

**DRAFT**

**Living River Restoration Trust Program Instrument (updated July 28, 2016)**

**I. PREAMBLE**

- A. PURPOSE AND GOALS
- B. EFFECTIVE TERM AND DATE
- C. DISCLAIMER

**II. DEFINITIONS**

**III. REGULATORY AUTHORITIES**

- A. FEDERAL AUTHORITIES
- B. COMMONWEALTH OF VIRGINIA AUTHORITIES

**IV. PROGRAM OPERATION**

- A. MITIGATION AND PROGRAM RESOURCES
- B. INTERAGENCY REVIEW TEAM
- C. PROGRAM SERVICE AREA
- D. IN-LIEU FEE PROGRAM ACCOUNT
- E. PROGRAM ACCOUNTING PROCEDURES
- F. PROGRAM DEFAULT AND CLOSURE PROCEDURES

**V. MITIGATION PROJECT ESTABLISHMENT AND OPERATION**

- A. GENERAL MITIGATION SITE REVIEW PROCEDURES
- B. COMPENSATION PLANNING FRAMEWORK
- C. ADVANCE CREDITS
- D. METHOD FOR DETERMINING PROJECT-SPECIFIC CREDITS AND FEES
- E. PROTECTION OF MITIGATION SITES
- F. LEGAL RESPONSIBILITY FOR PROVIDING COMPENSATORY MITIGATION
- G. LONG-TERM MANAGEMENT INCLUDING TRANSFER OF LONG-TERM MANAGEMENT
- H. CATASTROPHIC EVENTS AND FORCE MAJEURE
- I. EMINENT DOMAIN AND TAKINGS

**VI. PROGRAM REPORTING PROTOCOLS**

**VII. DISPUTE RESOLUTION**

**VIII. VALIDITY, AMENDMENT, MODIFICATION, AND TERMINATION OF THE AGREEMENT**

**IX. THIRD PARTY RESALE OR BROKERAGE OF CREDITS**

**X. OTHER PROVISIONS**

**XI. SIGNATURES**

**Exhibit A Compensation Planning Framework**

**Exhibit B Advanced Credits**

**Exhibit C Proposed Mitigation Crediting Ratios**

**Exhibit D Fee Schedule**

## EXHIBIT A

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### Living River Restoration Trust Compensation Planning Framework (§§332.8(d)(2)(viii)(A) & 332.8 (c))

Strategies that will be used by the Liver River Restoration Trust (TRUST) to select, secure and implement aquatic resources will involve the following.

- (a) Section 332(c)(2)(i): The geographic Service Area, including a watershed-based rationale for the delineation of each Service Area.

The proposed geographic Service Area comprises two identified hydrologic units (HUC) within the State of Virginia. In each of these HUCs, there have been losses of many aquatic Functions and Services from external impacts. In using these HUCs as the basis for the ILF Program, impacts within each would be offset by compensatory mitigation within the Elizabeth River Watershed promoting the goal of no-net loss of functions on a watershed basis.

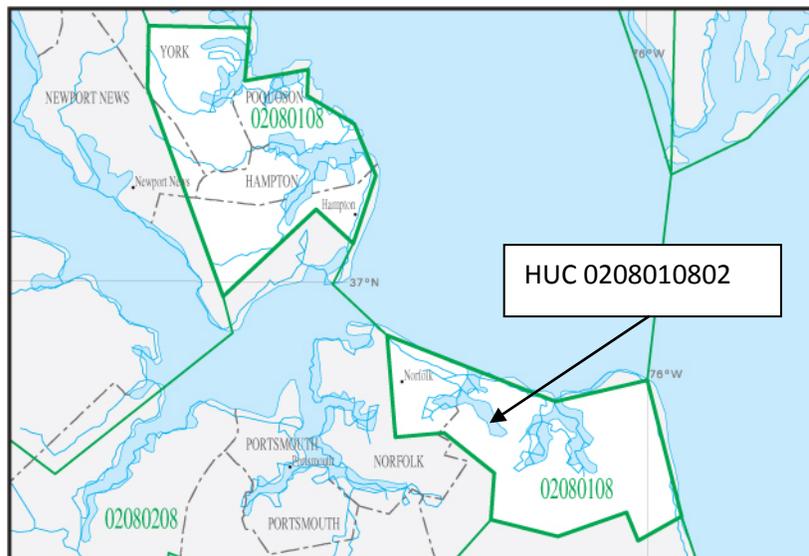
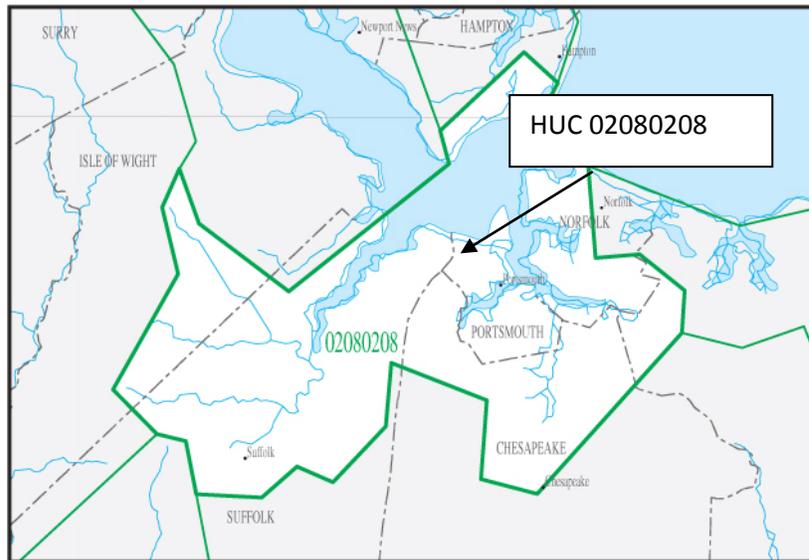
TRUST proposes a watershed-based approach to restore and enhance existing degraded shallow water river bottom within the Elizabeth River watershed as a means to off set unavoidable impacts of permitted activity that results in dredging or filling of previously undisturbed shallow habitat. The watershed-based rationale for each of the ILF Project sites described in future mitigation plans will be based on the Twentieth Anniversary Watershed Action Plan for the Elizabeth River January 28, 2016, Elizabeth River Project (2016 Watershed Action Plan), prepared by nearly 150 regional scientists, regulators and other stakeholders and based on State of the Elizabeth River Scorecard 2014 by Virginia Department of Environmental Quality and Elizabeth River Project, and sites which are in need of restoration in the Elizabeth River watershed.

According to the 2016 Watershed Action Plan, "... the highest risk problems in the river sediment are 1) toxic concentrations of chemicals, primarily PAHs as a by product of former wood treatment plants; 2) poor sediment quality not associated with chemical contamination and 3) toxic concentration from heavy metals and polychlorinated biphenyl's (PCBs)." The TRUST Program will provide a mechanism to compensate for the unavoidable impacts to previously undisturbed shallow water sediment by restoring and enhancing contaminated shallow water sediment in the Elizabeth River.

Table 1 - Hydrologic Boundaries, Subareas and Subunits – Elizabeth River Watershed within the proposed TRUST Service Area.

River Basin	HUC Code Name	HUC Code	Advanced Credits (mudflat/subaqueous)
Lower James River Basin	Hampton Roads	02080208	16*
Lower Chesapeake Bay	Lynnhaven River	0208010802	0

\* All advance Credits will be applied to Project sites located in the Elizabeth River watershed.



The TRUST in-lieu fee service area includes the geographic area within the USGS Hydrologic Unit Codes: 02080208 and 0208010802 not including the Lynnhaven River.

The watershed-based rationale for each proposed mitigation area is described below (§332.8 (c)(2)(i)).

The geographic Service Area comprises two identified hydrologic units (HUC) within the State of Virginia. In each of these HUCs, there have been losses to many of their aquatic Functions and Services from external impacts. In using these HUCs as the basis for the Program, impacts within each would be offset by compensatory mitigation within the Elizabeth River Watershed, promoting the goal of no-net loss of Functions on a watershed basis.

The 200 square mile Elizabeth River watershed will be the focus area for mitigation since there have been significant environmental impacts to the natural resources over the past 300 years. Specific needs within the watershed will be identified and compensatory mitigation will be developed to address the losses of Function and Services as future Project Sites are identified and proposed for inclusion in the Program. Once identified, TRUST will conduct preliminary monitoring of the priority ILF Project sites to determine current aquatic resource conditions, functional values and approximate acreages to be restored, enhanced or created and to determine possible occupation by listed and sensitive species. A watershed-based rationale for each of the ILF Project sites described in future mitigation plans will be based upon what resources (shallow sediment, oyster reef, or wetlands) would be best protected.

The lower section of Paradise Creek subwatershed has been identified by the TRUST as a targeted Project site and will be discussed in detail in future Development Plans. Keeping the watersheds network of stream channels healthy as functioning habitat also keeps it functioning optimally in providing other benefits.” These habitat functions and values will be increased or maintained through the ILF program

#### Paradise Creek Subwatershed Rationale

Paradise Creek is located within the Elizabeth River Watershed and is identified as a focus area in the 2016 Watershed Action Plan. The entire lower portion of the creek is approximately 25 total acres. The TRUST proposed mitigation for Paradise Creek will be to provide a combination of rehabilitation and restoration of 10 acres of the degraded to severely degraded that is contaminated with organic and inorganic pollution. A number of studies have documented contamination along the river bottom in Paradise Creek. These studies were conducted by the US Navy in 2005 and a separate study conducted in 2012 by the VA Port Authority. In addition, to the presence of organic and inorganic chemical contamination on the creek bottom a benthic study conducted by Dr. Daniel Dauer at Old Dominion University found that the benthic community was significantly degraded and had low species diversity. Restoring estuarine habitat function in Paradise Creek is important not only to the ecosystem but to the public health as the site is located adjacent to a public park, Paradise Creek Nature Park, with a public passive boat launch.

- (b) Section 332.8(c)(2)(ii): A description of the threats to aquatic resources in the Service Area, including how the in-lieu fee program will help offset impacts resulting from those threats;

The TRUST proposes to offer mitigation options for unavoidable impacts to subaqueous bottom, mudflats and intertidal habitats involving the river bottom sediment, oyster colonies and intertidal wetlands in the Service Area identified above.

## **CONSERVATION TARGETS**

### **Mud/Sand Benthic Communities**

The dominant benthic habitat throughout the Service Area is made up of sand and mud, home to bacteria, clams, worms and other creatures that serve as a key food source for higher levels of aquatic life. This community is an indicator of the overall health of the Service Area since it was historically the foundation of the entire food web; today it is vulnerable to stresses associated with pollution, excess nutrients, oxygen content and sediment concentrations. Deeper portions of this habitat are subjected to anoxia and hypoxia (exacerbated by excess nutrient loading), which limit the biological diversity of the system through changed food web dynamics. (Nature Conservancy Dec 2009, Dan Dauer, ODU 1999-2006).

Some of the highest concentrations of toxics on the Chesapeake Bay have been documented for decades in hotspots throughout the Elizabeth River with a documented wide range of impacts to aquatic life, ranging from elevated rates of cancer and pre-cancerous lesions in indicator fish to elevated contaminants in fish tissue (VA Institute of Marine Science, College of William and Mary, 1998-2016). The Virginia Department of Health has issued fish consumption advisories for the lower Chesapeake Bay for polychlorinated biphenyls (PCBs) in fish tissues and fish from the Elizabeth River appear to have elevated PCB concentrations. Scientists participating on planning teams for development of the Watershed Action Plan for the Elizabeth River have indicated in each update of the plan that sediment quality must be restored as a high priority for the Elizabeth River ecosystem to recover. The TRUST was established by the Norfolk District of the US Army Corps of Engineers, the VA Department of Environmental Quality and Elizabeth River Project in 2004 to provide a mechanism for offsetting loss of remaining healthy sediments by restoring the benthic function of contaminated sediments as the nearest in-kind mitigation and as crucial to Elizabeth River ecosystem recovery. The TRUST has demonstrated success with offsetting impacts in this manner with the highly successful remediation of contaminated sediments at Money Point in Chesapeake, 2004-2012, in which 36 million pounds of Polycyclic Aromatic Hydrocarbons (PAHs) contamination were removed, clean habitat established and ecosystem recovery documented. Cancer and pre-cancer lesions in the indicator species, mummichog, was reduced at the site from more than 40 % to background levels in pre- and post surveys (VA Institute of Marine Science) and diversity of fish increased from 4 species to 24 species in before and after fish surveys (data collected by Elizabeth River Project).

## **Oyster Reef Ecosystem**

The eastern oyster (*Crassostrea virginica*) was formally integral to the Lower Chesapeake Bay ecosystem. Oyster reefs are ecosystem engineers providing several ecological services to the lower Bay and its tributaries located within the Service Area: 1) Oysters consume phytoplankton and detrital particles with sequestered nutrients by filtering up to 5 liters of water per hour. 2) Oyster reefs provide habitat for communities of sessile benthic invertebrates such as polychaetes (e.g., sabellids, serpulids), hydroids, bryozoans, and sponges, as well as critical nursery and foraging habitat for juvenile fishes. 3) Oysters supply food for birds, such as the American oystercatcher in intertidal flats. Moreover, oyster reefs can also help to buffer shorelines from erosion. Oyster reefs are typically found in the greatest aggregations at the mouths of rivers and creeks on hard substrate bottom. The historic footprint of oyster reefs in the Chesapeake was likely between 200,000 and 400,000 acres; today fewer than 20,000 acres are likely functional. As recently as 100 years ago, these oyster reefs were so massive that they posed a navigational hazard to ships. Oyster populations throughout the Service Area are suffering as a result of disease, habitat destruction and over-harvesting and are estimated to exist at only 1% of historic levels (Nature Conservancy Dec 2009). The TRUST has experience with creating mitigation oyster reefs including a 13 acre two dimensional reef at Scotts Creek and a three acre oyster reef at Money Point. The Elizabeth River Project, providing contracted project management to the Trust for the creation of oyster reefs, has demonstrated success with restoring oyster habitats throughout the Elizabeth River Watershed with more than 10 reefs constructed.

## **Tidal Wetlands**

Tidal wetlands, which include saltwater marshes, experience periodic flooding by ocean-driven tides. Most common are emergent wetlands, dominated by salt-tolerant grasses (e.g. saltmarsh cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*Spartina patens*), big cordgrass (*Spartina cynosuroides*) saltgrass (*Distichils spicata*)). Though only a small percentage of the 200 square mile watershed qualifies as wetlands, these areas provide a nursery ground that sustains the regional productivity. Tidal wetlands are particularly important habitats for brackish and marine fishes, shellfish, various waterfowl, shorebirds, wading birds and several mammals. Most commercial and game fishes use estuarine marshes and estuaries as nursery and spawning grounds. Menhaden (*Brevoortia tyrannus*), bluefish (*Pomatomus saltatrix*), flounder (*Paralichthys dentatus*), sea trout (*Cynoscion regalis*), croaker (*Micropogonias undulates*), and striped bass (*Morone saxatilis*) are among the most familiar fishes that depend on estuarine wetlands during their larval stage. Blue crabs (*Callinectes sapidus*), are fished commercially throughout the Service Area and depend on coastal marshes, as do other shellfish, such as oysters, clams and shrimp. Loss of habitat along waterways poses the biggest threat to most bird species in the service area watershed. Deforestation, shoreline development and shoreline erosion disrupt nesting activities, and chemical contaminants in the water damage the food source of many regional birds. (Nature Conservancy Dec 2009). The TRUST has demonstrated success with restoring tidal wetlands at Money Point (“living cap”) and Elizabeth River Project, providing contracted support, has restored tidal wetlands throughout the Elizabeth River Watershed.

## **THREATS**

Global climate change (Sea level rise and increased climatic variability)

Upland development - stormwater and sediment alterations

Atmospheric sources of nutrients

Shoreline hardening/modification

Altered freshwater flows and lost connectivity

Aquatic invasive species

Wastewater treatment discharge

Recreational and commercial boating

Terrestrial invasive species

Dredging

Wetland ditching

The majority of the threats to benthic and wetland habitats also can be attributed to permitted and unpermitted impacts from dredging and filling of river bottom habitats and shoreline development. The dredging impacts can be the result of maritime interest for deeper channels and/or for installation of tunnels and bridges. Filling impacts can vary, but can be the result of filling for maritime development, installation of bridges, tunnels, roads, and other development projects. Filling has a more significant impact on benthic and wetland habitats since it results in permanent loss of the habitat, compared to dredging which can slowly recover overtime. TRUST will help offset these impacts through the nearest in-kind compensatory mitigation by cleaning up contaminated sediments areas, restoring oyster reefs and creating new tidal wetlands to offset impacts from sediment dredging, river bottom filling and shoreline development.

The TRUST assisted the Elizabeth River Project and community stakeholders in identifying a number of sites in the Elizabeth River watershed which have elevated levels of contaminants in the sediments. These sites are identified in the 2016 Elizabeth River Watershed Action Plan as priority sediment restoration sites and could be selected as mitigation Project sites. These areas will be the focus areas for mitigation projects to offset impacts by restoring functioning subaqueous habitat. Many of these areas have elevated concentrations of organic and inorganic contaminants which have resulted in an impaired benthic habitat, and in some cases high rates of cancer in fin fish. The goal will be to focus mitigation funds in these areas to reduce sediment contamination and improve the biological productivity in these areas. The Trust will evaluate remedial approaches which not only clean up a site but also incorporate habitat restoration within the project. If capping of contaminated sediments is selected as the remedial approach the cap may have a wetland or oyster reef adding to enhance the habitat value. This approach addresses the contaminants of concern while also providing critical habitat.

The Trust is also evaluating other sites in the Elizabeth River watershed to determine if they might be candidate sediment remediation sites. TRUST uses sediment, benthic, and fish tissue data collected in the past to explore new sites.

1. If a Catastrophic Event, event of Force Majeure or Unlawful Act occurs at one of the Trust's mitigation sites before success criteria are met (within the first five (5)

years), Program Sponsor will assess the particular site once it has been deemed safe to enter and perform the following steps:

- (a) Assess damage to current mitigation site, including but not limited to, determining if cap material was lost and determining if contaminants in sediment or porewater increased.
  - (b) Notify the U.S. Army Corps of Engineers of the possible impacts;
  - (c) If needed, provide a site specific Remedial Action plan to address any impacts to the U.S. Army Corps of Engineers for review and approval;
  - (d) Carry out any needed adaptive management
2. If a Catastrophic Event, event of Force Majeure or Unlawful Act occurs at an ILF Project site after success criteria are met (i.e., during the Long-Term Management Period), the Trust will assess the ILF Project site and determine whether action needs to be to correct any damage to a mitigation site.
- (c) Section 332.8(c)(2)(iii): An analysis of historic aquatic resource loss in the Service Area.

Over the last 100 years, the Elizabeth River, Lynnhaven River, and Nansemond River watersheds and associated tributaries have come under increased stress due to development within the watershed. In the Elizabeth River watershed there have been significant dredging projects for marine navigational interests. Many of these projects resulted in converting shallow water habitat to deeper water habitat. This change in depth can result in significant reductions the diversity and abundance of invertebrates found in this habitat. It has been reported that it can take up to 3 to 6 months for benthic recovery once dredging is completed. If maintenance dredging is carried out this recovery time can be much greater. These impacts to benthic habitat can have negative impacts on fish usage since food sources are reduced. This type of transformation from shallow water to deep water in the Elizabeth River has been occurring from early 1800s to present and has resulted in an increase in water depth.

In addition, over time there have been significant impacts to wetlands, oyster reefs, and upland buffers. The combinations of these impacts overlaid on the impacts to benthic habitats have resulted in significant cumulative effects to aquatic resources. These impacts have combined to reduce the functions and values of aquatic resources in the Service Area. Some watersheds have been impacted more than others, especially those that occur within a municipality or urban area such as Elizabeth River.

Impacts to the Elizabeth River began in the early 1600s as part of the export of tobacco from the region. Between 1682 and 1725 a number of wharves were built to allow shipment of materials out to Europe and the West Indies. During that time natural channels supported most sailing ships. However by the early 1800s numerous wharves

were built for shipping and bulkhead and backfilling of wetlands started to occur. The construction of Norfolk Naval Shipyard in 1812 promoted waterfront development up the Southern Branch of the Elizabeth. As Norfolk and Portsmouth grew in the 1800s many of the small tributaries of the river were filled with dredge material and ship ballast. Then in 1889 six large coal transshipment facilities were built and significant dredging and filling occurred to accommodate deeper draft ships. To improve ship access to Elizabeth River the main harbor was deepened to 7.6 m and lengthened. The mean depth of the Elizabeth River in 1872 was 5.8 m, however by 1982 the mean was 13.7 m (136% change). The length of the river in 1872 was 16m however by 1982 it had increased to 43m (170% change). As dredging proceeded the material was disposed off in wetlands and small tributary channels. These impacts over time have resulted in the Elizabeth River losing over 50% of its original wetlands (Nichols and Howard-Strobel 1991).

In addition to the impacts mentioned above, the Elizabeth River is also designated as an impaired waterway for low dissolved oxygen, low benthic life, high nutrients, and high bacteria levels. The river also has elevated levels of sediment contamination. These factors combined with the physical changes to the river have contributed to additional wildlife impacts. These chronic cumulative impacts are of concern for fin fishes, shellfish, and other organisms which live in the river. Increases in the amount and quality of clean river bottom would improve natural resources and water quality.

(d) Section 332.8(c)(2)(iv): An analysis of current aquatic resource conditions in the Service Area.

The majority of the aquatic resources in the Service Area have been impacted by intense urban development which has resulted in the loss of vegetative buffers, wetlands, oyster reefs, contaminated sediments, and poor water quality. One of the largest contributors to these impacts is impervious surfaces. These structures directly impact healthy ecosystems when they are installed since they are replacing natural habitat. These impervious surfaces also increase the amount of storm water which reaches the rivers and thus carried with it more pollutants. These pollutants can result in poor water quality which has negative impacts on aquatic resources.

Dr. Daniel Dauer from Old Dominion University conducted an Elizabeth River river-wide benthic study from 1998- 2005 using the Benthic Index of Biotic Integrity. Over this eight year time period, the average watershed-wide BIBI scores was 2.4 indicating that the much of the bottom habitat in the Elizabeth River is degraded and not supporting a thriving benthos (reports and data can be downloaded at <http://www.elizabethriver.org/studies>). These degraded habitats can be the result of sediment contamination which do not promote the colonization of benthic dwelling invertebrates (Dr. Dauer, ODU 1998-2005).

The majority of the threats to benthic habitat also can be attributed to permitted and unpermitted impacts from dredging and filling of river bottom habitats. The dredging impacts can be the result of maritime interest for deeper channels and/or for installation of tunnels and bridges. Filling impacts can vary, but can be the result of filling for maritime development, installation of bridges, tunnels, roads, and other development projects. Filling

has a more significant impact on benthic habitats since it results in permanent loss of the habitat, compared to dredging which can slowly recover overtime. LRRT will help offset these impacts through the nearest in-kind compensatory mitigation by cleaning up contaminated sediments which have little to no biological function to offset impacts from dredging or filling.

Contaminated sediments continue to be a significant environmental problem that impairs the use of many water bodies. It is often a contributing factor to the over 3,200 fish consumption advisories issued nationwide. In addition, based upon two inventories of data compiled from numerous studies, approximately 26–27% of sediment samples nationwide had chemical concentrations sufficiently high to warrant concern for potential toxicological effects. These trends seen nationwide are not different than what we see in our Service Area. (reference)

Current aquatic resource conditions in the Service Area are poor to moderate, depending upon the location. The recently published Chesapeake Bay Report Card 2014 indicates the Elizabeth River as having poor ecosystem health but with significantly improving trends. The James River was noted for moderate ecosystem health with slightly improving trends. The Lynnhaven River, part of the Lower Bay was classified as moderately good ecosystem health; however his area shows no trends.

The following species have been identified as sensitive, rare, threatened, or endangered by the US Department of Interior, or State of Virginia.

#### **BIRDS**

Piping Plover (*Charadrius melodus*) Federally Threatened

Least Tern (*Sternula antillarum*) State Rare

#### **FISH**

Atlantic Sturgeon (*Acipenser oxyrinchus*) Federally Endangered

- (e) Section 332.8(c)(2)(v): A statement of aquatic resource goals and objectives for the Service Area, including a description of the general amounts, types and locations of aquatic resources the program will seek to provide.

The goal of the Program is the rehabilitation or re-establishment (collectively known as restoration) of lost aquatic resource functions of natural aquatic systems that achieves an intended level of aquatic ecosystem functionality with minimal human intervention, including long-term maintenance. These activities will serve as mitigation for permitted impacts within the Service Areas for which TRUST is used as compensatory mitigation. Rehabilitation or re-establishment is preferred because of the greater likelihood of success. In some cases, enhancement would be chosen if the functional benefits are clear and apparent.

It is anticipated that all future proposed ILF Projects will be located within the Elizabeth River Watershed and will be evaluated consistent with the 2016 Watershed Action Plan for the Elizabeth River providing aquatic resource values as they relate to sediment quality,

water quality and habitat enhancement. Sediment rehabilitation and enhancement will be achieved by either removing contaminated sediment and replacing it with clean restoration sand, through the addition of sediment amendment materials designed to sequester contaminated in place or other approved restoration methods. Habitat enhancement will be achieved through LIF projects involving oyster reef restoration and wetland creation. All of the ILF Projects involving sediment, oyster reefs and or wetlands will have positive benefits to marine habitat and water quality.

The Living River Restoration Trust will also mitigate for oyster and wetland losses if our service area does not have a viable mitigation bank. The TRUST may also combine habitat mitigation into one project to maximize ecosystem function. Currently the TRUST is requesting 16 advance credits for sediment restoration, 10 advance credits for oyster mitigation, and 5 advance credits of wetland mitigation for a total of 31 advance credits.

The type, location, and approximate area of shallow river bottom, oyster reef and intertidal wetland, habitats in the ILF Project sites will be provided as Development and Management Plans are prepared along with the specific resources, threats, conditions and potential aquatic resources. An example of a potential future shallow river bottom ILF Project site currently under evaluation in the lower portion of Paradise Creek located on the Southern Branch of the Elizabeth River is presented below.



Location: Lower Section of Paradise Creek, Southern Branch of the Elizabeth River Portsmouth, Virginia. (§332.8(c)(2)(i))

Acreage: Approximately 25 acres of aquatic shallow water habitat.

Condition: Degraded to Severely degraded (Benthic Biological Monitoring Program of the Elizabeth River 1999-2005. (Dr. Daniel M Dauer, Old Dominion University).

Threats: Historic metal recycling and land filling activity is no longer active along adjacent shoreline areas. Isolated areas of shallow water sediment contain elevated concentrations of organic and inorganic chemical compounds that is stressing the aquatic habitat within the creek.

Goals: Improve aquatic function to the degraded shallow water sediment by rehabilitating and repairing Paradise Creek sediment shallow sediment quality with a goal of meeting or exceeding an effects range medium quotient of 1.5 (Anchor QEA, O'Brien Gere JV 2016).

Threats to this site are from historic upland land use and storm water inputs. Degradation of in stream aquatic species and habitat is due to accumulation of toxic chemical compounds in the shallow sediment



(§332.8(c)(2)(ii)).

Historic aquatic losses in Paradise Creek include displacement of native vegetation from *Phragmites australis* extirpation of benthic organism due to sediment degradation, stresses to native fish from increased uptake of toxic organic and inorganic chemicals. (§332.8(c)(2)(iii)).

Current aquatic resources are characterized as degraded to severely degraded (D. Dauer 1998-2005). The site consists of tidal mud-flats, shallow water sediment with wetlands and salt marsh scrub habitats. Approximately 25 acres of this habitat type currently exist in the lower Paradise Creek area, with up to 10 acres of the shallow water sediment area needing some type of rehabilitation or restoration. Sediment rehabilitation will be focused on the 8 acres of shallow river bottom with an additional 2 acres of river bottom restoration in areas containing the highest levels of chemical impact. In all 10 acres of sediment enhancement and restoration is proposed to be restore and managed through long term stewardship under the program (§332.8(c)(2)(v)).

Prioritization Strategy (§332.8(c)(2)(vi)).

While all the future proposed ILF Project sites will have natural values, some of the areas may currently provide good habitat for sensitive species, while other areas will need restoration or rehabilitation treatment to increase their Functions and Services. Sites that have been identified for potential restoration in the 2016 Watershed Action Plan will be evaluated as ILF Project sites first. The prioritization strategy for ILF Project sites will be to identify areas within the Elizabeth River watershed that have the highest habitat value for conservation and active management. The goal in the case of sediment quality and oyster reef Project sites will be to conduct and manage the mitigation on land below mean low water that is owned by the Commonwealth of Virginia, in which cases an alternative to fee title and conservation easements is required. For intertidal wetland sites the goal will be to acquire either fee title or conservation easements in these areas, and to place into conservation and restore these riparian habitats. Specifically, the TRUST will:

1. Rehabilitate aquatic (sediment and oyster) resources on existing state owned river bottom that has been impacted by development or negative human activity and which require conservation to reduce current and future functional loss.

The initial priority for sediment and oyster projects will be the rehabilitation of the aquatic resources identified in the 2016 Watershed Action Plan.

The second priority will be to rehabilitation or re-establish tidal wetland areas within the Elizabeth River Watershed that have been lost as a result shore line development, filling or erosion. The initial priority will be restoration of aquatic resources on lands held in fee title or conservation easement by TRUST.

2. Purchase or hold conservation easements or fee title on lands that have potential to re-establish degraded aquatic and related habitat, and which are not currently protected. The

targeted Project sites will be identified in future Development Plans.

3. Conduct the creation, restoration, enhancement and long-term management of habitat lands once they are brought into, or accepted into the Program.

Explanation of How Preservation Objectives Identified and Addressed in the Prioritization Strategy Satisfy the Criteria for Use of Preservation in § 332.3(h) (§332.8(c)(2)(vii)).

The main components of the Program strategy will be to preserve, create, restore and/or rehabilitate aquatic resources using science-based development, maintenance and monitoring strategies to preserve the ILF Project sites in perpetuity. TRUST will ensure that Credits are adequately priced to allow the set-aside of sufficient endowment funds to cover the long-term maintenance and monitoring requirements.

Section 332.8(c)(2)(vii) requests applicants to address the preservation criteria enumerated in Section 332.3(h). Accordingly, TRUST will provide the following information

i. The resources to be preserved provide important physical, chemical or biological Function for the Watershed

Areas proposed for restoration by the TRUST will have biological functions considered essential for the continued health of the subject watersheds. The prioritization strategy will allow the TRUST to focus first on enhancement, establishment and restoration of resources on areas that have the highest potential for success, need or are at risk. These resources include: 1) shallow river bottom characterized as degraded or severely degraded in studies conducted by Dr. Dauer of Old Dominion University and other sediment quality studies conducted in the Elizabeth River including studies by the US Navy, US Army Corps of Engineers, Virginia Port Authority and the Virginia Department of Environmental Quality. 2) river bottom areas that have the highest potential for success for oyster reef restoration, and 3) shoreline areas that have the highest potential for success for tidal wetlands re-establishment. Providing enhancement, restoration and protection of these areas will greatly increase both the function and value of the aquatic resources. If these resources are not preserved, increased degradation will continue to occur as a result of increased non-point source pollution, erosion and sedimentation.

ii. The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available.

The shallow sediment rehabilitation objectives implemented through the prioritization strategy above will contribute significantly to the ecological sustainability of the watershed. The TRUST will use a function assessment method accepted by the USACE for each proposed ILF Program site to determine habitat quality and quality and the areas that require enhancement, restoration or creation. However, it is likely that even when such a

methodology is used, there may be instances where unforeseen circumstances occur and adaptive management of these sites is necessary. In these instances, best management practices for the site will be used based upon site assessment at the time of the problem.

iii. Preservation is determined by the district engineer to be appropriate and practicable.

While the district engineer must make the final determination, TRUST will select ILF Projects sites based upon the prioritization criteria above and be submitted for inclusion in the Program.

iv. The resources are under threat of destruction or adverse modifications.

Many of the future proposed ILF Projects sites may have been historically impacted or are under threat of adverse modification and/or destruction from current or future outside impacts. The extent and type of threats vary from site to site, and will be discussed in more detail as specific ILF Project sites are proposed for inclusion in the Program.

v. The preserved sites will be permanently protected through an appropriate real estate or other legal instrument (e.g., conservation easement, title transfer to state resource agency or land trust).

In general, ILF Project sites involving shallow water river bottom rehabilitation and oyster reef restoration will be located in subaqueous land belonging to the Commonwealth of Virginia and thus benefiting from the state's permanent protection. However, TRUST has held conversations with the regulatory agencies who indicate that any impact to mitigation projects located on subaqueous land will require a joint permit. As such, sediment mitigation projects will be best protected using special conditions in the joint permit. In addition, the TRUST will make every effort to additionally protect project sites involving shallow water river bottom rehabilitation and oyster reef restoration through appropriate aquatic resource mitigation designations such as the NOAA navigational charts, DEQ Coastal Gems program and USAC GIS data base. These charts and databases are used during permit review to determine if there are any sensitive or protected aquatic resources are in the vicinity of a permit application. Using these charts and databases regulators will then be able to then require the permit applicant to avoid impacting our mitigation project.

TRUST will permanently protect ILF Project sites involving tidal wetland re-establishment through appropriate real estate or other legal instruments such as conservation easements and deed on all parcels acquired.

TRUST will establish accounts for each Program site to pay for long-term maintenance of all preserved land in perpetuity.

Public and Private Stakeholder Involvement (§332.8(c)(2)(viii).

The Watershed Action Plan for the Elizabeth River, updated in 2016, was developed by nearly 150 stakeholders representing local industry, government, citizens, civic organization,

state and federal regulatory agencies, academics, the US Navy, USACE, NOAA, USFW, public utilities and consulting groups. Stakeholder meetings were facilitated by Dr. E Frank Dukes, director of the Institute for Environmental Negotiation, University of Virginia. In addition the TRUST has created two separate forums for private and public stakeholder involvement in commentary on Project sites of the TRUST. 1) The TRUST Technical Advisory Committee is comprised of representatives from local government, industry, academia, state and federal regulatory agencies, scientists and consulting engineers. It meets as needed to review data and remediation approaches for TRUST sediment sites and has provided key recommendations acted on for prior sites. 2) The TRUST is the coordinating organization of the Sediment Remediation Partnership. This local stakeholder group is comprised of more than 50 agencies working on sediment remediation related projects and research in the lower bay and meets bi-annually to discuss current sediment restoration issues and active projects with an objective of providing an open forum to discuss sediment management trends in the Hampton Roads area.

Long-term Management Strategies (§332.8 (c)(2)(ix)).

Project sites located at elevations below mean low water (shallow sediment and oyster reef Project sites) on State owned river bottom will be managed on a long-term basis through the recording of the mitigation area on NOAA navigational charts, the Virginia costal gems data base and the USACE regional GIS data base. These resources are used by permitting agencies during permit application review to determine if sensitive or protected areas are in the vicinity of a proposed development. Having sediment cleanup sites noted will give regulators the information needed to projects can avoid impacting our sites. Plus TRUST will work with permittees to determine an appropriate approach to their project which would reduce or eliminate impacts to a sediment mitigation site.

Project sites located at elevations above mean low water (wetland Project sites) will be managed on a long-term basis through the recordation of a conservation easement or a deed restriction on the Project site. Long-term maintenance of the Project site will be funded by sales of credits to permittees. Site specific Long-term Monitoring Plans will be approved by USACE for each Project site.

Periodic Progress Evaluations (§332.8 (c)(2)(x)). The TRUST will draft an annual report that (1) briefly evaluates the current state of each project site and (2) reports on the progress of the program in achieving the goals and objectives set forth in the geographic service area encompassing those project sites. The annual report may contain photographs, as appropriate. Where practical, adaptive management will be used in the event potential problems are identified. Reports will be provided to the USACE and any other regulatory agency, upon request.

Additional Information (§332.8 (c)(2)(xi)).

No additional information presented.

## **I. PREAMBLE**

This Living River Restoration Trust Revised Instrument (“Agreement” or “Instrument”) among the U.S. Army Corps of Engineers, Norfolk District (“Corps”), the Virginia Department of Environmental Quality (DEQ), and the Living River Restoration Trust (“Trust”) details the establishment and processes for an in-lieu fee mitigation program of the Living River Restoration Trust (“Program”). This Agreement supersedes the First Amendment to the Living River Restoration Trust of 2009 (previously the Elizabeth River Restoration Trust). On April 10, 2008, a “Compensatory Mitigation for Losses of Aquatic Resources; Final Rule” (“Final Rule”) was published in the Federal Register, 33 Code of Federal Regulations (CFR) Parts 325 and 332. As a result of provisions in the Final Rule that relate to in-lieu fee arrangements, this Agreement is made.

### **A. PURPOSE AND GOALS**

The purpose of the Instrument is to provide an additional mechanism for compensatory mitigation for impacts to aquatic resources authorized by the Clean Water Act (33 U.S. Code [USC] § 1251 *et seq.*), the Rivers and Harbors Act (33 USC. 403) and/or the Virginia Water Protection Permit Regulation (9 Virginia Administrative Code [VAC] 25-210 *et seq.*) while maximizing the benefit to the aquatic environment and the public interest. The purpose of this Agreement is to establish guidelines, responsibilities, and standards for the establishment, use, operation, and maintenance of the Program in accordance with 33 CFR Part 332, governing compensatory mitigation for activities authorized by Department of Army permits.

The Trust agrees to follow and comply with the procedures set forth in this Agreement. The Program shall serve primarily as a compensatory mitigation tool pursuant to state and federal water laws and regulations. The Trust will use its resources to offset impacts that cannot be avoided, with the goal of achieving, at a minimum, no net loss of habitat, and to offset permitted project impacts affecting the environmental health of the Elizabeth River watershed. Although mitigation funds paid to the Trust as in-lieu fee payments should be sufficient, when taken together, to offset the impacts for which they are provided, the Program’s goal will be to go beyond the minimum to achieve improvements to the Elizabeth River ecosystem. As part of the Corps and DEQ permit-approval process, compensation for aquatic resources is considered only after avoidance and minimization of impacts to those resources have been considered to the maximum extent practicable. The Program provides a mechanism of compensation for permits involving impacts to aquatic resources found within the Elizabeth River watershed when off-site compensation for the loss of aquatic resources, occasioned by the issuance of permits, is deemed ecologically preferable and practicable. The primary focus of the Program will be to provide compensation for unavoidable permitted impacts to tidal submerged lands and intertidal mudflats. Wetland mitigation is not a primary focus of the Program but is not precluded should mitigation credits subsequently be proposed and approved by the Corps and DEQ.

It is the intent of the signatories that the standards of specific compensatory mitigation sites or projects authorized under the Program will be equivalent to the standards of mitigation banks. Where possible and appropriate, equivalent templates and policies will be used for the Program as are used for mitigation banks. This Agreement is intentionally

broad and sets the framework under which the Trust-sponsored mitigation sites will be identified, funded, operated, maintained, and managed.

### **B. EFFECTIVE DATE AND TERM**

This Agreement shall be effective upon the date that it is executed by the Corps, DEQ, and the Trust (this date will be known as the Effective Date). The parties acknowledge that the Agreement is valid until terminated pursuant to 9 VAC 25-210-116.D. DEQ's approval of this Agreement is not valid for a term beyond 5 years. Therefore, if the term expires prior to DEQ's approval of a subsequent term, acceptance of payments for Advance Credits from permitted activities shall be suspended until DEQ has approved an additional term. The Trust shall be responsible for compliance with this Agreement and any subsequent Site Mitigation Plans until each Mitigation Site is closed in accordance with the Program's closure procedures or until all Credits are sold, whichever is later.

### **C. DISCLAIMER**

This Agreement does not warrant the viability of the Program as a methodology to achieve mitigation. In addition, this Agreement cannot guarantee that any permittee will choose to make a payment to the Program or that the Interagency Review Team (IRT), Corps, or DEQ will recommend or approve any payments or contributions to the Program. Each permit will be considered on a case-by-case basis and each participating entity has discretion as to the mitigation it requires or will accept in relation to any particular permit.

## **II. DEFINITIONS**

**ADVANCE CREDITS** – Credits that are not associated with a compensatory mitigation project and are available for sale prior to initiation of a mitigation project in accordance with this approved Agreement.

**AGREEMENT** – The Program Instrument between the Trust, the Corps, and DEQ governing operation of the Trust In-Lieu Fee program instrument described under Corps regulations at 33 CFR §332.8(a)(1).

**AVAILABLE CREDITS** – Credits that have been approved for use by the Corps and DEQ and have not been attributed to permits. Available Credits may be Advance Credits or Released Credits.

**COMPENSATION** – Actions taken that have the effect of mitigating for, or substituting some form of, aquatic resource lost or significantly disturbed due to a permitted activity; generally aquatic resource preservation, restoration, enhancement, or creation.

**CREDIT** – A unit of measure representing the accrual or attainment of aquatic resource function, condition, or other performance measure at a Mitigation Site. It is also used to represent the mitigation liability of the Program.

**CREDIT AVAILABILITY VOUCHER** – A verification provided by the Trust to potential Credit purchasers stating that Credits are available for a specific time period and detailing the cost per Credit.

**DEBIT** – A unit of measure representing the reduction of available Credits corresponding to the loss of aquatic resource functions at an impact or project site.

**ENHANCEMENT** - The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve specific aquatic resource functions. Enhancement results in the gain of selected aquatic resource functions, but may also lead to a decline in other aquatic resource functions. Enhancement does not result in a gain in aquatic resource area.

**ESTABLISH** - means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and Functions.

**FINANCIAL ASSURANCES** – A mechanism used to guarantee some aspect of Mitigation Site performance. Financial Assurances may include a contingency account, escrow account, performance bond, insurance, letter of credit, or other mechanism acceptable to the IRT. Financial Assurances may be required for varying aspects associated with an In Lieu Fee Program including: a) a mechanism to guarantee the initial release of Mitigation Credits from a Mitigation Site; b) a mechanism to ensure that monitoring and maintenance of the Mitigation Site is completed; and c) a mechanism ensuring financing is available to address catastrophic events and Long-Term Management.

**FULL COST ACCOUNTING** – The process of collecting and presenting information (costs as well as advantages) for each Mitigation Project. It is a conventional method of cost accounting that traces direct costs and allocates indirect costs. It includes all appropriate expenses such as land acquisition, planning and design, construction, planting, legal expenses, monitoring, maintenance, remediation, adaptive management, long-term management, administration, and contingencies.

**FUNCTIONS** – The physical, chemical, and biological ecosystem processes of an aquatic resource without regard to its importance to society.

**HYDROLOGIC UNIT CODE (HUC)** – Divisions of the watersheds of the United States. For the purposes of this Agreement, HUC shall refer to those divisions as defined by the U.S. Geological Survey (USGS).

**ILF PROJECT** - means Compensatory Mitigation implemented by LRRT under the Program.

**IN-LIEU FEE PROGRAM ACCOUNT (“PROGRAM ACCOUNT”)** – An account at a financial institution that contains any and all monies, including any interest associated with the sale or transfer of Credits in accordance with this Agreement. Funds in this account can only be used to provide compensatory mitigation (including selection,

acquisition, design, implementation, administration, and management of Mitigation Credit Projects).

**IN-LIEU FEE MITIGATION PROGRAM (“PROGRAM”)** – The Program shall consist of the in-lieu fee operations of the Trust.

**INTERAGENCY REVIEW TEAM (IRT)** – An interagency group of federal, state, tribal, and/or local regulatory and resource agency representatives that participates in the development of a Site Mitigation Plan and oversees the establishment, use, and operation of a Mitigation Site with the Corps and DEQ serving as Chairperson(s).

**LEDGER** – An accounting of mitigation Credits and Debits.

**LONG-TERM MANAGEMENT AND MAINTENANCE PLAN** – The plan that defines the goals and objectives of long-term stewardship of a Mitigation Site after Success Criteria monitoring (typically a monitoring period of 10 years following completion of grading) has been completed. The Long-Term Management and Maintenance Plan shall be binding on the Long-Term Steward.

**LONG-TERM STEWARD** – The party (landowner, easement holder, or other party) responsible for Long-Term Maintenance and Management of the Mitigation Site. The Trust is the Long-Term Steward for a Mitigation Site unless another Steward has been designated and has accepted this responsibility.

**MITIGATION** – The process of sequentially avoiding impacts, minimizing impacts, and compensating for impacts to aquatic resources. Because the Corps and/or DEQ determine that impacts have been avoided and minimized to the extent practicable prior to requiring compensatory permit conditions, Mitigation is used in this instrument as a synonym for compensatory mitigation.

**MITIGATION PLAN** – A detailed plan that identifies specifically how aquatic resources and associated upland buffers will be restored, created, enhanced, preserved, managed, and maintained on the Mitigation Site.

**MITIGATION PERFORMANCE** – The outcome of applying success criteria to a Mitigation Site in terms of identified goals and objectives.

**MITIGATION PROJECT** – The entire compensatory mitigation project, including all activities described in the Mitigation Plan and undertaken on the Mitigation Site to generate Credits.

**MITIGATION SITE (“SITE”)** – A site or sites where aquatic resources are restored, created, enhanced, or restored expressly for the purpose of providing compensatory Mitigation for authorized impacts to similar resources.

**PROGRAM INSTRUMENT (“AGREEMENT”)** – The legal document governing the establishment, operation, and use of an In-Lieu Fee Program.

**REAL ESTATE PROTECTION DOCUMENT** – The document or instrument intended to protect, restrict, or preserve the land associated with a site and that will be recorded in local land records. The document may take the form of an easement, a declaration of restriction, or other similar legal document.

**RE-ESTABLISHMENT** - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic Functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area, Functions and Services.

**REHABILITATION** - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic Functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource Function, but does not in a gain in aquatic resource area.

**RELEASED CREDITS** – Credits associated with Mitigation Sites that have met their success criteria, as determined by the IRT.

**RESTORATION** - The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource.

**SITE DEVELOPMENT PLAN** – The overall plan governing the establishment, creation, enhancement, and/or restoration of aquatic resources on the Mitigation Site.

**SUCCESS CRITERIA** – The minimum standards required to meet the objectives for which the site was established.

**III. REGULATORY AUTHORITIES** – The establishment, use, and operation of the Program are carried out in accordance with the following authorities:

**A. Federal Authorities:**

1. Clean Water Act (33 USC §1251 *et seq.*)
2. Rivers and Harbors Act (33 USC §403)
3. Fish and Wildlife Coordination Act (16 USC §661 *et seq.*)
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-332)
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230)
6. Endangered Species Act (16 USC §1531 *et seq.*)
7. Magnuson Stevens Fishery Conservation and Management Act (16 USC §1801 *et seq.*)
8. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation under Clean Water Act, Section 404(b)(1) Guidelines (February 6, 1990)

9. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005
10. Regulatory Guidance Letter No. 08-03. U.S. Army Corps of Engineers, October 10, 2008

**B. Commonwealth of Virginia Authorities:**

1. Sections 62.1-44.15:20-23 of the Code of Virginia
2. Virginia Water Protection Permit Regulation (9 VAC §25-210 *et seq.*)
3. Guidelines for the Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VAC §20-390-10 *et seq.*)

**IV. PROGRAM OPERATION**

**A. MITIGATION PROGRAM AND RESOURCES**

Resources of the Program shall consist of funds paid by permit applicants, permittees, or other parties as approved by the Corps and DEQ to compensate for losses to aquatic resources in connection with issuance or verification of Corps or DEQ permits, resolution of unauthorized activities, or other cases as agreed upon by the Corps, DEQ, and the Trust. Said funds shall be delivered to the Trust by certified check to be held in the accounts and used by the Trust to accomplish Mitigation Projects as described herein. Subject to the terms of this Agreement, the Trust hereby agrees to receive and expend said funds in the manner and with the limitations described herein.

**B. INTERAGENCY REVIEW TEAM**

The Corps District Engineer (“District Engineer”) and the DEQ Director of the Office of Wetlands and Water Protection will initiate the assembly of the IRT. Designated representatives of the District Engineer and DEQ shall serve as permanent Chairpersons of the IRT. All decisions, approvals, consents, and other actions of the IRT are implemented by its Chairpersons, and all references in this Agreement to a decision, approval, consent, or other action by the IRT shall be deemed to refer to its Chairpersons, unless the context clearly indicates otherwise. The Corps and DEQ, representatives from the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (FWS), U.S. National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Agriculture, Natural Resources Conservation Service, Virginia Department of Game and Inland Fisheries, Virginia Department of Conservation and Recreation, Virginia Department of Forestry, and other state, local and federal agencies, as appropriate, may participate in the IRT as consulting members. The Corps and DEQ retain final authority over the IRT composition, but shall not unreasonably exclude any government agency with an interest in IRT matters. Any of the IRT members may terminate participation upon written notification to all signatory parties. Participation of the IRT member seeking termination will end 30 days after such written notification.

**C. PROGRAM SERVICE AREA**

The areas in which this Program is authorized to provide compensatory mitigation required by Corps and DEQ permits (“Service Area”) are the Elizabeth River watershed and adjacent sub-basins that include the Hampton Road HUC 02080208 and the Lower

Chesapeake Bay Lynnhaven River HUC 0208010802 not including the Lynnhaven River as defined by the National Watershed Boundary Dataset (HUC-8 & HUC-10), the Program may also accept mitigation moneys for impacts occurring to aquatic resources elsewhere if approved or otherwise specifically allowed by the Corps and/or DEQ. Maps of the geographic service areas are included in Compensation Planning Framework (Exhibit A). The Program intends to implement mitigation projects solely within the Elizabeth River watershed. Program activities, including impacts, payments, Credits, and projects will be tracked and reported within the Service Area.

#### **D. IN LIEU FEE PROGRAM ACCOUNTS**

Prior to the effective date of this Agreement, pursuant to the 2003 Memorandum of Understanding (MOU) as amended by the 2009 Amendment, contributions or payments made by permit applicants, permittees or other parties, as approved by the Corps and DEQ, were deposited into a separate interest-bearing account (“Base Account”). Additional payments made to the Trust for purposes other than the purchase of Mitigation Credits will be deposited in the Base Account. Monies from the Base Account shall be used to pay for selection, design, acquisition, implementation, monitoring, administration, management, and protection of mitigation projects that do not require the purchase of Mitigation Credits as approved by the Corps and DEQ.

In-lieu fee payments related to Mitigation Credit purchase received after the effective date of this Agreement for this Program will be deposited into a separate interest-bearing account (“Program Account”). Monies from the Program Account shall be used to pay for selection, design, acquisition, implementation, monitoring, administration, management, and protection of Mitigation Credit Projects approved by the Corps and DEQ. Funds expended may be charged to specific or multiple mitigation projects. The Trust shall hold any funds collected pursuant to this Agreement in the accounts identified above, which shall be interest-bearing accounts held in a financial institution. The Trust shall account for the funds so held in accordance with generally accepted accounting principles, and the accounts shall be subject to audit by the Corps and DEQ from time to time, as determined by the Corps and DEQ, at the expense of the party requesting such audit. The parties shall endeavor to cause such independent audit to occur prior to the expiration of the Agreement.

Those approved funds received by the Program in excess of the amount needed for mitigation or restoration projects shall remain with the Program. The Trust shall be required to provide financial assurances by setting aside contingency funds from the accounts sufficient to guarantee the success of each Mitigation Site undertaken in accordance with Corps and DEQ regulations, including remediation of catastrophic events and long-term management of each Mitigation Site.

The Accounts may only be used, upon approval by the Corps and DEQ, for selection, design, acquisition, implementation, monitoring, management, and protection of compensatory Mitigation Projects, and other related uses, including administration of the Program. Requests to expend funds for the long-term maintenance and management of a Mitigation Project must be accompanied by a description of needs, annual cost estimates

for these needs, and a discussion of inflationary adjustments and other contingencies, as appropriate.

The Trust shall receive an administrative fee amounting to up to 8% of the funds when the funds are deposited. The fee will come from the deposited funds, and is deemed to represent and reimburse reasonable overhead and related administrative costs of administering the Trust Fund to accomplish the mitigation projects described herein.

The Corps and DEQ shall have oversight of the accounts. Complete budgets for mitigation projects must be approved by the Corps and DEQ. The Trust shall submit to the Corps and DEQ an Annual Report by December 31 of each year. The Annual Report shall include detailed summaries of account deposits and disbursements made for each Mitigation Project during the previous calendar year (January 1-December 31). Any increase in excess of 10% from the total approved budget for a Mitigation Plan will require the Corps and DEQ's approval before additional funds may be disbursed. The Corps and DEQ may review Account records with 14 days written notice. When so requested by the Corps and DEQ, the Trust shall provide all books, accounts, reports, files, and other records relating to the Program Account.

#### **E. PROGRAM ACCOUNTING PROCEDURES**

The Trust shall establish and maintain a system for tracking the calculation of Credits in relation to projects, the Debit or sale of Credits, and financial transactions in relation to Credits between the Trust and permittees. Credit production (the generation of an amount of Credits based on Projects), Credit transactions (purchase by permittees and debit by the Trust of Credits) and financial transactions (the exchange of money in relation to Credits) shall be tracked. The sale, conveyance, or transfer of Credits includes all natural services, functions and values associated with the natural resources (e.g., wetlands and other waters) from which Credits were derived. Credits may be used to compensate for environmental impacts under other programs (e.g., civil works, Superfund Program removal and remedial actions, and supplemental environmental projects for state and federal enforcement actions), but Credits may not simultaneously serve as mitigation for more than one activity. For example, a Credit may be used to offset impacts under any federal, state, or local program related to wetlands and other waters; however, that Credit may only be counted against permitted impacts one time.

#### **F. PROGRAM DEFAULT AND CLOSURE PROCEDURES**

Should the Corps and DEQ determine, in their sole discretion, that the Trust is in material default of any provision of this Agreement, the Corps and DEQ shall provide the Trust with written notice of such material default. If the Trust fails to remedy such default within 30 days after its receipt of such notice, or if such default cannot reasonably be cured within 30 days, or the Trust fails to commence and diligently pursue remediation of such default during such 30-day period, then the Corps and DEQ may, immediately upon written notice to the Trust, suspend the sale or transfer of any Credits and may suspend the expenditure or withdrawal of any funds from the account until the appropriate deficiencies have been remedied to the satisfaction of the Corps and DEQ. Upon notice of such suspension, the Trust agrees to immediately cease all sales or transfers of Credits until the

IRT informs the Trust that the Corps and DEQ have approved the Trust's resolution of deficiencies and that sales or transfers may be resumed. Should the Trust remain in default, the Corps and DEQ may terminate all future Credit transactions from the Mitigation Site in question. The Corps, DEQ, or the Trust may terminate this Agreement by giving 30 days written notice to the other parties. Prior to termination by the Trust, it shall provide an accounting of funds and complete payment on contracts for projects approved by the Corps and DEQ and any expenses incurred on behalf of the Program. Upon termination, after payment of all outstanding obligations, any remaining amounts in the Accounts shall be paid to any entities as specified by the Corps and DEQ. In the event the Program is closed, the Trust is responsible for fulfilling any remaining mitigation obligations, unless the obligation is specifically transferred to another entity as agreed on by the Corps, DEQ, and the Trust. Appropriate funds will be provided through the accounts to meet the Trust's outstanding obligations. Where obligations are transferred to another entity, appropriate funds, as determined by the Corps and DEQ, will be transferred so that said entity may fulfill its responsibility to bring the transferred obligation to completion. Monies or amounts remaining in the accounts after these obligations are satisfied must continue to be used for restoration, enhancement, and/or preservation of aquatic resources until such funds are depleted or expended.

## **V. MITIGATION PROJECT ESTABLISHMENT AND OPERATION**

### **A. GENERAL MITIGATION SITE REVIEW PROCEDURES**

The primary emphasis of the Program is on aquatic resource restoration and protection. The use of this Program for compensatory mitigation shall occur only after the relevant permitted activity has complied with Corps and DEQ regulations and policies regarding avoidance and minimization of impacts or as stated in Section A, "Purpose and Goals" or otherwise herein. The Trust, pursuant to the terms of this Agreement, will act as a recipient of mitigation funds that are required of permittees and other parties as identified by the Corps and/or DEQ. The Trust shall play no role in the Corps' or DEQ's decision to approve or deny a permit or decision as to whether mitigation is a necessary condition of any such permit. The Corps and DEQ will determine the number of Credits required to compensate for permitted impacts utilizing accepted procedures used in Virginia for evaluating compensatory Mitigation Credits. The Trust will determine the fee amount needed to provide Mitigation Credit (see Section V.D). The Trust shall provide applicants requesting quotes with a Credit Availability Voucher providing the Credit availability, the type of Credit (Advance or Released), and cost per unit of Credit in a particular service area. The Credit Availability Voucher shall contain identifying information regarding the impact site and other information deemed necessary by the Corps, DEQ, and the Trust. When a payment is provided to the Trust for Mitigation Credits, the Trust shall record the payment and the associated Credits on the Credit Ledger for that Service Area. To offset impacts to aquatic resources that result in payments into the Program Account, the Trust shall submit a Mitigation Project Proposal to the Corps and DEQ for funding approval in accordance with this Agreement. The Mitigation Project Proposal will be based on the Compensation Planning Framework (Exhibit A) and associated funding requires approval by the Corps and DEQ in consultation with the IRT (33 CFR §332.8(j); 33 CFR §332.8(i) (9 VAC 25-210-116.D.3 *et seq.*). The IRT shall meet as needed with the Trust to review the Mitigation Project Proposal and discuss relevant issues with Program procedures.

DEQ and the Corps, after seeking comments from the IRT members, shall approve or deny specific Mitigation Project Proposals. Such approval or denial will be based on various factors, including site suitability, long-term sustainability, and anticipated benefits for restoring impacted resources.

Following general approval by the IRT of a Mitigation Project Proposal, the Trust shall submit for approval a Site Development Plan. The Site Development Plan should include, if applicable, a description of the proposed project and site-specific plan, including location; baseline conditions; Credit composition; assessment methodology; schedule of Credit availability; a site-specific Service Area; a schedule for conducting the project; monitoring, maintenance and reporting provisions; provisions for protection and management in perpetuity; and performance standards for determining ecological success of Mitigation.

Within 90 days following the end of the required monitoring period, or following a written request by the Trust no sooner than the end of the monitoring period, for each Mitigation Site and upon satisfaction of the Success Criteria, as determined by DEQ and the Corps, DEQ and Corps shall issue written confirmation to the Trust that the monitoring period has ended. Thereafter, any remaining contingency funds in excess of that needed for use in long-term management of the Mitigation Site shall be made available to the general balance of the Fund. The Trust may request closure of approved projects once Success Criteria have been met.

The Mitigation Site will then close, and the period of long-term stewardship and preservation will commence.

Mitigation Projects initiated prior to the Effective Date of this Agreement may be closed with Corps and DEQ approval once applicable criteria have been met.

All funds shall be used solely for the delivery and accomplishment of compensatory mitigation as described herein, and no Program funds may be expended except as provided for in this Agreement. Administrative fees of up to 8% of the mitigation payment for each Mitigation Project do not require approval for expenditure.

## **B. COMPENSATION PLANNING FRAMEWORK**

The purpose of compensatory mitigation is to offset impacts to waters of the United States and State Waters. Therefore, priority is given to mitigation that replaces lost functions and values of waters, subaqueous lands, and intertidal mudflats. This Instrument is intentionally broad and sets the framework under which Program sponsored ILF Projects will be identified, funded, operated, maintained and managed.

The Compensation Planning Framework included as Exhibit A describes the process the LRRT will use to select, secure and implement aquatic resource restoration, establishment and rehabilitation activities. The Trust agrees to follow the Compensation Planning Framework concepts in the administration of the Program and compensatory mitigation.

### **C. ADVANCE CREDITS**

Advance Credits, as used in this Agreement, are Credits that are not associated with a completed compensatory Mitigation Project and that are available for sale prior to initiation of a Mitigation Project in accordance with an approved Mitigation Plan. The amount of Advance Credits is set out in Exhibit B. These Advance Credits are based on the identified suitable mitigation sites identified in the Elizabeth Project's 2016 Watershed Action Plan and the Trust's past performance for implementing aquatic resource restoration throughout the watershed.

Initial physical and biological improvements must be secured within the third growing period after Advance Credits are sold, unless the Corps determines that more or less time is needed to plan and implement the project.

### **D. METHOD FOR DETERMINING PROJECT-SPECIFIC CREDITS AND FEES**

The number of Credits allowed or assigned for each Mitigation Project shall be based on the compensation activity and must be included and approved in each Site Development Plan.

#### Shallow Water Sediment

Dredging or filling subaqueous or intertidal areas may degrade water quality and/or the habitat value of submerged and intertidal bottoms. The Program will typically mitigate these kinds of impacts by enhancing or restoring areas of the Elizabeth River where sediments are highly polluted, as the nearest in-kind mitigation. The aquatic functions and values that are degraded by dredging and filling are similar in nature to the functions and values that are improved by restoring areas with highly polluted sediments.

#### Oyster Reefs

Impacts to oyster reefs or substrate supporting oyster populations will be mitigated by restoration of oyster reefs. Though oyster reefs are not specifically listed as "special aquatic sites," coral reefs are so designated. Coral reefs are not found in Virginia, but oyster reefs perform similar aquatic functions and provide similar aquatic values.

#### Intertidal Wetlands

Dredging or filling intertidal areas may degrade water quality and/or the habitat value of intertidal wetlands. The Program will typically mitigate these kinds of impacts by re-establishing or restoring areas of the Elizabeth River where similar intertidal wetland areas are either stressed or not present, as the nearest in-kind mitigation. The aquatic functions and values that are degraded by dredging and or filling intertidal wetlands are similar in nature to the functions and values that are improved by re-establishing or restoring areas either stressed or non-existing intertidal wetlands.

Notwithstanding these rationales, nothing in this Instrument shall necessarily constrain the Corps or DEQ in their determinations of appropriate mitigation for specific aquatic impacts that they may permit or otherwise approve.

As presented in Exhibit C, the mitigation crediting ratios offsetting subaqueous and intertidal impacts, for one (1) acre of sediment partial rehabilitation utilizing sediment amendment material will constitute one (1) Credit for offsetting subaqueous and intertidal impacts. One quarter acre of sediment rehabilitation utilizing sediment dredging and clean amended sand replacement will constitute one (1) Credit for offsetting subaqueous and intertidal impacts.

One acre of oyster reef creation will constitute one (1) Credit for offsetting impacts to existing oyster reefs or other substrate supporting oyster populations.

For offsetting intertidal wetland impacts, one (1) acre of intertidal wetland restoration or creation will constitute one (1) Credit for offsetting intertidal wetland impacts. Three acres of intertidal wetland enhancement constitute one (1) Credit for offsetting intertidal wetland impacts. Ten acres of intertidal wetland preservation will constitute one (1) Credit for offsetting intertidal wetland impacts. Fifteen acres of upland buffer will constitute one (1) Credit for offsetting intertidal wetland impacts. Twenty acres of upland preservation will constitute one (1) Credit for offsetting intertidal wetland impacts.

The number of Mitigation Credits required to appropriately and practicably mitigate impacts from specific projects permitted by the Corps and/or DEQ will be determined by those agencies.

The price charged to permittees and others by the Trust for Credits is determined by the Trust and is outlined in the Fee Schedule included as Exhibit D. The cost per unit of Credit must take into account the expected costs associated with the restoration, establishment, enhancement, and/or preservation of aquatic resources in the Service Area. Such costs must be based on full cost accounting according to 33 CFR §332.8(o)(5)(ii) and will reflect, as appropriate, expenses for land or property interest acquisition, Project planning and design, construction, plant materials, labor, legal fees, monitoring, remediation or adaptive management activities, long-term management, and catastrophic events, as well as costs associated with the administration of the Program. The cost per unit Credit shall also take into account contingency costs appropriate to the stage of Project planning, including uncertainties in construction and real estate expenses. In addition, the cost must also include the cost of providing financial assurances that are necessary to ensure successful completion of Projects, and may reflect other factors as deemed appropriate by the Trust, the Corps, and/or DEQ.

The prices charged to permittees or others by the Program for Credits shall be reviewed by the Trust, Corps, and DEQ on at least an annual basis. This review will take place within 3 months after the completion of the Annual Report.

Each Site Development Plan shall be incorporated as an Appendix to this Agreement and following approval becomes a part of this Agreement (33 CFR §332.8(g)). Each party to this Agreement may delegate authority to approve the Site Development Plan to an individual employed by such party who is qualified by education or experience to approve such plans. No party to this Agreement may delegate or assign its rights or obligations hereunder to another agency or entity without the prior written consent of the remaining parties.

The Director of DEQ hereby assigns the authority to approve and sign all subsequent Site Development Plans and their addenda or modifications to the Director of the Office of Wetlands and Water Protection. \_\_\_\_\_. (Initials)

The Corps District Engineer hereby assigns the authority to approve and sign all subsequent Site Development Plans and their addenda or modifications to the Chief of the Norfolk District Regulatory Branch, or his/her delegate or assignee.  
\_\_\_\_\_. (Initials)

#### **E. PROTECTION OF MITIGATION SITES**

In general, sediment and oyster mitigation sites will be located on subaqueous lands belonging to the Commonwealth of Virginia and under the state's permanent protection. In addition, the Program may engage in Mitigation Projects on land in which the Trust owns the fee simple interest, provided that appropriate protection mechanisms are approved by the IRT, in accordance with Section 332.7(a) of the Final Rule and Virginia Administrative Code 9 VAC 25-210 *et seq.*

#### **F. LEGAL RESPONSIBILITY FOR PROVIDING COMPENSATORY MITIGATION**

Upon accepting payment from a permit applicant or permittee, the Trust assumes all legal responsibility for satisfying the mitigation requirements of the Corps/DEQ permit for which fees have been accepted (i.e., the implementation, performance, and long-term management of the compensatory Mitigation Project(s) approved under this Agreement and subsequent mitigation plans). The transfer of liability is established by: 1) the approval of this Agreement; 2) approval by the Corps and DEQ for a permittee or other party to use the Program as a compensatory mitigation method, including the amount of Credits required for particular impacts; 3) receipt and approval by the Corps and DEQ of a Credit sale form/letter/certificate that is signed and dated by the Trust and the permittee; 4) the transfer of fees from the permittee or other party requiring compensatory mitigation to the Trust Party; and 5) acceptance of those fees by the Trust.

Any delay or failure of the Trust to comply with the terms of this Agreement shall not constitute a default hereunder if and to the extent that such delay or failure is primarily caused by any act, event, or conditions beyond the Trust's reasonable control, as determined in the sole discretion of the IRT, and if such act, event or conditions significantly adversely affect the Trust's ability to perform its obligations hereunder, as determined in the sole discretion of the IRT. Such acts, events, or conditions may

include: (i) Force Majeure (see H below) or interference by third parties; (ii) condemnation or other taking by any governmental body or corporate entity with eminent domain authority (or voluntary sale under threat of eminent domain) except that in such a condemnation or taking the Trust must use the funds received through condemnation to replace the lost mitigation value to the extent practicable and as determined and approved by the Corps and DEQ and as described further herein; (iii) change in applicable federal or state law, regulation, or court decision affecting Corps and/or DEQ's jurisdiction, which affects compensation for permitted impacts to waters of the United States and State Waters; (iv) the suspension or revocation of any permit, license, consent, authorization, or approval, which renders fulfillment of obligations under this Agreement impossible to perform; or (v) any works authorized, sponsored, or funded by the Corps or DEQ. If the performance of, and compliance with, the terms of this Agreement are affected to a material extent by any such act, event, or condition, the Trust shall give written notice thereof to the IRT as soon as is reasonably practicable. The IRT shall have sole reasonable discretion to determine whether such an act, event, or condition qualifies under this paragraph as being out of the Trust's control and whether or not it shall constitute a default.

#### **G. LONG-TERM MANAGEMENT, INCLUDING TRANSFER OF LONG-TERM MANAGEMENT**

The Long-Term Management and Maintenance Plan for each Mitigation Project shall contain specific objectives that address the long-term management requirements of the site. The Trust or subsequently, the Long-Term Steward, shall provide the IRT with 60 days advance notice before any actions are taken to modify the Long-Term Management and Maintenance Plan. The Long-Term Management and Maintenance Plan may only be amended or modified with the written approval of all signatory parties. The Long-Term Steward shall document that it is achieving each objective or standard by submitting status reports to the IRT on a schedule approved by the IRT. A primary goal of the Mitigation Project is to create or restore a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance.

The Long-Term Management and Maintenance Plan shall include, at a minimum, the following provisions for:

1. Periodic inspections of sites to detect and/or deter damage and will include reasonable actions to repair damaged.
2. Monitoring the condition of aquatic improvements of the site such as ensuring any material placed for the purpose of capping or amending existing river sediments remains effective; plantings meet reasonable survivorship expectations; and rehabilitation goals are achieved regarding contamination levels and/or effects on marine life. The Long-Term Management and Maintenance Plan will include provisions to maintain and repair improvements as necessary to achieve the objectives of the Mitigation Project. Any improvements that are no longer needed to facilitate or protect the ecological function of the site may be removed or abandoned upon approval by the IRT.

The Long-Term Steward may modify the Long-Term Management and Maintenance Plan, subject to review and written approval by the IRT and the Trust, if this responsibility has been transferred to another organization.

Once long-term management responsibilities have been transferred to the Long-Term Steward, as evidenced by the signature of the Trust or the Long-Term Steward on the Long-Term Management and Maintenance Plan, said party is thereby responsible for meeting any and all long-term management responsibilities outlined in the project-specific Long-Term Management and Maintenance Plan.

If long-term stewardship responsibility is transferred to a Long-Term Steward other than the Trust, then the Trust shall submit a written assignment assigning the Long-Term Management and Maintenance Plan to a Long-Term Steward. The Long-Term Steward shall be the assignee and responsible party of all associated requirements, terms, and conditions of the Long-Term Management and Maintenance Plan, this Agreement, and any other applicable project requirements. The Trust is responsible for developing a Long-Term Management and Maintenance Plan for each Mitigation Project. Each Long-Term Management and Maintenance Plan will specify all anticipated management activities and the necessary capacity to accomplish those activities. The Trust shall report annually on the beginning and ending balances, including deposits and withdrawals from the account providing funds for long-term management for any Mitigation Projects.

#### **H. FORCE MAJEURE**

Force Majeure shall mean an irreparable material and detrimental impact on the site over which the Trust or any entity controlled by the Trust could not have anticipated or controlled.

The Corps and DEQ have sole reasonable discretion to determine whether an event is a “Force Majeure” event as defined herein, and further defined in each Site Mitigation Plan, and the Trust shall bear the burden of demonstrating to the Corps and DEQ’s satisfaction that:

- a. The Force Majeure event was caused by circumstances beyond the control or anticipation of the Trust and/or any entity controlled by the Trust, including its contractors and consultants
- b. Neither the Trust nor any entity controlled by the Trust, including its contractors and consultants, could have reasonably foreseen and prevented such an event
- c. Damage was caused by such circumstances
- d. Damage is irreparable by any practicable and reasonable means as determined in the discretion of the Corps/DEQ.

#### **I. EMINENT DOMAIN AND TAKINGS**

If a Mitigation Site is taken in whole or in part through eminent domain, the Trust shall utilize funds it receives on account of the eminent domain or taking process: 1) to provide replacement compensation to offset the loss of the conservation functions, services and values to the extent practicable, as determined in the discretion of the IRT; or 2) in the

case of a donated conservation easement, in a manner consistent with the conservation purposes of the original contribution, pursuant to Treas. Reg. § 1.170A-14(g)(6). This replacement compensation must be provided within the same Service Area as the affected Mitigation Site and must be approved by the Corps and DEQ.

## **VI. PROGRAM REPORTING PROTOCOLS**

On an annual basis, the Trust shall provide the Corps and DEQ with the statements it receives from all financial institutions or escrow agents holding funds accepted in relation to, or associated with, this Agreement. The annual report shall summarize all expenses and revenues associated with the Program during the previous year and shall include documentation associated with payments into, and expenditures from, the Program. If required by the Corps and/or DEQ, the financial reporting method must be modified.

The Trust shall submit an annual ledger report showing the beginning and ending balance of Available Credits, sold or Debited Credits, permitted impacts for each resource type in each service area, all additions and subtractions of Credits, and any other Credit changes (e.g., Credits released or Credits suspended), as well as monies paid into the Program, expended for Mitigation Projects, and any remaining balances. The Corps and DEQ may require additional reporting, as necessary, consistent with the full cost accounting standards and the Mitigation regulations at 33 CFR §332.8(o) and (q); 9 VAC 25-210.116.

The Trust shall also maintain a separate ledger for each Mitigation Project. This ledger shall depict all Credit releases and Credit withdrawals by compensation resource type associated with the Mitigation Project.

## **VII. DISPUTE RESOLUTION**

Resolution of disputes between Federal IRT agencies and the Corps regarding the planning, approval, and other aspects of Mitigation Projects approved under this Agreement shall be in accordance with Corps regulations at 33 CFR §332.8(e), as well as any other applicable federal regulations governing mitigation bank operation. Resolution of disputes between the Corps and DEQ regarding the planning, approval, and other aspects of plans approved under this Agreement shall be in accordance with current standard operating procedures developed for mitigation banks. If the Trust does not agree with the Corps and DEQ, the Trust may request an independent review from government agencies or academia. If such review is conducted, the Corps and DEQ shall have sole discretion in evaluation of such review, conclusions, or recommendations, and the Corps and DEQ ultimately have sole discretion in determination of whether the success criteria are met.

## **VIII. VALIDITY, AMENDMENT, MODIFICATION, AND TERMINATION OF THE AGREEMENT**

This Agreement may only be amended or modified with the written approval of all parties hereto. The Corps and DEQ agree to provide timely approval of any amendments or modifications to the Agreement within 60 days unless written extension of review is requested explaining request for delay. The Corps, DEQ, or the Trust may terminate this

Agreement by giving 30 days written notice to the other parties and satisfactory demonstration of compliance with the requirements of Paragraph IV.F.

Any proposed modification to a Mitigation Project, including, but not limited to, addition of lands to a site, establishment of additional sites, additions of different types of mitigation Credit resources (e.g., subaqueous bottom, mud flats, stream, or wetland Credits) or alteration of success criteria shall require review and approval of the Corps and DEQ in consultation with the IRT members. Such modification shall require an amendment to the Site Development Plan to comply with Corps regulations at 33 CFR §332.8(g).

#### **IX. THIRD PARTY RESALE OR BROKERAGE OF CREDITS**

The resale, brokering, or transfer of Credits to any entity for resale or re-transfer from one permittee to another permittee is not authorized without the express written approval of the Corps and DEQ. Advance Credits may not be sold unless associated with a permit or enforcement case. The permit number shall be placed on every Credit bill of sale. For bills of sale associated with bulk sales where there is no associated permit number, the Trust shall include a special provision in the bill of sale stating that those Credits cannot be utilized to satisfy a Corps or DEQ permit requirement unless the permittee provides a written "bank ledger allocation statement" to the Corps, DEQ, and the Trust. This bank ledger allocation statement shall state that the associated Credit(s) was part of a bulk sale to a specific party and has been allocated for use with a named project and a specific permit number.

At the Trust's sole discretion, and with the approval of the Corps and DEQ, the Trust may refund Credit purchases at the request of such purchaser, if the impacts for which the purchaser paid into the program have not occurred and if mitigation moneys have not been expended by the Program. If the refund is made, the Trust will no longer be responsible for mitigating for the impacts not taken.

#### **X. OTHER PROVISIONS**

A. Specific Language of Agreement Shall Be Controlling: To the extent that specific language in this Agreement changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the Agreement by reference, the specific language within the Agreement and any associated Site Development Plans is controlling.

B. Notice: Any notice required or permitted hereunder shall be deemed to have been received when delivered by hand, transmitted electronically, after three days following the date deposited in the United States mail, postage prepaid, or on the day received by Federal Express or similar next day nationwide delivery system, addressed as follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

(Trust) Living River Restoration Trust  
475 Water Street, C103A  
Portsmouth, Virginia 23704

(Corps) Norfolk District  
U.S. Army Corps of Engineers  
803 Front Street  
Norfolk, Virginia 23510

(DEQ) Virginia Department of Environmental Quality  
Tidewater Regional Office  
5636 Southern Boulevard  
Virginia Beach, Virginia 23462

C. Entire Agreement: This Agreement constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

D. Invalid Provisions: In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had not been contained herein.

E. Headings and Captions: Any paragraph heading or captions contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

F. Counterparts: This Agreement may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

G. Binding: This Agreement shall be immediately, automatically, and irrevocably binding upon the parties and their successors, assigns and legal representatives upon execution.

H. Transfer of Mitigation Responsibility: For projects in the service area of this Program that require Department of the Army authorization pursuant to Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, Sections 62.1-44.15:20-23 of the Code of Virginia, or the Virginia Water Protection Permit Regulations (9 VAC §25-210 *et seq.*), if such authorizations require compensatory mitigation, Credits from this Program may be used to satisfy those compensatory mitigation requirements if the Trust and the permittee reach a mutually acceptable financial agreement, subject to Corps and/or DEQ written approval on a case-by-case basis. **Notwithstanding anything in this Agreement, the Corps and DEQ have sole discretion over how many and what type**

**of Credits are required for permits issued by such agency and whether Credits from this Program are acceptable as mitigation.**

In consideration of the Trust's agreement to be bound by the terms of this Agreement, the IRT acknowledges that upon approval of a proposal by the permittee to secure Credits through a contract with this Program to satisfy all or part of the compensatory mitigation requirements for a Department of the Army and/or DEQ permit, a fully executed bill of sale or other instrument transferring Credit(s) from the Trust to the permittee shall act to transfer to this Program the responsibility for the required compensatory mitigation to be provided by the Trust in accordance with the permit.

I. Approvals: For purposes of this Agreement, any approval required hereunder must be in writing and expressly approve the action or other matter for which approval is sought. Written approval may be transmitted by letter, electronic mail, or facsimile transmission.

J. Severability: The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

**XI. SIGNATURES**

U.S. ARMY CORPS OF ENGINEERS

By: \_\_\_\_\_  
Its: District Engineer, Norfolk District

COMMONWEALTH OF \_\_\_\_\_  
CITY/COUNTY OF \_\_\_\_\_ SS:

On this \_\_\_\_ day of \_\_\_\_\_, 2016, before me personally came \_\_\_\_\_ to me known, who, being by me duly sworn did depose and say that he is the District Engineer of the Army Corps of Engineers, Norfolk District, described in and which executed the foregoing Agreement.

\_\_\_\_\_  
Notary Public  
My Commission Expires:

Notary Registration

\_\_\_\_\_  
No.: \_\_\_\_\_

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

By: \_\_\_\_\_

Its: Director

COMMONWEALTH OF \_\_\_\_\_

CITY/COUNTY OF \_\_\_\_\_ SS:

On this \_\_\_\_ day of \_\_\_\_\_, 2016, before me personally came to me known, who, being by me duly sworn did depose and say that she is the \_\_\_\_\_ described in and which executed the foregoing Agreement.

\_\_\_\_\_

Notary Public  
My Commission

Expires: \_\_\_\_\_

Notary Registration

No.: \_\_\_\_\_

LIVING RIVER RESTORATION TRUST

By: \_\_\_\_\_

Its: Chairperson

COMMONWEALTH OF \_\_\_\_\_

CITY/COUNTY OF \_\_\_\_\_ SS:

The foregoing Agreement was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 2016 by Diana L. Bailey, its chairperson.

\_\_\_\_\_

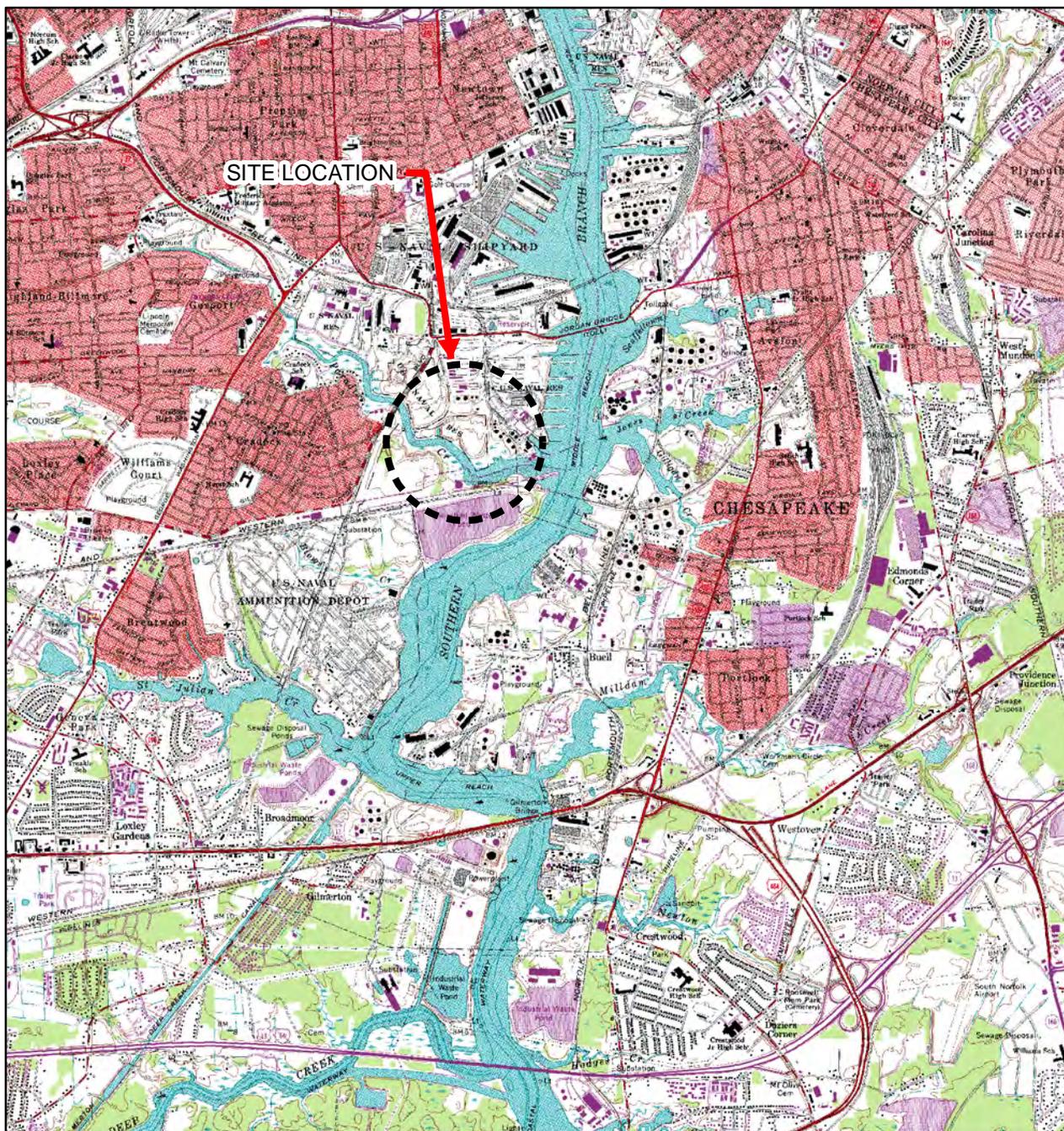
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My Commission Expires:

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Notary Registration

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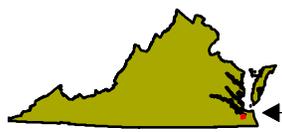


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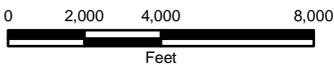
LIVING RIVER  
 RESTORATION TRUST  
 PORTSMOUTH, VA

PARADISE CREEK  
 SITE DEVELOPMENT PLAN

VICINITY MAP



MAP LOCATION



1:60,000

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24197.61033  
OCTOBER 2015



Exhibit B

Advanced Credits

River Basin	Tidal Wetlands	Oyster Reef	Shallow Sediment Partial Rehabilitation	Shallow Sediment Rehabilitation
Lower James River Basin	5	10	8	8
Lower Chesapeake Bay	0	0	0	0

Exhibit C

Proposed Mitigation Crediting Ratios	
Proposed Mitigation Activity	Ratio
Sediment Partial Rehabilitation	1:1
Sediment Rehabilitation	0.25:1
Wetland Restoration	1:1
Wetland Creation	1:1
Wetland Enhancement	3:1
Wetland Preservation	10:1
Oyster Restoration	1:1
Upland Buffer Restoration	15:1

Exhibit D

LRRT Mitigation Prices for Advanced Credits

Basin	HUC	Per Acre			Per 1/4 Acre
		Tidal Wetland	Oyster Reef	Sediment Partial Rehabilitation	Sediment Rehabilitation
Elizabeth River	02080208	\$500,000	\$250,000	\$350,000	\$350,000
Lower Chesapeake Bay	0208010802	n/a	n/a	n/a	n/a

**LIVING RIVER RESTORATION TRUST FUND Credit Availability VOUCHER** (June 2016)

**THIS VOUCHER MUST ACCOMPANY ALL REQUESTS FOR TRUST FUND CREDIT AVAILABILITY**

**Shallow River Sediment Impacts in Acres (add rows as necessary)**

Cowardin	NAO/VMRC Permit #	Applicant	Locality	Requested Date	Payment Amount	Basin **	8-digit HUC	Physiographic Province*	Impacts (ac)	Credits Required	Lat/Long
M1UB2											
M1UB3											

**Oyster Reef Impacts in Acres (add rows as necessary)**

Cowardin	NAO/VMRC Permit #	Applicant	Locality	Requested Date	Payment Amount	Basin **	8-digit HUC	Physiographic Province*	Impacts (lf)	Total Compensation Required (TCR)	Lat/Long
M1RF1											

**Intertidal Wetland Impacts in Acres (add rows as necessary)**

Cowardin	NAO/VMRC Permit #	Applicant	Locality	Requested Date	Payment Amount	Basin **	8-digit HUC	Physiographic Province*	Impacts (ac)	Credits Required	Lat/Long
M2US2											
M2US3											

**Heritage Element / T&E Species Impacts (add rows as necessary)**

Rank	Species / Community	DCR/DGIF comments provided?

<b>CONTACT: Name of USACE Project Manager</b>	<b>Address</b>	<b>Email Address</b>	<b>Phone No.</b>
<b>CONTACT: Name of Va DEQ Project Manager</b>	<b>Address</b>	<b>Email Address</b>	<b>Phone No.</b>
<b>APPLICANT CONTACT INFORMATION: To Be Completed by Applicant or Applicant's Representative</b>			
<b>Contact (Person LRRT Should Contact with Questions)</b>	<b>Address</b>	<b>Email Address</b>	<b>Phone No.</b>

1. Use this form to inquire if credits are available and to reserve those credits for 90 days. This voucher represents the availability of suitable credits from the Trust Fund and is NOT considered payment for permitted impacts.
2. The Living River Restoration Trust (LRRT) can not process the request for available credits unless all applicable information in this voucher is completed. Identify the Cowardin of the resource being impacted and fill in all fields to the right of that Cowardin. APPLICANTS ARE RESPONSIBLE FOR COMPLETING THE CONTACT INFORMATION.
3. Please be sure to address the section on Heritage Element/T&E Species Impacts. If the agencies have determined that no species/community impact will be incurred, enter "N/A" in the appropriate fields. DCR/DGIF comments/response on any Element Occurrence impacts should be included as an attachment via email.
4. If the impact amounts change, the project must be re-coordinated with LRRT.
5. If you receive this voucher with both your Corps and DEQ permits, only one voucher per permit number needs to be submitted to LRRT. The highest amount required from either permit should be submitted.
6. Submit completed forms to Dvae Koubsky via email: dkoubsky@elizabethriver.org
7. Thank you for your cooperation and participation.

<b>** Basin</b>	
CB	Chesapeake Bay
LJ	Lower James