west into Manitou Creek (Exhibit 10). A new stormwater conveyance system will be installed in a new alignment through the bank site to address flooding issues on the adjacent western property (Exhibit 8).

A residential detention pond (Lakewood Grove Pond #6) north of Chardon Road has an overflow outlet which surface drains for approximately 35 feet before entering the northeast corner of the site via a 12-inch corrugated metal pipe (CMP) culvert underneath Chardon Road (Exhibit 9). The runoff water from the 12-inch CMP will be captured and held within the Bank site. A constructed lake located offsite at the northwest corner of the bank surface drains into the northwest corner of the site via a water control structure with a 15-inch CMP outlet (Exhibit 10). Water from this outlet will be captured and held within the Bank site. There are five culverts along Erhart Road, not including the Manitou Creek arch culvert (Exhibit 9). The runoff from the two easternmost culverts will be captured and held within the bank site. The three culverts to the west will continue to carry flow offsite to the south, as they do currently.

Floodplain data was obtained from the FEMA Flood Map Service Center (Exhibit 3). Based on this data, there are 60.59 acres (19% of the site) of designated floodway surrounding Manitou Creek. A total of 110.53 acres (35% of the site) are located within the Zone AE 100-yr floodplain and are generally located on the eastern one-third of the site. An additional 35.12 acres (11% of the site) on the west side of the site are located within the Zone A 100-yr floodplain and are hydraulically connected to Manitou Creek via subsurface drain tiles and/or overland flow paths.

3.2.5 Wetlands and Waters

The results of RES's October 2021 wetland delineation indicates there are 49.11 acres of wetlands and 1.10 acres of waters of the U.S. (WOUS) within the limits of the wetland bank (Exhibit 7). Of the total wetland acreage within the Bank, 37.68 acres are emergent/reed canary grass wetlands, and 11.43 acres are farmed wetlands. The WOUS consists of Manitou Creek which flows from south to north, and eventually off the site to the northeast. The complete Wetland Delineation Report is located in Appendix A. The site does not contain any important wetlands according to the Corps Special Area Management Plan or the Lake County WDO definitions of a High-Quality Aquatic Resource (HQAR).

3.2.6 Vegetation

The agricultural portions of the site are planted with a standard corn/soybean rotation, as confirmed during site visits between 2021-2024. In addition to row crop agriculture, there are several small areas of unfarmed uplands present throughout the site (Exhibit 2). Existing commonly observed plant species in the upland community types are found in Table 5.



Table 5. Existing Vegetation

Community Type	Dominant Vegetation	Acreage
Agricultural (Row Crop)	Corn, soybeans, winter wheat	240.94
Coniferous Forest	Pine species (<i>Pinus spp.</i>)	0.80
Dry-Mesic Oak Woodland	Bur Oak (<i>Quercus macrocarpa</i>), Shagbark Hickory (<i>Carya ovata</i>), Common Buckthorn (<i>Rhamnus cathartica</i>), White Mulberry (<i>Morus alba</i>), Box Elder (<i>Acer negundo</i>), Reed Canary Grass (<i>Phalaris arundinacea</i>), Smooth Brome (<i>Bromus inermis</i>), Lesser Burdock	7.57
Old Field	Annual Fleabane (<i>Erigeron annuus</i>), Canada Thistle (<i>Cirsium arvense</i>), Canada Goldenrod (<i>Solidago canadensis</i>), Lesser Burdock (<i>Arctium minus</i>), Tall Ragweed (<i>Ambrosia trifida</i>)	6.72
Scrub-Shrub Upland/ Successional Forest	Silver Maple (<i>Acer saccharinum</i>), Box Elder, Common Buckthorn, Spruce (<i>Picea sp.</i>), Lesser Burdock, Canada Thistle, False Nettle (<i>Boehmeria cylindrica</i>), Canada Goldenrod, Orchard Grass (<i>Dactylis glomerata</i>), Perennial Rye (<i>Lolium perenne</i>)	26.58

3.2.7 Endangered Resources

RES queried the USFWS Information for Planning and Conservation (IPaC) to assess the potential presence of any federal and/or state threatened, endangered, species of concern, or candidate species in the vicinity of the project area. The USFWS lists six species (2 bat, 1 bird, 3 insects and 2 flowering plants) as federally threatened or endangered in the vicinity of the site (Table 6).

Table 6. Federal Listed Species

Scientific Name	Common Name	Status
Mammals		
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	Endangered
<i>Perimyotis subflavus</i>	Tricolored Bat	Candidate
Birds		
<i>Charadrius melodus</i>	Piping Plover	Endangered
<i>Calidris canutus rufa</i>	Red Knot	Threatened
Insects		
<i>Lycaeides melissa samuelis</i>	Karner Blue Butterfly	Endangered
<i>Danaus plexippus</i>	Monarch Butterfly	Candidate
<i>Argynnis idalia occidentalis</i>	Western Regal Fritillary	Candidate
Flowering Plants		
<i>Platanthera leucophaea</i>	Eastern Prairie Fringed Orchid	Threatened
<i>Cirsium pitcheri</i>	Pitcher's Thistle	Threatened

RES queried the IL DNR Ecological Compliance Assessment Tool (EcoCAT) to assess the potential presence of any state threatened, endangered, species of concern, or candidate species in the vicinity of the project area. The EcoCAT lists five species (4 bird and 1 reptile) as state protected species in the vicinity of the site (Table 7).

Table 7. State Listed Species

Scientific Name	Common Name	Status
Birds		
<i>Gallinula galeata</i>	Common Gallinule	Endangered
<i>Botaurus exilis</i>	Least Bittern	Threatened



<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron	Endangered
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird	Endangered
Reptiles		
<i>Emydoidea blandingii</i>	Blanding's Turtle	Endangered

RES plans to avoid construction work in existing wetlands during the nesting season of the above-listed marsh birds. These sensitive marsh bird species rely on wetlands, some specifically relying on hemi-marsh habitat for cover, nesting and food sources. The main threats to their status are habitat loss and degradation through wetland destruction, invasive species, and pollution. The proposed bank aims to benefit these species through the creation of hemi-marsh habitat on site.

3.2.8 Archaeological Resources

RES subcontracted with Midwest Archaeological Research Services (MARS) to conduct a Phase I Archaeological & Cultural Reconnaissance Survey. The survey satisfies Corps and other permitting requirements. The Phase I reconnaissance survey conducted by MARS archaeologists resulted in the identification and recordation of 23 archaeological sites. In MARS' opinion, none of these sites meets the criteria for inclusion in the National Register of Historic Places (NRHP) and are not recommended for further investigation. MARS recommends that no additional work is required or warranted within the project area and advises project clearance. The Phase 1 Archaeological report will be provided under separate cover.

3.3 Hydrology Restoration

The existing conditions on the site are ideal for a wetland bank. The topography, soil, and hydrology are conducive to re-establishing natural wetland conditions in conjunction with minimal hydrology adjustments. The hydrologic restoration of the site will involve disabling drain tiles (Exhibit 10). To support hydrology restoration, limited fine grading in key locations could be required. The combination of these two efforts will restore the site's hydrology to its condition prior to the alterations that occurred in the early 1900's.

The purpose of tile disablement is to prevent water from being rapidly infiltrated and transported directly to Manitou Creek and instead allow it to slowly infiltrate and/or remain in a ponded surface condition in the proposed wetland area. In 2016, a hydrologic study was conducted for the project area by Hey & Associates. The study mapped a network of sub-terrain drain tiles throughout the site. The results of this study will be used to locate and disable the necessary drain tiles to restore wetland hydrologic conditions. If additional drain tiles are located during construction, these will also be disabled.

Even with drain tile removal, groundwater will often continue to flow through permeable seams of gravel or sand towards the lowest elevation on site, which is the existing Manitou Creek channel. To account for this, once the creek is re-meandered in a new alignment, the existing creek channel will be backfilled with compacted clay, serving as a groundwater dam along the west side of the new creek to prevent groundwater from leaving the proposed wetland mitigation areas.

The purpose of fine grading in key locations is to maintain overland flow paths for areas where water is not currently being conveyed via drain tiles. Where no drain tiles exist, grading may need to occur to reconnect depressional areas to the east side of the site and Manitou Creek. Fine grading can also be used to create areas of concavity to enhance the hydrology of the proposed wetlands. The gentle slopes created through fine grading help divide areas of wetland re-establishment and direct surface water flows in the wetland areas. Topographic variability and depressional areas will be maintained to promote habitat and species diversity.

3.4 Construction and Restoration Methods

The wetland hydrology restoration effort will primarily consist of drain tile disablement and land leveling where necessary to recontour the ground and to maintain overland flow paths. Drain tile data provided by the LCFPD will be used for locating and disabling the drain tiles. If additional drain tiles are located during construction,



these will be disabled where practicable to help restore wetland conditions. Typical earth moving equipment will be used for the excavation and tile disablement. The site will be restored with plantings and erosion control techniques appropriate for the climate and drainage conditions.

Minor recontouring of the ground surface may occur to maintain overland flow paths, as well as minor grading as necessary to create Passive Water Control Sills (PWCS) to retain as much water as possible within the mapped hydric soil areas. PWCSs are being proposed to retain water within the re-established wet prairie areas. Where wetlands historically existed, typically the farmer would excavate a ditch through the downstream end of the original wetland rim to drain it. The PWCS is an earthen restoration of this downstream rim where wetlands existed prior to being drained. The PWCS is generally no taller than one foot, is at least 3 feet wide, with a 20:1 slope on either side. It will require minimal maintenance and will blend in naturally with the topography of the site.

3.5 Seeding and Planting

The conceptual mitigation plan for the proposed Bank focuses on strategies for restoring and enhancing wetland hydrology and diverse native plant communities in existing wetlands and in areas currently being farmed. The restoration of prairies and buffers around the site's wetlands and in the upland areas of the site have been designed to provide nutrient pre-treatment of waters running off the surrounding roadways, agricultural fields and private property before being allowed to enter the wetlands. Plant communities proposed for restoration and enhancement strategies for the potential bank are described below. Seed mixes and plant lists have been developed for each proposed vegetative community and will be included in the MBI.

3.5.1 Emergent Wetland Establishment, Re-establishment, and Rehabilitation

Existing emergent wetlands will be established and re-established, and rehabilitated (Exhibit 8). The following restoration strategies will be applied for all mitigation actions, unless specified:

1. Break/disable drain tiles to restore hydrology to re-establish wetlands.
2. Remove aggressive native and non-native woody and invasive herbaceous species. Apply up to two treatments of the herbicide "Roundup" or equivalent, to control and kill reed canary grass and other weeds. Reed canary grass areas may require follow-up treatments.
3. Install native seed by drilling, no-till drilling, or broadcasting (supplemental seed only, in rehabilitation areas).
4. Install emergent wetland plant plugs (supplemental plugs only, as necessary, in rehabilitation areas).
5. Begin initial mowing to manage non-natives in areas that are not too wet.
6. Spot-spray re-emerging reed canary grass and other invasive species.
7. Assess fuel loads and, when sufficient, begin prescribed burning if weather conditions allow. Burning is anticipated to be a minor management tool for both the short and long-term management of emergent communities.
8. Initiate short- and long-term management activities such as mowing, burning, and herbicide application to control targeted species and develop an annual vegetation monitoring program.

3.5.2 Wet Prairie/Sedge Meadow Establishment, Re-establishment, and Rehabilitation

Existing agricultural fields with nonhydric and hydric soil will be established and re-established, respectively, as wet prairie, and existing farmed wetlands will be rehabilitated as wet prairie (Exhibit 8). The following restoration strategies will be applied for all mitigation actions, unless specified:

1. Break/disable drain tiles to restore hydrology to established and re-established wetlands.



2. Remove aggressive native and non-native woody and invasive herbaceous species. Apply up to two treatments of the herbicide "Roundup" or equivalent, to control and kill reed canary grass and other weeds. Reed canary grass areas may require follow-up treatments.
3. Perform pre-seeding soil preparation, such as disking as necessary.
4. Install native seed by drilling, no-till drilling, or broadcasting (supplemental seed only, for rehabilitation areas).
5. Install supplemental wet prairie and sedge meadow plant plugs in establishment and re-establishment areas.
6. Begin initial mowings to manage non-natives.
7. Spot-spray re-emerging reed canary grass and other invasive species.
8. Assess fuel loads and, when sufficient, begin prescribed burning to be the primary management tool for both the short and long-term management.
9. Initiate short- and long-term management activities such as mowing, burning, and herbicide application to control targeted species and develop an annual vegetation monitoring program.

3.5.3 Hemi-Marsh Establishment, Re-establishment and Rehabilitation

Hemi-marsh wetlands will be established, re-established and rehabilitated (Exhibit 8). The following restoration strategies will be applied for all mitigation actions:

1. Break/disable drain tiles to restore hydrology to re-establish hemi-marsh wetlands.
2. Remove aggressive native and non-native woody and invasive herbaceous species. Apply up to two treatments of the herbicide "Roundup" or equivalent, to control and kill reed canary grass and other weeds. Reed canary grass areas may require follow-up treatments.
3. Install native seed by drilling, no-till drilling, or broadcasting.
4. Install hemi-marsh wetland plant plugs.
5. Spot-spray re-emerging reed canary grass and other invasive species.
6. Assess fuel loads and, when sufficient, begin prescribed burning if weather conditions allow. Burning is anticipated to be a minor management tool in dry and drought years for both the short and long-term management of the hemi marsh emergent communities.
7. Initiate short- and long-term management activities such as mowing, burning, and herbicide application to control targeted species and develop an annual vegetation monitoring program.

3.5.4 Forested Wetland Rehabilitation

Existing forested wetlands will be rehabilitated (Exhibit 8). The following restoration strategies will be applied for all mitigation actions:

1. Break/disable drain tiles to restore hydrology to historic forested wetlands.
2. Remove aggressive native and non-native woody species with brushing and herbicide treatments in the fall or winter. Apply up to two treatments of the herbicide "Roundup" or equivalent for foliar treatment, or "Garlon" or equivalent for basal bark or stump treatment, to manage aggressive species such as honeysuckle, buckthorn, and multiflora rose.
3. Remove aggressive native and non-native herbaceous species. Apply up to two treatments of the herbicide "Roundup" or equivalent, to control and kill reed canary grass and other weeds. Reed canary grass areas may require follow-up treatments.



4. Install native seed by broadcasting.
5. Spot-spray re-emerging herbaceous and woody invasives.
6. Initiate short- and long-term management activities such as brushing and herbicide application to control targeted species and develop an annual vegetation monitoring program.

3.5.5 Perennial Stream Re-Establishment

The existing channelized drainage ditch (Manitou Creek) will be re-established as perennial stream with re-established 100-foot riparian buffer on both sides of stream channel (Exhibit 8). The following restoration strategies will be applied to the stream re-establishment area:

1. Remove aggressive or low-quality native and non-native woody and invasive herbaceous species. Apply up to two treatments of the appropriate herbicide to control and kill any invasive herbaceous species that occupy this zone.
2. Relocate the stream channel into a new, meandering alignment via excavation. Grade the new streambanks to create floodplain benches and gently sloping banks with strategic cuts to allow further connectivity with the floodplain and adjacent wetland re-establishment areas. Install grade control structures and outside bend armoring. Remove any in-stream culverts and backfill the old channel where necessary.
3. Install native seed within the riparian buffer by drilling, no-till drilling, or broadcasting.
4. Install supplemental emergent wetland plant plugs along the streambank edge and floodplain shelves.
5. Spot-spray re-emerging reed canary grass and other invasive species.
6. Initiate short- and long-term management activities such as mowing, burning, and herbicide application to targeted species and develop an annual vegetation monitoring program.

3.5.6 Upland Mesic Prairie Re-Establishment – Uplands and 100' Buffer

Existing vegetation at the proposed bank consists of extensive acres of upland agricultural land (Exhibit 2). Upland agricultural areas consist of mostly row crops and hydrophobic agricultural weeds and possess limited hydric soil resources and topography to support wetland establishment. These upland areas (including upland agricultural areas within the 100-foot buffer) are proposed to be re-established as mesic prairie (Exhibit 8). The following restoration strategies will be applied to the mesic prairie re-establishment areas:

1. Remove aggressive native and non-native invasive herbaceous species. Apply up to two treatments of the herbicide "Roundup", or equivalent, to control and kill any invasive herbaceous species that occupy this zone.
2. Plant and maintain a cover crop as part of site preparation and then prepare the site by light disking and/or additional herbicide application, as necessary.
3. No-till drill a variety of native prairie species throughout the mesic prairie buffer and upland areas.
4. Mow native grassland areas at various times in years 1 and 2 to manage weeds. Some non-native weeds, such as Canada thistle, if found, will be treated with wick application or spot herbicide spraying.
5. Assess fuel loads and, when sufficient, begin prescribed burning to be the primary management tool for short- and long-term management.
6. Initiate short- and long-term management activities such as mowing, burning, and herbicide application to control targeted species and develop an annual vegetation monitoring program.



3.5.7 Dry-Mesic Oak Woodlands and Upland Mixed Woods

Within the uplands of the site, there are small blocks of existing dry-mesic oak woodlands, mixed coniferous and oak woodlands, and upland scrub shrub/successional forest areas. These areas will be rehabilitated as dry-mesic oak woodlands and upland mixed woods (Exhibit 8). The following restoration strategies will be applied to the mesic prairie re-establishment areas:

1. Remove aggressive native and non-native woody species with brushing and herbicide treatments in the fall or winter. Apply up to two treatments of the herbicide “Roundup” or equivalent for foliar treatment, or “Garlon” or equivalent for basal bark or stump treatment, to manage aggressive species such as honeysuckle, buckthorn, and multiflora rose.
2. Remove aggressive native and non-native herbaceous species. Apply up to two treatments of the herbicide “Roundup” or equivalent, to control and kill reed canary grass and other weeds. Reed canary grass areas may require follow-up treatments.
3. Install native seed by drilling, no-till drilling, or broadcasting.
4. Spot-spray re-emerging herbaceous and woody invasives.
5. Assess fuel loads and, when sufficient, begin prescribed burning if weather conditions allow. Burning is anticipated to be a minor management tool in dry and drought years for both the short and long-term management of forested wetland communities.
6. Initiate short- and long-term management activities such as burning, brushing and herbicide application to control targeted species and develop an annual vegetation monitoring program.

3.6 Technical Feasibility

Creation of the Ray Lake Stream and Wetland Mitigation Bank is technically feasible. A portion of the Bank is located within the 100-year floodplain of Manitou Creek. Soils throughout the site are predominantly hydric or contain hydric inclusions, indicating the presence of relatively poorly drained soils in most low-lying areas. Existing wetlands and farmed wetlands/crop failure are also prevalent throughout the site indicating adequate hydrology is already present in several areas (Exhibit 7). The Bank site is heavily tiled. Hydrology can be re-introduced to the site by disabling these drainage tiles. Over 4 miles of clay and concrete drain tiles have been mapped with diameters ranging from 3-10 inches.

3.7 Establishment Timeline

Table 8 summarizes the estimated establishment timeline.

Table 8. Initial Yeas Bank Establishment Timeline

Activity	Schedule
2021	
Conduct wetland delineation	Fall 2021 (completed)
2024	
Install hydrology monitoring wells and dataloggers, monitor pre-construction hydrology through growing season and beyond	Spring 2024/2025
2025-26	
Obtain bank permit	2026
Invasive tree/shrub removal and stump herbicide treatment	Winter-Spring 2027
Drain tile disablement and site grading	Spring 2027
Reed canary grass and cattail herbicide treatment	Spring/Summer/Fall 2027
Site grading and stream work	Spring/Summer/Fall 2027
Install seed and plants: wet prairie, emergent wetland, wet woodland, mesic prairie, riparian corridor buffer areas	Fall 2027 / Winter 2028



Activity	Schedule
2028-2032	
Maintenance mowing/herbicide treatments	Spring
Maintenance mowing/herbicide treatments	Summer
Maintenance mowing/herbicide treatments	Fall

3.8 Financial Assurances

The Bank Sponsor (HGS, LLC) will provide a financial assurance mechanism consisting of a performance bond for 100% of costs associated with site construction, seeding, and planting. The Bank Sponsor shall ensure that the construction performance bond shall remain in effect throughout the performance of construction and the substantial completion of the seeding and planting to create, restore and enhance wetlands and waters of the U.S.

An additional management/maintenance bond will be provided separate from the construction performance bond. The length of the management bond will be approved by the IRT, but at a minimum, will be for five years of management and monitoring.

For long-term financial assurance, the Sponsor will establish a Long-Term Management Fund (LTMF) in an interest-bearing non-wasting endowment fund, or equivalent. The LTMF will be available for sole use to maintain the Bank upon closure.

Short Term: Within 120 days of anticipated bank construction after mitigation bank approval, the Sponsor will provide the USACE with a final performance bond in an amount sufficient to cover 100% of site construction, seeding and planting costs. The Bank Sponsor shall ensure that the construction performance bond shall remain in effect throughout the performance of construction and the substantial completion of the seeding and planting to create, restore and enhance wetlands and waters of the U.S. A management/maintenance bond, sufficient to cover a minimum of five years of adaptive management and monitoring, will be provided as a separate bond at the same time the construction performance bond is provided. If USACE determines that a breach of the terms and conditions of the Bank has occurred, the USACE will have the authority to direct the use of the performance bond payments to complete the activities enumerated in MBI.

Bank Operation: The Sponsor will be responsible for site monitoring and adaptive management from construction through Bank closeout. Sufficient funds will be allocated by the Sponsor to perform the necessary management and monitoring activities while the bank is under operation. Upon satisfying all final MBI performance requirements, the LCFPD will serve as the Long-Term Manager (LTM).

The perpetual long-term financial assurance will consist of a Long-Term Management Fund (LTMF) established by the Sponsor for sole use for Lake County Forest Preserves to maintain the Bank upon closure. The Sponsor will provide the mutually agreed upon funds to the Preservation Foundation of Lake County Forest Preserves (Foundation) to establish an interest-bearing non-wasting endowment fund. Prior to construction, the entire amount of the designated LTMF will be deposited into the LTMF. This LTMF will be used for the perpetual maintenance of the bank site after bank closure.

3.9 Adaptive Management

The Bank Sponsor will be responsible for the adaptive management implemented at the proposed Bank. Adaptive management is defined as the day to day, season to season refinements in restoration programming needed to achieve success against the performance criteria. Any adaptive refinement is not considered critical, and will not require a contingency plan, as refinements are an anticipated normal process on restoration and mitigation projects. Adaptive management affords the Bank Sponsor the option to take advantage of the latest scientific and technological techniques for successfully accomplishing restoration and mitigation projects.



The mitigation restoration, enhancement, and management programs require flexibility due to natural environmental variability and emerging scientific advancements. The restoration plan should not be viewed as being “fixed in stone.” The diversity and plant community goals and outcomes are firm, but the acreages of each community may vary from what is planned. This should not be thought of as a failure or an unwanted outcome. The restoration plan is a starting point in an ongoing process of restoring the proposed Bank area’s biodiversity and natural processes. Regular monitoring will provide feedback on restoration effectiveness and will generate information to evaluate and justify the need for changes. This process of evaluation, adjustment, refinement, and change is called “Adaptive Management.” Adaptive Management is a fundamental tool for use in restoration, management, and maintenance work.

The Bank Sponsor shall be responsible for maintaining the Bank and performing remedial action except for damage or non-compliance caused by catastrophic events, events of Force Majeure, or unlawful acts. Certain circumstances, such as excessive flooding and vandalism, are beyond the control of the Bank Sponsor. The Bank Sponsor shall notify the USACE within 24 hours of their knowledge of the occurrence of a catastrophic event, event of force majeure, or unlawful act. As soon as reasonably possible the Bank Sponsor and the USACE shall meet to discuss the course of action in response to such an occurrence. In the meantime, the Bank Sponsor shall continue to manage and maintain the Bank property to the full extent practicable.

Remedial actions include over-seeding of low diversity or poorly growing areas with native seed collected on site or nearby or purchased from an outside vendor, use of equipment and vehicles to conduct seeding and woody species replacement, using appropriate equipment as needed for stabilizing slopes with cover crop and other typical slope protection strategies such as but not limited to erosion blanketing, limited rock placement, straw bale use, and installation water deterrence barriers to prevent/stop erosion. Maintenance and manipulation of water control structures is allowed with USACE and IRT approval.

3.10 Credit Release Schedule

Stream and Wetland Credit sales may commence upon approval of the banking instrument in accordance with the approved credit release schedule. The credit release schedules provided in the ICA are presented below:

Wetland Credit Release Schedule

1. release a maximum of 20% of the total credits at the bank once the banking instrument has been signed, adequate financial assurances are in place, and the site protection instrument has been recorded;
2. release an additional 25% of the total credits at the bank once appropriate wetland hydrology is demonstrated at the bank, and all hydrology performance standards have been met. The hydrology standard must be met for \geq (greater than or equal to) 2 consecutive growing seasons to qualify for credit release and/or final release from maintenance and monitoring;
3. for each following year (beyond the first year that wetland hydrology was documented and approved), when interim vegetation and hydrology performance standards are met and approved in writing by the USACE, up to 15% of anticipated credits will be approved for sale if unsold, successfully restored credits are present.
4. after one year has passed from the date of the first credit sale, if wetland hydrology is not present in the majority of years, native plant communities are not developing, or if any performance standards are not met on areas that are of sufficient size to cover sold credits, the USACE will require one or more of the following: adaptive management actions, a decrease of credits available for sale, a suspension of credit sales, termination of the MBI, and/or utilization of financial assurances.



Stream Credit Release Schedule

Credit sales may commence upon approval of the banking instrument in accordance with the following schedule. The Corps, after consultation with the IRT may:

1. release a maximum of 20% of the total credits at the bank once the banking instrument has been signed, adequate financial assurances are in place, and the site protection instrument has been recorded;
2. release an additional 35% of the total credits at the bank once the stream is fully constructed as designed (including all instream structures) and permanent vegetation (buffer and stream slopes) is established. The stream remains stable following at least two bankfull events;
3. release an additional 10% of the total credits at the bank according to the interim vegetation performance standards as defined in the approved mitigation banking instrument, along with continued demonstration of stream functions present to be confirmed by the IRT; and
4. release the final 35% of total credits at the bank final once all final performance standards have been met. In some instances, the IRT may recommend to the Corps, adjustments to the final credit amount released.

4.0 Performance Standards

Wetland performance standards will be developed using the guidance specified in Appendix B of the ICA and will be tied to specific crediting ratios. Vegetation performance standards have been developed for each of the proposed wetland (emergent, wet prairie/sedge meadow, hemi-marsh)) and upland buffer (mesic prairie) vegetative communities and will be incorporated into the MBI. Mean C and FQA (all species) standards will be included in the performance standards for the proposed plant communities, as well as a number of additional vegetative standards that will be included in further detail in the MBI.

Hydrology performance standards will be developed for the sedge meadow/wet prairie re-establishment communities. Hydrology will consist of a water table 12 inches or less below the soil surface for a minimum of 28 consecutive days, or two periods of 14 or more consecutive days, during the growing season under normal and wetter than normal hydrological conditions. RES also plans to install a groundwater monitoring well in an onsite "reference wetland" intended to provide hydrology support as part of the post-construction hydrology monitoring. Due to increasing variations in regional and local precipitation, there will likely be times when onsite monitoring well hydrology may not be reflective of the ICA hydrology standard but is still supporting wetlands. If the onsite wetlands do not consistently achieve the ICA mitigation hydrology standard, the "reference wetland" hydrology data will allow RES to capture baseline hydrology data for comparison with the re-established wetlands on the mitigation site.

Stream performance standards will be developed using the 2019 Rivers and Streams Addendum to the ICA. A combination of ecologically based standards, including vegetative standards for riparian buffer vegetation, will be proposed based on baseline stream assessment data and incorporated into the MBI.

5.0 Proposed Service Area

For purposes of unavoidable impacts authorized under the federal Clean Water Act wetland permitting program, this Bank would serve the Upper Mississippi River (HUC 07) watershed in accordance with the 2017 ICA.

6.0 Needs Assessment

Development and wetland impact in the Upper Mississippi and Upper Fox River Watershed is anticipated to continue in the future, with transportation, infrastructure, and municipal projects in the works, in addition to



residential and commercial development. Future residential development is likely in the adjacent and near vicinity of the Bank.

The Ray Lake Mitigation Bank will compensate for impacts due to future development by fulfilling the following objectives identified in the Manitou Creek-Fish Lake Drain Watershed Plan (2025 Draft for Public Comment): 1) Improve impaired water quality and protect surface water quality from future impacts; 2) Reduce the risk of flood damage in the watershed, mitigate the effects of runoff, and enhance stormwater management systems; and 3) Preserve, restore, and enhance a system of terrestrial and aquatic ecosystems to provide beneficial functions for people, plants, and wildlife.

The Bank site is located within the Lake-McHenry County Wetland Complex, which is a Conservation Opportunity Area (COA) identified in Illinois' Wildlife Action Plan. COAs are priority areas for conserving Illinois' Species in Greatest Need of Conservation (SGNC). COAs are defined as locations with significant existing or potential wildlife and habitat resources; where partners are willing to plan, implement, and evaluate conservation actions; where financial and human resources are available; and where conservation is motivated by an agreed-upon conservation purpose and set of objectives. The Lake-McHenry Wetland Complex contains several rare wetland types, including fens and bogs, rare wetland and grassland species, and protected acres slated for wetland, prairie and savanna restoration.

The Bank will expand portions of the Manitou Creek riparian buffer as well as remove a source of non-point pollution entering the Creek and eventually Fish Lake. The Bank will also restore native plant community areas, which as part of the Lake County Forest Preserve network will be preserved in perpetuity, providing an important link to a large network of green spaces within the immediate area and improving regional habitat connectivity. Nearby natural areas include previously naturalized portions of Ray Lake Forest Preserve to the south. Additional open spaces in proximity to the Ray Lake Bank include McLean Woods and Wetlands INAI Site and Nature Preserve (within Lakewood Forest Preserve), Broberg Marsh Nature Preserve, Schreiber Lake Bog Nature Preserve, and Wauconda Bog Nature Preserve (Exhibit 11). The approval of this Bank will represent an opportunity to restore unique and increasingly threatened aquatic resources and habitat in an ecologically sensitive region, while at the same time ensuring that compensatory mitigation for unavoidable impacts is channeled into a high-quality and scientifically rigorous wetland improvement.

7.0 Real Estate Ownership

The Bank Sponsor has the right to develop a wetland mitigation bank on the proposed site through the signing of a license agreement with the LCFPD. While the parcels comprising the proposed Bank site are owned in fee title (outright) by LCFPD; an additional site protection instrument will be necessary to protect the Bank for the long-term. The preferred Site Protection Instrument – a Declaration of Restrictive Covenant – will be recorded to provide perpetual site protection (See Section 8.1 below). LCFPD has not received federal dollars for either the acquisition or restoration of the lands proposed for the Bank.

8.0 Long-Term Management

The Bank will be perpetually managed by the LCFPD, but at any time may choose to assign this role to an USACE and IRT-approved entity. The implementation of long-term management practices will be necessary to maintain the Bank as a native ecosystem, which is the intent of the bank sponsor. It is anticipated that after five or more years of ecological restoration, enhancement, management, and achievement of final performance standards, the mitigation efforts will transition into a long-term management program. The long-term management program is critical for maintaining the value of the investment, perpetuating the plant community, and maximizing the ecological and aesthetic benefits of the native plant communities. The long-term manager will be responsible for implementing management activities, as necessary.



Management tasks will be guided by annual site assessments. These assessments will provide the necessary feedback on the success of the restorations and enhancements to the long-term manager. Site assessments identify developing problems and can be used to modify management techniques to achieve a higher success rate. Resource management activities such as prescribed burning, spot herbicide treatment, mechanical vegetation control, seeding, and planting may be conducted or applied within the Bank provided that the activity enhances wetland conditions. Except for the treatment of invasive and/or exotic species, each instance of an activity must be approved by the USACE, after coordination with the IRT. The Sponsor shall submit any changes or modifications to the proposed management plan activities to the USACE after coordination with the IRT. All resource management activities should comply with the following conditions:

1. Activities should be designed and executed in a manner that contributes to the achievement of the Bank's objectives,
2. Removal of wind-throw, or damaged trees, unless a result of insects (e.g., emerald ash borer) is discouraged unless included in an approved resource management plan,
3. Cavity and den trees shall be preserved to the maximum extent practicable,
4. Motorized vehicular traffic will not be permitted off-road/off-path unless associated with the short term and long-term management and monitoring activities performed on the site.
5. Native seed should be collected by hand or mechanical means, or by means that do not negatively impact the conservation values.

Recreational activities and undeveloped, non-commercial recreational use, including but not limited to, hiking, snowshoeing, photography, wildlife viewing, cross-country skiing, and education related activities will be allowed, provided such activities do not negatively impact the conservation values. A potential trail alignment has been included in the concept plan if LCFPD chooses to construct a trail in the future (Exhibit 8) to facilitate recreational access to the site and to provide access for maintenance in the short and long-term management and stewardship periods. Firefighting or fire suppression activities, and machine clearing of fire lines/fire breaks as part of controlled burn activities, firefighting, or fire suppression will be allowed.

Installation of fences for land management or habitat protection purposes, and installation of signs for land management, facilitating passive recreation, education, or habitat protection purposes of reasonable size will be allowed.

The Bank is vulnerable to acts such as vandalism, wildfires, adverse weather, insects, and diseases. In some cases, it may be appropriate to do nothing with the expectation that the wetland vegetation will establish on its own. Such occasions will require approval of the USACE after coordination with the IRT.

8.1 Site Protection Instrument

The Bank is owned by the LCFPD and will be under full control by the Sponsor during the Bank's operational period. Upon execution of the Long-Term Management Agreement, the area will be turned over to the LCFPD, the property owner, that has already protected, in perpetuity, the Bank through its' land purchase and with the Declaration of Restrictive Covenants that will be placed on the property. A draft Declaration of Restrictive Covenants will be provided with the Draft Mitigation Bank Instrument (DMBI).

9.0 Sponsor Qualifications

HGS, LLC is the Sponsor for the proposed Bank. HGS, LLC is a wholly owned subsidiary of RES, a fully scaled operating company providing ecological restoration and water resource solutions. RES is a vertically integrated, design-build operating company with the expertise – land, legal, regulatory, construction – and capital to deliver cost-effective and high-quality environmental restoration and water quality projects with commercial speed.



RES was initially founded to help clients obtain project permits by supplying compensatory wetland mitigation solutions. RES evolved to be the leading provider of innovative solutions to wetland and stream compensatory mitigation projects. Since inception, RES has provided design, permitting, construction, success criteria monitoring, maintenance, and credit sales for our own mitigation assets, as well as assets owned by third parties or partners. Working with regulators in the early 1990s, AES (now RES) was instrumental in developing science-based wetland mitigation banking standards and permit regulations. In the Midwest, RES has been involved in the design, permitting, development, and management of over 130 wetland, stream, species, and conservation banks including providing assistance on four banks in Lake County, Illinois including the Metra Stateline Wetland Bank (Phase 1 and Phase 2), Butterfield Road Wetland Bank, Atkinson Road Wetland Bank, and Jelkes Creek Wetland Mitigation Bank and Restoration (Phase 1 and Phase 2).

10.0 Ecological Suitability

The Bank is characterized by a low complexity and a high likelihood of success based on the presence of hydric soils in the wetland re-establishment, establishment, and enhancement areas as well as existing drain tiles in the areas where wetland connectivity is going to be established. Additionally, most of the wetland restoration will involve minimal grading, consisting primarily of minor ground leveling associated with the disablement of existing drain tiles to establish wetland connectivity between existing wetlands.

11.0 Assurance of Sufficient Water Rights

Sufficient water rights exist to support the long-term sustainability of the Bank. Wetlands will be primarily supported by groundwater, precipitation, and runoff from onsite and offsite drainage areas which will be sufficient to provide the necessary hydrology. Details on the proposed hydrology of the Bank will be provided in the MBI.



Exhibits

Exhibit 1. Location Map

Exhibit 2. Existing Conditions Map

Exhibit 3. FEMA Flood Hazard Map

Exhibit 4. NRCS Soil Survey Map

Exhibit 5a. USGS Topographic Survey

Exhibit 5b. LiDAR Topography

Exhibit 6. USGS Hydrologic Atlas

Exhibit 7. Delineated Wetlands

Exhibit 8. Establishment, Restoration and Enhancement Concept Plan

Exhibit 9. Proposed Water Flow and Drainage

Exhibit 10. Existing Drain Tiles

Exhibit 11. Nature Preserves



PLACEHOLDER FOR EXHIBITS



Appendix A – Wetland Delineation Report



PLACEHOLDER FOR WETLAND DELINEATION REPORT

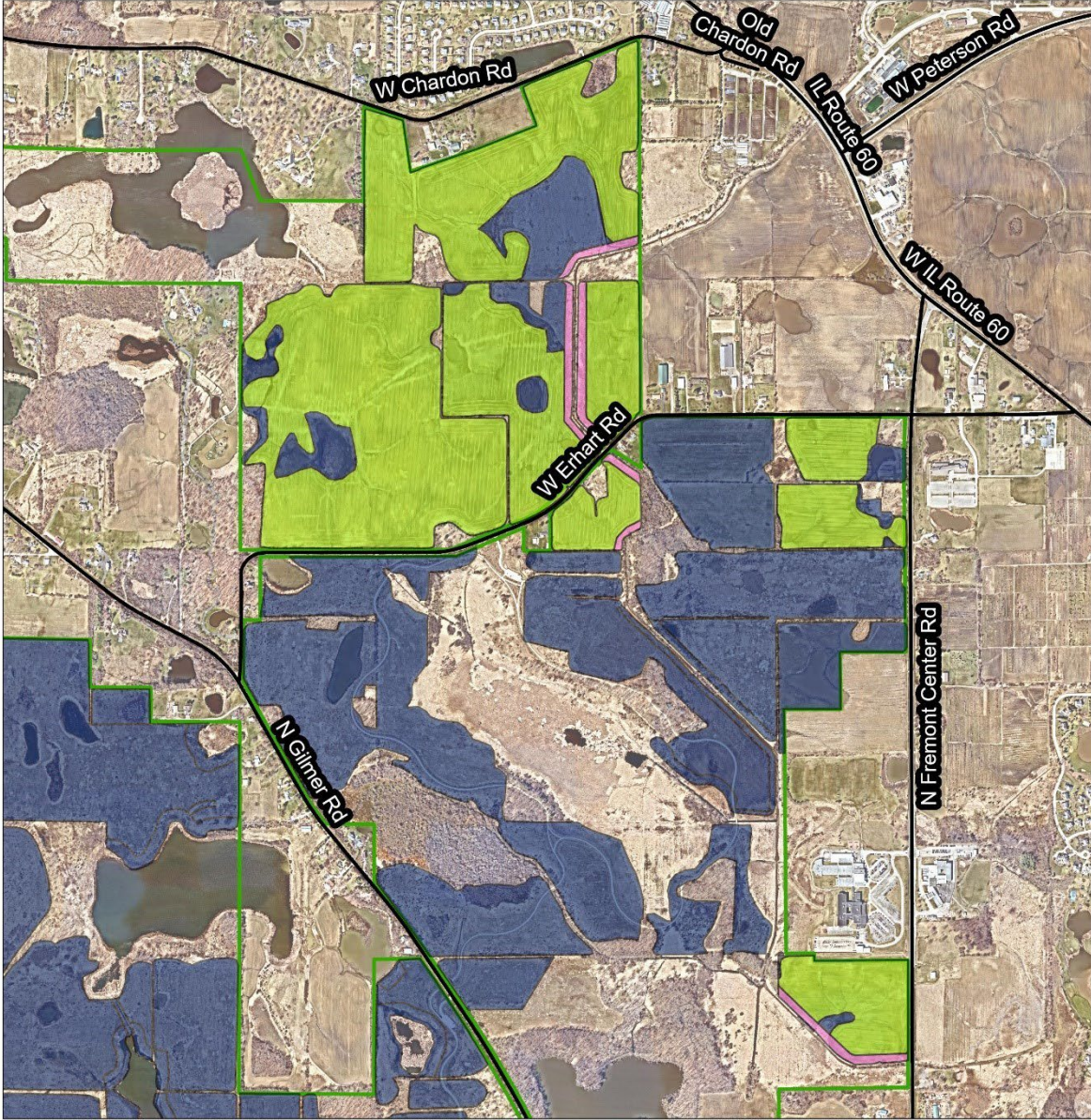


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EXHIBIT D

General Depiction of Active Farm Field

**Lake County Forest Preserves Farm Program
Ray Lake Farm License**



Disclaimer: Property Boundaries and other data provided is for general information only and not for commercial purposes. The District provides this data for the user's exclusive use only. Any re-use, transmission, duplication, or distribution without the permission of the District is prohibited. Map sources include: Lake County GIS Division | Basemap: 2022 Aerial

 **Lake County Forest Preserves**
Map Created on 6/28/2024

0 500 1,000
Feet

N

- L Active Farm Field
- E Buffer (NO FARMING)
- G Retired (NO FARMING)
- N Forest Preserve Boundaries
- D

Preserve: RAY LAKE

Acreage: 308 ac

Farm: 3522/1064/2931/1077/1009/1152

Tract:

10030/111032/1263/10053/10085/1264/1258/1269

Fields: 5/3/1/1/3 in part,6/1,2,/1,2,3,4/1