# Attachment I

Qualification of Resources Environmental Solutions, LLC

# **Company Overview & Introduction**

RES is neither an investment fund, environmental consulting firm, nor a traditional "mitigation banker." We do not seek to sell a standard set of repeatable services or products. Rather, we pride ourselves on our unique ability to deliver customized solutions tailored to our clients' needs. This is enabled by a deep and diverse set of internal resources and capabilities that spans from planning, research and analysis, to design and engineering, to implementation and long-term management. RES' internal resources include environmental, health, safety, and security (EHS&S) staff, land acquisition specialists, stream designers, professional wetland scientists, species experts, engineers, hydrologists, QA/QC oversight teams, field ecologists, regulatory project managers, analysts, certified foresters, arborists, landscape architects, construction managers, superintendents, and field crew members as well as supporting project controls, government affairs, public relations, financial, legal and analytical staff.

RES has earned a reputation as a reliable, responsible ecological offset solution provider with keen knowledge of regulatory agency requirements and the flexibility to deliver successful compensatory mitigation and affect liability transfer. We are client-driven, seek synergies that enable multiple solutions per land-acre as allowed by regulatory agencies, and are vertically-integrated to enable team execution and lower operating costs and deliver high quality, successful ecological offset sites.

RES' experience includes:

- Restoration, enhancement, and preservation of over 55,000+ acres of wetlands
- Restoration of over 294 miles of streams
- Rehabilitation and preservation of over 9,100 acres of endangered species habitats
- Permitting and development of 350 mitigation sites, completed or in process
- Design, permitting and development of 68 wetland, stream, and conservation banks
- Successful close-out over 100 mitigation sites
- Delivery of 20,000 acres of custom, turnkey mitigation solutions
- Design and construction of over 350 stormwater management facilities
- Maintenance of 600 commercial, municipal and residential stormwater management facilities
- Reductions of over 240 tons of water quality nutrients
- Planting of over 14,000,000 trees across all operating regions
- Development and operation of nurseries in three states including the largest coastal nursery in Louisiana
- Supplying compensatory wetland and stream mitigation for over 1,850 federal and state permits primarily for clients in the energy, power, and industrial sectors.

### Bois d'Arc Lake Mitigation Project

Fannin County, Northeast Texas | North Texas Municipal Water District



is developing a 16,500-acre reservoir to provide new water services to 13 cities; the first surface water reservoir to be permitted in Texas in almost 30 years. RES is restoring 15,000 acres of habitats, including 70 miles of streams, to offset the environmental impacts of building this new lake.

RES is delivering complete stewardship of the Lower Bois d'Arc Creek Reservoir (LBCR) mitigation sites, from design and implementation through monitoring and maintenance over the next 20+ years. The project addresses:

- 369,000+ LF (70 miles) of stream restoration/enhancement
- 1,026 acres of forested wetland enhancement
- 3,875 acres of forested wetland restoration
- 1,560 acres of emergent wetland enhancement
- 1,200 acres of emergent wetland restoration
- 150 acres of shrub wetland restoration
- 1,146 acres of upland forest restoration
- 3,677 acres of native grassland restoration
- Planting over 5 million trees

RES' presence on the project is 24/7, with a full-time staff living on the property. Site performance success is measured by restoration of aquatic and terrestrial species. RES bonded the entire project and all mitigation and transferred liability from the North Texas Municipal Water District to RES.

North Texas Municipal Water District

#### Construction Period

Construction complete by February 2022, Monitor for 20 years post construction

### **Project Highlights**

- 15,000-acre aquatic and terrestrial mitigation
- Nation's largest permitteeresponsible mitigation (PRM), offsetting impacts of a large municipal reservoir serving 13 cities in North Texas





#### Robinson Fork Custom Mitigation Bank - Phase I

Washington County, PA

In 2017, RES completed construction on the largest floodplain restoration project in the northeastern United States completed to date, encompassing over 30% of the Robinson Fork Watershed. The project included several new and innovative approaches for stream enhancement, and headwater system restoration with the Robinson Fork Mitigation Bank – Phase I (RFMB–I), which allowed for the re–establishment of high quality, inter–connected stream floodplain complexes on gradients steeper than have previously been accomplished. The project was constructed under contract with CONSOL Energy for mitigation of their Bailey mine, the largest coal mine in the United States. RES recommended the custom construction of a mitigation bank to CONSOL to speed up permitting timelines on the phased expansion of the mine. The entire project was developed with the goal of meeting specific permitting timelines for CONSOL as they developed each mine phase.

The restoration efforts within RFMB1 focused on the creation of an integrated and dynamic stream and floodplain system; restoring localized groundwater aquifers, reconnecting floodplains to the water table and streams, optimizing and diversifying habitat, and creating a hydrologic system that allows for the retention of nutrients, stream bed material and organic carbon, such as leaves and twigs. This design approach provided the basis for the continued evolution of ecological complexity and long-term stability at the site. In the short-term, this restoration has already shown ecological uplift and improvement of the hydrology of the restored stream and floodplain complex, increased baseflow conditions in the stream, additional in-stream and floodplain habitat, increase in large-woody debris (LWD) and carbon retention, and an increase in floral and faunal biodiversity.

# Construction Period 2015 – 2017

#### Project Highlights

- 148,727 LF Stream Creation, Enhancement & Preservation
- Restoration & Enhancement:
- 35 acres of Forested Wetlands
- 5 acres of Emergent Wetlands
- 42 acres of Native Grasslands
- 410 acres of Riparian Forest
- 68,350 Trees Planted
- 900 Potential Roosts for the Endangered Indiana Bat and Threatened Northern Long–Eared (NLE) Bat

This site had significant design and construction challenges from past anthropogenic impacts within the restoration parcels. Overall, the design approach focuses on creating a highly stable, low–shear stress stream and wetland floodplain complex, which allows for the long–term evolution of ecological complexity at the site. The re–established wetlands are integrated with the active valley wide hyporheic zone to have water within a foot of the surface for the majority of the growing season. This drives a high diversity plant community, ensures wetland hydrology criterion are met, and encourages optimal floodplain tree and shrub growth. The stability of the site, and the increase in LWD, floodplain micro and macro habitat, and in–stream micro and macro habitat allow for the quick recolonization and expansion of fish and macro–invertebrate populations. Several stream reaches that did not previously have conditions conducive to fish populations were noted as having new fish populations less than a



year after.

Drone photo of Beham Run, which is an approximately 8,000 LF reach of floodplain restoration with about a 10mile drainage area. This picture was taken at the start

#### Pennsylvania Statewide Bat Conservation Bank

Greene County, PA | U.S. Fish and Wildlife Service

RES received conditional approval in March 2017 and formal approval in December 2018 from the USFWS for the northeast region's first species conservation bank, in Greene County, PA. This approval represents several years of close coordination with the USFWS to define and create greater certainty and predictability for projects requiring bat habitat mitigation. To create the Pennsylvania Statewide Bat Conservation Bank, we coordinated with the USFWS Pennsylvania field office over the course of three years to select a site, develop a crediting methodology, and finalize the first endangered species conservation banking instrument in the State.

The bank is located within the known range of the federally listed Indiana bat (*Myotis sodalis*) and includes more than 438 contiguous acres of high–quality

#### **Contract Period**

2015 - Present

#### Project Highlights

- First conservation bank in the Northeast Region
- One of the nation's first bat conservation banks

habitat used by two Indiana bat maternity colonies. Although Indiana bats have experienced significant population declines due to a malady known as white–nose syndrome, the Indiana bat maternity colonies in Washington and Greene Counties persist.



Conservation banking creates a collaborative incentive–based approach where habitat for listed species is treated as an asset rather than a liability. By permanently protecting high– quality forested habitat in a critical Indiana bat habitat zone, the bank provides an advanced compensatory mitigation mechanism to support economic development while complying with the Endangered Species Act and the relevant federal mitigation initiatives. The conservation bank provides high–quality, self–sustaining bat habitat to offset statewide impacts to the Indiana bat and its habitat in a biologically significant area. The availability of released bat habitat credits facilitates an expedited path to construction for our clients' projects, where costly and time–consuming permittee responsible mitigation processes are avoided.

The maternity area includes three partially conjoined maternity colonies consisting of primary and alternate roost trees and the surrounding 2.5–3–mile foraging habitat (USFWS 2016). Acoustic surveys on the site indicate the likely presence of eight bat species in addition to Indiana bats, including northern long–eared (*Myotis septentrionalis*) and tri–colored bats (*Perimyotis subflavus*).

In addition to providing extremely high-quality bat habitat, the bank site abuts two known Biodiversity areas identified by the Pennsylvania Department of Conservation and Natural Resources, and hosts the only known Mixed–Mesophysic Forest Target Plant Community (an extremely rich terrestrial community type on deep soils in protected concave coves or lower slopes) in Greene County, PA. The site is also within the known range of one endangered plant (Nuttall's hedge–nettle, *Stachys cordata*) and at least three special concern plant species (single–headed pussy–toes (*Antennaria solitaria*), American beakgrain (*Diarrhena americana*), and leaf–cup (*Smallanthus uvedalius*)).

## Pineywoods Mitigation Bank

Sponsor: Neches River Corridor, LP c/o GMO Renewable Resources

Pineywoods Mitigation Bank is one of the largest approved mitigation banks in the US at 19,079 acres of bottomland hardwood and was established in July 2008. The bank is located in the middle of the Neches River basin and provides a corridor between the Davy Crocket and the Angelina National Forests in East Texas.

The Mitigation Banking Instrument Bank was complex and required approval of both USACE Fort Worth and Galveston Districts. The bank was developed using older Wildlife Habitat Assessment ratios (WHAP) that later converted to an Interim Hydrogeomorphic Assessment Method (HGMi).

RES was named the Exclusive Credit Sales Agent, March 2009 through July 2010. This agreement included documentation of sale and pre-enabled discounts for credit sales exceeding target credit volumes sold per transaction. Sales transactions were kept confidential and later made available by USACE

**Contract Period** 

March 2009 - July 2010

#### **Project Highlights**

- 19,079 Acres of Bottomland Hardwood
- Various Credit Clients

via FOIA. The Agreement terminated when GMO, the bank sponsor, decided to sell the bank.



RES engaged permittee clients with unavoidable project–related impacts and negotiated resulting credit sales transactions and credit sales reservations. Mitigation bank credit client permittees included Texas Department of Transportation, oil and gas developers, pipeline operators, and land developers, sought out following rigorous market demand and competitive coverage analysis studies of the mitigation bank's service areas and neighboring geographies.

## The Prince William Environmental Bank – P3 Contract for Stream Restoration

Prince William County, VA | Prince William County Department of Parks and Recreation

In 2007, RES partnered with Prince William County Department of Parks and Recreation (PWC) to restore approximately 147,000LF– well over 20 miles – of stream and riparian buffer on almost 2,000 acres of parklands. RES established **a public-private partnership (P3) with PWC to enable stream restoration across the County at no cost to the County** by combining the benefits of stream restoration and preservation within the County Park system with the need for stream mitigation credits in the watershed. The Prince William Environmental Bank (PWEB) is the only P3 agreement of its kind in the Virginia. All design, permitting, planning, and construction are being implemented by RES, and credit revenues are shared with the County. RES manages the bank ledgers and ensures annual monitoring reports are submitted to maintain compliance with regulatory agencies. RES also does regular demand forecasting and analysis for the County.

### Initial Stream Condition Assessments and Design Feasibility Studies

#### **Contract Period**

- Permitting, Design, and Construction: 2007 – 2013
- Ecological Monitoring Ongoing Until 2023

# **Project Highlights**

- Only P3 of its kind in Virginia
- Extensive Public Outreach
- Two Design–Build Stream Restorations Completed
- Restored 20 Miles of Stream in PWC Parks

RES performed a comprehensive feasibility and needs assessment of the streams within 10 PWC parks. Opportunities were identified to address stream degradation and improve water quality through the implementation of various natural stream design (NSD) techniques and stormwater BMPs, including bio–retention basins, infiltration trenches, riparian buffers, invasive plant controls, bank stabilization with natural materials, bankfull bench creation, root wads, and in–stream structures, such as log/rock vanes and step pools. For each of the 10 PWC Parks which contain potential stream restoration sites, RES performed the following:

- WOTUS Wetland Delineations and USACE Confirmation
- Perennial Flow Determinations
- Geomorphic and Resource Protection Area (RPA) Assessments
- Threatened and Endangered (T&E) Species Surveys (where required)

# Status of P3 Implementation

RES developed a Mitigation Banking Instrument (MBI) for PWEB, an umbrella bank, as well as Bank Development Plans (BDP) for sites included in Phase I of the project. RES received MBI approval from the Interagency Review Team (IRT) and has completed construction of two of the identified projects. RES is currently developing a third project under this P3 agreement with PWC.

- Locust Shade Park, Triangle, VA: Completed in May 2012, restored 5,160LF of stream channel.
- James S. Long Park, Haymarket, VA: Completed in October 2013, restored over 7,215LF of stream channel.

# Public Education and Outreach Planning

RES recognized the tight-knit communities that utilize and cherish the parks of Prince William County. Both the Locust Shade and James Long Park stream restorations took place in areas highly utilized by the public, especially the stream restoration in James Long Park, which is adjacent to Battlefield High School and contains several ball fields. Thus, RES understood its responsibility to develop quality, on-time restoration projects while remaining responsive to the needs and concerns of project stakeholders along the way. During stream restoration at both Locust Shade and James Long Parks, RES met with interest groups to address concerns and offer information on why construction was occurring. RES also



developed multiple public resources to educate the community on stream restoration. RES recognized both an obligation to alleviate public concerns as well as an opportunity to educate the community on ecological restoration. Prior to construction activities at Locust Shade Park and James Long Park, RES posted onsite signage detailing the stream restoration project and directing the public to an online resource for more information. In conjunction, RES created online pages that presented the science of stream restoration. On this site, community members could view pictures of each project before, during, and after construction, as well as submit questions or concerns to RES or County staff directly.

#### Hull Springs Farm Mitigation & Nutrient Banks

Westmoreland County, VA / The Longwood University Foundation

In October 2011, The Longwood University Foundation (The Foundation) received approval from the Interagency Review Team to create the Hull Springs Farm Mitigation Bank on a 214–acre farm owned by Longwood University in Westmoreland County, VA. The goal for the property was to generate revenue for the University through credit sales, while conserving open space and offering educational opportunities for students and professors.

In 2013, The Foundation selected RES to complete data analysis; final stream and wetland design; construction; as-built reporting; performance monitoring, maintenance, credit sales and management of the bank. This involves managing the bank ledgers and ensuring annual monitoring reports are submitted to maintain compliance with regulatory agencies.

The stream component of the bank consists of 1,454 LF of stream restoration,

6,012 LF of stream enhancement/preservation, and 16.14 AC of riparian buffer plantings. The wetland component of the project consists of 22.27 AC of wetland restoration, 44.8 AC of wetland enhancement, 85.15 AC of wetland preservation, and 22.79 AC of upland buffer plantings.

In addition, RES has established a Nutrient Bank on the property for the sale of TMDL nutrient offset credits. This project, which was implemented in 2017, consists of 57.71 AC of historic agricultural field that has been planted to achieve a forested condition. This project has generated additional revenue for the University in addition to expanding the extents of conserved land on the property.

The bank areas, which were predominantly farm land, are now thriving ecosystems that contribute valuable functional uplift to the Potomac River Watershed while providing learning opportunities and revenue for Longwood University.

### Northern Virginia Regional Environmental Bank (NVREB) – Miller Farm, Keaton Farm, & Peters Farm Fauquier County, VA/ Wetlands Development, LLC

RES has provided complete turnkey services for the Northern Virginia Regional Environmental Bank (NVREB), a three-site wetland mitigation umbrella-bank in Fauquier County, Virginia. Tasks for all three sites have included preliminary site feasibility analysis; landowner contract coordination; a delineation of jurisdictional features; IRT coordination and bank approval; hydrologic modeling; wetland design; and county construction plan development and approval.

RES has completed all aspects of construction for the three sites, Miller Farm, Keaton Farm, and Peters Farm. Construction tasks include initial clearing and grading; micro-topography grading to create habitat diversity; hydrologic berm, geotechnical fabric and weir installation; access-road construction; containerized plantings; wetland tree and shrub seed dispersal; and emergent wetland seed mix hydroseeding.

To date, RES has created/restored more than 90 acres of wetlands on these sites, which entailed the planting of over 40,000 trees. RES currently performs ecological success criteria monitoring and reporting to the USACE and the Virginia Department of Environmental Quality (DEQ).

RES' innovative approach to wetland mitigation monitoring includes 'real-

time' updates to vegetation and hydrology information in RES' mitigation monitoring database. This includes management and maintenance protocols that keep the entire project team apprised of the changing onsite conditions.

## **Contract Period**

#### 2014-2028

#### Project Highlights

- 1,238LF stream restoration
- 26.5-acre wetland restoration
- Currently in construction stage
- Credit sales and marketing on behalf of Longwood University Foundation
- Educational outreach

# Contract Period 2009 – 2019

### Project Highlights

- Three Site Wetland Mitigation Bank
- Design–Build
- 90 AC of Created/Restored Wetlands
- 40,000 Trees Planted

